



## Ohio Great Lakes Restoration Initiative Proposal

**RFP Number:** #EPA-R5-GL2014-2

**CFDA:** 66.469

**GLRI Program:** Sediment Reduction in Priority Watersheds (GLRI Category I.C.)

**Project Title:** Maumee River Sediment and Nutrient Reduction Initiative

**Submitted by:** Ohio Environmental Protection Agency-Division of Surface Water

**Contact Person:** Russell W. Gibson, NPS and Lake Erie Program Manager

614-644-2020 (office)

[Russ.gibson@epa.ohio.gov](mailto:Russ.gibson@epa.ohio.gov)

**Address:** Ohio Environmental Protection Agency-Division of Surface Water

Lazarus Government Center

50 West Town Street – Suite 700

Columbus, Ohio 43216-1049

[www.epa.ohio.gov/dsw](http://www.epa.ohio.gov/dsw)

**DUNS Number:** 809172372

**Type of Organization:** State Agency

**Proposed GLRI Funding Requested:** \$3,693,182

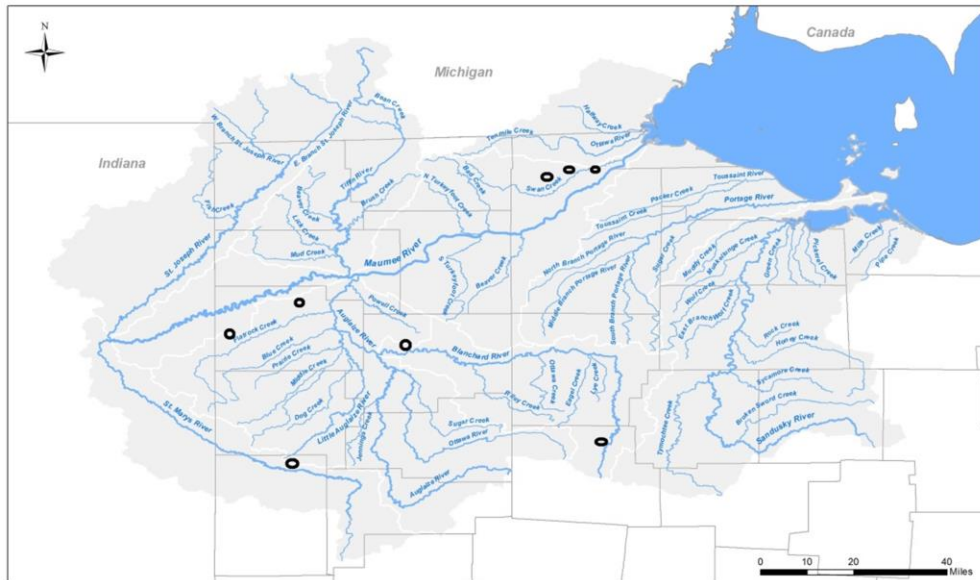
**Project Duration:** 11/01/14 through 12/30/19

**Project Description:** The Maumee River Sediment and Nutrient Reduction Initiative is an enhancement of Ohio's ongoing efforts to improve water quality in Lake Erie. This important project brings together a diverse coalition of 10 public and private entities using innovative agricultural sediment reduction practices and aggressive implementation of multiple stream and wetland restoration projects, neighborhood scale green stormwater management practices, nutrient rich runoff retention/ reuse and technology transfer. Environmental benefits include retiring 270 acres of vulnerable cropland, re-naturalizing six miles of stream channels, stabilizing 1000 linear feet of eroding streambank and restoring more than 70 acres of wetlands and wet prairies.

**Project Location(s):** The stream and wetland restoration projects and the multiple sediment reduction practices implemented under this project will be completed in multiple locations within the Maumee River (HUC04100009) watershed. Individual project sites may include multiple sediment reduction and/or restoration practices and will be located in parts of Putnam, Hardin, Defiance, Lucas, Mercer and Auglaize counties within northwest Ohio. Following are the names and HUC's of those subwatersheds in which work under the Maumee River Sediment and Nutrient Reduction Initiative will be completed:

1. Swan Creek Mainstem – Heilman Ditch (HUC 04100009 08 04)
2. Cessna Creek –(HUC 04100008 01 01)
3. St. Marys—Fourmile Creek—St. Marys River (HUC 04100004 01 06)
4. Miley Ditch – Upper Yellow Creek (HUC 04100009 05 04)
5. Ai Creek—(HUC 04100009 07 01)
6. Fewless Creek—Swan Creek (HUC 04100009 07 02)
7. Plum Creek (HUC 04100007 05 02)
8. Trib to Marie DeLarme Creek (HUC 04100005 02 0040) **Lat:** 41.238198 **Long:**-84.670734

## Maumee River Sediment and Nutrient Reduction Initiative



Project Sites within the Maumee River Watershed

### **Project Summary and Approach:**

Sediment and dissolved reactive phosphorus (DRP) loadings into western Lake Erie from the Maumee River continue to occur at very high levels. According to historic monitoring by Heidelberg University DRP loadings are at record levels. Traditional conservation practices funded and installed by the US Department of Agriculture (USDA) under programs such as the Lake Erie Conservation Reserve Enhancement Program (CREP) have helped to reduce total phosphorus levels in Lake Erie. However, these same practices have done little to reduce DRP levels and sediment and silt from the Maumee River. Harmful blooms of the cyanobacteria *Microcystis* have returned to Lake Erie, starting in Maumee Bay during July or August and moving eastward into the central basin as the summer progresses. A recent bloom of *microcystis* resulted in measureable levels of cyanotoxins appearing in the city of Toledo's finished drinking water. As a result more than 400,000 Ohioans had no potable municipal water supplies for several days.

The Maumee River Sediment and Nutrient Reduction Initiative will demonstrate the sediment reduction benefits of several different innovative agricultural best management practices such as saturated buffers, nutrient rich runoff and reuse systems, 2-stage channel conversions, controlled drainage water management, woodchip bioreactors, and phosphorus/sediment filter systems. This initiative will also restore more than six miles of channelized streams, convert a mile of agricultural ditches to 2-stage channels, restore more than 70 acres of wetlands and wet prairies and restore and retire more than 200 acres of currently cropped farmlands and more.

The Maumee River Sediment and Nutrient Reduction Initiative will be implemented by Ohio EPA's Nonpoint Source and Lake Erie Programs using a diverse collaboration of 10 public and private entities, each of whom are important stakeholders throughout the Maumee watershed. Project partners include:

1. Pheasants Forever – Auglaize County
2. Putnam County Soil & Water Conservation District – Putnam County

3. Nature Conservancy (3 different projects) – Lucas, Hardin and NW Ohio
4. Black Swamp Conservancy – Paulding County
5. Toledo Metropolitan Area Council of Governments –Lucas County
6. Metroparks of the Toledo Area - Lucas County
7. Lucas County Land Bank – Lucas County
8. Ohio State University – Defiance and Putnam Counties—Putnam and Defiance County
9. Antioch College – education and outreach throughout the Maumee watershed with an emphasis on identified critical areas.

