

**North Coast Regional Council of Park Districts
In-Lieu Fee Program
Prospectus**



Vernal Pool, Edison Woods Preserve, Erie County, Ohio, Photo Credit: Karl Curry

Project No.: 212105
Prepared: May 29, 2012
Revised: February 26, 2013
For: North Coast Regional Council of Park Districts

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A. Introduction and Objectives of the In Lieu Fee Program

The North Coast Regional Council of Park Districts (NCRCPD or North Coast) was formed in 1998 pursuant to Chapter 167 of the Ohio Revised Code by three metropolitan park districts established under Chapter 1545 of the Ohio Revised Code. North Coast has since expanded to five park districts: Erie MetroParks, Lorain County Metropolitan Park District, Medina County Park District, Sandusky County Park District, and Wood County Park District. The NCRCPD's goal is the restoration and enhancement of wetlands and streams as compensatory mitigation under Sections 401 and 404 of the Clean Water Act and the State of Ohio's isolated wetland statute, and the incorporation of the restored wetlands and streams into the park system of its member districts. North Coast's objectives in sponsoring a statewide in-lieu fee program (ILF Program) are as follows:

- To provide compensatory mitigation in the State of Ohio for all activities regulated under Section 10 of the Rivers and Harbors Act of 1899, Sections 401 and/or 404 of the Clean Water Act and Ohio's isolated wetland statute and rules; to provide compensatory mitigation for environmental impacts to aquatic resources authorized under other programs, such as state or local wetland or stream regulatory programs, the NPDES program, Army Corps of Engineers civil works projects, Superfund removal and remedial actions; and to provide compensatory mitigation for the resolution of local, state and federal enforcement actions including supplemental environmental projects required by orders, settlement agreements, consent decrees or court orders;
- To provide an alternative to permittee responsible mitigation in the State of Ohio;
- To provide cost-effective compensatory mitigation options including opportunities to compensate for authorized impacts when compensatory mitigation might not otherwise be reasonably identifiable, available and practicable;
- To maximize opportunities to contribute to biodiversity and watershed functions by restoring, enhancing, and in appropriate circumstances, preserving habitat complexes; and
- To maximize opportunities to contribute to services (COE, 2008; §332.2) by integrating the habitat complexes into local park systems to provide educational and recreational benefits to the community.

The collaboration between NCRCPD and local park entities in the proposed ILF Program offers:

Accountability. The NCRCPD and local park entities that participate in the ILF Program are fiscally responsible natural resource agencies with proven records, ultimately answerable to the public.

Flexibility. Multiple projects can be restored concurrently. A variety of habitat types will be restored, enhanced, or preserved. Sites can be prioritized and added indefinitely or converted with regulatory approval to mitigation banking sites.

Public Participation. Through recreational, educational, and scientific opportunities presented by the compensatory mitigation projects integrated into local parks and preserves, the public can participate in stream and wetland habitat protection.

Regional Watershed Planning. Through the ILF Program, sites of regional importance can be identified, assessed, and included in the program. The ILF Program selection processes will be

guided by benefits to shared and adjacent watersheds among participating parks, potentially lessening fragmentation of habitat.

Habitat Complexes. Preservation, restoration and enhancement of diverse vegetative communities that result in diverse wildlife populations and benefits to at-risk species include: emergent, open water, scrub-shrub, wet meadow, and forested wetlands; headwater and perennial streams, riparian corridors and floodplains. Adjacency to and incorporation into properties managed by local parks will benefit restored natural systems by creating a buffer zone. Biotic components of these natural systems that extend beyond project boundaries, such as waterways, privately-owned woodlots, and upland areas will also benefit from successful restoration.

Stewardship. The owners and long-term managers of the ILF projects are environmental professionals with long records of public service and support, and dedicated employees and volunteers. Contributions of funds and services and individual donations of time and expertise are generated from park constituents for a variety of projects. Thus, management and maintenance of restored wetlands and streams will be handled by experienced professionals who are supported by their local communities.

B. Establishment and Operation of the In-Lieu Fee Program

The proposed NCRCPD In-Lieu Fee Program will be established and operated in accordance with federal and state authorities governing in-lieu fee programs, including the provisions of the Federal Compensatory Mitigation Rule (COE, 2008; §332.8). North Coast is governed by its organizational agreement and by-laws, as amended, and the provisions of Chapter 167 of the Ohio Revised Code. North Coast will sponsor the in-lieu fee program and administer the program account.

The In-Lieu Fee Program instrument is “the legal document for the establishment, operation and use of an in-lieu fee program.” (COE, 2008; §332.2). Guidance on ILF Program operations will be provided by the IRT (Interagency Review Team) for federal programs and the OEPA for any state-operated in-lieu fee programs.

North Coast will consult with the IRT to develop an in-lieu fee program instrument after public and regulatory comments on the ILF Program prospectus. Subsequent to the approval of the instrument, each proposed NCRCPD ILF mitigation project will be subject to public comment and IRT review and approval.

C. Proposed Service Area

The North Coast ILF Program proposes to operate throughout the State of Ohio for federal and state in-lieu fee mitigation. The watersheds proposed to be served by the ILF Program are described in Table 1 and Figures 2 and 3. Figure 1 shows the USGS 8-digit hydrologic units (HUCs), as modified by OEPA. (The Lake Erie Islands watershed (HUC 4120200) is not shown in the figures. The proposed geographic service area for the North Coast ILF Program is based upon a watershed approach, consistent with the Federal Compensatory Mitigation Rule and the State of Ohio’s wetland water quality rules and isolated wetland statutory provisions on service areas, and is appropriately sized to ensure that the projects selected will be able to effectively compensate for adverse impacts within the entire service area. For the past decade, federal and state regulators have endorsed Corps District-wide service areas for mitigation for impacts to low quality aquatic resources and for minor impacts to aquatic resources. For other adverse impacts, the location for mitigation preferred by regulatory agencies is the same 8-digit HUC in which the

impact occurs. Consistent with the foregoing and the overall need for third party compensatory mitigation as reflected in permit data, the NC ILF Program proposes a service area generally based on 6-digit HUCs. For certain watersheds, as noted, the proposed service area is based on 8-digit HUCs (Figure 3). North Coast will collect in-lieu fee mitigation payments from permit applicants in each Corps District in the State of Ohio unless the ILF Program is unable to identify appropriate mitigation in the Corps District. Each mitigation project proposed by the NCRCPD ILF Program will include a specific service area designation in its mitigation plan.

