

PART III

REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

A. Purpose and Need for Action

NOAA has prepared this final environmental impact statement (FEIS) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq. to assess the environmental impacts associated with the approval and implementation of the coastal management program submitted to NOAA by the State of Ohio. The State of Ohio has submitted its Coastal Management Program to the Office of Ocean and Coastal Resource Management (OCRM) for approval pursuant to section 306 of the Federal Coastal Zone Management Act (CZMA) of 1972 as amended, 16 U.S.C. 1451.

The proposed action on the FEIS is approval of the Ohio Coastal Management Program (OCMP). The OCRM has made an initial determination that the program meets the requirements of the CZMA, as amended. Federal approval of the Ohio program will enable the State of Ohio to receive Federal grant assistance for program implementation and will require that Federal actions in or affecting the Ohio coastal zone be consistent with the Ohio program. The OCMP is described in Part II of this document. A table cross-referencing CZMA requirements with sections from this document may be found in Part I.

Approval and implementation of the OCMP will enhance governance of Ohio's coastal land and water uses according to the coastal policies and standards contained in the existing statutes, authorities and rules. Federal alternatives to program approval include delaying or denying approval, if certain requirements of the CZMA have not been met. The state could modify parts of the program or withdraw its application for Federal approval if either of the above Federal alternatives results from circulation of this document. This final program EIS includes responses to comments received on the draft EIS.

1. The Coastal Zone Management Act (CZMA)

In response to the intense pressures upon coastal areas of the United States, Congress passed the Coastal Zone Management Act (P.L. 92-583). This Act was signed into law on October 27, 1972. The Act authorized a Federal grant program to be administered by the Secretary of Commerce, who in turn delegated this responsibility to the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM). The Coastal Zone Management Act of 1972 was substantially amended on July 26, 1976 (P.L.94-370) and again on November 5, 1990 (P.L.101-58). It was reauthorized in June 1996 (P.L. 104-150) for a three-year period with minor changes. The Act and its amendments affirm a national interest in the effective protection and development of the coastal zone by providing assistance and encouragement to coastal states to develop and implement rational programs for managing their coastal zones.

Broad guidelines and the basic requirements of the CZMA provide the necessary direction for developing these state programs. These guidelines and requirements for program development and approval are contained in 15 CFR Part 923, as revised and published June 28, 1996 in the Federal Register. In summary, the requirements for program approval are that a state develop a management program that:

- . Identifies and evaluates those coastal resources recognized in the Act that require management or protection by the state.
- . Reexamines existing policies or develops new policies to manage these resources. These policies must be specific, comprehensive and enforceable, and must provide an adequate degree of predictability as to how coastal resources will be managed;
- . Determines specific uses and special geographic areas that are to be subject to the management program, based on the nature of identified coastal concerns. The basis for managing uses, or their impacts, and areas, should be based on resource capability and suitability analyses, socio-economic considerations and public preferences;
- . Identifies the inland and seaward areas subject to the management program;
- . Provides for the consideration of the national interest in planning for the siting of facilities that meet more than local requirements; and
- . Includes sufficient legal authorities and organizational structure to implement the program and to ensure conformance to it.

B. Alternatives to the Proposed Action

Introduction

Given the nature of the proposed Federal action, approval, delay and denial of the Ohio Coastal Management Program, are all alternatives available to OCRM. In approving a coastal management program (the preferred alternative), the Assistant Administrator for Ocean Services and Coastal Zone Management must find that a state has met the federal approval requirements of the CZMA at 15 C.F.R. Part 923. Delay or denial of program approval could be based on failure of the Ohio Coastal Management Program to meet any of the requirements of the CZMA, as amended. During the development of the Ohio Coastal Management Program in the 1970s, a variety of alternatives to specific program elements, e.g. boundary, management structure, and policy content, were discussed by county advisory groups and coastal program staff. No substantive or fundamental organizational alternatives were seriously considered, however.

In an effort to elicit public and agency comment and to assure that the Assistant Administrator's determination will be appropriate, this section identifies possible programmatic reasons for delaying or denying approval of the OCMP identified through the public review process to date.

Federal Alternatives

Three alternatives to the proposed action are available to the Assistant Administrator: approve, delay, or take no action/deny. The Assistant Administrator's approval must be based upon affirmative findings for all of the requirements of the CZMA.

1. Alternative 1: The Assistant Administrator could approve the OCMP. This is the preferred alternative.

Approval of the Ohio CMP would be based on an affirmative finding that the program meets all requirements of the CZMA and its regulations. The benefits of the OCMP implementation would include improved regulation and enforcement; balanced coastal community development; improved economic development for water dependent uses; better natural resource and hazardous areas management; improved intergovernmental coordination and greater public awareness. Additional benefits are review by Ohio of federal and federally-permitted and funded projects for consistency with its coastal management program and consideration of the national interest in state decision-making.

2. Alternative 2: The Assistant Administrator could deny approval (take no action) on the OCMP.

OCRM could deny approval if the program is found to not meet all requirements. With respect to the "no action" alternative, the Office of Ocean and Coastal Resource Management considers Federal denial or state withdrawal from the program and "no action" as synonymous. State participation under the CZMA is voluntary: when a state participates in program development, it determines whether or not program approval and implementation is in its best interest. The impacts of "no action" are described below:

- A. Loss of federal funds to administer the program: Under section 306 of the CZMA, Ohio would receive about \$800,000 annually to administer its coastal management program.
 - B. Loss of consistency review of federal actions: This will mean that federal actions would not be reviewed by Ohio for consistency with the OCMP as required by section 307, CZMA.
 - C. Loss of adequate consideration of the national interest in the siting of facilities which are other than local in nature as required by section 306(d)(8) of the CZMA. By delaying or denying program approval, the State of Ohio and local governments would be under no obligation under section 306(d)(8) to give adequate consideration to coastal facilities that are of national interest. This could result in loss of public benefit that the use of such facilities provides.
3. Alternative 3: The Assistant Administrator could delay approval of the OCMP.

OCRM could delay its approval if any element of the OCMP necessary for program approval does not meet approval requirements and requires some modification. In the opinion of OCRM, the following three issues might be the most prominent in terms of reviewing the adequacy of the OCMP meeting specific CZMA requirements. These basic concerns, the relevant CZM requirements, and OCRM and state options are described below under three alternative headings:

Alternative 3A: Delay program approval if the State does not have the organizational structure to implement the coastal management program.

The OCMP is a “networked” program consisting of several Ohio natural resource protection and hazard management programs. Ohio’s coastal management law requires that all state agency actions affecting the coast be consistent with the OCMP. Responsibility within ODNR for implementing the relevant statutes and coordinating the overall program falls to the Office of Coastal Management (OCM). Other state agencies such as the Ohio DOT need to act consistently with the OCMP. The Assistant Administrator could delay program approval if the coordination and consistency provisions of the OCMP including the draft interagency MOUs included in Part II, Appendix E are insufficient to effectively network state agencies and divisions into an overall coastal management program.

Alternative 3B: Delay program approval if the State does not have the necessary authorities to protect wetlands under its section 401 water quality certification authority.

Ohio relies on Ohio EPA's section 401 water quality certification authority and other aspects of Ohio EPA's water quality standards program to protect the State's coastal wetlands (see Part II, Chapter 5). The Assistant Administrator could delay approval of Ohio's program if these authorities are not strong enough to protect coastal wetlands. In making this determination, NOAA will examine information on the activities currently affecting wetlands in Ohio, the Ohio EPA's regulations and guidelines for decision-making for section 401 water quality certifications, as well as judicial actions interpreting Ohio EPA's authority.

Alternative 3C: The Assistant Administrator could delay program approval if ODNR regulation for erosion management purposes either is not appropriate to the erosion problem in Lake Erie or do not contain enough specificity to allow for predictable decision-making.

