

Great Lakes Sediment & Nutrient Reduction Program



2012 Annual Report

- :: [2012: The Year In Review](#)
- :: [Basin Program Projects and Maps](#)
- :: [Featured Project: Shiawassee Conservation District \(MI\)](#)
- :: [Featured Project: Featured Project: Elkhart River Watershed Sediment Reduction Program \(IN\)](#)
- :: [Featured Project: Reducing Sediment in the Paw Paw River Watershed \(MI\)](#)
- :: [Featured Project: Buffalo River Watershed Erosion & Sediment Control Project \(NY\)](#)
- :: [Featured Project: Stopping Sediment at its Source in the Rocky River Watershed \(OH\)](#)
- :: [Around the Basin](#)

2012 Annual Report

Inside the 2012 Annual Report:

- [Year in Review](#)
- [Projects and Maps](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(IN\)](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(NY\)](#)
- [Featured Project \(OH\)](#)
- [Around the Basin](#)

Related info:

- [Links](#)
- [Funded Projects](#)

2012: The Year in Review



Gary Overmier
Project Manager
Great Lakes
Commission

The 2012 Great Lakes Basin Program for Soil Erosion and Sediment Control (Program) continued the 2010-11 funding of watershed scale projects (up to \$300,000 per project) using funds provided by USDA's Natural Resources Conservation Service's Great Lakes Restoration Initiative dollars. However, this year, the Program reintroduced the funding of small scale projects (up to \$30,000 per project) providing an opportunity to refill a niche that had been available since the beginning of the Program in 1991 but that had been discontinued in 2011.

Projects were funded to reduce sediment in priority watersheds in the Great Lakes basin. A priority watershed is a watershed with a large sediment load, an extensive agricultural landuse and/or extensive streambank erosion and often has high clay content soils.

In 2012, eight watershed scale projects and five small scale grants totaling \$2,069,483 were authorized for funding. Another benefit of the Program, in addition to reducing sediment, is the projects allow organizations to install projects in areas beyond their normal scope of work.

Projects selected in 2012 are:

Making Conservation Work Saint Joseph River (IN)	small scale	\$22,863
MI/OH Erosion & Sediment Reduction for the Tiffin River/WLEB (MI)	watershed	\$299,976
Upper River Raisin Riparian Protection Program (MI)	watershed	\$103,954
A Novel Hybrid BMP Auction Program, Shiawassee River (MI)	watershed	\$270,000

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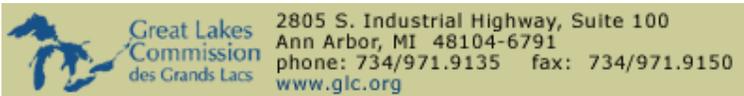
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Knife River Watershed Sediment Reduction Project (MN)	watershed	\$293,000
Buffalo Creek Erosion & Sediment Control Project (NY)	small scale	\$30,000
Critical Area Stabilization in Lake Ontario Watershed (NY)	watershed	\$207,790
Eighteenmile Creek Streambank Stabilization (NY)	watershed	\$198,904
Auglaize River Riparian Restoration (OH)	small scale	\$30,000
Lower Chagrin River Sediment Reduction BMP Program (OH)	watershed	\$270,000
Sediment and Phosphorus Reduction in the Riley Creek Watershed (OH)	watershed	\$284,750
Streambank Stabilization of Griswold Creek (OH)	small scale	\$30,000
Tiffin River Waterways (OH)	small scale	\$28,246

[>> Next article](#)



Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

- [Year in Review](#)
- [Projects and Maps](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(IN\)](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(NY\)](#)
- [Featured Project \(OH\)](#)
- [Around the Basin](#)

Related info:

- [Links](#)
- [Funded Projects](#)

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2012 Annual Report: Projects and Maps

[Western Great Lakes](#) | [Central Great Lakes](#) | [Eastern Great Lakes](#)



Distribution of projects active during FY2010-2012

Western Great Lakes: Minnesota, Wisconsin, Illinois

Click on a number on the map to view specifics for the corresponding project. The year listed indicates the initial Fiscal Year that the project began.

1. Poplar River Watershed Erosion and Sediment Reduction Projects

Closeup map of Western Region

\$687,034

Est. Soil Savings: 3,500

Cook County Soil & Water Conservation District, MN (2010 GLRI)

[Project Summary](#)

The upper portions of the Poplar River watershed are considered to be in good condition. Near Lake Superior the river transitions quickly to a steep gradient channel confined by narrow valley walls. The river channel and valley walls at this transition area are defined by bedrock, lacustrine beach and glacial deposits of clay and till. The boundary that separates the upper and lower watershed areas is a foot bridge at the top of a 150 foot waterfall. From this waterfall to the confluence with



Great Lakes Restoration Initiative (GLRI) project

Lake Superior the river is listed as impaired for turbidity, primarily caused by excess sediment. This lower watershed area of the Poplar River is developed with resort commercial businesses, townhome and condominium subdivisions, recreation facilities and road and trail accesses to these facilities.



Great Lakes Basin Program (GLBP) project

The SWCD will use a cost-share contract similar to contracts it has used successfully in the past with Lutsen Mountains Corporation to install best management practices. The cost-share contract provides for SWCD board and engineer oversight of projects on an ongoing basis.

2. Knife River Watershed Sediment Reduction Project

\$293,000

Est. Soil Savings: 18,750

Lake County Soil & Water Conservation District, MN

(2012 GLRI)

[Project Summary](#)

The Knife River is within the Lake Superior watershed and is considered the highest priority watershed for turbidity reduction along Minnesota's Lake Superior Shore. Lake Superior is designated as an Outstanding Resource Value (ORV) which requires that no additional discharges are allowed to flow into Lake Superior. Bank stabilization projects on the Knife River are needed to meet ORV limits during high-flow storm events.

This project will fund construction of a series of high priority bank stabilization projects that will be identified during a formal review process. One of the project sites is already shovel-ready and will use natural channel design and will save approximately 253 tons of sediment per year. A minimum of two additional projects will also be constructed using this funding, for a project goal of a reduction of 750 tons of sediment per year. Types of BMPs that are proposed for installation include: Stream Bank Stabilization, Tree Planting, Critical Area Stabilization, Cross-Vanes, Ditch Checks, Grade Stabilization Structures, and other Storm Water and Stream Restoration BMPs. Projects will be prioritized based on sediment loading, access, landowner cooperation and financial participation, project cost, and timing.

3. Knowlton Creek WS Erosion Control Project, Phase III Spirit Mtn.

\$400,000

Est. Soil Savings: 25,000

Spirit Mountain Recreation Area, MN

(2011 GLRI)

[Project Summary](#)

The Knowlton Creek Watershed Restoration Project has been undertaken to restore historical fish spawning and nursery areas by dredging sediments deposited at the mouth of Knowlton Creek. Phase III of the Project is a system to collect the accelerated runoff from the Spirit Mountain Recreation Area and divert it past the lower reach of Knowlton Creek to the St Louis River. This system will collect a portion of the runoff, (with a system of check dams, swales and pipes), and route it into the existing detention pond. The

pond will be modified so sediments and floatable materials will be trapped. Then up to 35cfs will be diverted directly to the edge of the shipping channel in the St Louis River.

The proposed project area is the 2.5 sq. mile Knowlton Creek Watershed that drains into the St. Louis River about 11 river miles from its mouth at Minnesota Point on Lake Superior. Approximately 200 acres within the watershed was converted from forest to grass and impervious surface as a result of the development of Spirit Mountain in 1972. Knowlton Creek takes water eastward from the Spirit Mountain Recreation Area ski hill to the St. Louis River. The change in land coverage from woodland forest to grasses (development of ski runs) increases the amount and speed of surface water on the landscape in any runoff event.

Funding of the proposed project will mitigate impairments associated with flow, erosion and sedimentation within an entire 2.5 sq. mile watershed. Successful completion of the project will allow for the restoration of the stream corridor, which will reduce the volume of sediment being transported from the watershed to the AOC. Resource professionals are considering the completion of this watershed scale mitigation/restoration project as an important tool to be applied to other impaired sub-watersheds surrounding the AOC and along the North Shore of Lake Superior.