D. Need and Technical Feasibility

The Director of the Ohio EPA has stated in numerous forums that Ohio needs an in-lieu fee program for mitigation, most recently in his proponent testimony for S.B. 294 (passed April 24, 2012) which provides a mechanism for in-lieu fee mitigation in Ohio. For the regulated community, an in-lieu fee program may provide additional mitigation options and streamline state and federal permitting processes. (See, *The Second Coming of In-Lieu Fee Mitigation Programs*, National Wetlands Newsletter, March-April, 2012). The Director also stated that an in-lieu fee program would increase the likelihood of mitigation success. In the view of many OEPA staff, there is an urgent need for stream mitigation options that focus on the restoration and enhancement of streams (Personal Communication, Stream Working Group, 2007). A summary of wetland and stream impacts by HUC basin and Corps District for with State Fiscal Year (SFY) 2008-2011 is shown in Table 1. The table was derived from the annual OEPA reports on permitting (www.epa.ohio.gov/dsw/401/reports.aspx), with impacts and mitigation for applicants that generally do not use third party mitigation omitted from the table. Cumulative wetland impacts (± 372 acres) and stream impacts ($\pm 372,800$ lf) throughout the state support the ongoing need for statewide mitigation options.

The environmental professionals at NCRCPD have decades of political and technical expertise in acquiring, restoring and preserving critical habitat. Over the past 10 years, North Coast has successfully restored and enhanced wetlands and streams using proven techniques that will be applied to a statewide in-lieu fee mitigation program. NCRCPD is uniquely qualified to sponsor a statewide program given its strong ties with local park systems, history of working cooperatively with local, state and federal agencies, and ability to organize local community support for environmental projects.

E. Ownership Arrangements and Long Term Management Strategy

Like the NCRCPD mitigation banking projects, the NCRCPD's in-lieu fee program projects will focus on the restoration and enhancement, and in some circumstances preservation, of wetlands, streams and riparian corridors as compensatory mitigation for impacts to state and federal waters, with the restored, enhanced and preserved habitats integrated into the local entity's park or preserve. The NCRCPD ILF program will provide the financing for restoring and managing the mitigation habitats until long-term management is assumed by the local entity, which will own the mitigation projects and integrate management of the wetlands or streams into its park or natural resource management plans. All long-term management funds for the project will be transferred to the local entity responsible for long-term management and protection of the site. The restored, enhanced or preserved habitats will be protected in perpetuity through an environmental covenant, conservation easement or like mechanism to insure protection of the mitigation site (COE, 2008; §332.8(t)).

Transfer of the long-term management and long-term management funds to the local entity will not occur until after performance standards have been achieved.

F. Sponsor Qualifications

The North Coast Regional Council of Park Districts has sponsored an umbrella mitigation bank since 2001. The NCRCPD's mitigation bank currently comprises 9 active and 5 pending mitigation banking sites. The regional mitigation bank's service area extends across two U.S. Army Corps of Engineers (COE) Districts (Buffalo, NY and Huntington, WV). North Coast has not developed a mitigation bank in the Pittsburgh District, but members of the North Coast environmental consulting team have designed and restored wetlands as project specific mitigation in the Pittsburgh District. Using funds provided in large part by Clean Water Act permit applicants, over the past decade the NCRCPD has restored, enhanced and preserved hundreds of acres of wetlands, prairie buffers, riparian corridors and several miles of stream.

The NCRCPD is committed to the preservation of critical habitat, and the enhancement and restoration of diverse aquatic habitat, including emergent, open water, scrub-shrub, wet meadow and forested wetlands, streams and riparian corridors, and prairie buffers. Through recreational, educational, and scientific opportunities presented by the mitigation sites integrated into parks, the public can participate in wetland and stream habitat protection.

The NCRCPD is qualified to sponsor and implement an in-lieu fee program under the Federal Compensatory Mitigation Rule that will share many of the attributes of its successful umbrella mitigation bank.

G. Program Account

The NCRCPD shall establish and maintain a system for tracking the production of credits, credit transactions, and financial transactions between the NCRCPD and permit applicants and permittees in accordance with §332.8(i) of the Federal Compensatory Mitigation Rule. Credit production, credit transactions, credit resource type, as specified in the permit, and financial transactions will be tracked for the ILF Program by service area, Corps District and individual project. North Coast reserves the right not to sell credits for any reason. North Coast maintains a similar system for tracking wetland mitigation banking and project specific mitigation.

H. Compensation Planning Framework

Under the Federal Compensatory Mitigation Rule, a compensation planning framework is used "to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities." The plan "supports a watershed approach to compensatory mitigation." (§332.8(c)). The watershed approach includes a consideration of past aquatic resource impacts in the watershed and a watershed plan, generally prepared by government agencies, "addresses aquatic resource conditions in the watershed, multiple stakeholder interests, and land uses." (§332.2)

The ten elements that constitute a compensation planning framework under the Federal Rule are set forth in §332.8(c)(2). These elements are the geographic service area; analysis of current conditions in the service area; a description of the threats to aquatic resources in the geographic service area and analysis of historic resource losses; a statement of goals and objectives of the in-lieu fee program for each service area; the compensatory mitigation prioritization strategy; preservation objectives and the criteria for using preservation; a description of public involvement in plan development and implementation; the long-term protection and management strategies for

the mitigation projects; and procedures for evaluating and revising the ILF Program. The narrative below, together with the information compiled in Tables 1-2 summarizes the North Coast ILF Program compensation planning framework. Appendix A contains a brief summary of a debit/credit compensation model for streams and a generalized example of application of the model.

Geographic Service Area

The proposed geographic service area for the North Coast ILF Program is described in Section C above and in Figure 3.