Within 45 days of being notified by US EPA’s Great Lakes Nation Program Office that Ohio EPA is selected for funding all project partners will be instructed to provide Ohio EPA with detailed work plans. Following review and any necessary revision, all subgrant agreements will be prepared and fully executed. Project implementation will commence on or about 11/1/14 and conclude by no later than 12/31/19. Subgrant projects will successfully install cost-shared practices during the 2015 and 2016 construction seasons and restoration activities will be completed during the 2015 and 2016 construction seasons. Effectiveness monitoring will be conducted by Ohio EPA and Ohio State University throughout the five year project period. Education and Outreach activities will be ongoing throughout the five project period, commencing with the grant award. More highly specific individual project timelines and performance measures will be detailed as part of Ohio EPA’s subgranting process.

In order to improve administrative efficiencies, insure subgrant project effectiveness and to administer all grant funds in compliance with state and federal grant rules and guidelines, Ohio EPA’s Division of Surface Water will implement the Maumee River Watershed Sediment and Nutrient Initiative using its Nonpoint Source and Lake Erie program staff and use subgranting processes currently used for administering Section 319(h) subgrants and state funded Surface Water Improvement Fund grants.

Each project partner will implement various stream and wetland restoration projects and sediment reduction and/or drainage water management agricultural practices that will demonstrate measurable reductions of sediment and nutrients when applied and installed in the Maumee River watershed. Effectiveness monitoring of subgrant funded projects will be conducted by a combination of Ohio EPA Northwest District Office water quality staff and the Ecological Assessment Unit. Agricultural BMPs and drainage water management practices in Defiance and Putnam counties will be monitored by a team from Ohio State and Antioch Universities coordinated by Dr. Andy Ward and Dr. Larry Brown from OSU, and Dr. Jessica D’Ambrosio from Antioch University in Yellow Springs, Ohio.

Subgrant progress and general performance monitoring will be conducted by Russell Gibson, Rick Wilson and Martha Spurbeck of Ohio EPA’s Division of Surface Water. Sites visits with subgrantees will be conducted twice annually through the project implementation period and additionally as needed to insure that project momentum and implementation is timely, appropriate and effective.

Ohio EPA and general subgrant related activities will be guided by the following general timeline and significant milestones:

**November 2014 through March 2015:**

1. Detailed work plans from each of the identified project partners will be submitted to Ohio EPA
2. Subgrant agreements will be prepared and fully executed
3. Subgrant management and reporting training will be conducted for project partners by Ohio EPA
4. Subgrantees will prepare and submit all applicable QAPP’s within 45 days of grant award
5. Subgrantees will submit first quarterly fiscal report and initial payment requests
6. Ohio EPA submits first semi-annual progress report and financial status report

### **April 2015 through October 2015:**

1. Ohio EPA will conduct site visits with each of the project partners
2. Subgrantees submit their first semi-annual technical report and second quarterly fiscal report.
3. Required permits are received by subgrant funded partners for their projects
4. Agricultural cost-share projects are installed during summer and fall of 2015
5. Ohio EPA and all project partners submit first annual progress report to GLNPO

### **November 2015 through November 2016:**

1. Subgrant funded stream restoration projects are under construction or completed
2. Project partners submit quarterly fiscal reports and semi-annual progress reports
3. Ohio EPA conducts site visits with project partners
4. Ohio EPA prepares and submits annual report

### **November 2016 through November 2017:**

1. Construction and installation activities on all projects are complete
2. BMP Guidebook is complete and distributed to watershed agricultural producers
3. Outreach, education and farmer field days conducted by Ohio State and Putnam SWCD
4. Ohio EPA completes site visits with each of the subgrant funded partners
5. All required reports submitted

### **November 2017 through November 2019:**

1. Education and outreach activities continue for all active subgrants
2. Projects completed and subgrants closed as appropriate
3. Ongoing monitoring and water quality assessment activities continue.
4. Ohio EPA conducts post-installation water quality monitoring
5. Final reports are submitted as appropriate on closed subgrants
6. All required reports are submitted to US EPA by Ohio EPA
7. Final grant report is submitted by Ohio EPA no later than 12/31/19

As indicated, stream restoration and sediment reduction work will be completed by the diverse project partners that have been brought together to reduce sediments, nutrients and water quality in the Maumee River watershed. Dissolved phosphorus and sediment bound nutrients from the Maumee River are significant contributors to harmful algal blooms in the western basin of Lake Erie and each project included in this initiative is designed to effectively reduce sediments, improve water quality and help to protect Lake Erie. These projects will also provide enduring physical improvements to selected tributaries to the Maumee River and restore native wetland and wet prairie habitats.

The projects contained in this proposal are designed to directly address nonpoint source pollutants, specifically sediments, nutrients and hydromodification and habitat alteration. Decades of water quality assessment have identified these as the highest magnitude causes of impairment

Following is a summary of each partner's projects that will comprise the Maumee River Sediment and Nutrient Reduction Initiative:

**Stream and Riparian Forest Restoration Project – Unnamed Tributary to Marie DeLarme Creek**  
Black Swamp Conservancy – Putnam County, Ohio HUC 04100005 020040

This is a two-phase project that will result in the natural channel design restoration of 3500 linear feet of a tributary to the high quality Marie DeLarme Creek in Putnam County, Ohio. This project will also successfully restore more than 66 acres of forested floodplain, vernal pools and wetlands and associated riparian buffer areas.

Approximately 46.5 acres and 2000 linear feet of stream are shovel-ready for restoration. Only permits and construction documents are needed to commence restoration work on this parcel. This project site will be completed early in the 2015 construction season. An additional 20 acres and more than 2500 linear feet of stream channel will be restored during the 2016 construction. This 20-acre site is currently being farmed and subject to an agricultural lease which expires 1/1/16.

The project areas have been heavily degraded by historic agricultural activities including the channelization of the stream, draining of high quality riparian wetlands and the clearing of property for high-intensity crop production. This project is designed to undo this damage and restore the area to native forested floodplain and vernal pools.

This component of the Maumee River Sediment and Nutrient Reduction Initiative will restore approximately 2/3 of a mile of previously channelized stream using natural channel design methods and retire 66 acres of currently farmed vulnerable cropland. The project will reduce sediment loadings to the Maumee River by 284 tons per year and nitrogen loadings by 570 pounds per year and phosphorus loadings by 284 pounds/year. This project also will retire a total of 66 acres of intensively farmed and erodible croplands.

Successful completion of this project will be measured by the linear feet of stream restored during the 2015 and 2016 construction seasons and an improvement in the measureable Qualitative Habitat Evaluation Index (QHEI) scores as well as improvements in the fish and bug scores (IBI and ICI) from the baseline conditions before restoration and after completion of the project. Project effectiveness monitoring will be conducted by Ohio EPA under provisions of their existing QAPP. As a result no additional QAPP is expected to be required by US EPA.

