

Chapter 8

Management Measures for Wetlands and Riparian Areas

8.1 Introduction

Wetlands are areas of land where the water table is at, near, or above the land surface long enough each year to result in the formation of characteristically wet soil types and support the growth of water-dependent vegetation. Wetlands include, marshes, swamps, and bogs, and are often transitional areas between upland and deep water resources. Ohio's regulations place wetlands into three categories based on the level of wetland functions they perform. Category 1 wetlands demonstrate minimal functions, Category 2 wetlands exhibit moderate functions, and Category 3 wetlands show superior functions. Ohio's regulations designate Category 1 wetlands as Limited Quality Waters and Category 2 and 3 wetlands as General High Quality Waters.

Wetlands, riparian areas, and vegetated treatment systems not only provide essential habitat for wildlife, but also have important potential for reducing the effects of nonpoint pollution from a variety of sources. Wetlands and riparian areas can play a critical role in reducing nonpoint source pollution by intercepting surface runoff, subsurface flow, and certain groundwater flows. Their role in water quality improvement includes processing, removing, transforming, and storing such pollutants as sediment, nitrogen, phosphorus, and certain heavy metals. Functions of wetlands and riparian areas include water quality improvement, aquatic habitat, stream shading, flood attenuation, shoreline stabilization, and groundwater exchange. Loss of these systems allows for a more direct contribution of nonpoint source pollutants to receiving waters. In Ohio, wetlands are considered to be a critical natural resource, and protecting and restoring wetlands and riparian areas, and promoting the use of vegetated treatment systems are essential elements of Ohio's coastal protection program.

About 90% of Ohio's original five million acres of wetlands have been lost. A classic example of this loss is the case of the Great Black Swamp. As discussed in the *National Water Summary on Wetland Resources* (USGS, 1996), the swamps of the Great Black Swamp in northeastern Ohio and the marshes bordering Lake Erie were once Ohio's two largest wetland systems. Before European settlement of the area, the Great Black Swamp occupied nearly 900,000 acres. During the 1850s, a series of drainage projects converted the swamp into some of the most productive farmland in the state. Today, only five percent of the original swamp remains.

Coastal wetlands along Ohio's Lake Erie shore have been destroyed as agriculture, real estate development, and recreational areas have expanded. From 1850 to 1993, close to 951,000 of 988,000 acres of coastal wetlands were drained along the southwestern coast of Lake Erie, and only ten percent of the original marsh along Lake Erie remains. Today, approximately 150,000 acres of wetlands remain within the entire Lake Erie basin.

8.2 Existing Programs

8.2.1 Federal Programs

Section 10 of the **Rivers and Harbors Act** of 1899 regulates all dredging and channelizing activities in all waters which have history or capacity for use in interstate commerce. Any subject activity must be permitted through a Section 10 permit from the USACE, commonly issued through the Clean Water Act, Section 404 permit process.

Section 404 of the **Clean Water Act** regulates the discharge of fill materials into all waters of the United States, including wetlands. Individual Section 404 permits are issued by USACE, with veto authority held by USEPA. The standards for granting individual permits are issued by both the USEPA and the Corps. The EPA criteria state that “no discharge of dredged or fill material shall be permitted if there is a practical alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” EPA also prohibits any discharge that contributes to “significant degradation of the waters of the United States.” This comprehensive jurisdiction is limited by preapproved nationwide (general) permits for certain specified minor activities and for wetlands above the headwaters of tributary drainage systems and isolated waterbodies, which include wetlands of less than five acres in size. *Headwaters* are defined as those areas on a tributary drainage system above the point where the average annual flow is five cubic feet per second, and *isolated waterbodies* are those open water areas or wetlands that are not connected to a surface tributary drainage system. In reviewing applications for individual and nationwide permits, USACE solicits input from ODNR and USFWS under the authority of the Fish and Wildlife Conservation Act (48 Stat, 401, as amended; 16 U.S.C. 661 et seq.) and Chapters 1531 and 1533 of the Ohio Revised Code.