Ohio DNR has issued draft maps identifying the Lake Erie coastal erosion areas pursuant to O.R.C. 1506.06. These proposals reflect several years of work on the part of the ODNR to identify that portion of the Lake Erie shoreline that is likely to be lost to shoreline erosion over the next 30 years if no additional erosion control measures are implemented. More detailed information on these proposals is found on pages 5- 8 through 5-12 in Part II of this document. In developing these proposals ODNR consulted extensively with affected interests including local governments, landowners, and OCRM.

Significant changes were made in the process used to designate coastal erosion areas in areas that already are filled and/or bulkheaded. The process was also changed to account for accuracy limits in calculating recession rates. The effect of these changes was to significantly reduce the areas that are preliminarily designated as coastal erosion areas.

Another issue related to the coastal erosion component of the OCMP is the criteria that ODNR will use to permit permanent structures and erosion control measures. These criteria require an assessment of the effects of proposed erosion control measures, both structural and nonstructural, on coastal processes, in particular erosion along the adjacent shoreline. There is some concern regarding whether ODNR should require or show a preference for nonstructural measures if the site and the adjacent shoreline area will be better protected by such nonstructural measures, or if the nonstructural measures would be more effective to maintain the natural functions of beaches, dunes, bluffs and littoral zones.

Before taking final action approving the OCMP, OCRM will review the complete record of comments and responses on this document.

State Alternatives Considered During Program Development

Throughout the early effort to develop a program in Ohio, preference was always given to using a networked approach based on existing authorities rather than creation of a new CZM superagency. Ohio's General Assembly, in unanimously passing the Coastal Management Law, made clear and specific choices about the manner in which Ohio's coastal management program would be developed and implemented, whether or not federal approval under the CZMA would be pursued. The law establishes a networked program, with ODNR as lead agency assuring consistency in implementation of existing authorities.

An alternative approach to the inland boundary was considered during the 1990s. The delineation of the Ohio coastal management boundary was proposed as a two-tiered boundary, with a "management tier" and a more extensive nine-county planning tier. As proposed in the 1992 public review draft document, the first tier was to be the geographic area subject to all program authorities and the federal and state consistency provisions. The second tier was envisioned as a means of facilitating planning and administration provisions. This alternative was eliminated as a result of

comment on the 1992 document indicating that such arrangements have not worked well in other states administering coastal management programs.

There have been, however, significant changes in the ODNR's proposal to implement the coastal erosion area management provisions of the 1988 Ohio Coastal Management Act. Considerable public debate has ensued on that issue, resulting in several significant changes to the Ohio Coastal Management Law in 1994 and regulations that identify coastal erosion areas. Changes are discussed in detail in Chapter 11 of Part II of this document, which was reproduced verbatim from the DEIS. The coastal erosion area management policies set forth in Chapter 5 of Part II of this document have been modified in accordance with those statutory changes. Environmental effects of the erosion area management policies are discussed on pages 23-24 of this section.

Consultation and Coordination

All local, state and federal agencies referenced in Part II of this document and Volume II Appendices were consulted during initial development of the 1992 public review draft document. ODNR consulted each agency again in 1993 and in 1995 in order to incorporate necessary revisions prior to publication.

C. Description of the Affected Environment

Overview

Special among the Great Lakes is Lake Erie, the only Great Lake to border Ohio. Population density in the Lake Erie basin is the greatest among the Great Lakes, yet Lake Erie is smaller by volume than the other Great Lakes, and only Lake Ontario is smaller in area.

Lake Erie is the shallowest of the Great Lakes, and the relatively warm waters contribute to its being one of the most productive freshwater lakes in the world. In fact, the walleye populations of the western Lake Erie basin have helped Ohio earn a reputation as the "Walleye Capital of the World." In addition, while loss of coastal wetlands along Lake Erie has been profound, the remaining Lake Erie marshes have international importance for North American waterfowl and serve other important wetland functions.

Ohio annually uses more than one trillion gallons of Lake Erie water for industrial processing, electrical generation, public consumption and domestic purposes. About 9 million tons of cargo are annually shipped to and from Ohio ports on Lake Erie. From May to September each year, tourism pumps some \$200 million into the local economies of Ottawa, Erie and Lorain counties, while more than 10 million visitors enjoy year-long fun and outdoor recreation at Ohio's seven Lake Erie state parks. Sport harvest of walleye and yellow perch on Lake Erie in 1993 was 5.5 million fish. Meanwhile, the lake area's numerous wineries produced some 620,000 gallons of wine.

Coastal Area

State law defines Ohio's coastal area as "the waters of Lake Erie, the islands in the lake, and the lands under and adjacent to the lake, including transitional areas, wetlands, and beaches. The coastal area extends in Lake Erie to the international boundary line between the United States and Canada and landward only to the extent necessary to include shorelands, the uses of which have a direct and significant impact on coastal waters as determined by the director of natural resources" (O.R.C. 1506.01(A)).

The proposed coastal area boundary includes portions of the four Areas of Concern (AOCs) designated by the International Joint Commission. They are the Maumee, Black, Cuyahoga and Ashtabula Rivers AOCs. AOCs are areas that were identified as having severe water quality problems and a high degree of use impairments resulting from a broad array of point and nonpoint sources.

For purposes of organization, this chapter concerning the environment affected by Ohio's coastal management program is described under the broad categories of Physical Characteristics, Socio-Economic Characteristics, Environmental Quality, and Natural Resources.

1. Physical Characteristics

a. Lake Erie

Lake Erie divides naturally into three major basins: western, central and eastern. The western basin, extending from Toledo to Huron, includes the Lake Erie Islands of Ohio. The most developed and populated islands are Kelleys Island and North, Middle and South Bass Islands. Rattlesnake and West Sister islands are smaller and less developed. The central basin extends from Huron to the Pennsylvania border where the eastern basin begins. In total, Ohio has 262 miles of Lake Erie shoreline and 2.25 million surface acres of water within Lake Erie's western and central basins.

Ohio's portion of the western basin of Lake Erie includes about 450,000 surface acres of water and approximately 137 miles of shoreline. The area has numerous reefs and shoals, rocky islands, and sandy beaches. It is the most productive fish spawning and nursery grounds in the Great Lakes. Maximum water depth in the western basin is 46 feet, with an average depth of 24 feet. Bottom types range from sand and silt to hard packed clay and limestone bedrock.

Ohio's portion of central Lake Erie includes 1,783,000 surface acres of water and approximately 125 miles of shoreline. Maximum depth of the central basin is 80 feet, with an average depth of 56 feet. The bottom is made up of a gravel and shale bedrock covered in most areas by mud and sand.

Lake Erie water levels vary naturally over time in cyclical fluctuations, ranging from the record historical low of 568.31 feet (IGLD 1985) in February 1936 to the record high of 574.16 feet in June 1986. Long-term average level of Lake Erie is 571.16 feet (IGLD 1985). Lake level varies naturally through precipitation and evaporation in the basin, inflow from the upper Great Lakes via the Detroit River, and outflow into the Niagara River. Although four man-made diversions and two regulatory structures have some minor effect on Great Lakes water levels in general, no water level control structures exist specifically on Lake Erie. Flow is naturally constricted at the meeting point of the Niagara River and Lake Erie, limiting the rate at which water leaves the lake. Relatively small amounts of water are diverted through the Welland Canal, New York Barge Canal, and Black Rock Lock in the Niagara River.

b. Erosion and Flooding

Erosion along the Ohio shore of Lake Erie is a serious problem, especially in areas of high bluffs and erodible sand, clay and till. The two primary erosional processes are wave erosion and mass wasting. Natural factors such as beach distribution, near shore depths, storm frequency, lake level and shoreline orientation contribute to variations in rates of erosion over time and from place to place. Erosion control structures and offshore disposal of sand dredged from harbors also contribute to variations and have exacerbated erosion problems in some areas. Recession rates vary from nominal along dolomite and limestone island areas to as much as twelve feet annually in portions of Lake and Ashtabula counties for the period 1973 through 1990. Of the 262 mile shoreline, approximately 157 miles (60%) are eroding at a rate greater than 0.3 feet per year.

