Great Lakes Basin Program GLRI Project

Critical Area Stabilization in Lake Ontario Watershed

Size: watershed
Grant Amount: $207,790
Year awarded: 2012

Sponsor: Oswego County SWCD on behalf of FLLOWPA
Address: 3105 NYS Route 3
City: Fulton
State: New York
Zip: 13069

Contact Information: Project Manager, Kristy LaManche
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Submitted Project:

Size: watershed
Budget: $207,790
Savings: 69,016

Background

Sediment Sources
Project Background
Almost one-third of the land area in New York State drains into Lake Ontario, the most downstream of the Great Lakes. The total watershed area of Lake Ontario is approximately 24,720 square miles (64,030 square kilometers). The New York portion of the Lake Ontario Basin spans 25 counties and over 13,600 square miles (35,230 square kilometers), with the remaining 45% of the watershed in Canada. Surface water is a significant landscape feature with more than 16,200 miles of streams and 260 lakes.

The Lake Ontario Basin hosts a multitude of unique natural areas. Much of the topography is rolling hills and wide valleys providing open vistas and stunning views. The land use is a patchwork of forest, agricultural land, and low-density residential development interspersed with village centers and a few urban areas. Extensive forest cover supports a forest-products industry, wildlife habitat, and recreation. Agricultural land is a diverse mixture of pasture, grain crops, row crops, orchards and vineyards which contribute to the striking variation in landscape color and texture.

Under the guidance and administrative assistance of the Finger Lakes – Lake Ontario Watershed Protection Alliance (FLLOWPA), the Soil and Water Conservation Districts (SWCD) of Cayuga, Onondaga and Wayne Counties respectfully submit this proposal for the Critical Area Stabilization in NY's Lake Ontario Watershed Project (the Project) to the Great Lakes Basin Program for Soil Erosion and Sediment Control for funding consideration. 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. All projects lie within HUCs 04140101 and 04140102.

Located midway between Rochester and Oswego, New York, Port Bay is one of southern Lake Ontario's larger but relatively shallow embayments. The perimeter of the bay is primarily residential, but portions of the shoreline and watershed are part of the Lake Shores Marshes Wildlife Area. Wolcott Creek is the major tributary of Port Bay and drains approximately 27 square miles of land that is mostly in agriculture.

The Seneca, in combination with the Oneida and Oswego Rivers, River basin encompasses 5,100 square miles and is comprised of primarily agricultural and forested land use. The nearly 2,400 square miles of agriculture are divided between horticultural crops (e.g., vineyards, fruit trees, berries), row crops (e.g., corn, sorghum, soybeans), close-grown crops (e.g., wheat, oats), hayland (e.g., grass, legumes), pastureland (e.g., grass, legumes), and other cropland (e.g., summer fallow and other unplanted cropland).

Sediment Sources

All target areas included in the Project have been selected based on the classifications of impaired stream segments and lakes summarized in the DEC Division of Water Priority Waterbodies List (PWL). The PWL identifies the primary use affected (e.g., fishing, bathing, water supply, fish consumption, or aesthetics), the primary pollutant causing impairment (e.g., silt, nutrients, pathogens, or organic compounds), and the primary source of the pollutant (e.g., stream bank erosion, municipal or industrial discharges, urban runoff, or agriculture). The PWL indicates that nonpoint sources of pollution are the chief factor affecting the quality of streams and lakes throughout the Lake Ontario Basin. Major nonpoint sources included in the PWL are acid deposition, agriculture, streambank erosion, septic tanks, contaminated sediments, land disposal, construction, and hydrologic modification.

Specifically, Port Bay suffers from cultural eutrophication and is on the New York State 303d list of Impaired Waters due to an overabundance of phosphorus. Benthic anoxia is a major effect of this eutrophication. Primary sources of impairment for river and stream miles 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 PWL in this basin, followed by industrial inputs, contaminated sediments, septic system inputs, stream bank erosion, and CSOs.

Town, County, and State Highway Departments in Cayuga and Onondaga Counties are seeking grant funds to expand their existing Critical Area Seeding Programs (CASP); while Wayne County will use these Federal funds to help launch their new CASP. All three CASPs will address critical area seeding and stabilization of drainage district ditches, road ditches, shorelines, streambanks, and other municipal projects with exposed soil to 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.

