



United States Department of Agriculture
Natural Resources Conservation Service

Conservation Beyond Boundaries

Great Lakes Restoration Initiative Status Report FY2011

June 2012



Great Lakes Restoration Initiative Background/Purpose

The Great Lakes Basin is an important resource area in the U.S. It includes land in the eight states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin. The Great Lakes hold around 20 percent of the world's total fresh-water and provide drinking water to 40 million

U.S. and Canadian citizens. The 2007 Agricultural Census reported 125,715 farms in the Great Lakes Basin, or about five percent of the total number of farms in the U.S. About 65 million pounds of fish per year are harvested from the lakes, contributing more than \$1 billion to the Great Lakes economy.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) recognizes the importance of the Great Lakes and has targeted efforts to contribute to the protection and improvement of this natural resource. NRCS is one of 11 federal agencies collaborating with the Environmental Protection Agency (EPA) in implementing the Action Plan for the Great Lakes Restoration Initiative (GLRI). (You can visit the multi-agency website at <http://greatlakesrestoration.us/index.html>.)

Did You Know?

The GLRI Action Plan calls for aggressive efforts to address five urgent priorities in the Great Lakes Basin:

1. *Clean-up the most polluted areas in the lakes.*
2. *Combat invasive species.*
3. *Protect watersheds and shoreline health.*
4. *Restore wetlands and other habitat.*
5. *Work with strategic partners on education, evaluation and outreach.*

NRCS began delivering assistance through GLRI in FY2010. In FY2011, NRCS received \$16.7 million through an interagency agreement with EPA to target conservation efforts in three of the five focus areas defined in the GLRI Action Plan. The eight states further prioritized funds locally to 39 watersheds within the Great Lakes Basin. Producers in these watersheds committed to implement NRCS contracts for scientifically-proven conservation practices to reduce water quality degradation due to excess sediment, nutrients and/or pesticides; improve and protect wildlife habitat; and combat invasive species.

The conservation practices are adopted by producers on a voluntary basis based on analysis of how best to improve and protect the land. NRCS also provides financial assistance to help fund the application/implementation of those planned conservation practices.

Goals/Objectives Achieved And Practices Applied

NRCS conservation professionals are helping agricultural producers control and reduce invasive species, reduce sediment from frequent flooding by establishing easements, and implement conservation practices to reduce sediment, nutrient and pesticide run-off into the lakes. In addition, wetlands are protected and restored, and habitat is improved for wildlife and aquatic species.

NRCS is accomplishing this in cooperation with farmers applying conservation practices on more

than 60,000 acres of privately-owned lands in locally-determined priority watersheds in the eight GLRI states. During the FY2011 signup, NRCS conservationists worked with producers to develop 423 new contracts to implement conservation practices in the Great Lakes Basin. Some of those conservation practices included:

- Nutrient management to improve the rate, timing and placement method of nutrients,
- Cover crop to reduce nutrient losses,
- Residue management in the form of no-till or mulch-till to reduce soil erosion,
- Pest management to improve the rate, timing and method of pesticide application, and
- Upland wildlife habitat practices like tree and shrub planting, early succession habitat development, wildlife upland habitat management and wetland restoration.

Conservation Effects Assessment Project Results

In October 2011, NRCS released the Conservation Effects Assessment Project (CEAP) study for the Great Lakes Basin. The report assessed the effect of conservation practices commonly used on cultivated cropland within the watershed, evaluated the need for additional conservation treatments, and estimated potential gains from additional conservation treatments. The overall findings of CEAP... Voluntary conservation works!

CEAP Summary--The voluntary, incentives-based conservation approach is achieving results. Farmers have made good progress in reducing sediment, nutrient, and

pesticide losses from farm fields through conservation practice adoption throughout the Great Lakes Basin. **The adoption of conservation practices has reduced sediment and nutrient erosion and runoff.** The study shows reductions in:

- wind erosion by 44 percent and edge-of-field waterborne losses of sediment by 47 percent,
- losses of nitrogen with surface runoff by 43 percent,
- losses of nitrogen in subsurface flows by 30 percent,
- losses of phosphorus (sediment attached and soluble) by 39 percent, and
- reductions in pesticide losses from fields have reduced pesticide risk for people and aquatic ecosystems by 26 and 27 percent, respectively.

Opportunities exist to further reduce sediment and nutrient losses from cropland. The assessment of conservation treatment needs identified in this study provides opportunities to contribute additionally to improved water quality in the Great Lakes Basin. The study found that 19 percent of cropped acres (2.8 million acres) have a high level of need, and that 34 percent (5 million acres) have a moderate level of need for additional conservation treatment. Acres with a high level of need are the most vulnerable acres currently receiving the least conservation treatment and with the highest losses of sediment and nutrients.