Ohio relies upon a rigorously enforced Section 401 Water Quality Certification Program to protect its existing wetlands. Under **Section 401** of the **Clean Water Act**, states must certify that the Section 404 permits are consistent with state water quality standards. Ohio law provides that the Director of Ohio EPA may certify or deny certification to any applicant for any federal license or permit to conduct an activity that may result in a discharge into state waters (ORC 6111.03). In reviewing applications for water quality certification, Ohio EPA solicits input from ODNR and the USFWS. The State Water Quality Certification Program has imposed general and specific conditions on many Section 404 nationwide general permits and has denied certification for Nationwide Permits 17 and 21.

Ohio’s authority provides increased protection of wetlands beyond controls over activities under the USACE’s Section 10/404 permit authority. State law provides that the Director of Ohio EPA may certify or deny certification to an applicant for any federal license or permit to conduct an activity that may result in a discharge into the waters of the state (ORC 6111.03 (P)). Further, OAC 3745-32-02 specifies that a Section 401 water quality certification is required to obtain the following: (1) a permit from the USACE pursuant to Section 10 of the Rivers and Harbors Act, (2) a permit from the USACE pursuant to Section 404 of the Clean Water Act, (3) a permit from the USACE under both Section 10 and 404, and (4) any other federal permit or license that may result in any discharge to waters of the state.

Wetlands acquisition and restoration projects under **the North American Waterfowl Management Plan** are assisted through federal USFWS matching funds originating under the **North American Wetlands Conservation Act**. The investment is multiplied through the agreements and partnerships entered into by ODNR's Division of Wildlife and a variety of conservation organizations, businesses, and governmental agencies. The Lake Erie Marshes are a focus area of the North American Waterfowl Management Plan and, as such, are of the highest priority for restoration projects with private landowners.

The Lake Erie Commission, in its 1996-1998 Strategic Plan, has identified the need to address loss of habitat and nonpoint source pollution as two of its highest priorities. Grants now will be available for property acquisition and for plan development in implementing measures that protect coastal wetland habitat. Additionally, the federal **Endangered Species Act**, administered by the USFWS, regulates the destruction of wetlands habitat that harbors endangered species. USFWS's **Partners for Wildlife** and **Challenge Cost Share** programs offer technical and financial assistance to landowners who wish to restore degraded or converted wetlands, riparian areas, streams, and other critical habitats that benefit federal trust wildlife resources.

The Division of Soil and Water Conservation also works cooperatively with the NRCS to provide technical assistance and financial incentives for wetland protection on privately owned lands under the federal **Wetlands Reserve Program (WRP)**, **Environmental Quality Incentive Program (EQIP)**, **Conservation Farm Option Program**, and **Wildlife Habitat Incentive Program (WHIP)**. These programs are focused chiefly on wetlands in agricultural production.

Preservation and restoration of forested wetlands is promoted through the federal **Forestry Incentives Program** and the **Stewardship Incentive Program**. Landowners who participate in these programs receive technical and cost-share assistance to protect and enhance their forest lands and associated wetlands.

8.2.2 State/Local Programs

Through a joint effort of Ohio EPA and ODNR, Ohio has developed wetland water quality standards (OAC 3745-1-51 through 53), and wetland antidegradation provisions (OAC 3745-1-54). The basic structure of the wetland water quality standards is to assign one designated wetland use to all jurisdictional wetlands, and to assign numeric chemical criteria for that use to point source discharges that must be met at the "end of pipe." The wetland antidegradation provisions have a tiered system of protection. A wetland under antidegradation review in Ohio is placed into one of three categories based on its relative functions and values, sensitivity to disturbance, rarity, and the ability to adequately mitigate for its loss through wetland restoration or creation.

