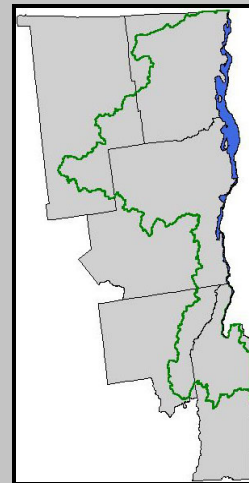


Lake Champlain Water Quality Management Planning:

**Identification, Assessment, and Prioritization of Critical Areas to Protect
Water Quality, Infrastructure, and Habitat**



ARRA 604(B) CATEGORY: *Environmentally Innovative Projects*
NYS FUNDS REQUESTED: *\$ 137,500.00*

PROJECT APPLICANT: *Lake Champlain-Lake George Regional Planning Board*
PROJECT SUPPORT: *Champlain Watershed Improvement Coalition of New York (CWICNY)*

START DATE: *May 1, 2009*
END DATE: *December 31, 2011*

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CONTRIBUTING PARTNERS: *SOIL AND WATER CONSERVATION DISTRICTS (SWCD), COUNTY WATER QUALITY COORDINATING COMMITTEES (WQCC), NYS DEC, TROUT UNLIMITED, FOREST OWNERS ASSOCIATION, LOCAL MUNICIPAL DPW'S, NYS DOT, BOUQUET RIVER ASSOCIATION, AUSABLE RIVER ASSOCIATION, GREATER ADIRONDACK RESOURCE CONSERVATION AND DEVELOPMENT (RC&D), COUNTY PLANNING DEPARTMENTS*

NYS DEC REGIONS COVERED BY PROPOSAL: *Region 5*

INTRODUCTION

Lake Champlain is a spectacular, historically significant, inter-boundary waterbody shared with the State of Vermont and the Province of Quebec, Canada.

The picturesque Lake Champlain region of New York is home to hundreds of miles of pristine streams and shorelines that draw thousands of recreationists from New York State, the U.S. and around the world annually. The high quality water of the region is a plentiful, limited resource that has a direct impact on the environmental and economic sustainability of the area.

Lake Champlain and its fisheries are world-renown and sought after by thousands of anglers year round. The popularity and reputation of these fisheries recently enticed televisions' *ESPN Outdoor Games* to hold fishing competitions in Lake Placid and continue to lure national bass fishing tournaments held annually in Plattsburgh.

More than one third of the residents of Champlain Basin are employed in service occupations accommodating tourists generating nearly \$4 billion annually. To remain attractive to tourists, the water quality of this region must be maintained and preserved. This project aims to create a program to protect both the soil and stream resources and maintain related economic prosperity throughout the Lake Champlain region.

BACKGROUND

Less than ideal growing conditions, fragile soils, brutal climate and steep angular land features define the Lake Champlain Watershed of New York. When disturbed, these natural characteristics lend themselves to extraordinarily high occurrences of erosion and silt/sediment deposition to the basin's sub-watersheds. In recent years, increasing rainfall rates combined with unnatural land disturbances, including road ditching, have exacerbated the erosion and sedimentation processes throughout the watershed. Slope instability and severe erosion has created roadway and other infrastructure failures, as well as stream and waterbody degradation.

CWICNY and its regional partners comprising the Lake Champlain watershed are well suited to address, remediate, and restore critical areas experiencing constant erosion. The five local Soil and Water Conservation Districts (SWCDs) of New York (Essex, Franklin, Clinton, Warren, Washington) alone are outfitted with highly knowledgeable staffs with expertise in erosion and sediment control, including 3 nationally certified professionals (CPESC). District personnel and local watershed associations provide erosion and sediment control technical assistance to public and private landowners on a regular basis. Currently, the five SWCDs are equipped with staff and hydroseeding technology capable of providing soil stabilizing mulch, swift-germinating grasses, and soil amendments to areas of all shapes and slopes lacking in vegetation and eroding.