Current Conditions

According to the National Resource Conservation Service (NRCS), over half of all the wetlands (~215 million acres) in the United States were drained or filled by 1984. The commonly cited figure for wetland loss in Ohio is ±84% (NRCS, Ohio). Table 2 includes estimates of wetlands in acres or percentage of land cover for the 8 digit HUC basins in the State of Ohio. The available estimates were compiled from TMDL program documents, watershed action plans and other watershed studies; for some watersheds the estimates are for a subwatershed only. Most of the land cover data included in the referenced documents was interpreted from the data in the 2001-2006 National Land Cover Dataset, available from the Multi-Resource Land Characteristics Consortium (MRLC) at www.mrlc.gov. The OEPA inventory of wetlands in its 2010 Integrated Report (available at www.epa.ohio.gov/dsw/bioassess) cites 1999 data from the Ohio Department of Natural Resources that estimates 942,155 acres of wetlands in the state. Based on a review of information presented in the OEPA annual reports, the average annual permitted wetland impact from SFY 2008-2011 is ±93 acres (see Table 1), generally excluding applicants that do not use third party mitigation.

Named streams in Ohio are inventoried in the Gazetteer of Ohio Streams (2nd Edition, 2001) and include ±23,000 miles of streams. Estimates are that the unnamed tributaries comprising the primary headwater system account for an additional ±115,000 miles of stream (Personal Communication, Stream Working Group, 2007). Table 2 includes a summary of impairments to the streams in each 8 digit HUC basin compiled from TMDL program documents, watershed assessments and other watershed studies. Stream impairments are listed for 43 of the 44 HUC basins, with 91% impaired from silt and sediment, 93% from habitat losses, such as removal of riparian buffers, 95% impaired from nonpoint pollution and 84% from flow alteration, primarily channelization for agriculture and development.

Threats to Aquatic Resources and Historic Resource Losses

Threats to aquatic resources and historic resource losses are summarized in Tables 1 and 2 and also discussed in “Current Conditions” above. For wetlands, most historic losses occurred before 1984 to accommodate agriculture and development priorities. Based on a review of the available information presented in the OEPA’s annual reports for SFY 2008-2011, and generally excluding applicants that do not use third party mitigation, the Buffalo District permits an annual average of 40 acres of wetland impacts; the Pittsburgh District an annual average of 7 acres of wetland impacts; and the Huntington District an annual average of 45 acres of wetland impacts. The OEPA reports summarize impacts to jurisdictional and isolated wetlands.

According to the Ohio EPA (2010 Integrated Report), 58.5% of HUC 11 watershed assessment units (N=331) are in full attainment of aquatic life use goals; 93.1% of large rivers (those draining >500 mi², N=23, 1227 miles) are in full attainment of aquatic life use goals; and 70.8% of principal streams and large rivers (draining 50 to 500 mi², N=254, 5679 miles) are in full attainment of aquatic life use goals. Table 2 summarizes the impairments, over time, to these

systems which include habitat alteration, such as channelization and removal of vegetation from streambanks, contaminants such as silt and nutrients, and acid mine drainage. Based on a review of the available information presented in the OEPA's annual reports, and generally excluding applicants that do not use third party mitigation, the Buffalo District permits an annual average of $\pm 20,600$ lf of stream impacts; the Pittsburgh District an annual average of $\pm 4,000$ lf of stream impacts; and the Huntington District an annual average of $\pm 68,500$ lf of stream impacts. The OEPA reports do not distinguish the flow regime of the surface water impacted.

Aquatic Resource Goals and Objectives

As indicated in Section A above, the objectives of the North Coast ILF Program include restoring, enhancing and preserving habitat complexes that can be integrated into local park systems providing stewardship for the aquatic resources and educational and recreational benefits for the local community. North Coast will identify suitable habitat for restoration, enhancement or preservation that is owned or can readily and reasonably be acquired by a local park entity and restore, enhance or preserve a complex of habitats. As indicated in the section on "Preservation" below, preservation will be promoted in areas of the state that do not have a significant quantity of aquatic resources under public ownership.

There are seven HUC 8 watersheds that have cumulative wetland impacts in excess of 18 acres during SFY 2008-2011: Black/Rocky, Cuyahoga, Chagrin/Ashtabula, Grand, Mahoning, Tuscarawas and Scioto River (headwaters) that should be the focus of ongoing wetland restoration projects. The majority of these watersheds (85%) included wetland restoration among the recommended actions in approved watershed plans or TMDL program documents (Tables 1 and 2). During the same timeframe nine HUC 8 watersheds have cumulative stream impacts in excess of 12,500 linear feet: Lower Maumee, Black/Rocky, Cuyahoga, Chagrin/Ashtabula, Shade/Leading, Hocking, Scioto River (headwaters), Great Miami (headwaters) and Great Miami (below Mad River) that should be the focus of ongoing stream restoration projects. Among the recommended actions in these watersheds were: restoration of riparian buffers (100%), restoration of streambanks (88%) and restoration of in-stream habitat (77%). (Tables 1 and 2).

Compensatory Mitigation Priorities

Over the past decade the NCRCPD has restored, enhanced and preserved hundreds of acres of wetlands, prairie buffers, riparian corridors and several miles of stream as compensatory mitigation under the Clean Water Act. The NC ILF Program will rely upon the same techniques in selecting and implementing sites for in-lieu fee compensatory mitigation and will incorporate the factors identified in the Federal Compensatory Mitigation Rule as contributing to the ecological suitability of resource restoration (§332.3(d)). Compensatory mitigation priorities will also include identifying sites in watersheds that have had significant cumulative wetland and stream impacts (Table 1) as well as identifying watersheds in which preservation would be appropriate. Seventeen of the 44 HUC 8 watersheds (~39%) recommended the preservation of wetlands or streams in approved watershed plans or TMDL program documents (Table 2).

Since park systems are generally adept at providing cost-effective and fiscally responsible compensatory mitigation, size limits on the aquatic resources restored, enhanced or preserved are expected to be minimal and practicable (e.g., 0.5 to 3 acres for selected wetland projects; 150 lf for headwater stream projects that focus on improvements to the riparian buffer).

Compensatory mitigation priorities will, in large part, be dictated by regulatory policies, including the interplay of jurisdictional and isolated waters regulated by federal or state authorities, service area considerations that construe the size and quality of the impacted resource, and other federal and state permitting factors such as available mitigation options, the duration of

the wetland or stream impacts, and the exigencies in issuing the federal or state permit. Based on a review of the form of selected compensatory mitigation from SFY 2008-2011, stream preservation without accompanying restoration or relocation efforts comprised 45% of stream mitigation. The North Coast ILF Program will strive to provide effective stream restoration alternatives.