Under the state's antidegradation provisions, Category 1 wetlands are those that support minimal wetland functions and do not provide critical habitat for or contain threatened or endangered species. Category 1 wetlands are likely to be hydrologically isolated, have low species diversity, be dominated by non-native species, and have no significant wildlife habitat or use. This type of wetland would have limited potential for reestablishment of lost wetland functions and typically would include wetlands that are acidic ponds created on mined lands, wetlands that have little or no plants, and wetlands that are hydrologically

isolated and comprised primarily of invasive, opportunistic plant species. Category 2 wetlands are those that support moderate hydrological, habitat, recreational, and other wetland functions. Wetlands assigned to Category 2 are likely to be dominated by native species but generally would not have habitat for rare, threatened, or endangered species. Category 2 wetlands could be wetlands that are degraded but still have a reasonable potential for reestablishing lost wetland functions. Category 3 wetlands are those that support superior wetland functions. Wetlands assigned to Category 3 would typically have high levels of biodiversity, a high proportion of native species, or other high functional values. Category 3 wetlands might include wetlands that contain or provide habitat for threatened or endangered species, high quality forested wetlands, including old growth forested wetlands, mature forested riparian wetlands, vernal pools, and wetlands which are scarce regionally or statewide, including bogs and fens.

ODNR administers a variety of programs aimed at the protection of wetland areas through management, easements, and acquisition. ODNR's Division of Soil and Water Conservation, through the **NatureWorks Program**, provides funding for riparian area protection and restoration projects, and for permanent and long-term easements on riparian areas and associated wetlands; priority is given to the easement program. ODNR's Division of Natural Areas and Preserves administers the **State Nature Preserve Program** to protect and manage outstanding examples of Ohio's natural heritage. Private owners may sell or donate qualifying wetland areas to the division. Alternatively, they may dedicate their wetland properties to the preserve system or maintain these wetlands as natural areas under the Ohio Natural Landmarks Program. The Division of Wildlife protects wetlands by acquiring and managing lands as wildlife areas. The Division of Wildlife has the authority to acquire and manage lands and waters or their surface rights for the specific purpose of fish and wildlife management, preservation, propagation, and protection, nongame recreational pursuits, public fishing and hunting grounds, and preservation of the flora and fauna. Also per ORC Section 1533.58, the Division of Wildlife has authority to prohibit the use of deleterious substances in waters of the state. Permission must be received from the Chief of the Division of Wildlife prior to the use of explosives or any deleterious substance in state waters. ODNR also protects wetlands by acquiring and operating lands as state parks; the Division of Parks and Recreation acquires and manages these lands for public protection and use. Similarly, Ohio's park district agencies may acquire lands for the conservation of the natural resources of the state. The Division of Forestry acquires and protects wetland areas that are present in forest purchase areas as well.

In late 1992, the state administration convened the **Ohio Wetlands Task Force**, a diverse group comprised of representatives of business, agricultural, environmental, and conservation groups; universities; and federal, state, and local government agencies. The goal of the Task Force was to provide the framework in which the State can actively preserve, protect, and enhance wetlands, their functions, and values, and encourage a gain in wetlands acreage, in a manner that balances the ecological integrity of wetlands with responsible economic development. The Task Force met on a monthly basis throughout 1993, and in February 1994 published its Report and Recommendations (Appendix L). The Report identified a series of recommendations on different wetland issues facing Ohio, and established objectives to guide the development of specific recommendations. Recommendations for short-, intermediate-, and long-term strategies to carry out these objectives were identified. Implementation of many of the Task Force Report recommendations has been accomplished. A summary of the

recommendations, the agency responsible for taking the lead on the recommendation, and their current implementation status is also provided in Appendix L.

To promote the preservation of privately-owned wetlands, Ohio EPA has published the **Ohio Wetlands Assistance Guide** (Appendix M). The Guide is a comprehensive listing of federal, state, and private/non-profit programs offering technical or financial assistance to private owners of wetlands and riparian habitat within the State of Ohio. It was developed to provide a ready reference for federal, state, and local agency and non-governmental organization staff working with private landowners to facilitate voluntary wetland conservation. It also serves as a training outline and detailed source of information on wetlands and riparian habitat restoration, protection, and conservation. With the information provided in the Guide, Ohio landowners are able to direct the conservation, restoration, and management of their privately owned wetlands and other natural resources while meeting their personal economic needs and goals.