Targeting enhances effectiveness and efficiency. Targeting critical acres significantly improves the effectiveness of conservation practice implementation. Focusing

conservation practices on acres with a high level of need can reduce per-acre losses of sediment and nutrients by almost twice as much as when similar practices are applied to acres with a moderate level of need.

You can find the full CEAP report at <http://www.nrcs.usda.gov/>, keyword: Great Lakes Region CEAP.

Partnership Successes

Partnerships are critical in accomplishing GLRI conservation goals. NRCS is working with many partners to support the activities

taking place in the Great Lakes Basin. Partners including the Great Lakes Commission (GLC), the Interagency Task Force, the GLRI Regional Working Groups and conservation districts, among others, play an important role in the conservation results.

Many partners also have their own programs to address natural resource concerns in the basin. NRCS uses GLRI funds to enter into cooperative agreements with those partners to support programs consistent with the GLRI Action Plan.

One example is the agreement with the Great Lakes Commission (GLC), where NRCS provided \$2.7 million to implement the GLC Program for Soil Erosion and Sediment Control. With this program, the GLC provides project demonstration grants and technical assistance. They carry out information and education programs to improve water quality in the Great Lakes Basin by reducing soil erosion and improving sediment control.

Fiscal Year 2011 - NRCS Great Lakes Restoration Initiative NRCS Financial Assistance (FA) plus Active and Completed Contracts/Agreements								
	Environmental Quality Incentive Program (EQIP)		Wildlife Habitat Incentive Program (WHIP)		Farm and Ranchland Protection Program (FRPP)		Emergency Watershed Protection Program - Floodplain Easement (EWPP-FPE)	
STATE	Number of Contracts	FA Contract Obligation	Number of Contracts	FA Contract Obligation	Number of Contracts	FA Contract Obligation	Number of Contracts	FA Contract Obligations
Illinois	0	\$0	0	\$0	0	\$0	0	\$0
Indiana	3	\$564,647	0	\$0	0	\$0	8	\$1,278,253
Michigan	111	\$3,891,770	12	\$67,861	1	\$1,960,521	0	\$0
Minnesota	7	\$113,244	3	\$8,680	0	\$0	0	\$0
New York	15	\$965,870	11	\$158,055	0	\$0	2	\$222,644
Ohio	176	\$5,336,501	13	\$48,172	1	\$16,378	13	\$1,924,181
Pennsylvania	2	\$17,811	2	\$44,882	1	\$213,852	0	\$0
Wisconsin	42	\$1,413,326	0	\$0	0	\$0	0	\$0
TOTALS	356	\$12,303,169	41	\$327,650	3	\$2,190,751	23	\$3,425,078

Note: Illinois has a small area of urban shoreline that is part of the GLRI. They received funding the first year of GLRI to combat invasive, terrestrial species. Those contracts were put in place in FY10 and additional monies were not made available in FY11.
Source: EQIP data was queried from NRCS ProTracts 10/1/11 with 12/24/11 file update.
Source: WHIP data was queried from NRCS ProTracts 10/1/11 with 12/24/11 file update.
Source: FRPP and EWPP-FPE data was from NRCS Financial Management system and supplemented with national program manager spreadsheets.

Fiscal Year 2011 - NRCS Great Lakes Restoration Initiative

NRCS Financial Assistance (FA) and Active and Completed Contracts/Agreements

STATE	State Program Totals for GLRI Initiative FY2010		State Program Totals for GLRI Initiative FY2011		FY2010 and FY2011 Totals	
	Number of Contracts	FA Contract Obligation	Number of Contracts	FA Contract Obligation	Number of Contracts	FA Contract Obligation
Illinois	0	\$0	0	\$0	0	\$0
Indiana	17	\$949,434	11	\$1,842,900	28	\$2,792,334
Michigan	119	\$4,844,201	124	\$5,920,152	243	\$10,764,353
Minnesota	2	\$6,569	10	\$121,924	12	\$128,493
New York	18	\$2,528,259	28	\$1,346,569	46	\$3,874,828
Ohio	26	\$1,940,446	203	\$7,325,232	229	\$9,265,678
Pennsylvania	10	\$567,172	5	\$276,545	15	\$843,717
Wisconsin	43	\$1,590,352	42	\$1,413,326	85	\$3,003,678
TOTALS	235	\$12,426,433	423	\$18,246,648	658	\$30,673,081

Note: Illinois has a small area of urban shoreline that is part of the GLRI. They received funding the first year of GLRI to combat invasive, terrestrial species. Those contracts were put in place in FY10 and additional monies were not made available in FY11.
 Source: EQIP data was queried from NRCS ProTracts 10/1/11 with 12/24/11 file update.
 Source: WHIP data was queried from NRCS ProTracts 10/1/11 with 12/24/11 file update.
 Source: FRPP and EWPP-FPE data was from NRCS Financial Management system and supplemented with national program manager spreadsheets.



