

Chapter 9

Additional Management Measures for Critical Coastal Areas and Impaired or Threatened Waters

9.1 Introduction

According to EPA's *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance*, each state's coastal nonpoint program must provide for the implementation of "additional management measures" where coastal water quality is impaired or threatened, even after the implementation of the management measures specified in the (g) guidance. The additional measures are to apply both to existing land and water uses that are found to cause or contribute to water quality impairment and to new or substantially expanding land uses within critical coastal areas adjacent to impaired or threatened coastal waters. States must identify coastal waters that are not attaining or maintaining applicable water quality standards or protecting designated uses—or that are threatened by reasonable foreseeable increases in pollution loadings from new or expanding sources—and the land uses that individually or cumulatively cause or threaten water quality impairments in those coastal waters. In addition, each state must identify and map critical coastal areas that may require additional measures to protect against current and anticipated nonpoint pollution problems.

Impaired waterbodies have been identified by the Ohio EPA to comply with Section 303(d) of the Federal Water Pollution Control Act, 33 U.S.C. Section 1313(d). Ohio's TMDL schedule has been submitted to USEPA and comprises the schedule for addressing impaired waters in the coastal area. The schedule, lists of segments and watershed maps are listed on the Ohio EPA's web site at: <http://chagrin.epa.state.oh.us/programs/tmdl/303map6.pdf>. The schedule calls for all TMDLs to be completed by 2013; however, the schedule may be revised as changes to the list are made. Maps of impaired segments in the coastal area have not been included in this report since Ohio EPA is still correcting the data on which the segments were listed.

While water quality data is adequate to identify most impaired water bodies, it does not indicate what areas are threatened. However, such an assessment can be derived by looking at existing levels of impairment associated with different land uses, pollution sources, and stream habitat modification. In the 1996 *Ohio Water Resources Inventory*, Ohio EPA indicates:

impacts from nonpoint source runoff, habitat degradation and watershed disturbances may be worsening. Siltation of substrates and habitat degradation are now the second and third leading causes of aquatic life impairment in Ohio streams and rivers, surpassing ammonia and heavy metals. These impairments are principally the result of agricultural land use, **intensive urbanization, and suburban development, the latter of which is emerging as one of the most significant threats to watersheds in the 1990s.** [Emphasis added.]

From Ohio EPA's data, we anticipate that increased pollution loadings associated with new and expanding urban areas located adjacent to the Lake Erie shoreline may present the greatest future challenge to maintaining or attaining coastal water quality goals in Ohio.

Although other sources such as agricultural runoff are more widespread and contribute a larger total pollutant load to coastal waters, the threats associated with urbanization are usually irreversible. EPA's findings are mirrored by those of two areawide planning agencies covering much of the northeastern portion of the Lake Erie Basin, NOACA and NEFCO. In their *Clean Water Plan for Northeast Ohio* (Chapter 7, October 27, 1999), they identify critical water areas and the threats to them. The majority of identified threats are those most often associated with urbanization, i.e., increased rates of sedimentation and stormwater runoff, increased loadings of toxic materials, salt and nutrients, loss of riparian habitat, and increased channel instability.

Pollutant loading from urban land uses includes a wide array of contaminants including heavy metals, oils, grease, fertilizers, sediments, and pesticides. In addition, impervious surfaces of urban land uses (rooftops, roads, parking areas) have severe impacts on stream channels and flow regimes. Land use data indicate that between 1974 and 1994, urban areas were the fastest growing land uses in the coastal area. The spread of urban land uses is most conspicuous in the Cleveland and Toledo metropolitan areas (see Section 2.1.3), with urban land uses comprising over 16 percent of land uses in the Cuyahoga River Basin and over 14 percent in the Rocky River Basin. Research indicates that stream degradation occurs at relatively low levels of imperviousness (10–20 percent). Data further indicate severe impacts on stream biota, particularly macroinvertebrates, occur when watershed imperviousness exceeds 25 percent. The Rocky and Cuyahoga River watersheds have reached levels when degradation can be measured, while many smaller watersheds in the coastal area exceed 25 percent imperviousness (“The Importance of Imperviousness,” *Watershed Protection Techniques*, Vol.1, No.3, Fall 1994).