ODNR and Ohio EPA have secured a USEPA grant to develop a statewide **Wetland Restoration and Mitigation Strategy** (Appendix N). Under the grant, ODNR and Ohio EPA jointly will develop a plan for the identification of priority areas throughout the state to be considered for wetland mitigation and restoration. Additionally, these agencies will undertake an initiative to identify high quality wetlands in Ohio that should be earmarked for protection. Other state and federal agencies, and other stakeholders—such as environmental groups, land conservancy organizations, development and industry interests, and academia—will be involved in this process. Once completed, the Strategy will provide a blueprint for Ohio wetland restoration and mitigation efforts and will also create a list of high quality wetland areas that could be designated Outstanding or High Quality National Resource Waters.

It is the policy of the **OCMP** to seek increased dedicated public funding for wetlands restoration, enhancement, and management. This includes financial assistance, such as tax abatements and other incentives, for private owners when long-term benefits to the general public interest will be realized.

The state is using the foregoing existing federal and state programs in an increasingly aggressive manner to protect and restore Ohio's remaining wetlands. A statewide wetlands inventory has been developed to assist with wetlands regulation, monitoring and enforcement, acquisition and protection strategies, and planning and management efforts. The remotely sensed satellite imagery wetlands inventory is maintained and managed by ODNR's Division of Wildlife.

In addition to statewide programs, local communities have authority granted under ORC 505 to acquire wetlands for preservation and restoration, and many independent organizations and private interests acquire and protect wetlands for various conservation and recreational purposes.

8.3 § 6217(g) Management Measures

8.3.1 Management Measure for Protection of Wetlands and Riparian Areas

Protect from adverse effects wetlands and riparian areas that are serving a significant NPS abatement function and maintain this function while protecting the other

existing functions of these wetlands and riparian areas as measured by characteristics such as vegetative composition and cover, hydrology or surface water and groundwater, geochemistry of the substrate, and species composition.

Applicability

This management measure applies to protection of wetlands and riparian areas in the § 6217 management area from adverse nonpoint source pollution impacts.

Existing Programs and Enforceable Policies and Mechanisms

Existing federal programs in Ohio with provisions for protecting wetlands and riparian areas include the **Rivers and Harbors Act** of 1899, **Sections 404** and **Section 401** of the **Clean Water Act**, and the federal **Endangered Species Act**. Section 404 and 401 of the CWA cannot be used to regulate upland activity or dredging unless there is a proposed discharge (i.e., fill) to a stream or wetland. In addition, wetlands acquisition and restoration projects under the **North American Waterfowl Management Plan** are assisted through federal matching funds originating through the **North American Wetlands Conservation Act**. Lake Erie coastal marshes are within a high-priority focus area of the NAWMP. The Division of Soil and Water Conservation also works cooperatively with the NRCS to provide additional incentives for wetland protection on privately owned lands under the federal **Wetlands Reserve, Environmental Quality Incentive, Conservation Farm Option, and Wildlife Habitat Incentive** programs.

ODNR's Division of Soil and Water Conservation, through the **NatureWorks Program**, provides funding for riparian area protection and restoration projects, and for permanent and long-term easements on riparian areas and associated wetlands. Priority is given to the easement program.

ODNR's Division of Natural Areas and Preserves administers the **State Nature Preserve Program** to protect and manage outstanding examples of Ohio's natural heritage. The Division of Wildlife protects wetlands by acquiring and managing lands as wildlife areas. ODNR also protects wetlands by acquiring and operating lands as state parks.

To promote the preservation of privately owned wetlands, Ohio EPA has published **the Ohio Wetlands Assistance Guide**—a comprehensive listing of federal, state, and private/non-profit programs offering technical or financial assistance to private owners for the conservation of wetlands and riparian habitat within the State of Ohio.