4. The Missing Link: Residential Erosion & Sediment Control Education

\$3,900

City of Duluth - Utility Operations, Duluth, MN

(2010 GLBP)

[Project Summary](#)

Numerous small (less than 1 acre) and potentially problematic construction sites are being built upon in northeastern Minnesota and Northwest Wisconsin as urban development expands into rural areas. Although they may be small, these sites are potential sources of large amounts of sediment. To address the gap in erosion and sediment control education, the Regional Stormwater Protection Team (RSPT) is proposing a three-pronged approach to reach residential builders and homeowners tackling larger earth moving projects. Specifically, the RSPT will: host Minnesota Erosion Control Association's (MECA) "Erosion and Sediment Control Basics for Small Sites" workshop, deliver three hands-on "How-to-install" seminars for homeowners, and provide 'Point-of-permit' sediment control informational materials.

5. Oneida Nation Addressing AOC & TMDL Targets

\$368,500

Est. Soil Savings: 3,780

Oneida Nation of Wisconsin Environmental Health & Safety, WI

(2011 GLRI)

[Project Summary](#)

The Fox River is the second largest contributor of suspended sediment to Lake Michigan (17%) and largest contributor of phosphorus (21%) (USGS Water Resources). Studies by UWGB indicate that the main source of suspended solids loading (63%) and phosphorus (44%) are from Agriculture

sources. Approximately half of the sediment and phosphorus loading to Lower Green Bay comes from Watersheds in the Lower Fox Basin, even though they are only 10% of the Fox/Wolf Watershed. In the Lower Fox Basin the Oneida Tribe is the largest holder of land and the largest agricultural operator with over 16,000 acres of operating agricultural land. In addition, 500 – 1000 acres of new rural land is purchased annually.

As a single Tribal land owner and the major agricultural operator in the region, the Oneida Tribe has the opportunity and has attempted to be a model of comprehensive non-point reduction strategies and Watershed restoration; with programs and staff focused on non-point and restoration projects annually. The Oneida Nation of Wisconsin has an ongoing Non-Point Pollution Abatement Program that has been implementing projects since 1997.

The Oneida Non-point Program will be installing 22 miles (approximately 90 acres) of permanent riparian buffers that are a minimum 35 ft from the waterway bank and install 2 miles of permanent riparian buffer and trees that are from 35-115 ft from the bank of the waterway (approximately 18 acres) within the reservation boundaries. The program prioritizes fields with phosphorous levels above 30ppm or highly erodible soils on steep slopes.

6. Big Spring Creek Stream Erosion & Sediment Control

\$30,000

Adams County Land & Water Conservation Dept., Friendship, WI
(2010 GLBP)

[Project Summary](#)

The problem in Big Spring Creek is the streambanks are eroding due to steep slopes and lack of perennial vegetation thus delivering sediment downstream destroying native brook trout habitat. A 30 feet wide floodplain on both sides of the stream will be developed. Also rock, logs and lunger structures on sites prone to erosion during high and normal flows will be installed for the purpose of protecting the streambanks from significant erosion and to create habitat for brook trout. Stream banks and flood plain will be planted with native vegetation to prevent surface soil erosion and create wildlife habitat.

7. Kellogg Creek Erosion and Sediment Control

\$30,000

Illinois Department of Natural Resources, Spring Grove, IL
(2010 GLBP)

[Project Summary](#)

Installation of approximately 300 feet of longitudinal stone toe protection on the outside bends of the stream channel to reduce future streambank erosion. The installed stone toe practice will be inter-planted with native wetland vegetation to provide water quality and habitat benefits. Excavation and grading of the inside bends of the stream channel to provide a more naturalized channel cross-section, reducing erosion pressure on the outside streambanks. The finished floodplain terrace will be revegetated with native wetland vegetation for habitat and water quality benefits and to reduce soil erosion and runoff. Approximately 0.5 acre of enhanced wetland habitat will

be created where currently soils are exposed to erosional forces.

[\[Back to the top\]](#)

Central Great Lakes: Indiana, Michigan, Ohio

Click on a number on the map to view specifics for the corresponding project:

8. Targeted Efforts for Reducing Sedimentation in the Pinnebog River Watershed using BMP Auctions

\$745,373

Est. Soil Savings:
20,000

Michigan

Department of
Agriculture, MI
(2010 GLRI)

[Project Summary](#)

This project will focus efforts on riparian properties with potential erosion concerns as identified by High Impact Targeting

Closeup map of Central Region

(HIT) tool, and riparian properties with sedimentation resource concerns as identified in conservation plans.

This project will fund a 0.5 Full Time Equivalent (FTE) position at the Huron Conservation District (HCD) to work with landowners on implementing agricultural Best Management Practices (BMPs) to address soil erosion and the subsequent sedimentation concerns. The project will use a new BMP Auction concept to direct resources toward the highest impact investments. The goal is to advance the BMP Auction method based on lessons learned from previous experience (piloted in an east-central Kansas watershed). It is worth noting that this technique was designed and tested successfully by one of our project principal investigators (A. P. Nejadhashemi) and published in an article called "Using a BMP Auction as a Tool for the Implementation of Conservation Practices" (Journal of Extension Volume 47[4], 2009).

9. Shiawassee River Streambank Stabilization and Inventory Project

\$22,670

Saginaw Conservation District, Saginaw, MI
(2010 GLBP)

[Project Summary](#)

Two eroding sites on the Shiawassee River will be restored utilizing soft engineering practices, such as tree revetments and other low cost vegetative practices, which are proven to be economical, effective and provide excellent habitat for aquatic life such as minnows. It is estimated that these two sites combined introduce approximately 213 tons of soil into the Shiawassee River annually.

10. A Novel Hybrid BMP Auction Program, Shiawassee River

\$270,000

Est. Soil Savings: 5,600

Shiawassee Conservation District, MI

(2012 GLRI)

[Project Summary](#)

The Mid-Shiawassee River Watershed Management Plan (WMP) (2011) documents that within the Mickles Creek, Sawyer Drain and the Osburn Drain Watersheds sediment caused by excessive erosion is a dominant pollutant, and that farmers are commonly not utilizing conservation tillage practices and buffer strips in their farming operations. Conservationists are facing the question of how water resource issues can be addressed while considering stakeholder inputs, economic feasibility, and environmental benefits.

BMP Auctions are a market-based approach for supporting BMPs to improve water quality, modeled after a traditional reverse auction format with many sellers (agricultural producers) and one buyer (i.e. environmental agency/Shiawassee Conservation District). The stages of a BMP Auction are: (1) Farmers submit bids to supply water quality improvements in the form of BMPs; (2) Bids are ranked by amount of water quality improvement per dollar; (3) The producers with the lowest price offer are contracted first; (4) The process is repeated until a water quality improvement goal is reached or funds are exhausted.

This project will focus efforts on agricultural fields with high erosion potential as identified by the High Impact Targeting (HIT) tool and the Soil and Watershed Assessment Tool. The auction managers can decide which bids to fund and which not to fund based upon the predetermined auction design.

11. Shiawassee River Watershed

\$536,000

Est. Soil Savings: 50,000

Shiawassee Conservation District, MI

(2010 GLRI)

[Project Summary](#)

This project will save approximately 85 tons of soil from erosion per year as a result of implementation of structural BMPs to address streambank erosion occurring on streams contributing to the Shiawassee River Watershed. It will specifically address sediment loss from cropland runoff sources through an incentive program that encourages the use of synthetic gypsum as a soil amendment to clay soils on cropland. The application of gypsum, calcium sulfate dehydrate, to fields has a positive impacts on

cropland as soil infiltration potential is improved.

12. Partnership for Sediment Reduction from Roads

\$22,700

Van Buren County Road Commission, Lawrence, MI
(2010 GLBP)

[Project Summary](#)

Recent inventories determined severely and moderately eroding road/stream crossings deliver up to 500 and 100 tons of sediment/year respectively, resulting in a significant cumulative effect in a watershed. This project will develop a partnership to jointly implement a demonstration site displaying best practices in correcting a severely eroding road/stream crossing which will reduce erosion and sedimentation by over 100 tons per year at 30th Ave. in Covert Township.