Role of Preservation

Preservation is a recognized form of mitigation for impacts to jurisdictional and isolated waters and a strategy for improving water quality in watersheds. Consequently, the North Coast ILF Program will propose projects based upon the preservation of jurisdictional and isolated wetlands, streams, floodplains and riparian areas or buffers, where appropriate and subject to regulatory approval. The Federal Compensatory Mitigation Rule specifies the criteria for the use of preservation and generating preservation credits at §332.3(h), §332.3(i) and §332.8(o). In Ohio, the criteria for the use of preservation as mitigation for impacts to jurisdictional and state wetlands is specified in Chapter 6111 of the Ohio Revised Code and Ohio Administrative Code (OAC) Chapter 3745-1. Wetland preservation in accordance with the cited authorities will be a more significant planning element in areas of the state where there are fewer aquatic resources under public ownership.

Preservation is referenced as appropriate mitigation for impacts to streams in the 2012 State Water Quality Certification of the Nationwide Permits (Part One, Section C(4)). Preservation of streams is specified in permit conditions on a project specific basis for stream impacts requiring a 401 certification under OAC Chapter 3745-32. Stream preservation has been the sole form of compensatory mitigation in a substantial number of 401 certifications historically and is often the preferred option for transportation projects (Personal Communication, Stream Working Group, 2007). The NCRCPD ILF Program will implement stream preservation where the associated functional floodplain can also be preserved, where preservation will protect significant downstream aquatic resources and where preservation can be combined with stream enhancement or restoration. Stream and floodplain preservation efforts will be concentrated on the ±115,000 miles of primary headwater stream systems in the state. Overall, the North Coast ILF Program will balance stream preservation with enhancement and restoration to provide cost effective options for stream mitigation as well as to maintain existing in-stream uses as specified in the antidegradation policy of the Clean Water Act and Ohio's water quality standards.

Public Involvement in Plan Development and Implementation

All wetlands and streams restored or enhanced by North Coast are located in parks open to the public 365 days a year, and many have trails and other amenities to improve access to and use of these resources by the public. Public use of projects restored, enhanced or preserved under the proposed NC ILF Program is one of the objectives of the Program. In addition to the public comments solicited through notices published by the regulatory authorities, North Coast will conduct joint public meetings with local park entities to identify local interests and priorities for aquatic resource preservation and restoration.

Project specific mitigation plans will be developed and implemented with the oversight of the IRT in accordance with §332.4(c)(1)(iii) and §332.8(i)(2) of the Federal Compensatory Mitigation Rule, which will also involve separate public review and comment.

Long-Term Protection and Management

As indicated above, long-term protection and management for the North Coast In-Lieu Fee Program projects will be assumed by the local park entity upon achievement of the project's performance standards. The long-term management responsibilities will be included in each

project's approved mitigation plan. Responsibility for the successful restoration or enhancement of the wetland or stream will be that of the North Coast ILF Program. Routine and adaptive management such as the inspection and upkeep of structures and surveillance for and control of undesirable/invasive plant species will be conducted jointly by North Coast and the local park entity.

ILF Program Evaluation

North Coast will annually submit an evaluation of the progress of its ILF Program to the IRT. The evaluation will include an accounting of the acreage and linear feet of restored, enhanced and preserved wetlands and streams within the service area and a qualitative assessment of how the combined benefits of the ILF projects are meeting the objectives of the ILF Program. Each ILF project will also be monitored and the IRT will receive monitoring reports and be included in regular site inspections, as requested.

The compensation planning framework will be revised as necessary, with the revisions based on, e.g., environmental or ecological needs, land-use changes, development trends, mitigation requirements and regulatory policy. All revisions or modifications to the compensation planning framework will be submitted to the IRT for review and approval.

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**TABLE 1: REVISED WETLAND AND STREAM IMPACT & MITIGATION SUMMARY BY 6 AND 8
DIGIT HUC AND CORPS DISTRICT FOR SFY 2008-2011**

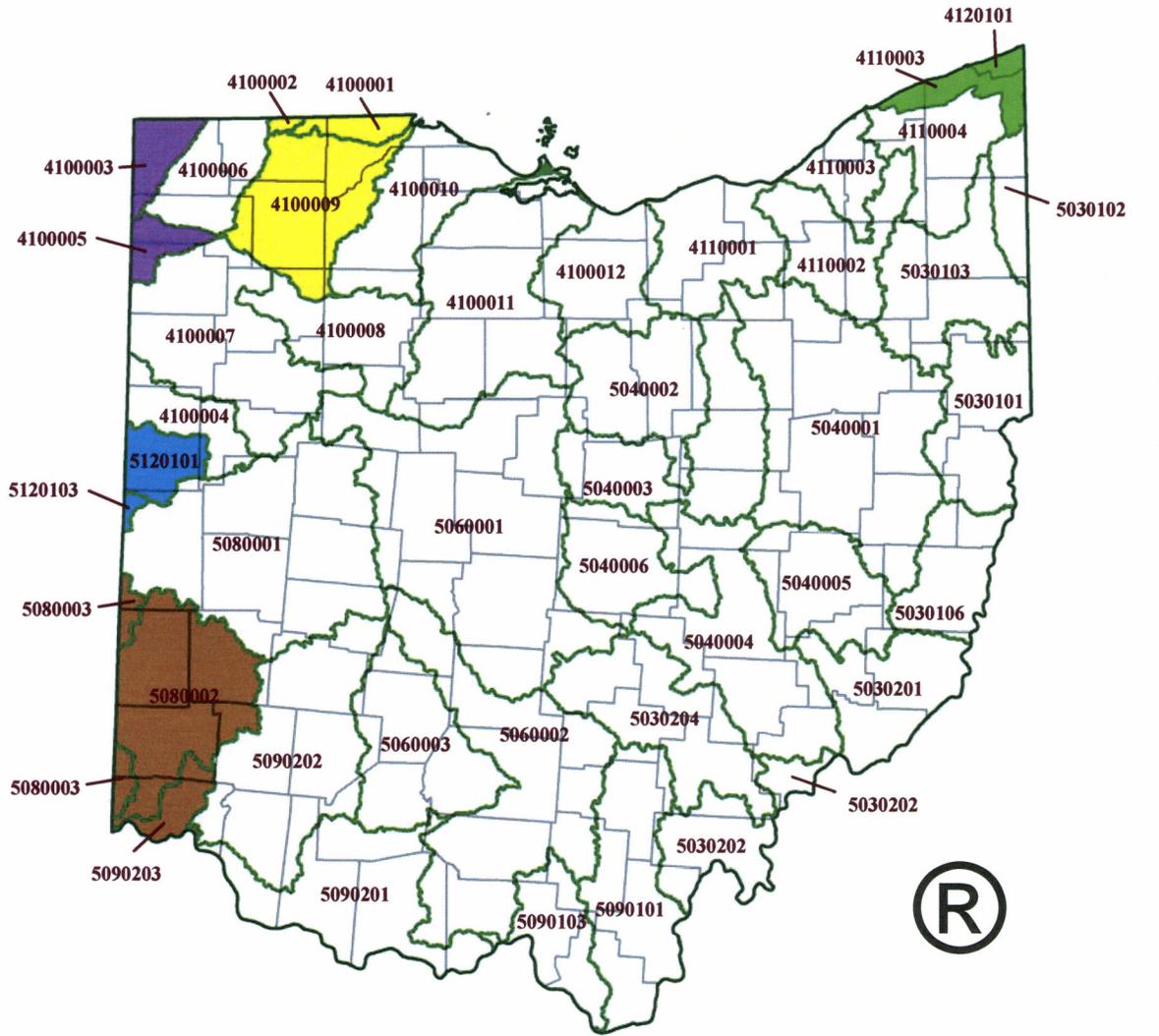
Revised Watershed Descriptions by HUC Basin and Corps District