**Innovative Channel and Drainage Water Management Practices-Multiple Subwatersheds**

Putnam County Soil and Water Conservation District and Ohio State University – Putnam County, Ohio

- Miley Ditch – Upper Yellow Creek (HUC 04100009 05 04)
- Plum Creek (HUC 04100007 05 02)
- Oedy Ditch – Putnam County, Ohio

Under an Ohio EPA subgrant to the Putnam County Soil and Water Conservation District this component of the Maumee River Sediment and Nutrient Reduction Initiative will convert three currently maintained agricultural drainage ditches into more naturalized sinuous 2-stage channels. Completed by Putnam County SWCD in partnership with Ohio State University these three projects will demonstrate the effectiveness of 2-stage channel construction in reducing sediment loadings and assimilating nutrients in agricultural drainage water. Monitoring activities conducted by the Ohio State team will evaluate effectiveness for the 2 stage channel installations at Miley and Plum Creeks. Monitoring and study plans for monitoring this project will require the team from Ohio State to develop, submit and have approved a

Quality Assurance Project Plan (QAPP) prior to commencing any monitoring activities. This QAPP will be due within 5 days of executing the subgrant agreement between Ohio EPA and Ohio State.

2-Stage channels provide the potential for much improved drainage water management and nutrient assimilation in the clay soils and flat landscapes such as found in Putnam and Defiance counties. The construction of a floodplain “bench” within the converted 2-stage channel provides for increased nutrient uptake by plants and more importantly reduced sediment loadings. The bench serves to hold and slow drain waters allowing fine silts and colloidal materials to settle. Although they are not a stream restoration practice per se, they are a water quality practice that re-naturalizes severely modified ditch channels and reduces sediment and nutrient loads.

Miley Ditch and Plum Creek are projects that are shovel-ready and need only approved funding to be able to commence converting these agricultural ditches into more stable 2-stage channels. Successful implementation of these 2-stage ditch conversions and the additional installation of more than 9 miles of grassed surface ditches will result in the reduction of more than 3396 tons per year of sediment, 15797 pounds per year of nitrogen and 4020 pounds per year of phosphorus. This project will also result in the re-naturalization of more than 1 miles of maintained agricultural ditch and the installation of more than 9 miles of grassed surface field ditches.

**Agricultural Sediment and Nutrient Reduction Practices – Maumee Watershed (HUC 04100005)**  
Putnam County Soil and Water Conservation District and Ohio State University – Putnam County, Ohio

Under an Ohio EPA subgrant to the Putnam County Soil & Water Conservation District and in conjunction with Ohio State University and the USDA-Agricultural Research Service a multitude of agricultural sediment reduction and drainage water management practices will be installed in multiple subwatersheds throughout the county. A series of public meetings will be conducted where Putnam County SWCD will sign up landowners to participate in this initiative. Eligible practices will include the following:

- 10 Controlled Drainage Structures installed controlling runoff from 400 acres of cropland
- 60 Blind Inlets installed capturing more than 600 acres of runoff
- 45 Tile Main Blowouts repaired reducing sediment from 900 acres of cropland
- 2 Woodchip Bioreactors Installed
- 4 Phosphorus Filter Systems Installed

All practices (except P-filters) that will be installed under cost share agreements are specifically identified in Ohio’s approved Nonpoint Source Management Program. These practices are also consistent with recommendations included in Ohio’s draft Nutrient Reduction Strategy. These practices will be installed to potentially enhance a controlled drainage cost-share project that was previously implemented under the Ohio Department of Natural Resources “Clean Lakes Program”.

Successful completion of this component of the Maumee River Sediment and Nutrient Reduction Initiative will result in the reduction of:

- 129 tons per year of Sediment
- 630 pounds per year of Nitrogen
- 63 pounds per year of Phosphorus

Monitoring and assessment of the effectiveness of the various practices implemented under this project will be completed by a team from Ohio State University and Ohio EPA’s Ecological Assessment Unit.

Ohio State's monitoring activities will equip and evaluate two woodchip bioreactor sites and phosphorus filter sites and three paired surface runoff field ditch sites. Monitoring is designed to help demonstrate to agricultural producers within the watershed that these practices should be adopted on a much broader scale.

**Oak Openings Riparian and Stream Restoration Project -- Heilman Ditch (HUC 04100009 08 04)**

Toledo Metroparks – Lucas County, Ohio

This project will restore more than two linear miles of channelized ditches, 60 acres of prairie wetlands and the retirement of 200 acres of currently cropped farmland. This component of the overall project will result in the *permanent retirement* and ecological restoration of 140 acres of cropland into native Oak Opening forest habitat and 60 acres of prairie wetlands. This project is shovel ready upon receipt of all necessary permits (for the stream restoration) and sufficient funding to move forward.

More than 40,000 trees will be planted in riparian areas by a Toledo Metroparks crew of one Crew Leader and 3 Seasonal Workers and more than 2 miles of currently channelized ditch will be re-naturalized with natural channel design methods. The Metroparks work crew will be organized and supervised using the former Civilian Conservation Corps model as a guiding principle. Successful grant funding will enable this crew to work on the project site for a period of two years.

In addition to the restoration work and plantings, Toledo Metroparks will also destroy and/or remove all existing subsurface drainage tile on the project site resulting in the reduction of more than 775 tons per years of sediment loadings to the Maumee River, nearly 3000 pounds per year of Nitrogen and 543 pounds per year of phosphorus.

Effectiveness monitoring of this component of the project both before restoration and after completion will be conducted by Ohio EPA's Ecological Assessment Unit using the methods and protocols approved under Ohio EPA's general water quality monitoring Quality Assurance Project Plan (QAPP).

**Cessna Stream Restoration – Tributary to the Blanchard River (HUC 04100008 01 01)**

Nature Conservancy – Hardin County, Ohio

This component of the Maumee River Sediment and Nutrient Reduction Initiative includes the restoration using natural channel design methodology of more than 3000 linear feet of Cessna Creek, a tributary to the Blanchard River which ultimately flows into the Maumee River. An additional 1000 linear feet of severely eroding streambank will also be stabilized using bioengineering practices. Stream restoration will take place between RM 3.9 and RM 4.3 on property that is currently privately owned and used for row crop agriculture. Although the stream has maintained some of its natural meander patterns it is extremely entrenched with bank heights up to 10 feet and little or no riparian corridor. Dr. Andy Ward of Ohio State University indicated that this stream is perhaps that most seriously unstable of any he has seen previously. This project will restore naturalized channel and flow conditions within the project site and serve as a valuable demonstration of how to manage compatible uses of farming and natural stream channels.

The Nature Conservancy will contract with a design/build contractor through a competitively bid process to design the stream restoration using natural channel design methodology. Design specifications will require that the restored stream meet bankfull channel dimensions for a stream draining 13.5 square miles (size of Cessna Creek drainage area). A native riparian corridor will be encouraged through active planting of native tree and shrub species as well as an aggressive program to manage invasive species.