13. Payments for Ecosystem Services in the Paw Paw River Watershed

\$350,000

Est. Soil Savings: 6,576

Southwest Michigan Planning Commission
(2011 GLRI)

[Project Summary](#)

In the Paw Paw River WMP, SWAT modeling indicated a 40% reduction in sediment loading into the St. Joseph Harbor at Lake Michigan is possible if a combination of best management practices (no-till, filter strips and cover crops) were implemented on 25% of the agricultural area in the watershed. This project will be managed by the Southwest Michigan Planning Commission with significant contributions from the Delta Institute and the Van Buren Conservation District. Partners will develop and implement the Payments for Ecosystem Services (PES) over a three-year project period.

Activities will improve near shore health by expanding green infrastructure; agricultural best management practices; enhance stewardship and conservation efforts; and increase partnerships and collaboration. The project team has identified 8 major task areas to implement the PES.

Payments under the program will be two-fold. First, a one-time establishment fee on a per acre basis to help offset the initial cost of implementing the BMP, based on the 2011 EQIP payments. Second, an annual performance payment, on a per pound basis, to implement BMP's with the highest sediment reduction potential. The payments will be based on the quantification of sediment reduction using the sediment calculator tool created by the MSU Institute for Water Research and will be weighted based on projects located in highest priority areas, as indicated in a HIT analysis.

14. Upper River Raisin Riparian Protection Program

\$103,954

Est. Soil Savings: 26,118

Legacy Land Conservancy, MI
(2012 GLRI)

[Project Summary](#)

Agriculture is a significant land use in the project area, covering 73% of the Upper River Raisin watershed. The project area represents the highest water quality in the Watershed. Mussel abundance, richness and diversity are the greatest in the Upper River Raisin, while downstream areas are significantly more degraded. The combination of relatively high water quality and abundant agriculture creates a significant opportunity to demonstrate how semi-permanent and permanent best management practices can be used together to significantly reduce sedimentation and erosion problems.

This project will permanently reduce sediment loads in the River Raisin Watershed by layering agricultural sediment reduction best management practices with conservation easements. This project assumes that conservation and protection take place at several levels, from individuals seeking information about best management practices, to large scale landowners looking to undertake long term stewardship and protection efforts. Landowners will be provided with opportunities to learn about the role their private land management plays in protecting the watershed. Education materials will explain the fiscal and environmental benefits of undertaking best management practices, including conservation easements. A subset of the landowners who participate in one-on-one education conversations will be encouraged to undertake permanent conservation easements and will be assisted by Legacy Land Conservancy in these efforts.

15. Targeted Efforts for Reducing Sedimentation in the River Raisin Watershed using BMP Auctions

\$438,033

Est. Soil Savings: 9,000

Michigan Department of Agriculture
(2010 GLRI)

[Project Summary](#)

This project will focus efforts on riparian properties with potential erosion concerns as identified by High Impact Targeting (HIT) tool, and riparian properties with sedimentation resource concerns as identified in conservation plans. It will fund a 0.5 Full Time Equivalent (FTE) position at the Lenawee Conservation District (LCD) to work with landowners on implementing agricultural Best Management Practices (BMPs) to address soil erosion and the subsequent sedimentation concerns. The project will use a new BMP Auction concept to direct resources toward the highest impact investments.

Auction bids are ranked by the amount of water quality improvements generated per dollar granted. In the next step, the sediment load reduction for each farm is divided by the amount of the requested funds. This calculation will be repeated for every submitted conservation plan. Those producers whose plans provide the most water quality improvement for the least cost will receive grant funding (lowest cost/ton of sediment reduced).

16. MI/OH Erosion & Sediment Reduction for the Tiffin River/WLEB

\$299,976

Est. Soil Savings: 269,000

Hillsdale Conservation District, MI
(2012 GLRI)

Project Summary

The Tiffin River is one of the more erosive watersheds in the Lake Erie drainage basin as reported by the NRCS Rapid Resource Assessment Plans. 85% of the land base within the Tiffin watershed is in agricultural production. This river system receives major sediment loading as a result of erosion from agricultural cropland and carries nutrients (P & N) which are major contributors to plant growth and algal blooms in the Lake Erie system.

The project work areas are in headwater streams for the river and will focus on four practices for these watersheds: conservation cover crops with reduced tillage or no-till systems; grassed riparian buffers; water and sediment control basins; and redlined grassed water-ways. An advisory committee will review local funding request under this project and establish criteria or a ranking system to target the BMP implementation, based upon: total soil erosion savings, distance to riparian area, targeted zones that are HEL classified, and lack of local farm bill funds (i.e. EQIP) to be eligible for participating in the program.

17. Little Elkhart River Sediment Reduction

\$190,000

Est. Soil Savings: 8,140

LaGrange County SWCD, IN

(2010 GLRI)

Project Summary

The land use inventory clearly demonstrated that livestock induced damage to stream banks and unrestricted access to the stream bed as the major cause of sedimentation to the drainage. In addition sheet erosion near bare (not surfaced) barnyards is the second major condition causing sedimentation. Project BMP installations in priority areas will focus on agricultural based properties directly adjacent to moving surface waters of the Little Elkhart River system. All sites will involve livestock induced stream bank damage due to direct unrestricted access that has been identified in the watershed management plan.

18. Elkhart River Watershed Sediment Reduction Program

\$397,900

Est. Soil Savings: 138,250

Elkhart River Restoration Association, Inc., IN

(2011 GLRI)

Project Summary

Approximately 74% of the Turkey Creek watershed acreage is used for agriculture. County NRCS, SWCD and agricultural producers are participating in some form of soil conservation measures including reduced tillage (rotational no-till and mulch till), grassed waterways, and filter strips. However, some producers have not implemented full conservation tillage measures (no till and cover crops) resulting in periods of significant erosion. This project will concentrate efforts on those agricultural fields adjacent to waterways.

Project managers have identified work areas, and secured landowner

cooperation and regulatory approvals to install 18 grade stabilization structures, bank stabilization on 1,200 feet of stream channel, 1,300 feet of two-stage channel, 20 acres of tree and ground cover planting at 400 trees per acre, 4 gully stabilization structures using rock chutes, and livestock exclusion fencing along one mile of stream and lake shore. Best Management Practices (BMPs) to be installed within the project area include: stream bank stabilization (bank barbs, bank deflectors, root wad revetments, rock toe protection), two-stage ditch construction, filter strips and buffer strips, rock chutes for gully stabilization, fencing (for livestock exclusion and grazing rotation), wetland construction/restoration and conservation tillage (promoting no-till and cover crops).

Additional projects will be identified with priorities given to landowners who provide cash match or in-kind services to install the practice. Local watershed groups will continue to identify and encourage landowners in the targeted watersheds through mailings, personal contact, and referrals from other participants to participate in this program.

19. Making Conservation Work Saint Joseph River

\$22,863

Est. Soil Savings: 7,500

DeKalb County Soil and Water Conservation District
(2012 GLRI)

[Project Summary](#)

The project area is located in the Saint Joseph River in the Maumee Watershed, which is the largest contributor of sediment into the Port of Toledo and western Lake Erie. Nearly all of DeKalb County lies within the Saint Joseph River watershed and contributes runoff from an estimated 135,150 cropland acres into the Western Lake Erie Basin.

The DeKalb SWCD and their partners have intensely promoted the use of cover crops over the past five years. A lack of proper planting equipment has been a significant road block to the adoption of cover crops into crop production systems. This project will make a no-drill available to producers in all of DeKalb County and those along the edges of boarding counties as well. Priority areas for this project for the next three years are the two watersheds: the Upper Cedar Creek Watershed and the Fish Creek Watershed.