The road ditch maintenance programs will mechanically "clean" road ditches by removing accumulated silt and sediment followed by application of the appropriate amounts of seed, fertilizer, tackifier (glue) and mulch hydraulically applied to the exposed ditch banks. The new, permanent vegetative cover will reduce soil loss by 50% to 90%. According to the US EPA's R5 estimation method, it is estimated that sediment can be reduced by 22,440 tons/year while phosphorous and nitrogen can be reduced by 22,440 and 44,880 pounds/year, respectively.

Another source of sediment into Lake Ontario is shoreline erosion from wave action and ice buildup. In Cayuga County, erosion is a major concern for over 700 feet of shoreline on Moon Beach. Some homes have already fallen into Lake Ontario as a result of this type of bank erosion commonly referred to as bluff slumping.

This project was funded by the Great Lakes Restoration Initiative, and is maintained through the Great Lakes Basin Program for Soil Erosion and Sediment Control at the Great Lakes Commission.

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Currently, there are several homes whose foundation's are within feet of the shoreline. As part of this proposal's overall goal to minimize soil erosion and sediment loss, a demonstration project encompassing 133 feet of shoreline on Moon Beach is proposed. The landowner has been contacted and is in support of this application and the use of their property to install and evaluate shoreline stabilization techniques. Upon successful completion of the demonstration project, at least six contiguous landowners have already expressed their interest in implementing similar shoreline stabilization practices to protect their property.

Readiness to Implement Project

This multi-county proposal, sponsored by FLLOWPA, is adequately staffed and ready for immediate implementation. FLLOWPA is an alliance of 25 counties located within the Finger Lakes – Lake Ontario Basin. The organization has been in existence for over 20 years and has been a dedicated line item in New York State's Environmental Protection Fund since 1997. FLLOWPA and its 25 County representatives intimately work with staff from the New York State Department of Environmental Conservation and other State agencies to develop annual work plans that address local water quality concerns; while also supporting the natural resource conservation goals and priorities of the State. All three Districts actively participate in FLLOWPA, collaborate on numerous agricultural and environmental projects, and are in good standing with their existing FLLOWPA contracts.

The Critical Area Stabilization in NY's Lake Ontario Watershed Project is shovel ready. District staff have a wealth of knowledge and experience working in all of the target areas and have developed an extensive network of partners from Federal and State agencies, municipalities, stakeholder groups and local businesses. The staff from each of the three Districts that will be responsible for program implementation have a combined 35 years experience working on non-point source pollution prevention practices such as stabilization projects, including streambanks and road banks, critical area seedings, erosion control BMP installation, landowner education and outreach and grants administration. District staff has obtained many professional certifications including Certified Professional Erosion and Sediment Control (CPESC) and Certified Professional in Stormwater Quality (CPSWQ).

Each of the Districts have and will continue to work closely with the Natural Resource Conservation Service (NRCS), professional engineers and consultants with coastal project design experience to ensure that their CASPs are designed and installed appropriately. Each District has a cadre of equipment available for the successful implementation of this project. Seed mixes, fertilizer and mulch "recipes" have already been custom blended and modified over the years to produce optimal vegetative growth in all three of the targeted areas. The project partners (Soil and Water Conservation Districts) in Cayuga, Onondaga and Wayne Counties currently have service agreements with almost all of their Towns, Villages, and County Highway Departments, in addition to the New York State Department of Transportation, to provide critical area stabilization services. All necessary water extraction permits have been secured by the Districts and there are no easement or landowner issues. In fact, many landowners and municipal officials in the target areas are grateful for this cost-sharing opportunity so that they can (finally) make much needed improvements to minimize soil loss and sedimentation, protect the shoreline, increase stormwater management capacity, reduce runoff and improve the overall water quality of the waters entering Lake Ontario from their communities. *All municipalities participating in this grant are prepared to contribute 50% of the total project cost towards their CASPs.*

Consistency with State Watershed Plans

Currently, the State of New York is in the process of developing a State-approved watershed plan. At this time, the State has designated Hydrologic Unit Coverage (HUCs). Within these HUCs, the Districts are planning and implementing Agricultural Environmental Management projects. These projects include comprehensive farm planning and survey/design/construction of agricultural Best Management Practices. The Districts are also utilizing FLLOWPA funding to implement other water quality related programs (ex. stormwater, invasive species, water quality monitoring, education and outreach) in these HUCs as well.