Two problems associated with fluctuating lake levels and developments located in flood- and erosion-prone areas are damages and property loss due to flooding and Lake Erie-related erosion. Nearly 1.6 million tons of material is eroded annually along Ohio's lakeshore, with significant and far-reaching implications for public safety, health and welfare. Only 20 percent of this 1.6 million tons is sand-sized sediment that remains along the shoreline. The remainder is fine-grained sediment that disperses in the lake, increasing water turbidity and sedimentation rates.

While the areas subject to flooding are well known, the timing and occurrence of such flooding along the lake is highly unpredictable, often resulting from sudden storms and short-term fluctuations in barometric pressure. More predictable flooding along rivers and streams takes place in the spring when rainfall and snowmelt occur, the ground is either saturated or frozen, and runoff is high. Ice jams also compound the flooding problem at these times. Direct flood damages averaged \$20 million to \$25 million annually in the late 1960s, but these costs have escalated to more than \$100 million today and are expected to rise even further.

c. Geology

Lake Erie's geology is primarily the product of sedimentation, erosion and glacial activity. The area's geologic foundation consists of ancient igneous and metamorphic bedrock which was periodically covered by shallow seas and subsequent sediment deposits. These sediments hardened into layers of sandstone, shale, limestone and dolomite that were, in turn, carved into wide valleys by river systems and advancing glacial ice. The less resistant shales and fractured limestones were scraped out to form lake areas, leaving more resistant shale cliffs in the east and a chain of limestone and dolomite islands to the west.

Geologic processes are continually reworking Lake Erie and its shore. While these processes generally act very slowly to yield almost imperceptible changes, the combination of beach and bluff erosion associated with above average lake levels has caused dramatic changes along the Ohio lakeshore. The effects of Lake Erie's fluctuating water levels can reach far into adjoining flood plains and low-lying areas. The 1980s saw record high lake levels over the entire Great Lakes Basin. While the other Great Lakes have receded to their long-term average levels since the record high levels of the 1980s, Lake Erie has remained about one and one-half feet above its long-term average.

d. Physical Shoreline

From Toledo to Huron, Ohio's shoreline consists of low-relief (less than 2 meters) barrier beaches and laminated clay banks, except for the Marblehead-Catawba Island area that is made up largely of moderate-relief (3 to 6 m) dolostone and limestone slopes and bluffs. From Huron to Conneaut, the shore consists of moderate-to-high relief (3 to 20 m) shale and/or till slopes and bluffs commonly capped by stratified drift. Shale makes up most of the shore between Cleveland and Avon Point. Excluding manmade structures and fill, about 47 percent of the length of shore in the wave erosion zone is till, 26 percent is rock, 22 percent is sand, and 5 percent is laminated clay.

A century ago, sand beaches fronted most reaches of Ohio's Lake Erie shore. Now, beaches make up a fragmented band that fronts about 80 miles of the shore. The beaches are commonly narrow

(less than 15 m wide) and consist primarily of sand, although there are cobble, pocket beaches in places where the shore is composed of rock. Shore-protection structures, e.g., groins and seawalls adjoin many beaches. In general, the longest continuous beaches are found where there are the fewest groins.

Nearshore slopes are gentle; the slopes within 600 m of the shoreline are usually less than one degree. The bottom is generally made up of sand and gravel less than 2 m thick near the shore. Farther offshore, rock, till, till lag, glaciolacustrine clay, and silt are found.

More than 80 percent of Ohio's shoreline is developed, and approximately 2,300 permanent structures are located within 50 feet of the bluff line.

The following is a description of the physical shoreline by county:

The 22-mile shoreline of Lucas County, including the Maumee River estuary, is composed of lacustrine clay deposits around the Maumee River and Bay, while sand and marshes front the lake proper. Sand beaches are small or nonexistent along Maumee Bay, whereas discontinuous beaches front approximately 45 percent of the lakeshore. Maumee Bay has numerous shore protection structures, and riprapped dikes protect much of the wetland habitat along the lake. Approximately 7 miles of the Lucas County shoreline are expected to be preliminarily identified as coastal erosion areas.

Ottawa County's 79 miles of shore, including Sandusky Bay and the islands, is characterized by low-relief sand slopes and marshes along the county's western shore, while the shoreline of the islands and lakeward portion of Marblehead Peninsula areas are composed primarily of bedrock limestone. Shore protection structures front much of the shore. Approximately 36 miles of the Ottawa County shoreline, exclusive of the islands, are expected to be preliminarily identified as coastal erosion areas.

The south shore of Sandusky Bay in Sandusky County extends for 5 miles plus several miles along Muddy Creek Bay. The shore consists of low clay banks, and beaches are narrow to nonexistent. The western part is predominantly wetlands. Approximately 4 miles of the Sandusky County shoreline are expected to be preliminarily identified as coastal erosion areas.

Erie County's shore consists of 46 mainland miles, (including Sandusky Bay), and 11 miles on Kelleys Island. Kelleys Island's shore is bedrock limestone. Sandusky Bay's shore is primarily low clay banks with narrow to nonexistent beaches. Along the open lake, the shore varies from beaches and low dunes at Cedar Point to low-relief till and clay banks, to higher (7-10m) till bluffs farther east. Approximately 30 miles of the Erie County shoreline are expected to be preliminarily identified as coastal erosion areas.

Lorain County has 22 miles of lakefront, where erosive 25-foot bluffs and slopes characterize part of the shore, with lower till bluffs in other areas. Discontinuous beaches less than 50 feet wide and groins and seawalls are common. Approximately 14 miles of the Lorain County shoreline are expected to be preliminarily identified as coastal erosion areas.

The 29-mile shoreline in Cuyahoga County has 50- to 60-foot shale bluffs and slopes west of Cleveland; the Cleveland lakefront is entirely protected by structures; and 25-foot till bluffs characterize the eastern shore. Approximately 12 miles of the Cuyahoga County shoreline are expected to be preliminarily identified as coastal erosion areas.

Lake County's 30 miles of shoreline is characterized by 30- to 40-foot shale bluffs overlain by clay, sand, and till, except near Ashtabula County where the bluffs are lower. Discontinuous sand beaches and shore-protection structures front the shore. Approximately 24 miles of the Lake County shoreline are expected to be preliminarily identified as coastal erosion areas.

Ashtabula County's 28 miles of shorefront is composed largely of till banks, bluffs, and slopes which increase from heights of 15 feet in the west to 65 feet near Pennsylvania. Isolated sand beaches, 50 to 100 feet wide, and shore protection structures are common. Approximately 21 miles of the Ashtabula County shoreline are expected to be preliminarily identified as coastal erosion areas.

e. Soils

Generally, the soils on the shoreline west of Sandusky Bay are very poorly drained and formed in clayey, high lime sediments. Toledo has the most common soil series in this area, and it commonly occurs just slightly above the lake level. Northwest of Cleveland, the soils on the shoreline generally formed in sandy, loamy or silty sediments, or glacial till with a low content of lime. Many beaches are included, but the most common soil series above the bluffs is Conneaut, a poorly drained soil.