20. Promoting Sediment Reduction in the Upper Maumee Watershed

\$353,400

Est. Soil Savings: 15,890

Allen County SWCD/Upper Maumee River Watershed, IN
(2011 GLRI)

[Project Summary](#)

The Maumee River is still not meeting water quality standards for sediment and phosphorus loading, and algal blooms in Lake Erie are returning to levels that have not been documented in 30 years. The Western Lake Erie Basin (WLEB) watershed is the most heavily agricultural Great Lakes Watershed, with 71% of land under agricultural production. The Maumee River discharges more tons of suspended sediment per year than any other

tributary to the Great Lakes.

The focus of this project is a proposed BMP cost-share option. Practices such as no-till, strip-till, the use of cover-crops and effect measures to reduce streambank destabilization will be of high priority. One of the goals of the proposed project is to take critical areas that are in production and retire them from ag production.

The project will take into account the vast assortment of State and Federal cost-share programs aimed at improving water quality and reducing non-point source pollution in the Basin. In many cases, a landowner or producer would be better served to use an existing program, e.g. CRP and EQIP, and will be encouraged do so. The project aims to target BMP's on land not meeting the requirements for other cost-share programs or, for individuals not interested in entering into long term contracts required with Federal conservation programs such as the Amish community.

21. A Unique Approach to Sediment Reduction in the Blue Creek and St. Marys River Watersheds

\$448,115

Est. Soil Savings: 51,786

Adams County SWCD, IN

(2010 GLRI)

[Project Summary](#)

Sediment related water-quality degradation resulting from nonpoint source pollution has been and continues to be pronounced in the St. Marys River Watershed. The Western Lake Erie Basin (WLEB) watershed is also the most heavily agricultural Great Lakes Watershed. Producers in the watershed, specifically the Blue Creek subwatershed, have been reluctant to adopt conservation tillage farming practices due to historical and cultural tendencies. The St. Marys River Watershed is also home to a large Amish population where conventional farming and livestock production is common.

The proposed project will take into account the vast assortment of State and Federal cost share programs aimed at improving water quality and reducing non-point source pollution in the Western Lake Erie Basin. In many cases, a landowner or producer would be better served to use an existing program, e.g. CRP and EQIP, and the St. Marys staff will encourage them to do so. However, the proposed project aims to target BMP's on land not meeting the requirements (e.g. a cropping history) for other cost-share programs or for individuals not interested in entering into long term contracts required with Federal conservation programs. A good example of this is the Amish community.

22. Tiffin River Waterways

\$28,246

Est. Soil Savings: 8,140

Fulton SWCD, OH

(2012 GLRI)

[Project Summary](#)

For over 20 years tons of soils have been filling into the Tiffin River due to 5200 ft. of older, failing grassed waterways. Large gullies are forming down the center and along the side of these areas due to runoff, loading the Tiffin River and its tributaries with phosphorus laden sediment. This project's watershed consists of 80% cropland, and highly erodible slopes (4-8%) have caused high sediment loading due to clay particles suspended in runoff.

The Fulton Soil and Water Conservation District (Fulton SWCD) and Natural Resource Conservation Service (NRCS) will select four existing grassed waterways in the Tiffin River Watershed and re-construct them. These grassed waterways will be graded and shaped to form a smooth trapezoidal-shaped channel. This area will be seeded to a sod forming grass including Ryegrass, Bluegrass, and Red Fescue.

This project will install features including rock checks and filter fabric checks for the grassed waterways. The rock checks will consist of an erosion resistant lining of crushed limestone. These will be located at grade changes and steep slopes. Other features will involve the use of sod at the top, middle, and bottom end of the grassed waterway and straw erosion control re-vegetation blankets.

23. Auglaize River Riparian Restoration

\$30,000

Est. soil Savings: 12,996

City of Defiance, OH

(2012 GLRI)

[Project Summary](#)

The Maumee River Basin is a major contributor to the sediment loadings into Lake Erie. While the primary land use and most likely source of sediment in the Eagle Creek - Auglaize River Watershed is from agricultural land use practice, the urban landscape near the confluence of the Maumee and Auglaize Rivers is also experiencing severe erosion.

This is a site specific project that will focus on soil loss reduction on the west bank of the Auglaize River near the confluence with the Maumee River. The length of the riverbank is 713' long with a slope between approximately 20' – 40'. Field conditions presently include bare ground, active undercutting and loss of large trees as well as significant root exposure on existing small trees on the face of the bank.

This project is unique because it will be done with bioengineering techniques complemented with planting of containerized trees that will be at least 1" diameter at breast height, on 3' centers throughout the entire face of the bank. This will mitigate severe soil losses that are currently taking place, and demonstrate best management practices for public and private landowners. Adjacent downstream parcels have been stabilized with a concrete retaining wall which does reduce soil losses but does not provide the benefits of a vegetated riparian buffer, which is relatively inexpensive and fairly low-tech to install. The project will serve as an example for public and private landowners to follow on other stream and river bank areas throughout the watershed.

24. Controlling Soil Erosion in the Auglaize River Watershed, Paulding County

\$29,815

Ohio State University Extension, Paulding, OH

(2010 GLBP)

[Project Summary](#)

Cover crops of oilseed radish (OR) and small grains like oats or wheat (SG) will be planted on 200 acres of farmland. Each farmer will plant 40 acres of OR, SG, and OR/SG with a demonstration plot 3 to 5 acres in size. Educational field days will be conducted at the sites.

25. Sediment and Phosphorus Reduction in the Riley Creek Watershed

\$284,750

Est. Soil Savings: 31,202

Blanchard River Watershed Partnership, OH

(2012 GLRI)

[Project Summary](#)

The 2010 Ohio Water Quality Integrated Report states that the Upper Riley Creek and Lower Riley Creek watersheds were impaired by sedimentation/siltation and total phosphorus. The cause of these impairments was channelization and crop production with subsurface drainage.

This project plans to 1) Establish riparian buffers or filter areas; 2) Increase conservation tillage; 3) Increase cover crop use; and 4) Install 1 to 2 acres per year over 3 years of grass waterways. This work will involve several local partners and will follow NRCS and FSA practice code specifications for cover crops, grassed waterways, filter areas, riparian buffers and conservation tillage.

A Blanchard River Watershed Partnership (BRWP) outreach specialist, with technical assistance, will work individually with producers to identified practices which will address the particular sediment erosion problem he is experiencing. Conservation plans will be developed by the BRWP and the SWCD's. Qualifying producers will sign cost share agreements detailing their commitment to the project, the dollar amount authorized, and the procedure for installing the practice and requesting reimbursement. Partners will provide guidance and technical assistance to producers as they install the required practices. The conservation plans are meant to be a guide for producers and partners to follow, however flexibility will be allowed.

26. Making Sense out of Soil Savings

\$581,926

Est. Soil Savings: 66,000

WSOS Community Action Comm., Inc./Sandusky River WS Coalition, OH

(2010 GLRI)

[Project Summary](#)

The predominate source of sediment in this project area comes from the large percentage of cropland erosion caused by the slow infiltration rates of soils throughout the watershed as well as the highly erodible lands primarily found in the Rock Creek and Morrison Creek sub watersheds. Specific

sections of stream have a need for streambank stabilization to reduce in stream loading as well as assist with reconnecting the stream with its natural floodplain for improved stream function.

Interested applicants must obtain a Resource Management System (RMS) plan that includes cropping rotation and tillage. The plan will calculate the soil savings between current systems and an improved system. Runoff reduction calculations will also be made to assist in the education of the value of the practice to future soil saving potential and farm economics.

Applications for practices will be made to the local SWCD. The SWCD Board of Supervisors will approve applications by prioritizing monthly application by location within priority areas (Highly Erodible Lands or by soil infiltration rate) and for soil savings provided. Approved applicants will enter into contract jointly with the Local SWCD Board of Supervisors and WSOS Community Action Commission, Inc. administering agent for the Sandusky River Watershed Coalition.

Priorities for practice eligibility and focus will be given to areas determined as Highly Erodible Lands by USDA NRCs. For lands not determined to be Highly Erodible, priority will be based on infiltration rate for the primary soil type of the field where the practice is to be implemented.