State Stories

These stories highlight activities of farmers and landowners throughout the GLRI area. They are assisted by NRCS conservation professionals working together for the benefit of improving and protecting the natural resources of the Great Lakes.

INDIANA

Grazing Management Helps a New Bison Farmer Protect Water Quality

Partnerships in Indiana have brought together many projects – water quality in the Little Calumet-Galien Watershed in northwest Indiana, landowner workshops with conservation groups to promote wildlife habitat and control of invasive species, and a two-part social indicators study to survey landowners before and after outreach and promotional activities. The LaPorte Soil and Water Conservation District and Northwest Territory Resource Conservation and Development Council have worked together with NRCS on outreach and the promotion of conservation, with special efforts to reach historically underserved audiences such as beginning farmers and limited resource farmers.

Some of that information reached Jay Fahn, a beginning farmer who also works at a bank in downtown Chicago. He is converting 73 acres of highly erodible land in Porter County, Ind., from cropland into bison pastureland, forage and wildlife habitat.

Fahn used NRCS standards and specifications for his pipeline and tanks, roof runoff management, heavy-use area protection, fencing, seeding and prescribed rotational grazing practices. “As a beginner rancher, I had a steep learning curve; but with technical support from the NRCS folks, my goals have been achieved,” Fahn said.

MICHIGAN

Improving Native Plantings Improves Habitat for Native Birds

Utilizing funding from the Great Lakes Restoration Initiative, NRCS in Michigan is helping landowners restore habitat important to migratory woodcock and other upland birds, including ruffed grouse.

Woodcock populations have been in decline primarily due to a lack of habitat. Portions of Michigan’s Upper Peninsula are an important breeding ground for woodcock, which require a diversity of habitats during their lifecycle. As forest areas continue to mature, this diversity is being lost.

Male woodcock will attract mates by defending a forest clearing from other males and then performing a ritual where they spiral high into the air. Bill Hammond, Delta County forestland owner of 270 acres, has personally seen this woodcock mating ritual on his property where he hunts and enjoys nature. He was excited to improve habitat for the bird on his primarily forested land. Utilizing financial assistance through GLRI, Hammond created three clearings totaling about 10 acres where stands of aspen and other trees previously covered his land. The clearings will be good mating sites and, as young trees reestablish themselves, they will create nesting cover.



Beginning farmer Jay Fahn and his partner Nina Diamond are learning conservation management practices to improve and protect the soil and water on their bison farm.



Bill Hammond used GLRI to create clearings on his land to benefit woodcock, grouse and other upland birds.

MINNESOTA

Holding Snow in Place with Trees Reduces Snow Runoff

The Nemadji River Basin Project identified sediment from erosion as the primary natural resource issue in the predominantly forested watershed. Sheet, rill and roadside erosion were a minor component generating 11 percent of the sediment total. Eroding stream banks and massive clay slumps were the main contributor at 89 percent, or 117,000 tons per year.

There is a long history of efforts to control erosion and reduce the sediment load in the Nemadji River. NRCS learned from past efforts that structural measures were not the solution. The River Basin Project pointed conservation planners in a new direction. Keeping snow on the land longer in the spring is reducing snowmelt peak flow runoff events and slowing bank erosion rates. To keep the snow on the ground longer, trees need to be planted. This holistic approach will reforest areas of the watershed that contain open land with enough trees to influence snowmelt runoff rates.

In addition to reforesting the open land areas, riparian tree plantings will not only hold the soil in place, but also establish much-needed shade on cold water tributaries to reduce summer water temperatures that have been reaching lethal levels for trout. Minnesota's first 2010 GLRI-funded practice continued this spring with the planting and protection of 200 trees in the riparian area of the Midway River.



NRCS and partners plant trees along the Nemadji River to hold snow on the land longer and reduce snowmelt runoff, thereby reducing sediment in the Great Lakes Basin.



Tree plantings are protected from animals to ensure they have an opportunity to gain root.

NEW YORK

Controlling Animal Waste Reduces Nutrients in Runoff

Terry Hodnett raises dairy replacement cattle on his operation. The farm had grown steadily in animal numbers until it was nearing the regulated status of a Concentrated Animal Feeding Operation (CAFO). Hodnett visited with NRCS and, because of the farm's close proximity to Wiscoy Creek, a class-A trout stream, and the Genesee River, decided to apply for funding to improve water quality. The first efforts included the development of a Comprehensive Nutrient Management Plan (CNMP – a comprehensive engineering and conservation planning assessment of the current site conditions). It provides the participant with management options and structural alternatives to address resource concerns identified during the assessment.