Following completion of the proposed restoration activities, this project site will be protected in perpetuity by the permanent retirement (and placing under conservation easement) of 6 acres of currently farmed cropland.

Successful completion of this project will result in Sediment reductions totaling more than 244 tons per year, Nitrogen loadings by 489 pounds per year and Phosphorus loadings by more than 244 pounds per year. Effectiveness monitoring of this project site will be completed pre and post construction by Ohio EPA's Ecological Assessment Unit.

### **Belmont and Forest Urban Stormwater Bioretention—Swan Creek (HUC 04100009 08)**

Toledo Metropolitan Council of Governments (TMACOG) – Lucas County, Ohio

TMACOG will be working in partnership with the Junction Avenue Community Group and the Lucas County Land Reutilization Corporation to demonstrate how vacant properties can become innovative stormwater treatment biofiltration areas and water quality treatment trains. This project will construct a series of bioretention cells and swales using a “treatment train” approach on five publicly owned land parcels in the Swan Creek watershed. Joint vacant lots will be engineered and excavated to create bioretention cells that combined with appropriate curb cuts will capture and hold stormwater flows from street gutters through swales. These bioretention cells will retain stormwater and allow for infiltration and passive treatment.

Precipitation events bolstered by climate change are becoming more intense and when falling upon an impervious urban landscape such as Ohio's urban neighborhood, are causing street and basement flooding and large “flushes” of nonpoint source pollutants such as sediments and nutrients into Swan Creek and ultimately Lake Erie. Slowing the rate and amount of runoff is critical to preventing serious erosion and sedimentation, nutrient loadings and decreasing the stresses on both aging stormwater infrastructure and urban streams. This project will demonstrate the feasibility and environmental benefits of repurposing urban properties into green stormwater retention and treatment areas. Naturalized bioretention areas will serve as an important model for community reinvestment that improves water quality and creates islands of pervious “green” within the urban landscape. Reducing the rate and amount of urban runoff using green stormwater management practices is specifically called out in Ohio's approved Nonpoint Source Management Plan and draft Nutrient Reduction Strategy. Effective stormwater management using green infrastructure is also recommended in the Maumee Area of Concern's Phase 2 Report.

Successful completion of this project will treat stormwater runoff from the surrounding 4.3 acre watershed and will remove more than 760 pounds per year of Total Suspended Solids (TSS) while also preventing erosion and annual sediment loadings resulting from increasingly intense storm events.

### **Lakeplain Wet Prairie Restoration in Swan Creek Watershed (HUC 04100009 07 01)**

The Nature Conservancy – Lucas County, Ohio

The Lakeplain Wet Prairie Restoration Project will restore degraded wetland areas within Irwin Prairie which was historically the largest wet prairie within the Oak Openings Region of northwest Ohio. The Lakeplain wet prairie habitat is one of the rarest of wetland communities in Ohio and remnants of which can be found only within Lucas, Fulton, Henry and Wood counties.

This project will restore 14 acres of wet prairie that are currently degraded from decades of farming activities and severely altered hydrology. Five separate areas will be “scraped” of 1-2 feet of organic material and form roughly 8 acres of pothole wetland areas that will capture and retain open water into June, thereby providing important breeding and nursery habitat for the state endangered blue-spotted



salamander. Wetland species planting will be completed in 2016 following the collection of seeds from other Lakeplain wetland prairies by Nature Conservancy volunteers and staff during the summer and fall of 2015. An additional 8 acres of wetland and associated upland areas will be replanted with native wet prairie and tree species.

Once restoration work is completed, the project site will be protected in perpetuity by a conservation easement or an environmental covenant. Swan Creek is a severely impaired tributary to the Maumee River and currently fails to meet its Warmwater Habitat (WWH) designated aquatic life use due to excessive sedimentation and direct habitat alteration. The Swan Creek TMDL identifies Ai Creek as a major contributor of sediments and TSS to Middle Swan Creek mainstem. This shovel ready project directly reduces TSS and sediments by retaining runoff in the floodplain and restoring important wetland habitat.

Successful completion of this project will result in the restoration of 14 acres of wetland prairie, replanting of 10 acres of wetland, removal or destruction of any and all agricultural field tile, treatment and removal of 2 acres of invasive species incidental to wetland restoration and elimination of an agricultural ditch draining 20 acres of cropland. The Lakeplain Wet Prairie Restoration also establishes 4 acres of critical breeding habitat for the state endangered Blue Spotted Salamander. This project will reduce sediment loadings by 1 ton per year, 4 pounds per year of Nitrogen and 1 pound per year of Phosphorus.

#### **Agricultural Runoff Retention and Reuse Project – Fourmile Creek (HUC04100004 01 06)**

Pheasants Forever and VanTilburg Farms—Mercer County, OHIO EPA

This innovative project involving a national nonprofit conservation group (Pheasants Forever) and a private agricultural operation will demonstrate the feasibility and value of capturing and retaining field drainage from tiles and a small ditch during the spring rains and irrigating grain crops with the nutrient rich drain water during the drier summer months. Whether it is climate change causing the surge in spring rain events and the decline of summer month precipitation is left to the scientists to decide. However VanTilburg Farms is seeing a dramatic increase in spring rains and an equally dramatic decrease in precipitation during July and August. It is happening and this project will demonstrate tools that grain farmers can use to improve habitat on their farms and reduce sediment and nutrient loadings to the Maumee River and her tributaries.

Two treatment train/retention structures will be constructed in the floodplain of two small ditches that are unnamed tributaries to Fourmile Creek, which flows into the St. Marys River and ultimately into the Maumee River. These treatment train/retention systems will each capture runoff from approximately 65 acres of intensively farmed cropland. The 136 acre field is currently tilled with 50% of the drainage flowing to each of the two unnamed tributaries. Nutrient rich drainwater will be captured during the high precipitation spring months and retained in the treatment train/retention structure where vegetation in and around the structures will assimilate nutrients from the runoff. Irrigation systems will be rented and/or leased to enable approximately 3.5 million gallons of water to be used to water grain crops. A paired approach will be applied with half of the project area receiving cover crop plantings in the fall while the other field (65 acres) will not receive cover cropping. This project is designed to measure the effectiveness and feasibility of retaining and reusing nutrient rich agricultural drain water.

This project will also install at least one saturated buffer drain water management system capturing and treating 30 acres of nutrient rich agricultural runoff. A minimum of three acres of vegetated wildlife buffer habitat will be planted around the treatment train/retention structures. Successful implementation of this project will reuse 3.5 million gallons of nutrient rich water and reduce sediment loadings by 14 tons per year; Nitrogen loads by 1462 pounds per year and phosphorus reductions of 113 pounds per year.