ODNR and Ohio EPA have secured a USEPA grant to develop a statewide **Wetland Restoration and Mitigation Strategy**. Once completed, the Strategy will provide a blueprint for Ohio wetland restoration and mitigation efforts, and will also specifically designate high-quality wetland areas to be protected as Outstanding National Resource Waters.

The **OCMP** has designated all coastal wetlands as Areas of Particular Concern (APCs). The APC designation provides the basis for prioritizing the allocation of funds in order to promote interagency cooperation, provide technical assistance, and support research and local planning efforts to provide for the protection of vital coastal wetland areas.

Local communities are encouraged to use land-use controls to protect valuable wetlands under the authority granted by ORC 505. Local authorities may also preserve wetlands by acquisition and maintenance as natural areas and wildlife refuges. In addition, many independent organizations and private interests acquire and protect wetlands for various conservation and recreational purposes.

A summary listing of the aforementioned existing Ohio programs applicable to the implementation of this management measure is provided in Table 8-1.

8.3.2 Management Measure for Restoration of Wetland and Riparian Areas

Promote the restoration of the preexisting functions in damaged and destroyed wetlands and riparian systems in areas where the systems will serve a significant NPS pollution abatement function.

Applicability

This management measure applies to the § 6217 management area to restore the full range of wetlands and riparian functions in areas where the systems have been degraded and destroyed and where they can serve a significant NPS abatement function.

Existing Programs and Enforceable Policies and Mechanisms

The Lake Erie Marshes is a focus area of the **North American Waterfowl Management Plan** and, as such, is of the highest priority for restoration projects with private landowners. Through 1995, ODNR's Division of Wildlife has worked in conjunction with the USFWS to restore more than 650 acres of previously drained coastal wetlands. The federal **Partners for Wildlife** and **Challenge Cost Share** Programs, also administered by the USFWS, offer technical and financial assistance to landowners who wish to restore degraded or converted wetlands, riparian areas, streams, and other critical habitats that benefit federal trust wildlife resources.

ODNR's Division of Soil and Water Conservation has cooperated with the U.S. NRCS to protect 250 acres of wetlands in coastal counties by offering piggy-back funding for the **Wetlands Reserve Program**, which is targeted at riparian wetlands. More than 500 additional acres of riparian area in the Maumee River watershed are expected to enhance water quality in the Lake Erie basin, using the Division of Soil and Water Conservation's added incentives to the WRP.

In addition to federal programs, Ohio is using numerous state programs to restore wetlands. These programs include ODNR's **State Nature Preserve Program**, which includes approximately 1,200 acres of coastal wetlands; acquisition and land management programs by the Division of Wildlife, which, with completion of several new projects, will add nearly 2,400 acres of viable wetlands along the Lake Erie coast; and the state park system, which now includes approximately 1,400 acres of coastal wetlands. The Division of Soil and Water Conservation, through its **NatureWorks Program**, also provides funding for riparian area restoration projects.

To aid wetlands regulation, monitoring and enforcement, acquisition and protection strategies, and other planning and management activities for wetlands conservation in Ohio, a

statewide wetlands inventory has been developed. Managed by ODNR's Division of Wildlife, it is a remotely sensed inventory from satellite imagery. The inventory has been completed for all counties in the § 6217 management area. In addition, ODNR and Ohio EPA have secured a USEPA grant to develop a statewide **Wetland Restoration and Mitigation Strategy** which, when completed, will provide a blueprint for Ohio wetland restoration and mitigation efforts.

In addition to statewide programs, local communities have authority granted under ORC 505 to acquire wetlands for restoration.

A summary listing of the aforementioned existing Ohio programs applicable to the implementation of this management measure is provided in Table 8-2.

8.3.3 Management Measure for Vegetated Treatment Systems

Promote the use of engineered vegetated treatment systems such as constructed wetlands or vegetated filter strips where these systems will serve a significant NPS pollution abatement function.

Applicability

This management measure applies in the § 6217 management area to cases where engineered systems of wetlands or vegetated treatment systems can treat NPS pollution.