To address this threat to coastal water quality, Ohio has identified its entire coastal zone management area, and the land area within a two-mile radius of new (since 1994) urban areas along the Lake Erie shoreline, as critical coastal areas. The extent of the critical coastal areas in Ohio's western, central, and eastern Lake Erie shoreline areas is shown on the maps provided in Figures 9-1 and 9-2.

In order to determine whether additional measures are necessary to attain or maintain water quality standards in Ohio's coastal waters, Ohio will evaluate available water quality monitoring data as it is generated under existing or proposed expanded monitoring programs (see Chapter 11) to identify those waters where water quality impairments persist. In addition, an evaluation of the implementation and effectiveness of the existing management measures designated to address water quality concerns in the identified areas will be conducted to determine if existing measures are sufficient but poorly designed or implemented, or if additional measures are warranted.

9.2 Recommended Strategies for Impaired or Threatened Coastal Waters and Critical Coastal Areas

Over the past two years several public participation processes were put in place to assess nonpoint sources of pollution in the coastal area and throughout the state. In September 1997, ODNR convened six committees to assess coastal nonpoint problems, including those arising from expanding urban development. Subsequently, the Department initiated a statewide nonpoint source planning process, creating ten work groups. Drawing upon the recommendations of the coastal and nonpoint work groups, several program priorities of the

State of Ohio for the next five years have been identified to protect impaired or threatened waters and waters in Ohio's critical coastal areas.

A major portion of the strategy to protect critical coastal areas relies on an enhanced effort to implement programs already in existence:

- Ohio's **Coastal Consistency Program** requires that any project or activity that directly affects Ohio's coastal area is required to be consistent with all of Ohio's coastal management policies (Ohio Revised Code 1506.03). Federal agency actions and federally permitted, licensed, or funded projects are also required to be consistent with Ohio's coastal management policies. It is the responsibility of the project proponent to determine if the project affects Ohio's coastal area and is subject to consistency requirements. Project proponents must identify and obtain all necessary authorizations and permits, notify ODNR of all approvals that have been obtained, and determine if the project is consistent with coastal policies and requirements. ODNR's Division of REALM, Coastal Management Section, will then initiate a formal public notice and comment process and conduct the state's consistency review of the proposal. Consistency reviews incorporate ODNR's interdisciplinary environmental review and consultation with other agencies with responsibilities in the coastal area. The Coastal Management Section will solicit comments from appropriate agencies and will incorporate appropriate comments and recommendations into findings that will support the ODNR Director's agreement or disagreement with the consistency determination.
- Expanding the scope of Ohio's **Submerged Lands Lease Program** will also provide greater protection of water quality in the critical coastal areas. This program, administered by ODNR, provides that any activity or project requiring the use of the submerged lands of Lake Erie must obtain a lease from ODNR for that use. Expanding the scope of ODNR lease requirements to include the implementation of all applicable CNPCP management measures and BMPs as a condition of issuance for any submerged land lease will provide further protection of coastal resources. Expanded efforts to inspect and enforce lease conditions after lease issuance will help to monitor and ensure program compliance.
- Similarly, enhanced review and enforcement of Ohio's **Section 401 Water Quality Certification and Antidegradation Programs** is integral to prevent further water quality degradation and to improve conditions in Ohio's impaired, threatened, and critical coastal waters. Revising the State agency review process under the Section 401/404 Permit Program to allow for review of proposed projects during project planning and design, rather than after the project plan/design is complete, should serve to increase compliance with program requirements. In addition, development of specific criteria and regional conditions to be considered in the Section 401/404 and antidegradation review processes will provide for additional water quality protection in designated critical areas. Enhancing the review and enforcement functions for the existing requirements of these programs will require a commitment by Ohio to increase Ohio EPA staffing and funding in these two program areas.
- The establishment of Lake Erie as a **No Discharge Zone** is a critical goal for preventing further water quality degradation and improving conditions in Ohio's critical coastal waters. Whereas Ohio currently has laws prohibiting overboard

discharge on all inland waterways, in this effort ODNR will work with the USEPA and surrounding states that have already established their Great Lakes as No Discharge Zones. The Division of Watercraft created a work group to analyze current state and federal regulations concerning the discharge of sewage and gray water from recreational vessels in Ohio. It recommended the development of a future master plan to implement a No Discharge Zone on Lake Erie by 2003, resulting in all Ohio waterways being free from overboard discharge.