Between Sandusky Bay and Cleveland, the soils are much more variable. Soils in the Marblehead area are relatively shallow to limestone bedrock. East of the Huron River, soils that are only moderately deep to acid shale bedrock are common. Soils that formed in medium-lime glacial till are on some of the bluffs. Sediments ranging from sandy to clayey textures are common along the shoreline in Erie County east of Sandusky.

f. Climate

The overall climate of Ohio is continental in character, which is marked by large annual, daily and day-to-day ranges in temperature. However, the waters of Lake Erie tend to lower daily high temperatures in summer and raise temperatures in winter along Ohio's coastline. Summers are moderately warm and humid in this region of the state with average temperatures around 72 degrees Fahrenheit. Winters are reasonably cold and cloudy with average temperatures around 23 degrees Fahrenheit. Weather changes occur every few days from the passing of cold or warm fronts and their associated centers of high and low pressures.

Average annual precipitation varies from 31 inches in the western lake basin to between 34 and 35 inches east of Cleveland. Precipitation can vary widely from year to year, although it is normally abundant and well-distributed throughout the year with winter being the driest season.

2. Socio-economic Characteristics

a. Demographics

According to 1990 U.S. Census figures for the state of Ohio, approximately 2.75 million people, 25 percent of Ohio's total population, inhabit the nine counties in Ohio's coastal area. This represents a nine percent decline in population since 1970, when the population of these nine counties was 3.02 million. Over this time period, population in the two most urban and densely populated counties, Lucas and Cuyahoga, experienced a population decrease while all seven other counties increased in population. The smallest increase was 1.4% (Erie County) and the largest was 16% (Wood County).

b. Commerce and Industry

Water ports are a boon for commercial activity, and Ohio is fortunate to have nine ports along its north coast, from which nearly \$18 billion is annually exported. These ports--located in Toledo, Marblehead, Sandusky, Huron, Lorain, Cleveland, Fairport Harbor, Ashtabula, and Conneaut--are as diverse as the cargoes they handle. Marblehead serves only the limestone industry, while Cleveland and Toledo have trading links worldwide.

Cargoes of iron ore, limestone and coal make up the majority of the commerce handled by U.S.-flagged lake carriers, with coal being the single largest commodity. Iron ore, mostly extracted from mines in Minnesota, is delivered to the ports of Toledo, Lorain, Cleveland, Ashtabula and Conneaut. Limestone is a key commodity for the construction and steel-making industries and is handled in some form by every Ohio port. The ports of Toledo, Sandusky, Ashtabula and Conneaut are the export points for all of the Appalachian coal shipped on the lakes to domestic and international markets.

Ohio's share of the international trade through the St. Lawrence Seaway is mostly handled by the public docks of the Cleveland-Cuyahoga and Toledo-Lucas County Port Authorities. The port of Cleveland is the first major general-cargo port west of the St. Lawrence Seaway, and its business is dominated by the steel-making industry. Iron ore and ferrous metal alloys are moved through the port for steel-making firms throughout northeast Ohio. The Cleveland Foreign Trade Zone boasts a steel warehousing facility that handles import and export products for area steel-making, automotive and electrical manufacturing businesses.

The Port of Toledo offers the largest Foreign Trade Zone on the Great Lakes at 487 acres. This includes the Port of Toledo at 150 acres and the Toledo Express Airport at 337 acres. International commerce through this port includes steel products and a wide range of general cargo, such as newsprint, soap, paint and furniture products.

Passenger vessels also are an important part of Lake Erie maritime industry. The increasing popularity of the Lake Erie Islands has resulted in additional services throughout the region. A new, larger vessel is in service from Sandusky to Pelee Island and Leamington, while additional vessels connect from the mainland to Kelleys Island and South Bass Island.

c. Water Usage

More than three billion gallons of water are withdrawn from Lake Erie each day, of which approximately 89 percent is used for industrial processing and electrical generation. Electrical generation alone accounts for 74 percent of lake water withdrawals. Water withdrawal systems have expanded to such an extent that approximately 75 percent of the water supplied in the basin comes from Lake Erie. Twenty-eight community water systems, serving the coastal area's 2.8 million residents, use Lake Erie as the source of their raw water. Because of the lake's shallowness and near-shore water quality problems, water supply development regulations require that intake pipelines extend at least 1,500 feet into the lake. In total, these systems daily produce more than 473 million gallons of treated and disinfected water.

d. Industrial Mineral Extraction

Offshore from Painesville, 2,000 feet below the surface of Lake Erie and covering an area of 1.25 square miles, are located the salt mining operations of Morton International. Approximately 2.8 million tons of salt are produced from Lake Erie each year. In addition, the State of Ohio permitted approximately 300,000 cubic yards of sand and gravel to be extracted from the lake for industrial purposes in 1991 and 1992. In 1993, a total of 110,563 cubic yards of sand and gravel was extracted.

e. Agriculture

Agriculture of Ohio's coastal area can be characterized as a series of contrasts. The prolonged growing season along the lake, combined with the highly urbanized character of the region, make it an ideal area for growing truck produce. A variety of fruits, vegetables and berries is grown in the region. Truck farming is most prevalent in the urban counties of Lucas, Erie, Lorain and Cuyahoga. The urban-oriented nursery and greenhouse business is the most important form of agriculture in Lake County. The soils and terrain of Ashtabula County are not ideally suited for growing crops, although dairy farming occurs because of the county's close proximity to the densely populated urban areas of Cleveland, Akron and Youngstown.

Lake Erie crops contribute greatly to Ohio's agricultural economy. Of Lake Erie basin specialty crops, nursery stock production contributes \$115 million annually to the state's economy, while fruit and vegetable production contributes \$25 million annually.

It is estimated that 90 percent of Ohio's grapes are grown in the Lake region, with grapes and grape products contributing \$35 million to the economy. Over half of Ohio's commercial wineries are located in Lake, Ashtabula, Erie and Ottawa counties. The largest wine vineyard in the state is located on North Bass Island and is home to nearly 200 acres of European-type grapevines. In Ohio's coastal region, there are three Appellations of Origin. (Appellations of Origin identify recognized U.S. grape growing regions.) The Lake Erie Appellation extends along the lake shoreline from Toledo into New York State. There are 21 Ohio wineries within this appellation. The Isle St. George and Grand River Valley Appellations lie within the Lake Erie Appellation, with the former encompassing North Bass Island and the latter following the Grand River in Lake, Ashtabula and Geauga counties.

f. Recreation and Tourism

Lake Erie is considered by many to be the key to tourism in Ohio. It is estimated that Erie, Ottawa and Lorain counties annually attract between 6 and 8 million tourists during the peak summer season, contributing to more than \$200 million in travel revenue to the state's economy.

The Lake Erie coastal area provides great opportunities for the outdoor recreational pursuits of Ohioans, visitors and tourists. Shorelands of the coastal area contain recreational areas that range from specially managed wildlife areas and nature preserves to developed parklands managed for multiple recreational uses. The State of Ohio's recreational emphasis in the coastal area is on satisfying statewide and regional recreation needs through the provision of facilities and services by the public and private sectors.

The following table provides an assessment of existing recreational facilities that provide access to Lake Erie:

	<u>Number</u>	<u>Acreage</u>	<u>Shoreline Frontage</u>
State Parks	7	5,653	15 miles
Natural Areas	6	1,849	2 miles
Marinas	270		
Managed Wildlife Areas			
State, Federal, Private Clubs	13	20,400	6 miles (state) (federal & private unknown)
Fishing Access Sites	54	8,547	
Public Boat Launch Sites	27		
Hunting Access Areas	15	7,619	
Beaches	33		

The Ohio Department of Natural Resources is the leading public agency in providing outdoor recreational services. The agency operates seven lakefront state parks and six state nature preserves and ten wildlife areas in the coastal area:

<u>State Parks</u>	<u>Nature Preserves</u>	<u>Wildlife Areas</u>
Maumee Bay	DuPont Marsh	Metzger Marsh
Crane Creek	Sheldon Marsh	Magee Marsh
East Harbor	Old Woman Creek	Little Portage
Erie Islands	Headlands Dunes	Toussaint
Headlands Beach	Mentor Marsh	Pickerel Creek
Cleveland Lakefront	Lakeside Daisy	Pipe Creek
Geneva		Willow Point
		Mallard Club
		Green Island
		Resthaven

g. State Parks and Public Beaches

Maumee Bay State Park near Toledo is a full service resort facility that includes a lodge, cabins, 18-hole Scottish-style golf course, camping areas, trails, beach, bicycle trail and amphitheater. A modern interpretative center opened in 1992, and includes a facility that offers views of wetlands and wildlife habitats from remote cameras.