Existing Programs and Enforceable Policies and Mechanisms

The use of engineered vegetated treatment systems for pollution control has been underway in Ohio for nearly a decade. ODNR began to experiment with this method of pollution control in the late 1980s on several streams affected by acid mine drainage. More recently, wetlands have been constructed to treat feedlot runoff and milk house waste discharges from livestock operations. Using state **NatureWorks** funds, wetlands treatment of home septic system effluent will be demonstrated in Clermont County this year. In the Maumee River basin, the Blue Creek wetlands restoration project was designed to study the effectiveness of wetlands in removing agricultural pollutants.

In addition, Ohio's standards for stormwater management, land development, and urban stream protection have been developed by ODNR in cooperation with the NRCS and Ohio EPA (ORC 1511). As previously described in Chapter Five of this document, *Rainwater and Land Development* sets forth recommended BMPs for nonpoint pollution prevention before, during, and after construction. The use of vegetated treatment systems is promoted in this manual as a recommended BMP to act as a control on nonpoint source pollution. ODNR's Division of Soil and Water Conservation, with the help of the NRCS, provides technical assistance and training to SWCDs and Ohio EPA field staff to encourage and promote the use of these recommended standards for all construction and land development projects.

See Table 8-3 for a summary of existing programs in the State of Ohio that are applicable to the implementation of this management measure.

8.4 Strategies and Recommendations

Over the past two years, several public participation processes were put in place to assess issues related to nonpoint sources of pollution in the coastal area and throughout the state. In September 1997, ODNR convened six committees to assess coastal nonpoint issues, including wetlands. The wetlands-hydromodification committee was comprised of federal, state, and local representatives, as well as others from non-governmental and public citizen organizations (Appendix F). Subsequently, ODNR initiated a statewide nonpoint source planning process, creating ten work groups. The work group addressing headwater stream issues developed some recommendations for the protection and restoration of wetland areas. Other agencies have formed and used stakeholder groups to identify strategic issues and develop recommendations. A good example of this is ODNR's Division of REALM and Ohio EPA. ODNR and Ohio EPA wanted to develop a model for the identification of priority areas throughout Ohio for the development of wetland mitigation and restoration and to identify high quality wetlands. A stakeholder group was formed that was comprised of state and federal agencies, park districts, environmental and land conservancy organizations, development and industry interests, and academia. Through consensus, common strategies were determined resulting in the Ohio Wetland Restoration and Mitigation Strategy (Appendix N).

Federal, state, and local programs currently provide both regulatory and voluntary measures to control nonpoint pollution resulting from the loss of wetlands. To improve on these efforts, Ohio plans to use the recommendations from the coastal and statewide groups as well as those from other agencies.

8.4.1 Coastal Work Group

In 1997, ODNR convened a committee to review nonpoint source pollution issues related to wetlands/hydromodification in the coastal region. This committee, which had a broad membership of government and non-government participants, met numerous times in 1997 and early 1998. They developed a number of wide-ranging recommendations, both short and long-term, to protect and preserve existing wetlands and increase wetland acreage. The more salient recommendations have been incorporated into the tables at the end of this section.

8.4.2 Statewide Nonpoint Source Management Program

ODNR initiated a statewide nonpoint source planning process to revise its Statewide NPSMP. Based on input received from a series of public meetings and briefings held in 1997–1998, ten work groups were created to address nonpoint source pollution issues as they related to the sources of pollution, program management, and resource protection. One of the work groups addressed Headwater Streams. Some of its recommendations were applicable to protection and preservation of wetlands and have been incorporated into the table at the end of this section.

Another relevant recommendation from the Statewide NPSMP is the creation of a Nonpoint Source Advisory Board. Such a board would serve a variety of functions, including evaluating the Ohio NPSMP annually, providing guidance and oversight of the NPSMP, and reviewing, analyzing, and recommending actions from the Upgrade. Another benefit the board would provide would be increased cooperation and coordination among agencies and

groups. Such efforts would be essential to ensure Ohio is able to aggressively protect and restore wetland areas.