8 Digit HUC ⁴	River Basin	County	Physiographic Region	Level IV Ecoregion	Current Conditions ¹				Watershed Impairments ²				Recommended Actions ^{3,4}				Goals and Objectives for Proposed Service Area	County MetroPark or Park District ⁵		
					Wetlands (AC)	Wetlands (%)	Named Streams (miles)	Estimated Primary Headwater Streams (miles)	Silt & Sediment	Habitat Loss	Nonpoint Pollution	Point Source Pollution	Flow Alteration	Aggregate Mining	Coal Mining	Oil & Gas Industry			Restore Wetlands	Restore Stream Banks
Buffalo																				
04100001	Lake Erie tributaries Ottawa River (below Detroit R - Maumee R)	Lucas, Fulton	Lake Plains	Maumee Lake Plains Oak Openings		2%	51.4	257.0	X	X	X	X	X	X	X	X			Toledo Area MetroParks, Olander Park System	
04100002	Raisin River	Fulton	Lake Plains	Maumee Lake Plains Clayey High Lime Till Plains	1%				X	X	X									
04100003	St. Joseph River	Williams, Defiance, Mercer, Auglaize, Shelby, VanWert	Till Plains	Clayey High Lime Till Plains	8%		136.5	682.5	X	X	X	X	X	X	X	X	X		Defiance County Park District	
04100004	St. Marys River	Defiance, Paulding	Till Plains	Clayey High Lime Till Plains	1%		188.9	944.5	X	X	X	X	X	X	X	X	X		Heritage Trails Park District, Shelby County Park District, Van Wert County Park District	
04100005	Upper Maumee River	Defiance, Paulding	Lake Plains	Maumee Lake Plains Paulding Plains	1%		88.1	440.5	X	X	X	X	X	X	X	X	X		Defiance County Park District	
04100006	Tiffin River	Fulton, Williams, Defiance, Henry, VanWert, Putnam, Allen, Auglaize, Hardin	Lake Plains	Maumee Lake Plains Paulding Plains Oak Openings Clayey High Lime Till Plains	6%		314.9	1,574.5	X	X	X	X	X	X	X	X	X		Defiance County Park District, Henry County Park District, Johnny Appleseed Metropolitan Park District, Heritage Trails Park District, Defiance County Park District, Hardin County Veterans Memorial Park, Van Wert County Park District	
04100007	Auglaize River	Putnam, Hancock, Hardin, Allen	Till Plains	Clayey High Lime Till Plains	0.30%		859.3	4,296.5	X	X	X	X	X	X	X	X	X		Defiance County Park District, Henry County Park District, Johnny Appleseed Metropolitan Park District, Hancock Park District, Hardin County Veterans Memorial Park	
04100008	Blanchard River	Lucas, Wood, Fulton, Henry, Defiance, Putnam	Lake Plains	Maumee Lake Plains Clayey High Lime Till Plains	0.30%		337.3	1,686.5	X	X	X	X	X	X	X	X	X		Wood County Park District, Toledo Area MetroParks, Olander Park System, Defiance County Park District	
04100009	Lower Maumee River	Lucas, Wood, Fulton, Hancock, Ottawa, Sandusky	Lake Plains	Maumee Lake Plains Oak Openings	1%		511.4	2,557.0	X	X	X	X	X	X	X	X	X		Wood County Park District, Toledo Area MetroParks, Olander Park System, Defiance County Park District	
04100010	LE Tribs and Portage R	Lucas, Wood, Fulton, Hancock, Ottawa, Sandusky	Lake Plains	Maumee Lake Plains Marblehead Drift Limestone Plain Clayey High Lime Till Plain	4.00%		418.5	2,092.5	X	X	X	X	X	X	X	X	X		Wood County Park District, Toledo Area MetroParks, Olander Park System, Defiance County Park District	
04100011	Sandusky R & Sandusky Bay Tribs	Sandusky, Seneca, Erie, Crawford, Wyandot, Marion	Lake Plains	Maumee Lake Plains Clayey High Lime Till Plain	2.00%		892.5	4,462.5	X	X	X	X	X	X	X	X	X		Sandusky County Park District, Erie MetroParks, Seneca County Park District, Crawford Park District, Marion County Park District	
04100012	Huron R Vermilion R	Erie, Huron, Richland, Ashland	Till Plains	Low Lime Drift Plain	3.00%		366.3	1,841.5	X	X	X	X	X	X	X	X	X		Erie MetroParks, Ashland County Park District, Huron County Park District, Richland County Park District	
04110001	Black R Rocky R	Lorain, Medina, Ashland, Cuyahoga	Till Plains	Erie Lake Plain Low Lime Drift Plain	3.00%		527.3	2,636.5	X	X	X	X	X	X	X	X	X		Lorain County MetroParks, Medina County Park District, Ashland County Park District, Cleveland MetroParks	