The most visible and popular public areas on Lake Erie are state parks. Shorefront camping is found at East Harbor, Kelleys Island and South Bass Island, while Catawba Island provides boating access, picnicking and fishing. Boating, fishing and swimming are enjoyed at Headlands Beach, Geneva and Cleveland Lakefront. Geneva also provides an important refuge harbor in Ohio's eastern Lake Erie zone.

Unique among Ohio's state parks is the urban setting of Cleveland Lakefront. The park is being expanded and developed through implementation of a long range waterfront plan. Acquisition of 43 acres of shoreland between Euclid Beach and Wildwood in 1991 allowed for development of the Villa Angela property, which has increased public access to the lake, expanded the swimming beach and provided additional trails that link parks and other lakefront recreational facilities.

h. Wildlife Areas and Nature Preserves

In addition to the wildlife areas listed above, the Ohio Division of Wildlife operates the Dempsey and Mazurik Lake Erie Access Areas and the Put-in-Bay Hatchery Aquatic Resource Education Center. Wetlands restoration is a primary concern in the coastal area, and the Division is participating in cooperative restoration projects on both public and private lands. Some 3,800 acres of coastal wetlands have been protected, restored or enhanced under the guidelines of the North American Waterfowl Management Plan.

Nature preserves in the coastal area offer opportunities to enjoy unique environmental settings and coastal resources. Of the six coastal nature preserves, Old Woman Creek is exceptional.

Old Woman Creek State Nature Preserve, near Huron, offers compatible public uses, such as hiking and nature observation, in a setting where important scientific research and education is being conducted. Old Woman Creek is also a National Estuarine Research Reserve, the only such designated area on the Great Lakes, under the oversight of the National Oceanic and Atmospheric Administration.

Federal facilities in the coastal area include the U.S. Fish and Wildlife Service's 8,300-acre coastal wetlands of the Ottawa National Wildlife Refuge in Lucas and Ottawa Counties, and the National Park Service's Perry Victory and International Peace Memorial on South Bass Island. Other federal agencies holding or managing parcels of land in the designated coastal area are listed in Appendix P of Part II.

i. Hunting and Fishing

Ten to 15 million pounds of fish are harvested annually from the Ohio waters of Lake Erie in sport and commercial fishing activities. Two-thirds of these fish are harvested from the Lake's western basin. Ohio consistently ranks among the top ten states in the number of fishing licenses sold annually. Of the more than 1 million fishing licenses sold in Ohio each year, an estimated 60 percent are sold to anglers who fish Lake Erie. Lake Erie sport fishermen generate approximately \$243 million in revenue annually, with charter boat fishing alone boosting local economies by nearly \$9 million. In 1993, Lake Erie sport anglers caught 8.6 million fish, including 2.7 million walleye.

Ohio traditionally ranks among the top three states each year in trapping activity, much of which is conducted on the Lake Erie marshlands. Duck hunting is also popular in the coastal marshes. Mallards, black ducks, wood ducks and blue-winged teal comprise approximately 70 percent of Ohio's annual harvest of more than 100,000 ducks. Mallards and black ducks are late migrants into Ohio and make up more than half of the waterfowl reported on hunter bag checks in the Lake Erie marsh region.

j. Historical Sites and Structures

Historically, many diverse groups of people have passed through or settled in Ohio's Lake Erie region. Prehistoric and historic Indians, the French, British, and Eastern Europeans left their mark upon the land through a variety of sites and structures. The following is a general summary of the types of historic resources each county has to offer:

Many historic commercial buildings and districts can be found in Lucas County, primarily in Toledo and Maumee. The list includes the oldest yacht club in the area and a portion of the old Miami-Erie canal.

Wood County boasts three historic districts and a fort that is now a state historical museum. The greatest diversity of historic sites exists in Ottawa County, where the Marblehead Lighthouse, a log cabin, a battle site, and a Civil War prison and fort on Johnson's Island are located.

Millions of summer tourists are familiar with Erie County's famed Cedar Point Amusement Park, which is home to several structures listed on the National Register of Historic Places. Included among these are the Cedar Point Light, the Coliseum located on Cedar Point's midway, and Hotel Breakers. Other historic sites located in Erie County include a winery, train depot, an engine house, and a portion of Kelly's Island.

Lorain County lists the 103rd Ohio Volunteer Infantry Barracks, the Lorain Lighthouse, and two houses dating back to the 1800s on its list of historic sites. Cuyahoga County has the largest number of historic sites registered in the coastal area. Most of the sites are located in Cleveland and include an old water-pumping station still in working condition.

Lake County claims the only Great Lakes lighthouse museum, while Ashtabula County has some early nineteenth century homes and a passenger depot presently maintained as a museum. The

Ashtabula waterfront is on the National Register of Historic Places and is of particular importance to the OCMP.

3. Environmental Quality

a. Water Quality

Historically, one of the most serious problems adversely affecting the coastal area has been the pollution of Lake Erie and its tributaries. Water pollution has accelerated the lake's natural eutrophication process. Because of its shallowness, relative warmth and the high fertility of the surrounding basin's soils, Lake Erie is naturally more eutrophic than the other Great Lakes. However, these natural conditions in combination with human activities resulted in a Lake Erie characterized by excessive plant nutrients, sediments, bacteria, and toxic substances.

Several commentators declared Lake Erie "dead" in 1970 from its serious pollution problems. Excessive nutrient loadings caused mats of floating algae, odors, poor aesthetics, and the creation of oxygen-depleted areas at the lake bottom. Tributary silt loadings increased turbidity, choked biological communities and carried contaminants adhering to sediment particles into the lake. Bacteria from poorly or untreated sewage created health hazards and closed beaches. Toxic chemicals accumulated in fish, wildlife and sediment, leading to the issuance of fish consumption advisories.

Lake Erie water quality has greatly improved since passage of the federal Clean Water Act. Effluent concentrations of phosphorus that had averaged 7 mg/l before 1972 are now averaging less than 1 mg/l. Conservation tillage practices have increased by nearly 200 percent in the Maumee River basin since 1989, and throughout the Lake Erie basin, county phosphorus reduction committees have actively worked to meet phosphorus reduction goals established in the Ohio Phosphorus Reduction Strategy. The purpose of this strategy is to quantify phosphorus loadings into Lake Erie from Ohio, and to identify mechanisms for reducing such loading.

Sediments, some of which are contaminated, remain a source of pollution to the lake, with river and shoreline erosion being a primary cause. Estimates of sediment loads for Ohio's portion of Lake Erie indicate roughly 2 million tons are derived annually from tributaries and 1.6 million tons from the shoreline. These sediments clog shipping channels, damage fish habitat, complicate water supply treatment, contribute to nutrient enrichment and adversely affect recreational use of the Lake. In Ohio alone, the U.S. Army Corps of Engineers spends approximately \$10 million annually to dredge an estimated 2 million cubic yards of sediments from the shipping channels and harbors of Lake Erie.