27. Old Woman Creek Sediment Reduction Initiatives

\$137,552

Est. Soil Savings: 2,240

Erie Soil and Water Conservation District

(2010 GLRI)

[Project Summary](#)

Major sources of sediment in the Old Woman Creek watershed include cropland and streambank erosion. Although much of the creek has a significant amount of riparian buffer and filter strips, areas within the field experience gully erosion due to concentrated flow patterns. In addition to in-field erosion, the creek itself is also experiencing several areas of streambank erosion in the form of bank failure and slumping particularly in areas where the stream has been channelized.

The Old Woman Creek Watershed Action Plan has established an area of restoration focus along the southeastern branch headwater region and its tributaries, based on this area's potential for sediment reduction through best management practices and restoration. The work proposed in this application will be targeted in this area but participation in the program will be open to the entire watershed.

28. Stopping Sediment at its Source in the Rocky River Watershed

\$400,000

Est. Soil Savings: 16,579

Cuyahoga Soil & Water Conservation District, OH

(2011 GLRI)

[Project Summary](#)

Urban and suburban development is the most important factor impacting

water quality and aquatic habitat in the Rocky River Watershed. New developments, both large and small, have been commonplace for more than 50 years. The lower portion of the watershed, including the Baldwin Creek subwatershed, is almost entirely urban and suburban. Channel destabilization caused by storm water runoff is a major source of sediment in urban and suburban areas, such as Cleveland's southwest suburbs, including the communities in the Baldwin Creek subwatershed. Sediment contributions from construction sites have historically been issues in these areas, as well.

In the watershed's rural areas, which are mainly located in Medina and Lorain Counties, soil loss from fields in row crop production, especially during periods of the year when the soil is bare, is an issue of primary concern - especially in the highly agricultural Mallet Creek and Plum Creek subwatersheds. Stream bank erosion is also an issue in rural areas, usually in association with inadequate riparian buffers bordering fields, historical ditching or other stream modification, and small housing developments.

The streambank stabilization practices will be targeted in the Baldwin Creek subwatershed, which is characterized by medium-high density suburban residential land use that was developed largely during the 1960s and 1970s, before modern storm water control practices were required. This has led to altered hydrology and destabilization of streambanks and channels.

29. Streambank Stabilization of Griswold Creek

\$30,000

Est. Soil Savings: 1,360

Chagrin River Watershed Partners, Inc., OH
(2012 GLRI)

[Project Summary](#)

Griswold Creek, a tributary to the Chagrin River, is a severely eroding stream that drains 7.2 sq. miles. It is in non attainment of Ohio EPA water quality standards over most of the lower reaches.

Prior to the onset of this project, the CRWP and Geauga SWCD will work with Russell Township to implement a pending Lake Erie Protection Fund (LEPF) grant which will engage property owners along the project priority area, complete cross sections of stable stream sections to establish reference reaches, and detail conceptual stabilization and restoration projects. Team members will identify the highest priority stabilization/restoration projects and gauge interest and commitment of property owners, by identifying willing landowners with the most severe erosion for the cost-share opportunity for restoration.

The Chagrin River Watershed Partners, Inc. (CRWP) will enter into contracts with property owners for access and construction to stabilize 444 linear feet of streambank along Griswold Creek using bio-engineering methods. While each site may demand unique streambank stabilization techniques, it is anticipated that the use of tree revetments, vegetated riprap, regrading stable stream slopes, and planting woody vegetation along the streambanks will be done. CRWP and Geauga SWCD will inspect and photograph the stabilized streambanks throughout the construction.

30. Lower Chagrin River Sediment Reduction BMP Program

\$270,000

Est. Soil Savings: 2,978

Chagrin River Watershed Partners, Inc., OH

(2012 GLRI)

[Project Summary](#)

The East Branch of the Chagrin River and subwatersheds, identified as sediment sources to Lake Erie within the Chagrin River Watershed Action Plan (CRWAP), are targeted for streambank stabilization in this grant proposal. Sediment sources in the watershed include streambank and streambed erosion, slope failure, construction, stormwater runoff, and runoff from agricultural lands.

Restoration will be targeted for primary headwater streams and smaller tributaries with drainage areas of less than 2 square miles. Small scale restoration BMP's will provide greater linear feet of stream bank restoration, riparian corridor revegetation, and greater square footage of bare soil stabilization through the installation of heavy use pads, grassed filter strips and fencing on privately owned properties. The agricultural practices will target areas adjacent to stream, wetland or drainage resources.

Over 3,400 properties of this size that will have the opportunity to participate in this program. Lake and Geauga SWCD and CRWP staff will develop plans for each landowner and coordinate a finalized restoration plan by a design firm subcontracted by CRWP. Property owners may either hire their own contractors to install restoration designs or work with a CRWP contractor.

[\[Back to the top\]](#)**Eastern Great Lakes: Pennsylvania, New York**

Click on a number on the map to view specifics for the corresponding project:

31. Eighteenmile Creek Streambank**Stabilization**

\$198,904

Est. Soil Savings: 5,000

Erie County Soil & Water

Conservation District, NY

(2012 GLRI)

[Project Summary](#)

The Eighteenmile Creek watershed has consistently received a ranking of high priority importance by the Erie County Water Quality Committee (ECWQC). Many of the

[Closeup map of Eastern Region](#)

current streambank erosion problems in the watershed began from severe flooding and rain events from 1998 to 2009. Priority areas for this project will be identified through an erosion inventories of the Eighteenmile Creek watershed, technical assistance requests and site visits addressing

landowner concerns, county and municipal surveys and contacts that identify critical watershed problem areas.

The eight project sites will have streambank stabilization BMP's installed with designs approved and signed by the local NRCS or District engineer. Techniques utilizing rock riprap shall be used only where necessary and will potentially include toe and slope rock protection, longitudinal peaked stone toe protection, grade control weirs and stream barbs/vanes. Bioengineering techniques like live stakes, pole/whip plantings, wattles/fascines, brush layering and live siltation will also be installed at each project site in combination with any required rock.

32. Black and Oatka Creeks Sediment Reduction Project

\$536,000

Est. Soil Savings: 34,540

Wyoming County SWCD, NY

(2010 GLRI)

[Project Summary](#)

The Genesee River is the major source of sediment and phosphorus discharged into Lake Ontario at Rochester, New York. While this large area does encompass several villages and suburban areas, most areas are rural. Agriculture, particularly dairy operations, is an important economic industry to the region. The region has been an important focus of New York's Agricultural Environmental Management (AEM) process, which identifies, assesses, plans and remediates agricultural pollution concerns.

This project will use New York's existing Agricultural Environmental Management Program (AEM) and its companion funding component the Agricultural Nonpoint Source Abatement and Control Grant (AgNPS) Program to implement best management practices (BMPs) on farms in the region.

33. Buffalo Creek Erosion & Sediment Control Project

\$30,000

Est. Soil Savings: 1,020

Erie County Soil & Water Conservation District, NY

(2012 GLRI)

[Project Summary](#)

The Erie-Wyoming Joint Watershed Board has the responsibility to annually inspect and maintain the Joint Board sites. The April 2012 investigation at stream site number 9-35 documented extensive stream bank erosion with raw exposed banks and numerous mature trees falling into the creek obstructing and directing stream flow into the bank. This site is considered a priority for repair.

The project site is located on Buffalo Creek in the Town of Elma, on private property. There are existing land rights and access available. The Erie County Soil and Water Conservation District performs site surveys and reconnaissance on all project sites. Fluvial geomorphological techniques recognized by the USDA Natural Resources Conservation Service including the Rosgen stream classification system will be applied to the site to develop

a project design.

The proposed project will stabilize approximately 400 linear feet of the eroded left bank through the installation of a series of rock stream barbs in combination with biotechnical plantings (live stakes, wattles, willow whips) installed along the entire length of the project to increase bank stability between the barbs and improve the riparian corridor.