04110002	Cuyahoga R	Cuyahoga, Summit, Portage, Geauga	Glaciated Plateau	Low Lime Drift Plain Erie Gorges Summit Interlobate	3%		414	2,070.0	X	X	X	X	X	X	X	X	X		Cleveland MetroParks, Portage Park District, MetroParks Serving Summit County, Geauga Park District	
04110003	Chagrin R, Ashtabula R & LE Tribs	Lake, Ashtabula	Glaciated Plateau	Erie Gorges Mosquito Creek Pymatuning Lowlands	4.00%		229.9	1,149.5	X	X	X	X	X	X	X	X	X		Lake MetroParks, Ashtabula County MetroPark	
04110004	Grand River	Lake, Geauga, Trumbull	Glaciated Plateau	Erie Gorges Pymatuning Lowlands Low Lime Drift Plain	6%		483.9	2,419.5	X	X	X	X	X	X	X	X	X		Lake MetroParks, Geauga Park District, Trumbull County MetroParks	
04120101	Conneaut Creek & LE Tribs	Ashtabula	Glaciated Plateau	Erie Lake Plain Marblehead Drift Limestone Plain			104	520.0	X	X	X	X	X	X	X	X	X		Ashtabula County MetroPark	
04120200	LE Islands	Ottawa, Erie	Lake Plains	Limestone Plain															Erie MetroParks	
Pittsburgh																				
05030101	Little Beaver, Yellow & Cross Creeks	Columbiana, Carroll, Jefferson, Harrison	Glaciated Plateau Unglaciated Plateau	Low Lime Drift Plain Pittsburgh Low Plateau Monongahela Transition Zone	0.50%		615	3,075.0	X	X	X	X	X	X	X	X	X		As indicated above, North Coast will solicit input from public and local park entities and identify suitable habitat for the restoration or preservation of wetlands and streams. Third party compensatory mitigation needs in the Pittsburgh district vary (see Table 1). Wetland restoration efforts should be directed to the Mahoning River subbasin which has had significant wetland impacts in recent years.	Columbiana County Park District, Carroll County Park District, Friendship Park
05030102	Shenango River	Ashtabula, Trumbull, Mahoning	Glaciated Plateau	Mosquito Creek Pymatuning Lowlands Low Lime Drift Plain			67.8	339.0	X	X	X	X	X	X	X	X	X		Ashtabula County MetroPark, Trumbull County MetroPark, Mill Creek MetroParks	
05030103	Mahoning River	Ashtabula, Trumbull, Mahoning, Portage, Stark, Columbiana	Glaciated Plateau	Low Lime Drift Plain Monongahela Transition Zone Permian Hills	4.50%		419.4	2,097.0	X	X	X	X	X	X	X	X	X		Ashtabula County MetroPark, Trumbull County MetroPark, Mill Creek MetroParks, Stark Parks, Portage Park District, Columbiana County Park District	
05030106	Ohio River Tribs (Short Wheeling & McMahon Creeks)	Jefferson, Harrison, Belmont	Unglaciated Plateau	Permian Hills			542.9	2,714.5	X	X	X	X	X	X	X	X	X		Friendship Park	
Huntington																				
05030201	Little Muskingum	Washington, Monroe, Noble	Unglaciated Plateau	Monongahela Transition Zone Permian Hills	0.14%		758.9	3,794.5	X	X	X	X	X	X	X	X	X		Recent stream impacts in the Shade/Leading and Hocking are attributable to infrastructure projects (power generation, roads). Projects to improve riparian buffers were suggested in TMDL documents for most of the streams in the region; other goals and objectives will be based on local priorities to be determined. Opportunities to enhance wetlands and streams on land owned by local parks should be explored in this service area.	Monroe County Park District
05030202	Shade R, Leading R	Meigs, Gallia, Athens, Washington	Unglaciated Plateau	OHKY Carboniferous Plateau	0.30%		393.5	1,967.5	X	X	X	X	X	X	X	X	X		O.O. McIntyre Park District, Meigs County Park District	
05030204	Hocking River	Hocking, Athens, Perry, Fairfield	Unglaciated Plateau Glaciated Plateau	OHKY Carboniferous Plateau Lower Scioto Dissected Plateau Low Lime Drift Plain Loamy High Lime Till Plains	2.33%		845.7	4,228.5	X	X	X	X	X	X	X	X	X		Fairfield County Historical Parks	