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There any no existing projects being implemented such as a Water Quality Act or Section 319 project in the target area or surrounding communities.

Water Quality Coordinating Committee Involvement
The Project has received unanimous support from the Cayuga, Onondaga and Wayne County Water Quality Coordinating Committees. The Cayuga County Water Quality Management Agency (WQMA) was established in 1990. The WQMA's mission is to protect and improve the quality of water in Cayuga County. An average of 20 people attend the WQMA's monthly meeting and represent County agencies, municipal governments, lake associations, and stakeholder interest groups.

In Onondaga County, the Council on Environmental Health functions as a Water Quality Coordinating Committee and was established in 1996 and meets on a monthly basis. The mission of the Council is to ensure that the Commissioner of Health, County Executive, and County Legislature has the benefit of informed, objective advice from citizens on issues of environmental health, including but not limited to issues involving air quality, water quality, public water supply, waste water treatment, land use, and the handling and disposal of solid and hazardous waste and materials. There are usually 20 people at the meetings representing County and State agencies, municipal government, local planning agencies, lake associations and stakeholder interest groups. The Committee just updated their Water Quality Coordinating Plan Update in January 2012. The Plan recommends the continuation of non-point source pollution control through critical area stabilization practices such as hydroseeding. The committee that prepared that updated plans meets on a monthly basis.

The Wayne County Water Quality Coordinating Committee (WQCC) was established in 1989. The Committee's mission is to serve as a catalyst for community organizations to work together for the protection of water quality and natural resources in Wayne County. An average of 10 people attend the Committee's monthly meeting and represent County and State agencies, municipal government, lake associations, and stakeholder interest groups. Recently, the WQCC created a priority watershed list to help guide water quality project implementation throughout Wayne County. The list will be used to help in the ranking process for the Wayne County CASP.

Grant History
FLLOWPA has been the recipient of several State and Federal Grants over the past three years. Our annual State appropriation has been a little over $1.0 million each year for the past three years and is equally divided amongst FLLOWPA's 25 member counties for implementation of programs that focus on water quality monitoring, stormwater management, aquatic invasive species, agricultural best management practices, GIS data development and public education and outreach. Less than 5% of FLLOWPA's annual appropriation is directed towards program administration and oversight.

FLLOWPA has also been the recipient of several Federal grants recently. Two awards have been made to FLLOWPA by the United States Fish and Wildlife Service for $792,000 and $1,043,866 for implementation of New York State's Aquatic Nuisance Species Management Plan. FLLOWPA's primary role in both of these grants is to serve as the Project Manager and Administrator and work with each of the subrecipients to execute all of the proposed work, in addition to meeting all of the Federal reporting requirements.

Finally, FLLOWPA is the proud recipient of a Great Lakes Restoration Initiative FY10 award in the amount of $998,749. Again, FLLOWPA's primary role is to serve as the Project Manager and Administrator, working directly with FLLOWPA members to implement agricultural best management practices in over a dozen different Counties within the Finger Lakes – Lake Ontario Basin.

Cayuga County has been implementing critical area seedings and other bank stabilization practices for over 25 years. The Cayuga County SWCD was one of the first Districts to obtain a hydroseeder. In the past, the District has received grants from the NYS DEC through their nonpoint source program to implement critical area

seedings. They have also received a Department of State grant to evaluate 2 miles of streambank using fluvial geomorphology technology where 800 feet of the streambank was stabilized. The District also received funding from EPA for critical area seedings and bank stabilization projects from 1998 - 2006.

In 2012, the Onondaga SWCD received three grants from the NYS Environmental Protection Fund. These grants, totaling $564,475, will be utilized to implement agricultural non-point source pollution prevention projects on farms in Onondaga County and the entire Skaneateles Lake Watershed.

In 2010, the Onondaga County SWCD received a NYS Department of Environmental Conservation Non-Point Source Pollution grant of $157,500 to provide critical area seeding services to all highway departments in the County. Due to the success of this grant, the Onondaga District will have the goal of revegetating 150 miles of road ditches completed in 2014.

In the spring of 2011, NYSDEC awarded a Water Quality Improvement Project grant (WQIP) of $30,054.00 to the Wayne District to purchase a Hydroseeder to promote stabilization of areas of critical concern, non-point source and point source projects and continue to implement conservation of streambanks and road banks with vegetation for storm and ground water controls.