8.4.3 ODNR/REALM and Ohio EPA

Through the use of a broad-based stakeholder group, ODNR Division of REALM and Ohio EPA developed the Ohio Wetland Restoration and Mitigation Strategy, a blueprint for wetland restoration and mitigation efforts, which identifies high quality wetland areas. Coupled with the development of a wetland landowner's guide by Ohio EPA, it will provide grass roots groups and other conservation organizations with the necessary tools to become active partners in the agencies' shared vision of wetland conservation in Ohio. It will also direct wetland restoration efforts by state and federal agencies for wetland mitigation and aid conservation groups and individuals interested in wetland restoration.

The following 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.

Objective 1

Protect and preserve existing wetlands.

Objective 1 Recommendation	Measure(s) of Success	Resource(s) Needed	Responsible Organization(s)	Time Frame Beginning
Identify high quality, privately held coastal wetlands to enable agencies and organizations to target the most valuable sites.	Develop detailed inventory of wetlands (including mapping capabilities)	Staff time Funding	ODNR Divisions of Natural Areas and Preserves, Wildlife, and REALM	Year 1
Develop system to monitor ODNR-owned wetlands and riparian easements.	Establishment of monitoring system	Inter-department cooperation Staff time Funding	ODNR	Year 1-2
Establish and maintain database and map of publicly owned lands to establish potential areas to concentrate on wetland and riparian protection or acquisition.	Connect holdings or easements to increase contiguous area of protected wetland or riparian easement	Inter-agency and NGO cooperation and coordination Staff Funding	ODNR	Years 1-5
Increase public awareness of importance of wetlands and impacts of individual actions on wetlands.	public service announcements, brochures, etc.	Funding	ODNR Ohio EPA OSU, School of Natural Resources OSUE	Year 1-5

Objective 1 Recommendation	Measure(s) of Success	Resource(s) Needed	Responsible Organization(s)	Time Frame Beginning
Develop plan including strategies and recommendations to protect and enhance coastal wetlands.	Development of specific recommendations	Detailed inventory Staff time	ODNR Division of Natural Areas and Preserves	Year 1
Acquire wetland areas through purchases or easements.	Acquire __ acres/yr. and establish __ acres of easements.	Funding	ODNR	Year 1-5
Develop candidate list of coastal wetland sites that qualify for Ohio EPA's <i>Outstanding National Resource Waters</i> classification and submit to Ohio EPA.	Development of listing Submission of list to Ohio EPA	Staff time Funding	ODNR	Year 1-2
Establish intensive programs to eradicate nuisance species	Reduce: acres of nuisance species by __% and nuisance aquatic life by __%	Funding	ODNR Sea Grant Ohio LE Office	Year 2-5+
Provide economic incentives to landowners who protect/preserve wetland properties.	Develop program	Legislative support	ODNR NRCS	Year 3+

Objective 2

Restore degraded wetlands and construct new ones.

Objective 2 Recommendation	Measure(s) of Success	Resource(s) Needed	Responsible Organization(s)	Time Frame Beginning
Explore funding opportunities or applications for grants for restoring wetlands.	Grant procurement	Coordinated intra-department strategies Staff time	ODNR	Year 1-5+
Partner with other agencies and programs (e.g. OWDA, WPCLF) to establish loan program for restoring large-scale wetlands.	Establish loan program	Intra-agency cooperation Staff time	ODNR	Year 2-3
Coordinate and partner with other agencies (e.g. ODOT, NRCS) and organizations (industry and public) to develop plans and strategies to restore or mitigate effects on wetlands.	Establishment of intra-department group	Intra-agency cooperation Staff time	ODNR Other state and federal agencies	Year 2-3

Objective 2 Recommendation	Measure(s) of Success	Resource(s) Needed	Responsible Organization(s)	Time Frame Beginning
Investigate wetland creation from dredged materials.	Creation of program-system to accomplish	Staff time Funding	ODNR Ohio LE Office USACE	Year 2-4

Table 8-1. Wetlands and Riparian Areas Management Measure—Protection of Wetlands and Riparian Areas