Toxics are also a serious concern for Lake Erie, although contaminant levels in fish flesh are not as high as in some of the other Great Lakes. Currently, it is advised that Maumee Bay catfish should not be eaten, and consumption limitations for other species are advised. Stage 1 Remedial Action Plan (RAP) reports have been developed for four Lake Erie tributaries in Ohio that were identified by the International Joint Commission as Great Lakes "Areas of Concern" (AOCs) due to poor water quality and environmental degradation. These impaired areas are the Maumee, Black, Cuyahoga and Ashtabula Rivers.

The Maumee River AOC is impaired primarily because of nonpoint source pollution and leaching landfills. Contaminated sediments from past industrial activity has adversely affected the Ashtabula River AOC, while the Black River is targeted due to past and present industrial contamination, municipal wastewater treatment plants and nonpoint source pollution. The Cuyahoga River AOC is a highly industrial, urbanized area with both point and nonpoint source pollution problems.

b. Aquatic Nuisance Species

No discussion of the environmental quality of Ohio's Lake Erie region would be complete without considering the impact of zebra mussels and other exotic species. Zebra mussels are believed to have entered the lower Great Lakes Basin in 1986 through the discharge of ship ballast water but did not appear in the Lake Erie coastal area until 1989. The exotic freshwater mussels have managed to spread rapidly in a very short time throughout the Great Lakes and into major river systems, causing economic damage by clogging pipes in water treatment, utility and manufacturing plants. Currently at least two species of zebra mussels are present in Lake Erie with densities exceeding one million/square meter at water intakes.

Zebra mussels have been shown to accumulate contaminants and can pass those contaminants up the food chain. During the summer of 1995, they were implicated as the probable cause of a large bloom of toxic algae in the western basin. Study continues regarding the human and ecological health implications of these factors.

The common carp is another problem species. Carp were apparently introduced in the Cincinnati area and around Fremont in the late 1800s. They are often present in great numbers and may contribute to turbidity, which adversely affects the germination and growth of aquatic plants and interferes with the spawning success of other fish species.

While the ruffe is not yet in Ohio waters, it appears that it is only a matter of time. Judging from the experience in western Lake Superior, where this Eurasian percid has become established, adverse impacts on Ohio's Lake Erie fishery are possible.

The round goby has proliferated in the benthic areas of the central basin adjacent to Lake and Ashtabula counties. This raises concern because of potential negative impacts on native organisms and possible bioaccumulation of contaminants.

Purple loosestrife (*Lythrum salicaria*) is another exotic species causing adverse effects in the coastal area. This plant invades marshes and grows in profusion, creating monoculture habitat to the detriment of wildlife and other plants and plant communities. The plants are unsuitable as cover, food or nesting sites for a wide range of native wetland animals.

c. Air Quality

Ohio's lakeshore counties contain many of the state's largest industrial complexes, including coal-fired electric-generating facilities with 17 percent of the statewide coal-fired generating capacity. In the past 10 years, emissions from the numerous air pollution facilities have decreased substantially. However, air quality standards are not being met in the industrialized regions of Lucas, Lake, Lorain and Cuyahoga counties. Atmospheric deposition contributes to the total pollutant load of certain toxics to Lake Erie and is currently being studied to determine its extent.

4. Natural Resources

a. Fish and Habitat Management

The history of Lake Erie fisheries has included human-induced changes in both the extent and variety of lake habitats. Generally, the diversity of sport and commercial fish species has declined in conjunction with loss of habitat. Those habitats most greatly reduced in size include deep, oxygenated cold water areas, vegetated areas, clean bottom sand and gravel areas, estuaries, and wetlands used for spawning, feeding, migration and refuge. Increased sedimentation from land-based source uses, higher nutrient levels in the lake from point and nonpoint pollution sources, dredging and filling activities, and chemical and thermal pollution have all had their impacts.

Important fish habitat areas of Lake Erie include all nearshore waters out to a depth of 20 feet, bays and estuaries, and offshore shoal areas. Specifically, there are five habitat areas of critical concern: Maumee Bay, the Toussaint-Locust Point reef complex, the Islands area, the Ruggles reef complex, and Sandusky Bay (including Muddy Creek Bay).

A few remaining coastal coldwater streams east of Cleveland offer important seasonal habitat for salmonids because they are the closest suitable habitat near summer feeding areas of Lake Erie. These species are adapted to colder water temperatures provided by such streams and thus it is important that such habitat is not degraded or warmed.

These varied habitats support a world class fishery. Approximately \$750 million is generated in the regional economy annually from recreational fishing activity. This may have declined recently as a result of reduced fishing effort documented since 1988. Fishing effort steadily rose beginning in 1975, when statistics were first kept, until peaking in 1988 when a 30% decline was recorded. Since that year, it has been relatively stable. The peak of commercial Lake Erie harvest, factoring in inflation, most likely occurred in the 1950s, and a steady decline has been observed since then. In recent years, the dock value of commercial fish has averaged about \$2 million, with a high value of \$3.6 million in 1990 and a low of \$1.4 million in 1993. Commercial value over the long term is difficult to assess because of the variability of the species harvested.

i. Lake Erie Walleye

Walleye fishing in Lake Erie has increased steadily in popularity since the mid-1970s. The Ohio Division of Wildlife indicated in its Strategic Plan for 1990-95 that population abundance was expected to remain above the historical average (21.5 million). Walleye produced exceptional year classes in 1990 and 1991.

ii. Yellow Perch

Yellow perch are the principal target species for Lake Erie anglers, especially during September and October. However, over-harvesting of the species by commercial fisheries has been a cause of concern and deliberation between the Province of Ontario and Lake Erie states, most notably Ohio. An agreement was initiated in March, 1993, that will by 1997 base the commercial harvest of yellow perch equally on historical harvest rates and percentage of surface water area owned by the state or province. It is hoped this strategy will result in a reduced total mortality in the fish stock compared with the past 25 years.

b. Wildlife and Habitat Management

Human activity in the Lake Erie basin has dramatically reduced wildlife habitat in the coastal area. This habitat loss is the major reason for an overall reduction in Ohio's coastal wildlife population. Nearly ninety percent of the Lake Erie coastal area's original 300,000 acres of wetlands and swamp forests have been drained, filled, cut or paved over for various purposes. Recent high water and erosion have caused an additional loss of shoreline wetlands. Recently, overall losses of wetlands have been reduced due to public and private wetland regulatory, acquisition, and restoration programs (see Chapter V of Part II). Typical endangered species that reside in such areas include king rails and blue spotted salamanders.

Wildlife habitat areas that remain relatively undisturbed still face the threats of pollution, soil erosion and siltation. Loss of habitat and degraded environmental quality has harmed migratory waterfowl, for which the Great Lakes serve as an important link between Canada and southern destinations. In particular, the marshes of the western Lake Erie basin are known as significant migration resting areas. This area is the most concentrated migration stop in the world for black ducks. The 2,600-acre Magee Marsh Wildlife Area near Oak Harbor supports more than 300 species of migratory birds in the spring and fall.

Common fur-bearing animals in the coastal area include foxes, white-tailed deer, muskrat, mink, raccoons, skunks, opossums, cottontail rabbits, woodchucks and fox squirrels.

One of Ohio's most notable wildlife management success stories from the Lake Erie region has been the recovery of the state's bald eagle population. As recently as 1979, Ohio had only four breeding pairs of bald eagles statewide. Through a strategy involving rehabilitation, education, nest stability and population augmentation, state wildlife officials have managed to increase the statewide total number of breeding pairs to 33 in 1996. Eighteen of those nests are located in the Lake Erie marshes, which accounted for 18 of the 35 eaglets hatched in 1996.

D. Environmental Consequences

In enacting the CZMA, Congress declared that "it is national policy to preserve, protect, develop, and where possible, restore or enhance the resources of the Nation's coastal zone for this and succeeding generations." States are to achieve these potentially conflicting goals by improving governmental coordination, incorporating consideration of long term implications of development decisions, and instituting a more rational decision-making process which conforms to CZMA policies. Such actions have the potential to substantially affect future coastal area activity and have a significant positive environmental impact. The CZMA mandates giving full consideration to ecological, cultural, historic and aesthetic values as well as to needs for economic development when considering various development proposals.