## **Education, Outreach and Technology Transfer—Multiple subwatersheds**

Ohio State University and Antioch University—Multiple Counties of northwestern Ohio

An important component of the Maumee River Sediment and Nutrient Reduction Initiative is those activities that will inform the public, engage agricultural producers in the Maumee watershed and to transfer knowledge and transition technology from demonstration projects to a much broader acceptance and adoption by watershed residents and agricultural producers. A distinguished team of educators from the Ohio State University and Antioch University will be gathering data and preparing outreach materials such as a Northwest Ohio (specific) Best Management Practices Guide that is designed to assist agricultural producers and other when making decisions about which BMPs to install. This team will also develop and conduct workshops for area producers to update the agricultural community in the watershed about their findings and recommendations.

Researchers and engineers from Ohio State University will be monitoring and evaluating the effectiveness of a multitude of the projects being implemented by Putnam County SWCD and by members of the Ohio State Team such as Dr. Larry Brown and others.

The following is a brief sample of the information, materials and workshops that will be completed under the Maumee River Sediment and Nutrient Reduction Initiative:

1. Formal assessment and reporting of the export of sediment and nutrient reduction benefits of converting surface ditches to grass.
2. Formal assessment of the effectiveness of controlled drainage when performed in conjunction with woodchip bioreactors.
3. Evaluation of innovative and emerging sediment and nutrient reduction practices such as steel slag Phosphorus filters.
4. Development and distribution of an adaptive management Best Management Practice (BMP) Handbook for poorly drained soils. This handbook will help producers better understand BMP costs, benefits and feasibility of water quality practices.
5. Tools developed to more effectively inform decisions on the maintenance, management and enhancement of agricultural ditches and modified headwater streams.
6. Outreach education, field days, workshops and farmer meetings on the practices that will be installed and/or implemented including agricultural water quality BMPs and a systems approach to meeting water quality and sustainable productivity.

## **Results – Outputs and Outcomes**

Successful implementation of the Maumee River Sediment and Nutrient Reduction Initiative will result in the installation of innovative sediment and nutrient reduction management practices in agricultural areas of the watershed, restoration of more than 70 acres of wetlands and wet prairies, conversion of three traditional agricultural ditches to more functionally stable 2-stage channels and numerous other outputs identified throughout this proposal. This initiative will also provide an important framework for more effectively managing agricultural and urban stormwater runoff and will provide nearly 9 miles of grassed surface ditches as a tool to reduce sediment export from cropland in the Maumee watershed. In addition, nutrients and sediments will be assimilated and loads reduced through passive treatment wetlands, biofiltration areas and an intriguing project that will capture, retain and reuse nutrient rich agricultural runoff to offset reduced precipitation resulting from climate changes.

This Initiative will also realize the very real benefits of retiring more than 270 acres of currently farmed cropland. About 200 acres will be converted to wet prairie that will be graded to capture increased amounts of stormwater runoff and passively treat and retain nutrient rich agricultural runoff in wetland areas. Finally, one project included in this initiative conducted by the Toledo Metroparks incorporates a work crew that will be modeled after the Civilian Conservation Corps where seasonal workers will conduct riparian restoration activities while also “learning by doing”. Ohio State University and Antioch University educators will also conduct extensive education and outreach, including developing guides and tools for transferring technology from demonstration projects into much broader deployment throughout the Maumee watershed.

A compilation of outputs or deliverables that will be completed under provisions of this project include the following:

Defiance County	1100 linear feet of 2-stage channel conversions
Putnam County	4900 linear feet of 2-stage channel conversion
Putnam County	9 linear miles of grassed field surface ditches
Putnam County	10 controlled drainage structures installed
Putnam County	60 blind inlets installed
Putnam County	45 tile main blowouts repaired
Putnam County	2 woodchip bioreactors installed
Putnam County	2 Phosphorus Filters installed
Paulding County	3500 linear feet of stream restored using natural channel design methods
Paulding County	66 acres of currently farmed crop land permanently retired
Lucas County	Creation of three seasonal CCC type positions for two years
Lucas County	2 linear miles of channelized ditches restored
Lucas County	60 acres of prairie wetlands restored
Lucas County	200 acres of currently farmed cropland permanently retired
Lucas County	5 “green” stormwater treatment trains and biofiltration areas installed
Lucas County	14 acres wetlands restored in Irwin Prairie
Lucas County	8 acres of pothole “scrapes” replanted
Mercer/Auglaize	2 agricultural drainwater retention and reuse systems installed
Mercer/Auglaize	1 saturated buffer installed
Mercer/Auglaize	3 acres of wildlife buffer planted
Hardin County	3000 linear feet of natural stream channel restored
Hardin County	1000 linear feet of severely eroding streambank stabilized

Successful implementation of the Maumee River Sediment and Nutrient Reduction Initiative will also result in substantial reductions of nonpoint source pollutants such as sediments and nutrients. Following are the load reduction estimates as calculated using the STEPL model:

- 4843 tons of sediment reduced per year
- 21952 pounds of nitrogen per year
- 5268 pounds of phosphorus per year
- 270 acres of currently farmed cropland permanently retired

The Maumee River Sediment and Nutrient Reduction Initiative will also result in the perpetual protection of more than 20 acres under conservation easement and/or environmental covenants. Protecting critical wetland and prairie habitat within the Maumee watershed is a critical component of actions needed to reduce the negative influence of excessive sediments and nutrients on the river as well as the western basin of Lake Erie.

Education and outreach efforts will also result in the delivery of a BMP handbook localized for the clay soils of northwest Ohio, field days, workshops and individual farmer meetings and various reports on individual BMP effectiveness. There will also be general outreach conducted by Ohio EPA via a project specific web page, the Lake Erie Program Annual Report and the NPS Program Annual Report.

Regarding the use of subgrants to realize the important benefits resulting from this project, Ohio EPA uses a standardized “universe of deliverables” to ensure consistent reporting, tracking and enhanced subgrantee accountability. Subgrants awarded under this project will be administered and executed using the well established procedures and processes by which Ohio EPA employs to make subgrants under the section 319(h) and Surface Water Improvement Fund (SWIF) grants. All deliverables will be reported in US EPA’s GLAS database for Great Lakes Restoration Initiative grants. Public and private landowners receiving cost-share assistance or having restoration work completed by a public entity on their lands will be required to execute and Operation and Maintenance Agreement insuring that all practices will be properly operated and maintained for their expected useful life.

### **Collaborations, Partnerships and Overarching Plans**

This project is a fully collaborative effort between Ohio EPA and the project partners that have been identified throughout this proposal.

The Maumee River Sediment and Nutrient Reduction Initiative is a remarkable collaboration with ten national, regional and local organizations, each of whom has significant interests in the health of the Maumee River. This project brings together nationally recognized engineers and educators from Ohio State University’s School of Agriculture and Natural Resources, USDA’s Agricultural Research Services, as well as important conservation organizations such as the Nation Conservancy, Black Swamp Conservancy and Toledo Metroparks. There are also local partners such as Putnam County SWCD and the Toledo Metropolitan Area Council of Governments. We are pleased to be working with such a distinguished group of Maumee River stakeholders.