In addition to the WQIP, the Wayne District achieved three Agricultural Non-Point Source Abatement and Control grants for the Port Bay, Black Brook and Seneca River Watersheds (in partnership with Cayuga and Onondaga). Total grant dollars for agricultural BMPs to assist non-point source controls over $1.2 million dollars including match in cash and in-kind from landowners, NRCS and the District.

Partnerships
This project is collaborative, by design, and builds on existing partnerships among State and Federal agencies, units of local governments, and landowners in New York. All of the project partners worked together to develop this proposal and will continue to do so until all aspects of this project are completed, sharing resources, expertise and equipment along the way.

The groups that will be directly responsible for the implementation and success of this project include FLLOWPA, Cayuga County Soil and Water Conservation District, Onondaga County Soil and Water Conservation District, and the Wayne County Soil and Water Conservation District. The New York State Department of Environmental Conservation (NYS DEC) and United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) will be involved, as needed.

Additionally, the Districts have discussed this grant application with Mr. Kevin Roberts, our Great Lakes Basin Program Taskforce member. He was very complimentary of our collaborative approach, efficient use of funds, ability to bring a significant amount of matching funds to the project, and our overall ability to drastically reduce the amount of soil erosion and sediment entering Lake Ontario.

Project Work Area
HUC: 041401011204 - ,
HUC: 041401011205 - ,
HUC: 041401011301 - ,

Total Area: 650
Agricultural Area: 200
Forest Area: 350
Urban Area: 100

Priority Areas:

The Priority Areas for this grant application include the near-shore areas for the Port Bay/ Wolcott Creek watershed in the Lake Ontario Basin, as well as the sub-watershed area for the Seneca River, which flows through Wayne, Cayuga, and Onondaga County into Lake Ontario. The entire project work area is encompassed within the 8 digit HUC(s) 04140101 and 04140201. Although the project work area identifies only (3) 12 digit HUC(s) contained with these 8 digit HUC(s), it is our view that by looking at the larger watershed for sources of sedimentation provides a greater benefit for the Lake Ontario Basin.

With this grant application, essentially all water that falls upon the land in Wayne, Cayuga, and the western portion of Onondaga County and flows into a road ditch erodes away from a streambank will be filtered of soil and nutrient pollutants using vegetation established in the road ditches, along selected stream segments and other areas with exposed soils, through hydraulically applied seeding practices. Our proposed area is NOT upstream from a significant dam.

Implementation

Implementation Strategy
Project start date will be October 1, 2012
Implementation Strategy

Who: Wayne (Chris Hotto (District Technician), Lindsey Gerstenslager (District Manager)), Cayuga (Doug Kierst (District Field Manager), Sandy Huey (Watershed Program Manager)), and Onondaga Districts (Jeremiah Eaton (Resource Conservation Specialist), Mark Burger (District Manager)

What: The Critical Area Stabilization in NY's Lake Ontario Watershed 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.

Where: Wayne (Port Bay/Wolcott Creek and nearshore areas), Cayuga (Seneca River drainage basin), and western half of Onondaga County that flows into Lake Ontario via the Seneca River drainage basin
The process that will be used to identify the specific areas for where projects will be implemented includes the evaluation of individual site's proximity to water, potential for erosion and soil type. The higher the potential for soil erosion, the higher the priority site.

Each of the Districts have established the amount of cost-share (i.e. financial incentive) for their projects in order to encourage and entice municipal and landowner participation this valuable program. For shoreline stabilization projects, there will be a 75/25 cost share where the landowner will be responsible for covering 25% of the implementation costs associated with the project. For the CASP in Cayuga and Onondaga County, there will be a 50/50 cost share, where the municipality will be required to cover 50% of the costs of stabilization.

When: October 1, 2012 to October 31, 2015

How: Hydraulic application of stabilization seed, mulch, fertilizer, and tackifier to exposed road ditch banks and eroded stream/lake banks utilizing USDA NRCS and US Fish and Wildlife Service approved stabilization best management practices and standards. For the shoreline stabilization demonstration project, the slope will be graded to 3:1, rip rap stone will be placed on geotextile fabric. A cut off trench with tile and stone will then be placed in the bank, as recommended by the Minnesota Extension Service.