TABLE 2: REVISED WATERSHED DESCRIPTIONS BY HUC BASIN AND CORPS DISTRICT

FIGURE 1: WATERSHEDS FOR OHIO WETLAND WATER QUALITY STANDARDS

Watersheds for Ohio Wetland Water Quality Standards



Wetland Water Quality Standard Watersheds comprised of a single USGS 8-digit Hydrologic Unit

- 04100004; 04100006; 04100007; 04100008; 04100010; 04100011; 04100012; 04110001; 04110002; 04110003 (Chagrin river watershed only); 04110004; 05030101; 05030102; 05030103; 05030106; 05030201; 05030202; 05030204; 05040001; 05040002; 05040003; 05040004; 05040005; 05040006; 05060001; 05060002; 05060003; 05080001; 05090101; 05090103; 05090201; and 05090202

Wetland Water Quality Standard Watersheds comprised of more than one USGS 8-digit Hydrologic Unit

- 04100001, 04100002, 04100009
- 04100003, 04100005
- 0411003 (minus the Chagrin River watershed), 04120101
- 05080002, 05080003, 05090203
- 05120101, 05120103

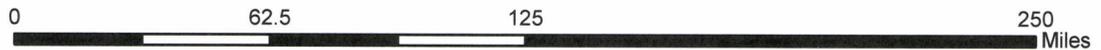
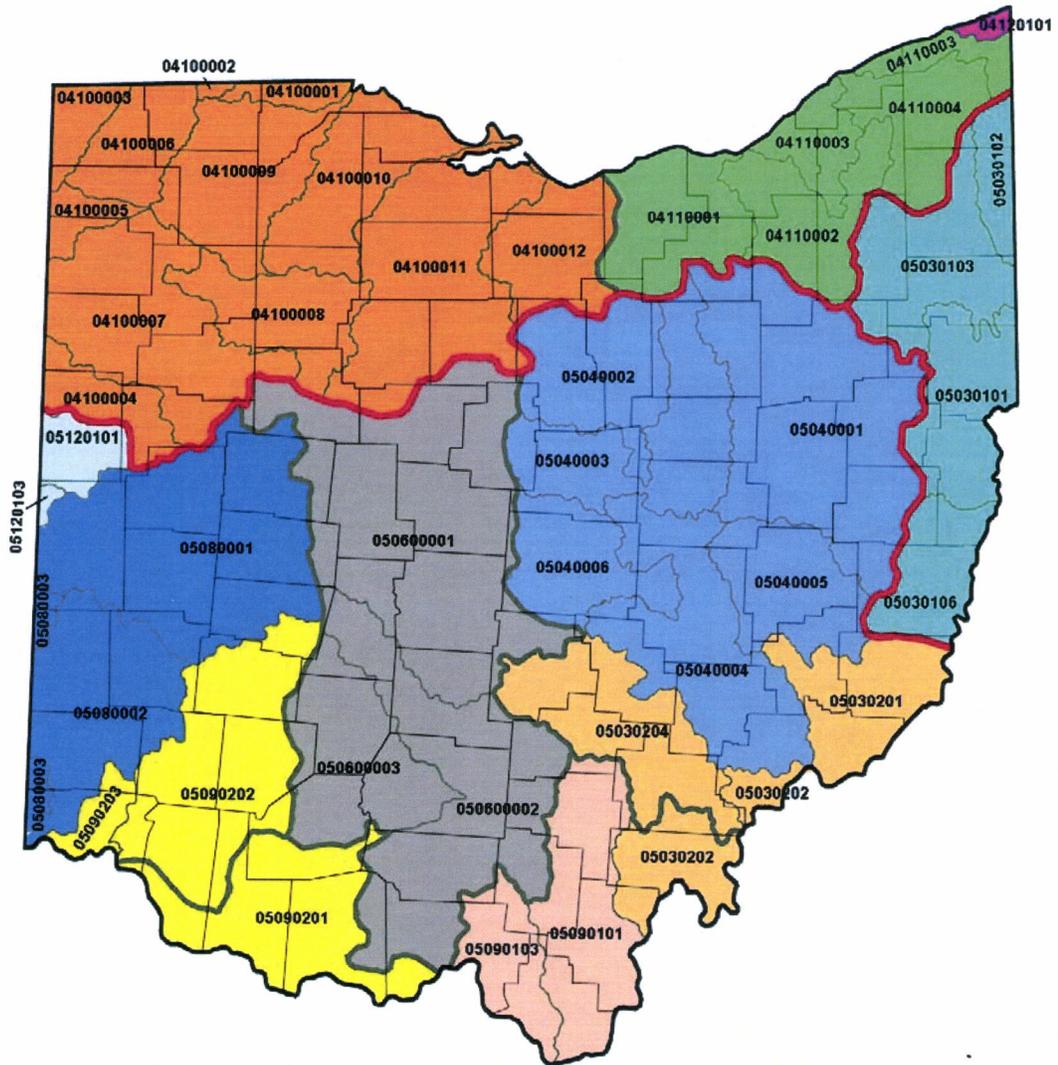


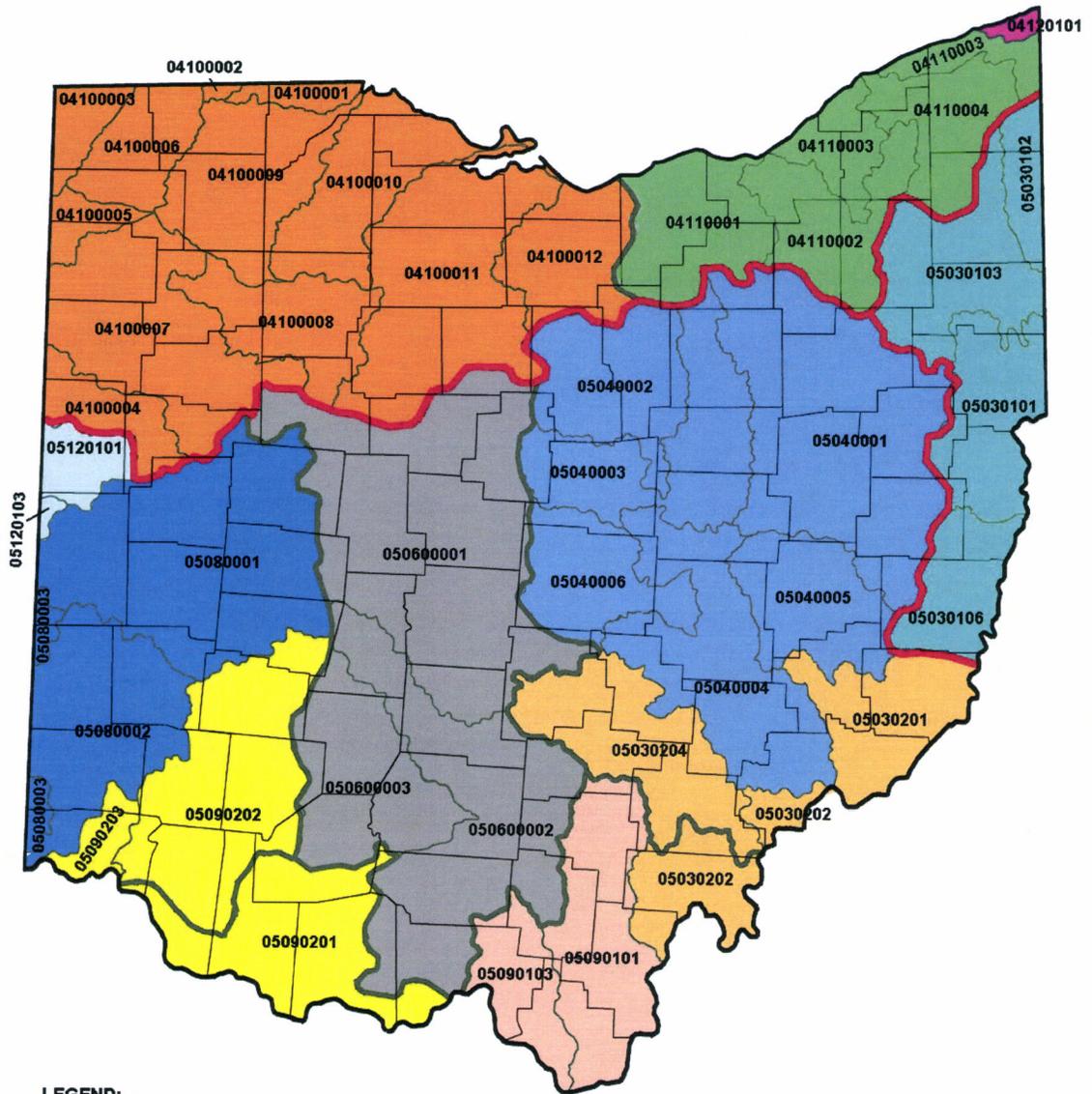
Figure 2: USGS HUC-6 Watersheds and Corps Districts