There are many players in the western Lake Erie right now. For example, USDA’s Natural Resources Conservation Service (NRCS) have been facilitating the Western Lake Erie Basin initiative, (WLEB) that has brought together a large group of Lake Erie stakeholders. There are also other state, local, national and international initiatives such as the Lake Erie Commission, Charter Boat Captains Association and many others. The Maumee River Sediment and Nutrient Reduction Initiative will work together with each of these groups (as applicable) reaching out to inform them of this project and diverse group of collaborators. Ohio EPA will make presentations at periodic meetings of some these other groups such as the WLEB leadership team. Updated project specific information will be maintained on Ohio EPA’s Division of Surface Water webpage. Individual subgrant funded project information will be maintained on the collaborating organizations websites. This project brings together a team of some of the most credible and respected individuals and organizations to help lead the way with innovation, installation, evaluation and outreach of meaningful practices to make appreciable and measurable results. Letters of support and collaboration are included as part of the package of addendums to this proposal.

The size of the Maumee watershed makes watershed planning in the region a daunting task. A Maumee River Total Maximum Daily Load Study (TMDL) is nearing completion—the projects listed in this

proposal are all consistent with the recommended actions that we expect to be included in the final TMDL report. The Maumee River Sediment and Nutrient Reduction Initiative will also accelerate the implementation of Ohio's Statewide Nutrient Reduction Strategy. While the strategy awaits formal approval it is already providing an important framework for assisting Ohio in our efforts to reduce nutrients to both the Lake Erie and Ohio River watersheds. Mentioned previously in this proposal, this project is strongly supported in the recent updates to Ohio's Approved Nonpoint Source Management Plan (approved June 2014) and is consistent with recommendations included in the Ohio Lake Erie Phosphorus Task Force Report. These overarching plans may be found online at the following links:

- **Ohio's Approved Nonpoint Source Management Plan Update, June, 2014:** [http://www.epa.ohio.gov/Portals/35/nps/NPS\\_Mgmt\\_Plan.pdf](http://www.epa.ohio.gov/Portals/35/nps/NPS_Mgmt_Plan.pdf)
- **Ohio Nutrient Reduction Strategy:** [http://epa.ohio.gov/Portals/35/wqs/ONRS\\_final\\_jun13.pdf](http://epa.ohio.gov/Portals/35/wqs/ONRS_final_jun13.pdf)
- **Lake Erie Protection and Restoration Plan:** <http://lakeerie.ohio.gov/Portals/0/Reports/LEPR%202013%20Final.pdf>
- **Lake Erie LAMP:** <http://www.ohio.gov/dsw/ohiolamp/index>

### **Community based focus and Environmental Justice**

This project recognizes and improves adverse economic and environmental conditions within areas in the Maumee River watershed. For example, Defiance County is largely an agricultural county in northwest Ohio with a population of approximately 39,000 people. There are more than 15,000 households within the county's one municipality, three villages and 12 townships. Only about 4.5% of county residents are below the poverty line. Advancing this project within Defiance County will help demonstrate that water quality improvement is an important piece of maintaining a sustainable agricultural industry.

Another area where parts of this project will be implemented is in Toledo Ohio, located within Lucas County and at the mouth of the Maumee River. This project recognizes and improves adverse economic and environmental conditions within Lucas County, Ohio. Lucas County has a population of 441,815, which is a decrease of 2.9% from the 2000 census. There were nearly 200,000 housing units and the racial makeup of the county is 77% Caucasian, 17% African-American, 4.5% Hispanic, and 1.5% Asian and other nationalities. Nearly 14% of the households in Lucas County are below the national poverty line. One project sponsor, TMACOG will be working directly with the Junction Avenue Community Group and Lucas County Land Reutilization Corporation to complete components of their proposed project.

Restoring native wetlands and long reaches of previously channelized ditches and streams provides improved water quality as well as important green space that is available to city dwellers in Toledo and other municipalities within the project areas.

Each of the project partners have received previous federal grants and have demonstrated a willingness to accept any funds awarded and implement their project as proposed.

### **Programmatic Capacity and Past Performance**

Ohio EPA routinely receives four to eight federally funded assistance agreements each year from US EPA. These agreements help support Ohio's water pollution control, nonpoint source, and water quality monitoring and assessment programs. This proposal is similar in size and scope to several of the assistance grants that Ohio has administered recently. For example, we are nearing completion of the Ohio EPA FY10 GLRI grant awarded for similar projects that were implemented in Cuyahoga County in northeast Ohio. We have a history of successfully completing projects on time, on budget and meeting all reporting requirements. US EPA's annual evaluations of Ohio EPA's water programs are consistently very positive.

This particular project will be managed by Ohio EPA's Nonpoint Source Program and is administered by the Ohio EPA—Division of Surface Water. Since 2004, we have successfully administered more than 200 locally implemented watershed projects totaling more than \$38 million in federal section 319 funding and \$7.5 million in state Surface Water Improvement funds. We maintain a vigorous subgrant oversight protocol resulting in an exceptional level of accountability, efficiency and accomplishment. Ohio EPA contracting methods were improved in 2005 with the development and implementation of a standardized universe of “grant” deliverables. This system has resulted in much improved communication of expectations and greatly enhanced project reporting. This process is also the framework that will be used for any subgrants awarded under this proposal project.

### **Current Federal Grants, including GLRI**

1. #GL-00E00395—FY10 Cuyahoga County GLRI-SWIF Project
2. #GL-00E00836—FY11 Lake Erie Nutrient Reduction Demonstration Grant
3. #GL-00E01137—FY12 Cuyahoga County GLRI-SWIF Project
4. #GL-00E01131—FY12 Powel Creek Nutrient Reduction Project
5. #GL-00E01020—FY12 Upper Blanchard Phosphorus Reduction Project

Ohio EPA's Annual NPS Program Report (and other 319-required reports) has been submitted on-time every year since 2005 when the current program management team was put in place. Ohio's annual program report is a very comprehensive compilation of extensive data and information designed to meet US EPA reporting requirements, but also to serve as an important management and evaluation tool for Ohio EPA's program management team. The information contained in the report is also used extensively to update and enhance Ohio EPA's NPS website, providing time-sensitive progress updates for all of our Section 319 funded subgrant projects. Ohio's report is submitted in full color and includes an abundance of information such as load reductions by project as well as numerous project site photos illustrating before-and-after conditions. We will produce a similar document each year for the SWIF/GLRI project that is outlined in this proposal. (Please see the FY11 Cuyahoga County GLRI/SWIF Annual Report on Ohio EPA's Division of Surface Water website for an example).