34. Buffalo River Watershed Erosion and Sediment Control Project

\$180,000

Est. Soil Savings: 640

Erie County Soil & Water Conservation District, PA

(2011 GLRI)

[Project Summary](#)

Eight specific priority site areas in the Buffalo River Watershed have been selected for this project. Each site involves the installation of BMP's specific to the local problem. These will include the installation of longitudinal peaked stone bank stabilization and bioengineering methods to repair original sites, installation of rock rip-rap bank stabilization, rock vane, curtain drain and removal of debris in the stream channel

The Erie-Wyoming Joint Watershed Board has the responsibility to annually inspect and maintain the Joint Board sites. While the majority of these streambank stabilization structures are intact and stable, the 2008 erosion inventory report reveals over 70 high priority sites totaling 3,670 linear feet of severely disturbed streambanks actively contributing sediments into Buffalo Creek and subsequently into the Buffalo River. In addition to the erosion inventories, the Erie and Wyoming County Soil and Water Conservation District and USDA Natural Resources Conservation Service staff frequently respond to requests for technical and financial assistance from riparian landowners.

After reviewing the erosion inventory, the Joint Watershed Board has prioritized 8 sites in need of critical restoration. With a yearly appropriation of approximately \$7,000, the cost associated with restoring these high priority sites currently exceeds the dollars available in the operation and maintenance funds. This funding gap potentially allows one project to be addressed every few years at best. With secured funding, a relatively small investment now will allow the Joint Watershed Board and Erie and Wyoming County Soil and Water Conservation District's to continue efforts to improve water quality and aquatic habitat within the Buffalo River watershed through the reduction of ongoing sedimentation.

35. Genesee River Troyer Erosion and Sediment Control Project

\$29,500

Potter County Conservation District, Coudersport, PA

(2010 GLBP)

[Project Summary](#)

On a sharp bend in the East Branch of the Genesee River years of debris have choked and rerouted the stream to a course which is causing severe erosion and sedimentation to the stream. A mud sill and multi log deflectors

will be installed to redirect flows. These types of structures are more cost efficient than previous designs to fix erosion sites and are approved by the Pennsylvania Fish and Boat Commission.

36. Critical Area Stabilization in Lake Ontario Watershed

\$207,790

Est. Soil Savings: 69,016

Oswego County SWCD/FLLOWPA, NY

(2012 GLRI)

[Project Summary](#)

Port Bay is on the New York State 303d list of Impaired Waters. Primary sources of impairment for river and stream in the Seneca (Oneida and Oswego) Rivers Basin include agriculture, hydrologic modification, CSOs, streambank erosion, failing septic systems, and contaminated sediment. Overall, agriculture is responsible for the greatest number of segments listed in the Priority Waterbodies List (PWL) in this basin.

Project areas have been selected based on the classifications of impaired stream segments and lakes summarized in the PWL. The Project will focus on reducing sediment loading and soil erosion in Cayuga, Onondaga and Wayne Counties by implementing comprehensive hydroseeding and streambank stabilization programs, in addition to a shoreline stabilization demonstration project. The target watershed areas include Port Bay and Wolcott Creek, in addition to high priority areas in the Seneca River Basin.

Existing Critical Area Seeding Programs (CASP) will address seeding and stabilization of drainage district ditches, road ditches, shorelines, streambanks, and other municipal projects with exposed soil. They will minimize or eliminate erosion and soil loss by grading, shaping, and revegetation of these critical areas resulting in the reduction of off-site damage to fish and wildlife habitat, recreational facilities and the overall water quality of Lake Ontario.

37. Reducing Agricultural Soil Loss in the Oneida Lake Watershed

\$30,000

Madison County SWCD, Hamilton, NY

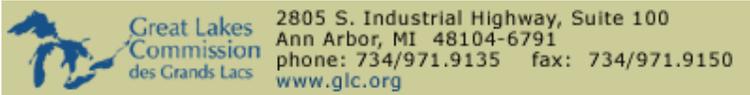
(2010 GLBP)

[Project Summary](#)

Implement a cover crops program on 500 acres of farmland in the watershed for two consecutive growing seasons. A no-till drill will be loaned to participating farms in order to plant cover crops in the fall after the row crops have been harvested. This practice will be in conjunction with a zone tillage program already in existence.

[\[Back to the top\]](#)

[<< Previous Article](#) | [Next article >>](#)



Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

- [Year in Review](#)
- [Projects and Maps](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(IN\)](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(NY\)](#)
- [Featured Project \(OH\)](#)
- [Around the Basin](#)

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- [Links](#)
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Shiawassee Conservation District Stops Tons of Sediment from Entering the Shiawassee River

Shiawassee Conservation District
State: MI
Multi-year GLBP and GLRI project
Contact Information: [Melissa Higbee](#)



Erosion and downcutting before rehabilitation

Through the efforts of the Shiawassee Conservation District, the severely eroded outlet of the State Road Drain at the Buzz Howe Bridge on Chipman Road was repaired in the fall of 2012. The State Road Drain empties directly into the Shiawassee River and the erosion has contributed significantly to the amount of sediment and sediment deposition in the Shiawassee River. Sediment is a significant pollutant that causes impairments to the aquatic habitat throughout the Shiawassee River Watershed.

The State Road Drain was established in 1889 by Shiawassee County and is a 4.3 mile agricultural ditch emptying into the Shiawassee River. The lower reach of this drain has been considered unstable with significant downcutting and erosion, which has been documented from as early as the 1960s. In 2010, the Shiawassee Conservation District received a grant from the Great Lakes Commission to address this erosion using modern techniques that are designed to lessen the erosive power of the water.

Rehabilitation of the State Road Drain was accomplished by incorporating characteristics of a stable channel, redirecting flows and stabilizing the channel bed using in-stream structures including cross vanes, vanes, riffle-pool sequences and channel relocation. Cross vanes and vanes are rock structures that are placed within the stream channel to redirect flow for the purpose of centralizing the water flow, providing grade control and stabilizing eroding stream banks.

Riffles, found throughout natural stream systems, are areas of fast moving water. Riffles are associated with pools, which are areas of slower moving water upstream and downstream of a riffle. Riffles and pools were

constructed in this project to control extremely high velocities, establish grade and reduce bed and bank erosion. The result of installing the riffles and pools within the State Road Drain is improved channel stability that significantly reduces erosion rates, improves water quality and habitat, increases dissolved oxygen levels, reduces turbidity and cools water temperature. This, in turn, provides excellent habitat for aquatic organisms.

Channel relocation was conducted along reaches of the watercourse where the channel had meandered into highly erosive banks and caused severe bank erosion. The channel relocation involved creating a new channel away from the eroding bank. The newly created channel was designed using natural channel design concepts including proper channel width and depth and access to floodplain.

Pennington Farm Drainage did the construction work on this project and installed the vanes, cross vanes, riffle-pool sequences and channel relocation in the State Road Drain.

All of the techniques installed, working together, will reduce the highly erosive energy of the water previously causing erosion of the channel bed and banks. The result is the reduction of an estimated 414.5 tons of soil loss per year, which is equivalent to a reduction of 25 dump trucks-full of sediment annually dumping in the Shiawassee River.



Erosion and downcutting in the State Road Drain were addressed using innovative techniques including cross vanes, riffles and pools, pictured here. This photo was taken in Nov., 2012.

This project is part of the larger Shiawassee River Sediment Reduction Project, which is aimed at addressing the considerable sources of erosion in the watershed through innovative techniques and partnerships. Contributors to the State Road Drain Rehabilitation Project include the Natural Resources Conservation Service, Fitchbeck Thompson Carr & Huber and landowners in the drainage area. For more information on this project or the Shiawassee River Sediment Reduction Project, please

contact the Shiawassee Conservation District.

[<< Previous Article](#) | [Next article >>](#)



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Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

[Year in Review](#)
[Projects and Maps](#)
[Featured Project \(MI\)](#)
[Featured Project \(IN\)](#)
[Featured Project \(MI\)](#)
[Featured Project \(NY\)](#)
[Featured Project \(OH\)](#)
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Featured Project: Elkhart River Watershed Sediment Reduction Program

Grantee: Elkhart River Restoration Association, Inc.