LEGEND:

	CORPS Districts		041000	Western Lake Erie		050400	Muskingum
	USGS HUC Watersheds		041100	Southern Lake Erie		050600	Scioto
	HUC - 8 Boundary		041201	Eastern Lake Erie		050800	Great Miami
	HUC - 6 Boundary		050301	Upper Ohio - Beaver		050901	Middle Ohio - Raccoon
			050302	Upper Ohio - Little Kanawha		050902	Middle Ohio - Little Miami
						051201	Wabash

Figure 3: Proposed Service Areas



LEGEND:

WETLANDS - Watersheds Where Service Area is Based on 8 Digit HUC

Black/Rocky (04110001) - Cuyahoga (04110002) - Ashtabula/Chagrin (04110003) - Grand (4110004)
 Mahoning (5030103) - Tuscarawas (5040001) - Upper Scioto (05060001)

STREAMS - Watersheds Where Service Area is Based on 8 Digit HUC

Lower Maumee (04100009) - Black/Rocky (04110001) - Cuyahoga (04110002) - Ashtabula/Chagrin (04110003)
 Upper Ohio/Shade (05030202) - Hocking (5030204) - Upper Scioto (05060001)
 Great Miami (05080001) - Lower Great Miami (05080002)

	CORPS Districts		041000	Western Lake Erie		050400	Muskingum
	04100010 USGS HUC Watersheds		041100	Southern Lake Erie		050600	Scioto
	HUC - 8 Boundary		041201	Eastern Lake Erie		050800	Great Miami
	HUC - 6 Boundary		050301	Upper Ohio - Beaver		050901	Middle Ohio - Raccoon
			050302	Upper Ohio - Little Kanawha		050902	Middle Ohio - Little Miami
						051201	Wabash

APPENDIX A STREAM MITIGATION COMPENSATION MODEL

Pending a stream rule and/or an IRT Stream Guidance or Stream Compensation Model for the State of Ohio, North Coast includes this mitigation example based on a stream mitigation compensation model, i.e., the procedure for converting impacts and mitigation to a credit system, based on Anderson, Paul, 2004, Draft Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio, Revision 4.0 (Draft Anderson Model, 2004). This model is based on methods used by the Savannah District of the Army Corps of Engineers (2002), modified to incorporate Ohio's water quality standards, procedures for classifying headwater streams, and Level II indices for assessing stream habitat: the Qualitative Habitat Evaluation Index (QHEI, Rankin, 1989) and the Headwater Habitat Evaluation Index (HHEI, OEPA, 2002).

In order to ensure that antidegradation requirements are met and to promote the restoration of impaired waters, the model design:

- Equates to a compensation ratio of 1.5:1 in most cases;
- Equates well-designed stream relocation projects to well-designed stream restoration projects, so that a relocation alternative can be the preferred alternative;
- Provides a 2:1 compensation ratio for preservation in most cases; and
- Limits the preservation form of compensatory mitigation to 70% of the mitigation requirement, in most cases.

A very general application of the model, derived from information in PN 2011-00646 and the associated environmental impacts materials posted to the ODOT webpage follows:

The Ohio Department of Transportation recently (~May 18, 2012) received its 404/401 permits for the Portsmouth Bypass, a project that has been planned for over a decade that is part of the Appalachian Highway System. As described in the public notice (PN), construction of the roadway will permanently impact 9825 linear feet of streams located in the Little Scioto River watershed (HUC 05090103). The proposed stream mitigation is the preservation of 14,738 linear feet of streams and riparian buffers located at the General Electric Peebles Test Operation facility near Peebles, Ohio, located in the adjacent Lower Scioto River watershed (HUC 05060002). According to an article in *The People's Defender* (May 15, 2012), GE purchased the facility (± 7000 acres) in 1954 to test rocket engines. In 2012, the facility expects to test 1600 jet engines, consuming 7 million gallons of fuel in the process.

For purposes of this example, the proposed preservation site generates $\pm 40,000$ mitigation credits with weighting factors for habitat quality, priority area, form (in-kind) and schedule assigned the highest value; control and threat factors assigned moderate values; and location and supplemental activities assigned no values. (Anderson, Form B).

For purposes of this example, the impacts to the streams were aggregated onto Anderson's Form A, using a separate form for the streams classified as Class II PHWH, Class III PHWH and EWH. For impacts to Class II PHWH streams the default impact factor of 3 was used. For the Class III and EWH streams, habitat quality and impact categories were assigned the highest value; and priority area, geomorphic integrity and floodplain quality were assigned moderate values. Based on this generalized example, the project requires $\pm 59,000$ credits, only 70% of which can be generated from preservation. (Anderson, Form A). Using this model the overall mitigation "deficit" for this project is $\pm 19,000$ credits. This "deficit" could be addressed by an in-lieu fee mitigation payment.

Revision 5.0 of Anderson (draft, dated February 2010) would permit the use of preservation for Class II PHWH impacts, would require application of the debit/credit model to the EWH and Class III PHWH impacts as well as

the preservation site and would limit preservation to 49% of the stream mitigation for the higher quality stream impacts, likely resulting in mitigation "deficits" that could be addressed by an in-lieu fee payment.

In-lieu fee payments are also being used by the OEPA to address additional mitigation require by the state for temporary stream impacts, e.g., impacts associated with the Rockies Express Pipeline (June 2012) and the proposed ATEX Express Pipeline (pending).

APPENDIX B
CONTACT INFORMATION

CONTACTS

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