**Principal Ohio EPA Program Staff & Qualifications:** Ohio EPA's NPS program staff will be managing the SWIF/GLRI project. The principal program personnel responsible for implementing this project are:

- **Russell Gibson, NPS Program Manager** - Mr. Gibson has managed Ohio EPA's NPS and Section 319 Programs since 2005. Previously, he worked for more than 20 years with Ohio's Department of Natural Resources in a variety of positions including manager of permitting, hydrology & bonding for Mineral resources; northwest Ohio scenic rivers coordinator; community grants administrator for the Division of Recycling and as a preserve manager and park ranger. Mr. Gibson has a bachelor's degree in Natural Resources Management from Ohio State University as well as extensive graduate coursework in Public Administration. He has extensive experience in program development and evaluation, strategic planning and organizational design and has completed four federal grants training courses offered by Management Concepts, Inc., including “Awarding & Monitoring Sub-awards under Federal Grants” and “Federal Cost Principles”.
- **Martha Spurbeck, Grants Administrator** - Ms. Spurbeck is the grants administrator for Ohio's NPS and Section 319 programs since 2000 and will be the primary responsible party for administering SWIF/GLRI subgrants. She has a bachelor's degree in Business Management from Ohio University and has completed four federal grants training courses offered through Management Concepts, including “Awarding & Monitoring Sub-awards under Federal Grants” and “Federal Cost Principles”.

- **Rick Wilson, Environmental Specialist** - Rick is technical lead and agricultural specialist working in Ohio EPA's Nonpoint Source Program. Mr. Wilson has a civil engineering background and has been involved with agricultural pollution issues since 1999 when he became an inspector for Ohio EPA's CAFO program. Rick will perform the role of technical liaison with local project implementers and Ohio EPA. Rick is currently the technical liaison for three (3) current grants that focus on innovative ways to increase and improve agricultural practices in targeted watersheds.
- **Jeff DeShon, Ecological Assessment Manager** - Mr. DeShon will supervise and organize the environmental assessment component of this project. Jeff is the manager of Ohio EPA's Ecological Assessment Section and supervises the assessment and biological surveys conducted on all of Ohio's surface waters. He has a Master's degree in Biology and more than 30 years' experience organizing, conducting and managing environmental assessments. He has been manager of the Ecological Assessment Section since 2000.

**Partner Program Staff & Qualifications:** Partner organization's program staff will be managing the SWIF/GLRI project. The principal program personnel responsible for implementing this project are:

1. **Black Swamp Conservancy**

**Rob Krain, Executive Director** - Mr. Krain has been the Conservancy's executive director since 2013 and before that was conservation director for seven years. During his tenure at the Conservancy he has directly managed land conservation and restoration grants totaling more than \$14 million. Rob has a bachelor's degree in Environmental Policy and Analysis from Bowling Green State University and executive certificate in Nonprofit Management from Georgetown University.

**Mike Powel, Land Protection Specialist** - Mr. Powel directly manages the Conservancy's land protection and stewardship activities. He has a Masters degree in Public Administration and a Juris Doctorate from the University of Missouri. Mike also serves on the Sandusky State Scenic River Advisory Council.

2. **Metroparks of the Toledo Area**

**Tim Schetter, Ph.D., Director of Natural Resources** - Tim will be responsible for overseeing implementation of a subaward to Metroparks from Ohio EPA under this grant. Dr. Schetter is a certified wildlife biologist with over 16 years of professional experience in natural resources conservation. Tim holds a BS in biology, MS in wildlife and fisheries ecology, and Ph.D. in biological sciences with an emphasis in conservation biology and landscape ecology. He has been employed by Metroparks of the Toledo Area for ten years where he has overseen implementation of over \$24 million in state and federally funded grant projects.

3. **Nature Conservancy**

**Carrie Vollmer-Sanders, Western Lake Erie Basin Project Director, The Nature Conservancy** - Ms. Vollmer-Sanders is the Western Lake Erie Basin Project Director for The Nature Conservancy. She has over eight years of building support for conservation practices with landowners and conservation partners and coordinating outreach, education and implementation of conservation practices with landowners and the agricultural and conservation communities.

**Amy Brennan, Lake Erie Conservation Coordinator** - Ms. Brennan coordinates TNC activities in the Lake Erie basin. Previously she was executive director of the Chagrin River Watershed Partners for six years and was responsible for strategic planning, fundraising and providing high quality

services to member communities. Amy has managed multiple section 391(h) subgrants and other nonpoint source and stream restoration projects.

#### **4. Pheasants Forever**

**Charlie Payne, Regional Biologist, Pheasants Forever and Quail Forever** - Mr. Payne has spent the last 4 years working with Ohio's 30 local PF/QF chapters to raise funds for conservation programs, outreach and education across the state. He also works in partnership with state, federal and local agencies in delivering conservation programs to private landowners. Charlie received his BS degree in Natural Resources Conservation from Virginia Tech.

#### **5. Ohio State University Department of Food, Agricultural and Biological Engineer**

**Dr. Andy Ward** - Dr. Ward is a nationally recognized expert on 2-stage channels. He has a B.S. degree in Civil Engineering from Imperial College in London, England, M.S. Agricultural Engineering and a PhD in Agricultural Engineering from the University of Kentucky. He has been an Associate Professor from 1986-93 in the Agricultural Engineering Department of Ohio State University and serves as a Professor in the Department of Food, Agricultural and Biological Engineering.

#### **6. Toledo Metropolitan Area Council of Governments (TMACOG)**

**Matt Horvat, Maumee River Coordinator** – Mr. Horvat has been with the Toledo Metropolitan Area Council of Governments (TMACOG) since 1992. He has worked with a team of 20 stakeholders to develop a two-volume Watershed Action Plan for the Maumee River Area of Concern and also led a team of representatives of 23 jurisdictions in the Swan Creek watershed in the development of a pilot program that identifies and maps priority conservation, priority development, and priority agricultural areas. Matt has served as onsite project manager for three river restoration projects, all involving dam mitigation. Before his work with TMACOG, he worked as a Conservation Specialist for the Ohio Geological Survey addressing Lake Erie coastal erosion and processes, and for the Lucas Soil and Water Conservation District. Mr. Horvat has a Bachelor of Science in Conservation from Kent State University.

#### **Detailed Budget Summary**

This is a project heavy proposal with more than 94% the federal GLRI funding requested in this proposal being sub granted by Ohio EPA directly to local project implementers who are conducting on-the-ground activities. Expenditures incurred under this grant will be reviewed by Ohio EPA fiscal and grant staff prior to being reimbursed to sub-grantees and/or Ohio EPA. Ohio EPA hopes to use this demonstration as a means of implementing more effective nutrient reduction activities throughout the state of Ohio, including the Lake Erie tributaries. Ohio EPA monitoring costs will be borne by the agency at no cost to the project. Subgrant costs have been scrutinized to minimize overhead and other administrative costs while still maintaining sufficient amounts to insure successful implementation.

For additional budget detail and information, please refer to the following tables as well as the attached 424A and Object Class Budget Detail, and projects. We anticipate supporting at least nine local subgrants with the federal funds that are requested. All federal funding will be used only for costs that are allowable, allocable and reasonable as defined in federal grant guidelines. Approval of this request will allow for enhanced sediment and nutrient reduction measures and habitat restoration projects to be implemented within the Maumee River basin.

For additional budget detail, please see the project budget included below and materials such as Budget Object Class Categories descriptions that are included with our SF424 and the grant application package.