State: IN

GLRI Program Funds: \$397,900

Project Year: 2011

Contact Information: [Wayne Stanger](#)

During the first year of the Elkhart River Watershed Sediment Reduction Program specific projects which were identified in the project application and work plan were targeted. Best Management Practices (BMP) were installed on three project sites resulting in soil savings of 20,256 tons over the life span of the practices. BMP's installed include: (1) 21 Grade Stabilization Structures, (2) 750 L.F. of Exclusion Fencing, and (3) 3230 L.F. of Stream Bank Stabilization consisting of Two-Stage Ditch, and Structural and Bio-Engineered bank protection.



Before and after project photos

As a result of partnerships and cooperation developed with several agencies, organizations and groups non-federal matching funds were received. The additional funds received resulted in an average of only 49% cost share expended from the Great Lakes Commission (GLC) funds for the installation of BMP's. These additional contributions will allow the installation of more BMP's and greater soil savings for the project.

Project 1 – 250 L.F. of open ditch was being pastured. The ditch banks were eroding due to cattle traffic utilizing the ditch as a watering area. The ditch banks were reconstructed and permanently seeded. 580 L.F. of fencing was installed to exclude the cattle. The fencing was placed 10 to 15 ft. from the top edge of the bank and seeded as a filter to reduce the potential of nutrients entering the ditch from adjacent pasture. An alternative watering system was provided for the cattle.

Project 2 – A large ravine draining 20 plus acres was actively eroding. The channel bottom was eroding in depth and as a result the banks were

continually sloughing. The banks were 10 to 18 ft. high and less than a 1:1 slope. The head cut of the ravine/gully was increasing in length by approximately five feet per year. Large amounts of sediment were being delivered to a permanent water body 300 ft. downstream.

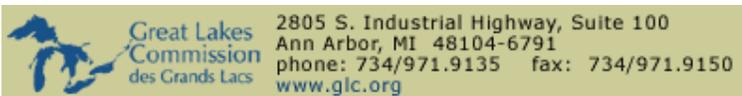
A Grade Stabilization Structure with pipe outlet and some runoff retention was installed to stop the head cut and reduce the volume and velocity of runoff flowing through the target area. Bank side slopes were reconstructed to a stable grade and seeded and blanketed. A rock grade control structure was installed downstream to reduce the grade and velocity contributing to the erosion.

Project 3 – Dillon Creek Stream Bank Stabilization project was a rather large project consisting of a 1.25 mile section of the creek where 30 ft. of grade resulted in high runoff velocities and thus severe and excessive bank erosion. Most of the banks were on a 1:1 slope or less and a few 8 to 15 ft. in height. Large amounts of sediment were being delivered downstream.

Nineteen in stream Grade Control Structures were installed to reduce the grade thus velocity of the runoff. Approximately 2625 L.F. of stream banks were protected from erosion by installing 1125 L.F. of two-stage ditch, 950 L.F. of rock protection and 175 L.F. of bio-engineered root wad protection.

Applications have been approved for eight additional erosion control projects. Contractors have been contracted to begin construction this fall. These projects, which consist of five Grade Stabilization Structures, 0.2 acre grassed waterway, and 1540 of Stream Bank Protection, will provide an additional 5,326 tons of soil saved over the life span of the BMP's installed.

[<< Previous Article](#) | [Next article >>](#)



Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

- [Year in Review](#)
- [Projects and Maps](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(IN\)](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(NY\)](#)
- [Featured Project \(OH\)](#)
- [Around the Basin](#)

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Featured Project: Reducing Sediment in the Paw Paw River Watershed through a New Local Innovative Program

Grantee: Van Buren County Road Commission

State: MI

GLRI Program Funds: \$300,000

Project Year: 2010

Contact Information: Colleen Forestieri, 269-657-4030 x129

A new program through the Van Buren Conservation District is funding the installation of sediment reduction practices on privately-owned, agricultural land within the Paw Paw River Watershed (PPRW) in southwest Michigan.



Photo before work, showing signs of recent erosion.

Sediment is the highest priority pollutant in the Paw Paw River Watershed. Agricultural runoff and stream bank erosion are the primary sources of sediment in the watershed. This project is promoting the use of Best Management Practices (BMPs) on agricultural land to reduce sediment entering the river. The District is using an auction process where farmers submit bids on how much they think a BMP is worth implementing. The

practices include **cover crops**, **filter strip**, **no-till**, and **reduced-till** on farmland. All of these practices increase the amount of vegetation or residue on a field, which reduce the amount of soil erosion. The practice must be newly implemented to qualify for the program.

After the bids are submitted, a Sediment Reduction Calculator, developed by Michigan State University, is used to determine how much sediment is reduced with the newly implemented practice. The bids are then ranked based on the cost per ton of sediment reduced. The bids with the lowest cost per ton of sediment reduced are selected for funding.

The first round of bids closed in June 2012. Contracts have been signed to implement 467 acres of cover crop, 160 acres of mulch-till, 65 acres of no-till and 5 acres of filter strips. The total amount of erosion reduced from these practices is estimated at over **1,400 tons** over three years. A second round of bidding is taking place from October to December 21, 2012.

This new program is a partnership between the Van Buren Conservation District, Southwest Michigan Planning Commission, Delta Institute, Van Buren Drain Commissioner and The Nature Conservancy with funding from the Great Lakes Commission; Great Lakes Restoration Initiative Program.

For



Photos of work (left to right): rock toe with erosion control mat above; root wads (tree trunks into the eroded shoreline)

more information visit *Bidding for Better Conservation Practices* at the Van Buren Conservation District's [website](#).

[<< Previous Article](#) | [Next article >>](#)

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Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

[Year in Review](#)
[Projects and Maps](#)
[Featured Project \(MI\)](#)
[Featured Project \(IN\)](#)
[Featured Project \(MI\)](#)
[Featured Project \(NY\)](#)
[Featured Project \(OH\)](#)
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Featured Project: Buffalo River Watershed Erosion and Sediment Control Project

Grantee: Erie County Soil & Water Conservation District

State: NY

GLRI Program Funds: \$180,000

Project Year: 2011

Contact Information: [James Sroka](#)

The Buffalo River Watershed Erosion and Sediment Control Project was selected for funding under the 2011 Great Lakes Basin Program for Soil Erosion and Sediment Control through the Great Lakes Restoration Initiative Watershed Program and is being managed by the Erie County Soil & Water Conservation District based in East Aurora, New York, located south of Buffalo. The project focuses on the restoration of eight existing, severely damaged streambank stabilization structures referred to as 'joint board' sites after the combined Erie-Wyoming County Joint Board of Directors that oversee the projects.



Joint Board 62L before and during construction

Installed in the 1960's by the Soil Conservation Service, several hundred sites line approximately 57 miles of streambank throughout the Buffalo River Watershed - encompassing the Buffalo, Cazenovia and Cayuga Creek subwatersheds. The main purpose of the historical program was to reduce silt and sedimentation in the Buffalo River portion of the Buffalo Harbor by controlling streambank erosion and by promoting best management practices on farms and riparian properties throughout the watershed. These 50+ year old structures have taken a lot of punishment from stream and ice flow over the years and many are still in good condition however several require immediate attention in order to



Joint Board 62L after construction

good condition however several require immediate attention in order to

stabilize erosion and reduce sediments from entering the stream. Factoring a 20 year anticipated lifespan of the installed best management practices - although typically longer, it is anticipated that the eight restored sites will reduce approximately 4,780 tons of sediments from entering the Buffalo River watershed.



Joint Board 63R before and during construction

The 2012 construction season saw work completed at three sites situated along a large meander bend on Buffalo Creek in the Town of Java in Wyoming County. Joint Board 62L and 63R were stabilized using longitudinal peaked stone to protect the toe of the bank up to the approximate bankfull elevation.