Thus many factors and diverse, often conflicting values, between resource protection and development must be weighed. The CZMA requires that a balance must be achieved which allows or encourages development, while still protecting unique and critical resources.

It is the intent of the OCMP to carry out these legislative mandates of the CZMA. Therefore, the environmental, institutional and socio-economic effects are expected to be primarily beneficial. The OCMP will provide more coordinated decision-making with a greater focus on critical coastal issues such as wetland protection, hazard management and nonpoint source pollution.

Impacts associated with approval of the OCMP are of two types: (1) impacts resulting from federal approval and (2) impacts resulting from implementation of Ohio's coastal protection statutes embodied within the program. In general, such impacts are discussed in the following sections with respect to direction of change (positive or beneficial, negative or neutral) and with respect to duration (long-term or short-term). Because the proposed action is approval of a broad ranging program, quantification of net effects is not possible. Impacts of denying or delaying federal approval are discussed below as well.

1. Positive Impacts Directly Resulting from Federal Approval

Section 306 Funding

Federal approval will enhance the State of Ohio's financial ability to carry out its various coastal management efforts in accordance with OCMP policies. The state will rely to a considerable degree on the program funding made available in annual grants under Section 306 of the CZMA, both for program administration and for the coastal management assistance grants program mandated in O.R.C. 1506.02. Program administration funding will support additional staff, contracts and other resources to enhance implementation of core OCMP laws. Local governments as well as a broad range of other entities will benefit from activities funded by the OCMP assistance fund. Section 306 funding for the coastal management assistance grant program will be used for environmentally and socio-economically beneficial efforts, such as the following:

- (1) Feasibility studies and engineering reports for projects that are consistent with the policies in the coastal management program document;

- (2) The protection and preservation of wetlands, beaches, fish and wildlife habitats, mineral, natural areas, prime agricultural land, endangered plant and animal species, or other significant natural coastal resources;
- (3) The management of shoreline development to prevent loss of life and property in coastal flood hazard areas and coastal erosion areas, to set priorities for water-dependent energy, commercial, industrial, agricultural, and recreational uses, or to identify environmentally acceptable sites for dredge spoil disposal;
- (4) Increasing public access to Lake Erie and other public places in the coastal area;
- (5) The protection and preservation of historical, cultural or aesthetic coastal resources;
- (6) Improving the predictability and efficiency of governmental decision making related to coastal area management;
- (7) Adopting, administering, and enforcing local zoning ordinances or resolutions relating to coastal flood hazard areas or coastal erosion areas;
- (8) The redevelopment of deteriorating and underutilized waterfronts and ports; and
- (9) Other purposes approved by the director. (O.R.C. 1506.02).

Funding for such efforts is expected to have direct beneficial impacts on the natural and socio-economic environment of the coastal region, through protection of natural areas and other sensitive resources, waterfront revitalization, comprehensive planning, streamlining of permits and the monitoring of their effects, and conflict resolution. The integrated management approach of a coordinated cooperative OCMP is expected to result in direct benefits to the environment through a heightened proactive focus on coastal resource management. The OCMP provides the framework for a partnership among state and local agencies and other entities, public and private, to cooperate to preserve, protect, develop and restore the region's unique values.

Federal Consistency Review

Federal approval and implementation of the OCMP will have effects upon federal agency actions. Approval will activate the federal consistency review provisions of Section 307 of the CZMA. The OCMP federal consistency process and relevant provisions of 15 CFR Part 930 are described in Chapter 7. Because federal consistency entails early coordination and closer cooperation in planning as well as review of project proposals, it is presumed that federal consistency will provide another means to minimize the potential for adverse environmental impacts. This is considered to be a desirable impact and one of the main purposes of the CZMA.

The OCMP has been developed with the assistance and input of numerous federal agencies having responsibility for activities in or affecting the coastal area. Therefore, conflicts between the OCMP's enforceable policies and federally permitted or conducted activities should be minimal.

Federal activities will not be excluded but rather will be required to be consistent with the OCMP's policies.

National Interest

Appendix Q of the OCMP describes how the siting of land and water uses of regional benefit, coordination with federal agencies, and consideration of national interest are integrated in the program. As the Ohio coastal management program includes formal procedures for considering national and regional interests in comprehensive planning and decision making for the coastal area, the potential for conflicts between state, regional and National goals is reduced. In implementing the OCMP, Ohio will provide such avenues for considering the national interest in program decisions.

2. Impacts (of Approval) Attributable to the OCMP

Several new coastal management authorities established by O.R.C. Chapter 1506 add to and strengthen Ohio's coastal management efforts to prevent adverse impacts on coastal resources, manage coastal hazards, protect public trust submerged lands, and coordinate various state efforts in a consistent state coastal program. These additional authorities are necessary for Ohio to meet minimum requirements for program approval by NOAA, and Section 306 program implementation funding will enhance implementation of these core programs.

The Ohio Department of Natural Resources (ODNR) is statutorily designated as the lead agency for development and implementation of the OCMP. The functions and authorities of ODNR with respect to OCMP administration, described in detail in Chapter 4, provide a cohesive framework for improved and integrated decision making regarding coastal issues. The Coastal Management statute additionally mandates that all agencies of the state cooperate with ODNR in program implementation (O.R.C. 1506.02). Memoranda of Understanding between ODNR and other agencies as well as state consistency review by ODNR further foster unified coordination. Decisions and activities of federal, state and local agencies as well as those within ODNR will be monitored, coordinated and mediated by one office within ODNR (OCM) to assure compliance with the OCMP. Greater consistency, a central focus and streamlining of the decision-making process is expected to improve the predictability of that process and bring about beneficial environmental and institutional impacts.

Assuring state agency consistency with the coastal management program will help maintain program strength. As with federal consistency provisions and mechanisms, the impacts are expected to be positive. Improved coordination and cooperation throughout project planning and review will serve to minimize adverse impacts and to enhance predictability of decision making regarding state projects that may affect coastal resources. The OCMP's structure and the means to assure state consistency are described in Chapter 4.

The Coastal Resources Advisory Council will continue as a principal means of providing public participation in the OCMP. The council informally serves as liaison to outside organizations and as advisor and "watchdog" to ODNR's coastal management activities. These functions help to assure that public concerns regarding the environment are emphasized in the state's decision making.

Submerged lands

Pursuant to O.R.C. 1506.11, administration of submerged lands leasing was transferred to ODNR from the Department of Administrative Services. This change places decisions on lease applications and enforcement within the ODNR, the lead state agency for coastal management. The transfer of responsibility has resulted in the passage of rules governing the leasing of Lake Erie submerged lands with strong emphasis on the environmental aspect of submerged lands management. These rules have allowed ODNR to review and modify applications to protect the environment and to increase predictability in the leasing process. ODNR's administrative rules governing submerged lands leasing specify clear criteria for determining potential impacts of each lease project.

The rules and background information on the state's public trust responsibilities are provided to each applicant in advance of the leasing process. Rules mandate water dependency of the project and an evaluation of impacts upon the right of public recreation. Also considered, as stipulated in the rules, are littoral property owners' rights, conformance with locally permitted land uses, and potential impairment of public uses. Review of lease applications is coordinated with the Corps of Engineers' 404 permit process and ODNR's erosion control project permit process as well as Ohio EPA's State Water Quality Certification. Chapter V, Policy 16 provides a detailed description of Ohio's policies and authorities regarding submerged lands administration, and administrative rules that amplify this authority are included in Appendix L.