Program	Legislation	Regulation	Applicable Measures	Status	Implementing Agency	Enforcement Authority	Evaluation Measures
	Rivers and Harbors Act of 1899 Section 10		River & Stream Channel Dredging/Engineering	Regulatory	USACE		
	Clean Water Act Section 401, 404 ORC 6111	OAC 3745-32 OAC 3745-1	Water Quality Certification for Protection of Wetlands/Wetland Permitting	Regulatory	USACE Ohio EPA	Citation	
	Endangered Species Act ORC 1531.06		Destruction of Habitat for Endangered Species	Regulatory	USFWS, ODNR-DOW		
North America Waterfowl Management Program	North American Wetlands Conservation Act		Cost Assist. for Wetlands Acquisition Projects	Incentive	USFWS, ODNR-DOW		
USDA Conservation Program - 1996 Farm Bill	WRP, EQIP, WHIP, Cons. Farm Option		Cost Assist. for Preservation of Wetlands and Riparian Areas	Voluntary	NRCS ODNR		
NatureWorks			Cost Assist. for Riparian Protection and Restoration; Easements	Voluntary	ODNR		
State Nature Preserve Program	ORC 1517.05		Acquisition of Wetlands for Preservation	Voluntary	ODNR		
State Park Program	ORC 1541.02 ORC 1545.11		Acquisition of Wetlands for Preservation as State Natural Resources	Voluntary	ODNR		
Ohio Wetlands Assistance Guide			Technical and Financial Assistance for Preservation of Privately-Owned Wetland and Riparian Areas	Voluntary	ODNR		
Wetland Restoration and Mitigation Strategy			Identification of High Quality Wetlands for Preservation	Voluntary	ODNR Ohio EPA		
Lake Erie Coastal Zone Management Program	ORC 1506	OAC 1501:6	Special Management Area Designation – Areas of Particular Concern	Regulatory	ODNR		
Local Preservation Programs	ORC 505.26		Townships May Acquire Wetlands for Preservation and Restoration	Voluntary	Local Auth.		

Table 8-2. Wetlands and Riparian Areas Management Measure—Restoration of Wetland and Riparian Areas

Program	Legislation	Regulation	Applicable Measures	Status	Implementing Agency	Enforcement Authority	Evaluation Measures
North America Waterfowl Management Program	North American Wetlands Conservation Act		Cost Assist. for Wetland Restoration Projects	Incentive			
Partners for Wildlife, Challenge Cost Share	Endangered Species Act ORC 1531.06		Technical and Financial Assistance for Restoration of Degraded Wetland Habitat	Voluntary	USFWS, ODNR-DOW		
Wetland Reserve Program	USDA Conservation Program - 1996 Farm Bill		Cost Assist. for Preservation/Restoration of Wetland and Riparian Areas	Voluntary	NRCS ODNR		
State Nature Preserve Program	ORC 1517.05		Acquisition of Wetlands for Preservation/Restoration	Voluntary	ODNR		
State Park Program	ORC 1541.02, 1545.11		Acquisition of Wetlands for Preservation as State Natural Resources	Voluntary	ODNR		
NatureWorks			Cost Assist. for Riparian Restoration; Easements	Voluntary	ODNR		
Wetland Restoration and Mitigation Strategy			Identification of High Quality Wetlands for Restoration	Voluntary	ODNR Ohio EPA		
Local Preservation Programs	ORC 505.26		Townships May Acquire Wetlands for Preservation and Restoration	Voluntary	Local Authorities		

Table 8-3. Wetlands and Riparian Areas Management Measure—Vegetated Treatment Systems

Program	Legislation	Regulation	Applicable Measures	Status	Implementing Agency	Enforcement Authority	Evaluation Measures
NatureWorks Program			Cost Assist. for Demonstration Vegetated Treatment Sys. Projects	Incentive	ODNR		
ODNR Stormwater Program	ORC 1511	OAC 1501:15	Construction Site and Stormwater Quality Standards; Education, Tech. Assistance	Voluntary	DSWC, NRCS		