- The **science of river morphology** has, in recent years, become significantly more standardized, and a concerted effort is underway to incorporate a better, more technical understanding of river morphology into Ohio's existing water resource protection strategies. This effort can be put in three broad categories:
 - general recognition of riparian systems as a pollution control BMP. Morphologically sound riparian systems are better able to purify water flowing through them, and they are more resilient to pollutant loads.
 - stream assessment may be improved by classifying geomorphic character. Work is now being done to establish the correlation of channel type with stream quality.
 - incorporating natural channel stability concepts into channel modification for the purpose of restoration.

After three years of exploring its potential, Ohio is incorporating a better understanding of river form and process into its water resource protection strategies, regulatory requirements, and design standards. Standards are being developed to facilitate the process of incorporating natural channel design into hydromodification projects. State agencies will use these standards when reviewing and approving permits and making recommendations for mitigating stream alterations.

- Ohio's **Urban Streams Program** is being expanded and additional Urban Stream Specialist positions are being created in SWCDs located in the Lake Erie Basin. This program is intended to initiate and organize projects and activities aimed at improving, restoring, and protecting urban waterways and at creating self-sustaining local watershed groups in urban areas.

In addition to enhancing existing programs, Ohio's strategy to protect critical coastal areas may include proposals to implement the following recommendations:

- Use coastal management grants to encourage county comprehensive land-use planning that meets specified minimum standards and includes a natural resource analysis component. Recommend that similar land-use planning efforts be implemented at the local municipal and township level.
- Develop a model Shoreline Management Program encouraging the adoption of county shoreland zoning ordinances to regulate development near Lake Erie shoreline areas. Recommend that similar shoreline management measures be implemented at the local municipal or township level. (Note: This program could possibly be expanded statewide in the future to protect the shoreline areas of all Ohio's navigable lakes and streams.)

- Establish as standard practice the shoreline and nearshore disposal of sand and gravel dredged from marina channels and waterways. Marina structures and channels impound sand and gravel transported along the shore by littoral processes. Open-lake disposal of this sediment results in a permanent loss of sand and gravel needed to maintain beaches along the Ohio lakeshore. The consequent erosion of beaches exposes cohesive material in the shore and nearshore to wave action, resulting in increased erosion of the shore, increased downcutting in the nearshore, and increased turbidity in aquatic habitats.

These recommendations were derived from coastal and statewide nonpoint source work groups. Although several recommendations are being implemented or are under consideration, taken as a whole they do not, at this time, represent policy adopted by the State of Ohio. Further evaluation and consensus building will be undertaken to allow Ohio to develop a comprehensive implementation agenda.

Recommendation	Measure(s) of Success	Resource(s) Needed	Responsible Organization(s)	Time Frame Beginning
Use coastal grants to encourage county land use planning that incorporates protection of critical water resource areas	Annual grant awards	Coastal grants from NOAA	ODNR	Years 1-5
Develop model shoreline protection zoning ordinance and assist local governments in designing and establishing comprehensive shoreline protection programs	Completed guidance	Additional funding from coastal grants, GRF, LEPPF, or other sources	ODNR	Years 2-3
Expanded review under existing Submerged Lands Lease Program	Environmentally enhanced site design based on reviews	None	ODNR	Year 1
Implementation of existing Coastal Consistency Review Requirements for projects located in critical coastal areas	Expanded consistency procedures	None	ODNR	Year 1
Establish Lake Erie as No Discharge Zone	No discharge zone included in policy and rules	?	ODNR	Year 4
Expand Urban Streams Program	Increased number of counties with urban stream specialists	Additional GRF	ODNR	Ongoing
Standardize and incorporate science of river morphology into State activities	Revised standards, program guidance, and increased restoration	Additional training	ODNR	Years 1-3
Standardize practice for shoreline and nearshore disposal of dredged sand and gravel	?	Geological Survey staff analysis and demonstrations	ODNR	Years 1-3

9.3 Technical Assistance

Technical and other assistance to local governments and the public for additional management measures will be provided through a cooperative effort of the existing partnership programs currently operating under Ohio's NPSMP and OCMP (see Section 2.4) and through each additional measure's implementing agency (i.e., NRCS, OSUE, ODNR, and Ohio EPA).