Hazards

Identification of Lake Erie coastal erosion areas and proposed implementation of rules requiring permits to erect permanent structures therein pursuant to O.R.C. 1506.06 through 1506.09 will minimize new construction that could ultimately be damaged or destroyed by coastal erosion. Thus, coastal erosion area management will bring about positive socio-economic impacts through reduction of property damage and investment losses in new development and shore protection. Costs to the public should also decrease with less investment in public infrastructure in erosion prone areas. With more coordinated planning and permit review to ensure effectiveness of protection measures, the number of structures lost to erosion should decline, with a corresponding decrease in the amount of hazardous debris in the lake and on the shore. Pollutant levels should be reduced as well, as fewer septic tanks and sewer lines are washed into the lake.

Some site-specific increases in adverse impacts on aquatic habitat and shoreline processes may occur as a result of landowner efforts to protect their property by installing erosion control measures in the littoral zone. These impacts may include localized acceleration of erosion, disruption of littoral sand movement, temporary siltation from construction, and minor habitat displacement. Such effects however will be minimized by the resource protection policies of O.R.C. Chapter 1506 and the environmental review criteria established in O.A.C. 1501-6-24 (review of permit application, rules for enforcing coastal erosion areas). Again these are limited site-specific effects and impacts that, in balance, are expected to be positive as a result of heightened coordinated review.

The potential exists that erosion management may result in decreased property values for some individuals who own shorefront property with extremely high erosion rates. In addition, costs of development that does occur will increase in the short term due to the requirements for owners to install effective erosion control measures or to site permanent structures further inland. Such costs are expected to be short term with property values generally increasing over the long term due to improved protection and decreased risk.

The law establishes the authority for municipal corporations and counties to adopt coastal erosion area ordinances and resolutions. ODNR can provide model zoning regulations to assist local jurisdictions in the adoption of coastal erosion area ordinances or resolutions. Counties are authorized to enact coastal erosion areas standards as part of the local building code by O.R.C. 307.37. A permit from the Director, ODNR, is not required within the territory of any county or municipal corporation that has adopted and is enforcing a Lake Erie coastal erosion area resolution or ordinance within its zoning or building regulations if the resolution or ordinance has been reviewed by the Director . . . and meets or exceeds the standards established under division (B) of this section (O.R.C. 1506.07(c)(1)). If local controls are approved by the Director of ODNR, then the county or municipality will be the permitting authority for construction projects in coastal erosion areas. The director retains the authority to review the local implementation and enforcement of local standards every two years. If the director determines that the local standards are inadequately enforced, permitting authority reverts back to ODNR for the territory of the affected county or municipal corporation.

Public safety and awareness will also be facilitated by the statutory requirement that owners of property within the coastal erosion areas provide notice to a purchaser that the property lies in such an area.

Counties or municipal corporations with land in designated coastal flood hazard areas are required to participate in the National Flood Insurance Program (NFIP) or adopt resolutions or ordinances meeting or exceeding NFIP requirements. Because all but three affected communities were in compliance with this requirement when it became law, the immediate impact of this was minimal. All affected communities now participate. For the long term, this will assure that the minimum federal standards are always in effect in the Lake Erie coastal flood hazard area.

Wetlands

Ohio programs to protect coastal wetlands will also continue to be refined through implementation of various elements of the state wetland strategy, including adoption of water quality standards for wetlands, and enhanced reporting of wetland status, through increased use of GIS capabilities and project and permit tracking. These efforts should provide comprehensive assessment of coastal wetland status and ensure progress toward attaining a net gain in coastal wetlands from appropriate restoration efforts.

Access

Implementation of the OCMP will facilitate consistent updating of the Lake Erie Access Study to comprehensively inventory access needs and potential sites. Enhancing the existing Lake Erie

Access Program (LEAP) through better coordination of agency programs and policies will improve public access to Lake Erie, consistent with the provisions of the OCMP. Technical assistance to and coordination with local communities will further promote the utilization of the recreational potential of urban waterfronts through urban river and waterfront development program. Enhanced acquisition, planning and development efforts for state nature preserves, state park facilities and the Statewide Trails System would also benefit public access to and enjoyment of Lake Erie. The aforementioned programs would all benefit from increased resources and funding through OCMP implementation.

3. Impacts Resulting from Denying Federal Approval

Several environmental, economic and social impacts could result if OCRM decided to deny approval of the OCMP. An obvious economic impact is the loss of federal funds to administer the program. Under Section 306 of the CZMA, Ohio would receive about \$800,000 annually to implement its coastal management program. Consistency of federal actions, as required by Section 307 of the CZMA would be lost to Ohio. Adequate consideration of the national interest in siting facilities of national interest, as required by CZMA Section 306(d)(8), would be lost and could result in loss of public benefit from use of those facilities. Further, the environmental status quo would prevail regarding resource protection and use in Ohio's coastal zone, and the technical assistance available to Ohio from OCRM would be lost without Federal approval of the program.

4. Impacts Resulting from Delaying Federal Approval

The environmental, economic and social impacts listed above, that result from denial of Federal approval of the OCMP, also apply to delaying approval of the Program. Further, continued delay at this juncture may make it impossible, due to limits in program development funding, for Ohio to enter the Federal program in the future.

E. Unavoidable Adverse Environmental Effects

The probable effects of the Ohio Coastal Management Program implementation will, on the whole, be environmentally beneficial. Certain localized adverse environmental impacts may result, however, as the state seeks to balance the conservation of coastal resources with the recognized need for rational economic growth.

With or without the program, adverse impacts associated with the siting of major facilities for purposes of defense, transportation, and energy requirements in which both the state and federal governments have interest, will continue. It is important to note, however, that under the Coastal Management Program and related federal laws (e.g., National Environmental Policy Act), such projects will be evaluated as to the impacts on the natural coastal environment. That is, investigations will be made, alternatives considered, etc. The Program also makes provisions for consideration of the national interest in the siting of these facilities.

No new energy generation facilities are planned in Ohio's coastal area, and it is anticipated that oil and gas facilities will remain largely unchanged.

F. Relationship between Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

While approval of the Ohio Coastal Management Program will restrict some local, short-term, uses of the environment, it will also provide long-term assurance that the natural resources and benefits provided by the Ohio Lake Erie coast will be available for future use and enjoyment, by more effectively administering existing resource protection laws.

The Ohio Coastal Management Program recognizes in the short-term that some coastal-dependent developments have adverse environmental consequences, but that they may still have to be located in the coastal zone to protect the inland environment as well as help provide for orderly economic development, and meet national interest.

Regarding the long-term use of the environment the OCMP recognizes the coastal zone as a delicately balanced ecosystem; establishes a process of balanced management of coastal resources; allows growth to continue while protecting key resources; and provides a framework which can protect regional, state and national interests by assuring the maintenance of the long-term productivity and economic vitality of coastal resources necessary for the well-being of the public. Beneficial changes will likely promote avoidance of long-term costs to the public and a diminished quality of life resulting from the misuse of coastal resources.

G. Irreversible and Irretrievable Commitments of Resources

The only irretrievable or irreversible commitment of resources that will result directly from the approval of the Ohio program is the commitment of state and Federal funds and personnel for the purpose of achieving the goals and objectives of the program. It is presumed that irretrievable and irreversible commitments of economic and environmental resources will occur during the implementation of the Ohio program. This program is designed to balance the need for development with the need for the protection and enhancement of coastal environmental resources by avoiding, minimizing and mitigating the consequences of coastal development on resources such as wetlands and shallow water lacustrine habitats.

The program ensures that any such proposed activities which commit coastal resources are subjected to comprehensive review as individual actions and as an action contributing to the cumulative impacts taking place on coastal resources. Such review will ensure that those irretrievable and irreversible commitments of resources which are undertaken under the Ohio Coastal Management Program are made with full awareness of the consequences of those commitments.