Joint Board 63R after construction

The combined rock protection from both sites totaled 450 linear feet in length, 4 feet in height with the front face of the rock shaped to a 2H:1V slope. Longitudinal peaked stone was the selected best management practice for these two sites because this technique allowed the bank to be built out as the erosion had scoured deep into the banks as well as to create an appropriate channel alignment. Local gravel bar deposits were utilized to backfill behind the rock and the upper banks were graded into the back of the peaked stone creating a low floodplain bench. Willow whips were also installed to extend out and over the peaked stone to improve the riparian vegetation, provide shade over the rock when mature and enhance the soil stability above and behind the rock.



Joint Board 64R before and during construction

At the last site, Joint Board 64R, the more common toe and slope rock protection was the chosen bmp because the thalweg was situated close to the

toe of the bank. A 3 foot by 3 foot rock toe was installed along 200 linear feet of the stream with slope rock protection extending 5 feet up the 2H:1V reshaped bank.

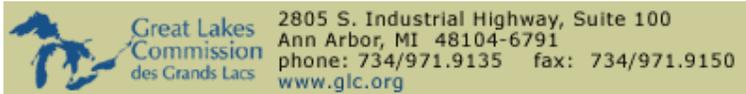


Joint Board 64R after construction

The three projects were promptly seeded and mulched after all rock installation was completed and all the upper banks were planted with multiple rows of willow live stakes.

The projects were promptly tested by mother nature two weeks after construction ended as heavy rains from the remnants of Hurricane Sandy brought potentially damaging flows but thankfully all three sites held up very well through the storm.

[<< Previous Article](#) | [Next article >>](#)



Great Lakes Sediment & Nutrient Reduction Program

Newsletter

Keeping It On the Land

2012 Annual Report

Inside the 2012 Annual Report:

- [Year in Review](#)
- [Projects and Maps](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(IN\)](#)
- [Featured Project \(MI\)](#)
- [Featured Project \(NY\)](#)
- [Featured Project \(OH\)](#)
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Featured Project: Stopping Sediment at its Source in the Rocky River Watershed

Grantee: Cuyahoga Soil & Water Conservation District

State: OH

GLRI Program Funds: \$400,000

Project Year: 2011

Contact information: [Jared Bartley](#)

Cover Crop Field Day

Farmers and all other interested parties were invited to a cover crop field day that took place Wednesday, November 28, 1-3 pm at the Dave Ehrman farm in York Township (Medina County).

The cover crop mixes were put on October 12 after beans were taken off. These 8 demo plots are each over 2 acre in size and include different combinations of covers and should provide a good test of the soils, fall weather conditions and root development. This will be an excellent test for the area and plants like crimson clover, tillage radishes, oats, groundhog radishes, winter peas, soilbuster radishes, appin turnips, winter rye, annual ryegrass, etc. In addition to sediment savings, cover crops provide many agronomic benefits, especially when utilized alongside no-till or other conservation tillage practices.

Cover crops are one of the sediment reduction practices available to farmers in the Mallett Creek and Plum Creek (west) subwatersheds.

Cover crops have been among the most popular practices for farmers enrolling in the program, with over 500 acres enrolled this fall. Farmers receive an incentive payment of \$35/acre for the first 25 acres, and \$40/acre for each acre of cover crops above 25 acres. This incentive payment structure is designed to move farmers beyond the trial stage, into full implementation of the practice.

[<< Previous Article](#) | [Next article >>](#)



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Great Lakes Sediment & Nutrient Reduction Program

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2012 Annual Report

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[Year in Review](#)
[Projects and Maps](#)
[Featured Project \(MI\)](#)
[Featured Project \(IN\)](#)
[Featured Project \(MI\)](#)
[Featured Project \(NY\)](#)
[Featured Project \(OH\)](#)
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Indiana

Hammond Port Authority looks to address inland beach erosion

Hammond Port Authority officials are hoping an initial \$40,000 planning grant from the Indiana Lake Michigan Coastal Program will help them combat inland beach erosion near the Hammond Marina. Ice buildup over the winters has created openings in the bluff areas near the bird sanctuary trail that's west of the marina, said Milan Kruszynski, the port authority's director. "The voids concern me, especially when people are walking up there through the bird sanctuary," Kruszynski said. "It's just adjacent and outside the sanctuary itself. It's a safety concern." The planning and engineering stages are required before applying for additional grants, he said. The authority matched the \$40,000 grant from the Indiana Lake Michigan Coastal Program.

[Read full story online](#)

Ohio

NRCS Accepting Applications from Ohio Farmers for Key Conservation Program

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) is accepting applications to help producers improve water and air quality, build healthier soil, improve grazing and forest lands, conserve energy, enhance organic operations, and achieve other environmental benefits.

NRCS has directed over \$13 million in financial assistance for fiscal 2013 to help Ohio producers implement conservation practices through the Environmental Quality Incentives Program (EQIP), the agency's largest Farm Bill conservation program. Interested producers should visit their local NRCS service center for information on EQIP sign-up periods.

See full [online announcement](#).

Pennsylvania

Pennsylvania Preserves Nearly 2,100 Acres of Farmland

More than 470,000 acres now preserved statewide. Pennsylvania's Agricultural Land Preservation Board today safeguarded 2,064 additional acres on 22 farms in 17 counties through the state's nationally renowned farmland preservation program.

Since the program began in 1988, state, county and local governments have

invested nearly \$1.2 billion to preserve 470,155 acres on 4,364 farms in 57 counties for future agricultural production.

"Through this program, we're not just preserving farmland, but a way of life and a major economic driver for the state," Agriculture Secretary George Greig said. "Agriculture generates \$6.7 billion in cash receipts and supports one in seven jobs across Pennsylvania. We're helping to keep farmers farming and securing a stable financial future in the state."

For more information, see: [press release](#).

Basinwide

Cover Crop Bonanza Nearly Doubles Acreage Goal

Enthusiastic farmers in the Great Lakes region planted more than 27,500 acres of cover crops as part of the Great Lakes Cover Crop Initiative, leaving the project's three-year, 15,000-acre goal far behind.

The Great Lakes Cover Crops Initiative (GLCCI) promotes cover crops and conservation tillage in the watersheds around Lake Michigan, Lake Erie and Lake Huron. Working closely with extension educators from Michigan State University, The Ohio State University and Purdue University, CTIC is helping deliver the technical, educational and social support to help farmers incorporate cover crops and conservation tillage into their operations and evaluate the changes.

GLCCI is built around a model of adaptive management, encouraging farmers and advisors to assess the benefits and challenges of cover crops and continually adjust their practices to make the systems increasingly effective at protecting water quality and profitability.

See [full story](#).

NACD Comments on EPA Draft "319" Grant Guidance

In comments to the U.S. Environmental Protection Agency (EPA), National Association of Conservation Districts (NACD) President Gene Schmidt stressed that the federal role in water resources management should be one of cooperation. The comments are in response to EPA's most recent draft guidance to states and territories on awarding § 319 grants under the Clean Water Act (CWA) for implementing Nonpoint Source (NPS) management programs. Conservation Districts use the § 319 NPS Program to increase the utilization of agricultural best management practices ("BMPs") such as buffer strips, conservation tillage, and nutrient management, as well as to implement low impact development and storm-water management practices to protect urban water quality.

When it comes to EPA's treatment of Total Maximum Daily Loads ("TMDLs") and the § 319 NPS program, efforts addressing impairments should be locally-led. "The best way to promote and implement conservation is through locally-led efforts," said Schmidt. "Many states are already successfully leveraging non-federal money, along with Farm Bill conservation program funding and § 319 grant funding, to achieve significant water resource goals."

Read [full press release](#)

Featured website: Midwest Cover Crops Council (MCCC)

The goal of the [Midwest Cover Crops Council \(MCCC\)](#) is to facilitate widespread adoption of cover crops throughout the Midwest, to improve ecological, economic, and social sustainability. The MCCC is a diverse group from academia, production agriculture, non-governmental organizations, commodity interests, private sector, and representatives from federal and state agencies collaborating to address soil, water, air, and agricultural quality concerns in the Great Lakes and Mississippi river basins (including Indiana, Michigan, Ohio, Manitoba, Ontario, Illinois, Wisconsin, Minnesota, Iowa, and North Dakota).

Website: <http://www.mccc.msu.edu/>