To ensure effective and efficient use of these Federal funds, FLLOWPA's staff will manage the project and oversee the work of all the partners. This unique and proven partnership, between FLLOWPA and Soil and

Water Conservation Districts, takes advantage of the strengths and experience of each of the project partners, both in the issues related to reducing non point source pollution and the proposed tasks, to build a comprehensive program. As such, it represents an effective use of funds since there will be minimal need for training, capacity building or otherwise bringing the project team “up to speed.”

Technical Assistance
Technical assistance is provided by USDA Natural Resource Conservation Service (for seed establishment dates and plant hardiness zones) and local product suppliers. Engineering assistance for the nearshore projects will be provided by a private engineer, whenever necessary.

BMPs
Name: Critical Area Stabilization (seeding)
Type: Agronomic/Cover-based
Acres: 150
Cost: $447,324

Description:
Hydraulic application of stabilization seed, mulch, fertilizer, and tackifier to exposed road ditch banks and eroded stream/lake banks
Start Date: October 2012
End Date: September 2015
Incentive Method: Cost Share
Incentive Rates: 50/20
Total Soil Savings: 67320

Name: Shoreline Stabilization Demonstration Project
Type: Engineering Practices
Acres: 133
Cost: $15,000

Description:
A shoreline stabilization demonstration project will be implemented. The District proposes that the slope of the bank to be graded to 3:1, geotextile fabric will be placed on the exposed slope and rip rap stone will be applied. A cut off trench with tile and stone will be placed in the bank as well. Engineering assistance for the near shoreline in the Lake Ontario Basin will be provided by a private engineer.

Start Date: October 2012
End Date: September 2014
Incentive Method: Cost Share
Incentive Rates: 75/25
Total Soil Savings: 1696

Media Campaign
Kickoff:
A kickoff event will be held during the first quarter of the project to announce the award and projects in each of the targeted areas. Cayuga, Onondaga and Wayne Counties all have the same congressional representative, Congresswoman Ann Marie Buerkle, representing a portion of their District. As these Districts work closely with the Congresswoman and her staff on agricultural non-point source pollution prevention and control projects, the Districts will establish a “Kickoff Event” in the 25th Congressional District to initiate this project. This event can be held at several different locations throughout the project area including the Cayuga County SWCD office (the geographic center of the project area) or right on Port Bay/Wolcott Creek outlet to Lake Ontario.

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Additional invitees include the Congressman Richard Hanna since a small portion of the project area in Cayuga County lies within the 24th Congressional District, the Chairperson of the Great Lakes Committee NY Delegation, NY Senate and Assembly representatives and County, Town and Village officials. FLLOWPA and the Districts also have an established relationship with several regional and local papers including The Post-Standard and The Citizen.

Ongoing:
An on-going outreach campaign will consist of each District speaking, on an annual basis, at a minimum of one of their County Highway Superintendents' monthly meetings. The Districts will review the fundamentals of non-point source pollution prevention and control, as well as municipal good housekeeping and highlight their project accomplishments to date. Articles on projects implemented with the Great Lakes Basin Program funding will also be featured in District newsletters and posted on their website. A sign will be placed at the shoreline stabilization demonstration project identifying the Great Lakes Basin Program as the funding source. General information, project highlights, photos and final results will also be posted on FLLOWPA's website (www.fllowpa.org). Individual projects will be featured in upcoming installments of FLLOWPA's newsletter, which is distributed to over 1,000 individuals throughout New York State representing local, state and federal agencies, as well as lake associations, landowners, political officials and agricultural producers.

Each year, FLLOWPA hosts a "Watershed Workshop" to provide for technical training and sharing of program information. If funding is awarded, FLLOWPA members, natural resource management practitioners and representatives from state and federal agencies will be invited to attend a workshop designed to present information, experiences and results related to the implementation of the Critical Area Stabilization in NY's Lake Ontario Watershed Project.

End:
Upon completion of the entire project, FLLOWPA and the project partners will disseminate a final report highlighting the project accomplishments. The report will be posted on all partner websites, included in upcoming newsletters and distributed at meetings and conferences whenever possible. Local officials and media representatives will also be invited to tour the project sites and presented with historic photographs to document the changes that have taken place due to the grant funding.

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