**Table 1.3 – Requested Project Budget**

<b>Object Class Categories</b>	<b>Federal</b>
<b>Personnel (1.89 FTE)</b>	\$140,273
<b>Fringe Benefits</b>	\$52,304
Travel	\$0
Equipment	\$0
Supplies	\$0
Contractual	\$0
Construction	\$0
<b>Other - Subgrants</b>	
Ohio EPA Other	\$8,803
Putnam County SWCD	\$285,400
Antioch University	\$25,000
Nature Conservancy (with OSU)	\$125,000
Nature Conservancy-Oak Openings	\$120,000
Nature Conservancy-Cessna Creek	\$610,000
Ohio State University	\$637,282
Black Swamp Conservancy	\$607,500
Pheasants Forever	\$325,000
TMACOG	\$250,000
Metroparks of Toledo	\$458,000
<b>Cost Share</b>	\$0
Indirect Charges	\$47,620
<b>TOTALS</b>	<b>\$3,693,182</b>

Ohio Environmental Protection Agency  
 FFY14 GLRI Grant Application (SEDM14)  
 Maumee Sediment & Nutrient Reduction Project  
 Object Class Category Budget Detail

Personnel/Fringe - \$193,577

Costs budgeted in this category are for approximately 1.9 FTEs to meet the objectives of the attached grant workplan and include fringe benefits, such as hospitalization, pensions, and paid leave, in addition to regular salary.

<b>Ohio EPA GLRI Application Maumee Sediment &amp; Nutrient Reduction Project</b>			
<b>DSW ROSTER</b>		<b>WY CHARGED TO GRANT</b>	<b>COSTS FOR GRANT</b>
	<b>COSTS</b>		
<b>PERSONNEL</b>			
<b>Environmental Specialists</b>			
Salary	69,644		41,090
Fringe (38%)	26,465	0.59	15,614
<b>Total</b>	<b>96,109</b>		<b>56,704</b>
<b>Grants Administration</b>			
Salary	76,295		99,184
Fringe (38%)	28,992	1.30	37,690
	105,287		136,873
<b>TOTALS</b>			
Salary			140,273
Fringe			53,304
<b>TOTAL</b>		<b>1.89</b>	<b>193,577</b>

Travel - \$ 0

Equipment - \$ 0

Supplies - \$ 0

Contractual - \$ 0

Costs budgeted in this category are to contract with the Ohio Department of Natural Resources for subgrantee financial audits.

Other - \$ 3,451,985

Of the costs budgeted in Other, \$3,443,182 will be passed through to local universities, governments, and environmental groups as detailed previously in this narrative in accordance with signed subgrant contracts.

At U.S. EPA's discretion, Ohio EPA may use the remainder of these costs in the following miscellaneous categories:

**Motor Vehicles:**

Most motor vehicle expenses are charges from the Ohio EPA's motor pool. Currently, the charges are based on actual mileage driven at \$.26 per mile, plus \$21.00 per day.

**Communications and Shipping:**

Costs involved in mailing, communication rentals, freight, shipping charges, post office box rental and moving expenses except for personal mileage.

**Fuel & Utilities:**

Payments for utility services excluding telephone and telegraph, it includes payments for fuel used to produce heat and light.

**Maintenance & Repairs:**

Payments for repairs or modifications (service and replacement parts) of equipment and other facilities, equipment maintenance contracts, pieces furnished as a part of the repair or service contract, and inspection fees. Payments for such services as hazardous waste disposal, refuse collection, and extermination (pest control) may be included here.

**Rentals:**

Payments for equipment, land, space, and buildings, such as electronic data processing machines, storage and related services, office rentals, office equipment and furniture.

**Printing, Binding, Advertising:**

Cost of printed forms prepared for the specific use of Ohio Environmental Protection Agency, special binding, advertising including legal advertising, duplicating supplies and services.

**General & Other Expenses:**

Intrastate agency services, purchasing service maintenance, computer usage, computer services acquisition fees, Equal Opportunity Center service charges, collective bargaining (recovery costs), hosting meetings, membership dues, licenses, permits, titles, notary public certifications, petty cash replenishment (under \$25) and other general minor expenses.

All estimated costs are based on historical costs and meet the requirement of OMB Circular No. A-87. Most purchases require approval or guidance from various internal offices before purchases are made.

**Indirect - \$ 47,620**

The indirect cost rate for SFY14 is 24.60% of payroll charges for the period July 1, 2014 through June 30, 2015.

**Quarterly Projection**

Although a quarterly projection of expenditures would be inherently inaccurate for weather-dependent grants such as these, an annual approximation is provided in the attached SF424A.

Otherwise, our best approximations are below based upon Ohio EPA's previous experience working with nonpoint source project grants and subgrants:

Quarters 2-12 – We project steady disbursements at approximately \$250,000 per quarter.

Quarters 13-20 – We project disbursements to slow to approximately \$110,000-\$125,000 per quarter.

Ohio EPA's subgrant administrative and management processes are well defined and designed to insure that grant funds are expended timely and appropriately. We monitor subgrant progress closely and intervene when we observe progress stalled or inadequate. When appropriate we work with the subgrantees to get progress back on track however, we also terminate subgrants when progress insufficient and/or not likely.

### **Education/Outreach**

Sub-grantees receiving funding under the proposed Maumee Watershed Sediment and Nutrient Reduction Initiative project are required to include locally conducted project-specific education and outreach. Activities will vary depending on the subgrantee but will include issuing local press releases, project specific webpages, media events and tours for the public, installation of project signs, brochures and/or fact sheets, public site visits, tours and other activities designed to improve the public's awareness of the importance of water quality in the Maumee River watershed and Lake Erie basin.

There also will be a very strong education and outreach component in conjunction with the drainage water management and agricultural sediment reduction activities being implemented by the Putnam County SWCD and Ohio State University personnel. Producer workshops, training and information meetings will be scheduled to update agricultural landowners on the results of the Ohio State team's monitoring and assessment work. A tool will be established that will enable decision makers to be more informed when having to make decisions about ditch maintenance, emerging practices and sustainable steps to improving water quality by reducing sediment and nutrient runoff from croplands. A comprehensive and localized BMP Handbook will be prepared and distributed—updates will be made as additional information is obtained. There will also be a strong technology transfer component to the education and outreach activities—taking these innovative practices from demonstration to direct and broad implementation.

In addition, statewide outreach efforts will be robust and including working closely with Ohio EPA's Public Involvement Center to prepare and release project specific press releases at the time of funding. Ohio EPA will also recognize the GLRI program as the funding source for this project, expanding public awareness and knowledge about the program. We also will develop a public information strategy that demonstrates how the individual projects funded under the Maumee River Sediment and Nutrient Reduction Initiative are an important part of a much broader network of ongoing Lake Erie restoration projects. Project information will be posted on the Ohio EPA Nonpoint Source Program and Lake Erie Program web pages. Ohio EPA will also organize and implement project media events, including a tour of the projects included in this proposal, and the preparation of a full color annual program report consistent with U.S. EPA program and accountability requirements.