The Hodnett's received additional assistance to install practices identified as needed in the CNMP. These included a manure storage facility, a concrete protection area where heavy use occurs, an access road, a covered feed alley, a milk-house waste system to handle rinse water used to clean equipment, and the planting of cover crops and riparian buffers. In addition, nutrient runoff will be contained on-site and spread according to a schedule developed during the CNMP process. Within a year, Hodnett was able to complete most of the conservation practices to eliminate any nutrient loading into Wiscoy Creek and greatly improve its water quality.

continued



Slated concrete allows for the control of animal waste and sediment runoff. (Different angle)

NEW YORK cont.

In the true conservation spirit, Hodnett has gone above and beyond the required practices in the NRCS contract and is addressing additional natural resource concerns. The riparian buffer areas above the creek banks and around his farm pond connect to acreage improved through the Wildlife Habitat Incentive Program and protected by the Debt for Nature easement program. He also received additional grant funding to improve other areas of his farm through New York State's Non-Point Source funding.

OHIO

Residue Left on Fields Holds the Soil in Place

Jerry McBride, a row crop farmer in Hardin County, Ohio, understands how conservation benefits natural resources and his bottom line. To improve his operation, he signed up for assistance through the Great Lakes Restoration Initiative and is trying out Ohio's new nutrient management system. The system offers a package of conservation practices that help farmers reduce the loss of nutrients from their fields and prevent those nutrients from reaching the Great Lakes. Practices like no-till, variable rate technology (VRT) for the application of nutrients, and cover crops are all a part of McBride's nutrient management system. With his contract, he receives a higher payment rate for the package of practices than he would have gotten for them individually. This higher payment reflects an incentive for environmental benefits and a higher degree of management.

The fall of 2010 was McBride's first attempt at planting a fall cover crop, a component of his nutrient management system plan. He chose oats because he uses 100 percent no-till and wanted the winter kill to remove the oats. It worked very effectively. The soil improvements from the use of a cover crop will benefit McBride by improving his most valuable natural resource, his soil.



Jerry McBride stands in a field planted to oats in the fall. They died out over the winter to leave the residue seen here holding the soil in place during spring runoff.

PENNSYLVANIA

Careful Use of Pesticides and Nutrients Reduces Excess

Randy Graham, a fourth generation Pennsylvania grape farmer and a recent winery owner and winemaker, is working with NRCS and using GLRI funds to reduce contaminants and sediment reaching the waters of Lake Erie in northeast Pennsylvania.

The farm and winery encompass 125 acres of juice and wine grapes in the Concord grape belt of Erie County, Pennsylvania, along the shore of Lake Erie. Graham has worked with the local NRCS professionals to develop a conservation plan that works for his land. Following that plan, Graham has applied several conservation practices, including integrated pest management, nutrient management and no-till cover crops. He is reducing chemical use on the farm, and managing the timing and placement of nutrients while reducing soil erosion on his farm.

Additional improvements were implemented to address runoff from a vineyard and an unimproved road that were transferring nutrients and sediment directly into Twelve Mile Creek—a stream that runs across his property and into the lake. He has now installed an access road, protecting the creek, which is a high-quality, coldwater fishery that supports migratory fish.



Managing the application and use of insecticides helps this Pennsylvania grape farmer reduce the chemicals flowing into the Great Lakes Basin.

WISCONSIN

Grazing management keeps soil in place and protects water quality.

The Oneida Tribe of Indians of Wisconsin has been grazing buffalo on its Oneida Nation Farms (ONF) since 1996. Located near Seymour, Wisc., and extending through parts of Brown and Outagamie counties, the farms are part of the Lower Fox River Watershed, which flows into Lake Michigan.

With only 150 acres of pasture and the herd size reaching 140, changes were needed in both the infrastructure and the grazing management system. The NRCS tribal liaison worked with the Oneida Tribe to develop a conservation plan, including a new prescribed rotational grazing plan for the farm.

Their applied practices are supporting production while protecting the environment and ONF is very happy with the benefits of the managed grazing system. The applied conservation practices are improving forage quality, plant productivity and herd health. Rotational grazing practices are also reducing harmful pathogens draining into ground and surface water, helping to improve water quality in the watershed.

Dennis VanVreede, ONF farm supervisor says, "Thanks to NRCS and GLRI funding, we have been able to expand our buffalo grazing operation, allowing us to supply more healthy meat to the Oneida people and, at the same time, improve forage quality."

Utilizing Great Lakes Restoration Initiative funds, ONF has expanded the pasture to 214 acres and placed the entire operation under the prescribed rotational grazing system. Additional funds to complete the infrastructure with fencing, pipeline, a well and watering facilities were also secured from GLRI and other partners.



Managed grazing is increasing the forage quality on the Oneida Nations Farm as well as protecting water quality in the area.