However, due to limited resources, the Lake Champlain Basin's county SWCDs and watershed associations lack a simple, common protocol to consistently assess and prioritize critical areas (specifically: road ditches, sloughing banks, abandoned mining and logging areas, steep unpaved roadways, etc.). Many of these areas throughout the watershed require innovative, ground- stabilizing best management practice (BMP) planning and subsequent implementation.

The identification and prioritization of highly erodible, exposed sites will provide baseline planning data for the Champlain Watershed Improvement Coalition of NY (CWICNY), the LG-LC Regional Planning Board, and regional partners to organize and coordinate a much needed corrective action effort.

STATEMENT of NEED

Lake Champlain currently has a Total Maximum Daily Load (TMDL) for Phosphorus. According to Lake Champlain Basin Program reports, it is estimated that upwards of 90% of current phosphorus loading to Lake Champlain originates from nonpoint sources. It is further realized that soil erosion and sedimentation from critical areas including unstable road banks, ditches, steep slopes, and deteriorating stream culverts contribute significant quantities of phosphorus to the tributaries of Lake Champlain.

According to the Lake Champlain comprehensive watershed plan, *Opportunities for Action*, the number one priority action for the Lake and its watershed is the reduction of phosphorus inputs. Mechanical removal of fragile, shallow topsoils and organic layers common throughout the uplands of the Lake Champlain watershed, continues to be a common practice. This long-standing practice often occurs without re-establishing long-lasting soil stabilization vegetation or BMPs. The resulting effects are chronic erosion, sedimentation, phosphorus mobilization and ultimately eutrophication of waterbodies.

In excess, phosphorus is considered the limiting nutrient in Lake Champlain causing algal blooms and copious plant growth. Through topsoil and vegetation removal, phosphorus is neither able to be absorbed by terrestrial plants and organics nor contained within the low pH sub-soils. High water velocities in open ditches and on steep slopes easily erode unvegetated sub-soils, carrying particulate (soil-bound) phosphorus and loose sediments into rivers, lakes, ponds and Lake Champlain.

Negative environmental and economic impacts, from habitat degradation to reduced property values, are directly correlated to elevated phosphorus and sedimentation levels in the lakes and streams. Furthermore, unnatural or elevated sedimentation is likely to destroy aquatic habitat and sensitive fisheries by smothering spawning areas and disrupting macro-invertebrate food sources.

Identifying and stabilizing the major areas of erosion will ultimately control and reduce the sediment loads as well as phosphorus inputs being transported from these sites. Maintaining soil organic matter and/or repairing nutrient levels are integral to reducing erosion and managing phosphorus.

The NYS Department of Environmental Conservation’s Priority Waterbody List (PWL) has identified the following river and lake segments in the Lake Champlain watershed as being impaired by Silts/Sediments:

Waterbody/Segment Name	County Location
Great Chazy River / Lower, Main Stem	Clinton
Corbeau Creek and Tributaries	Clinton
Little Chazy River / Lower, Tributaries	Clinton
Ausable River / West Branch, East Branch	Essex
Bouquet River and several Tributaries	Essex
Lake George and several Tributaries	Warren
Halfway Creek	Washington

PROJECT DELIVERABLES

The Lake Champlain Watershed Water Quality Management Planning Project will work with regional partners to accomplish the following (I- IV):

I. Year 1 (2009) - Develop a simple Site Assessment protocol to assess areas of concern experiencing chronic erosion. The following site conditions will be ascertained:

- Area of Disturbance
- Distance to Waterbody/Tributary Info
- Soil type and Soil testing
- Estimated Erosion Occurrence
- Present Site Cover %
- Public or Private area
- Road Right of Way
- Erosion Susceptibility (slope %)

II. Year 2 (2010)- Data gathering and manipulation will entail the following:

1. GPS Reconnaissance
2. GIS Mapping
3. Site Assessment
4. Partner/Local Input
5. Site Prioritization
6. BMP Recommendations and Associated Costs

III. Ongoing (2009 - 2011) - Basin-wide erosion and sediment control education and outreach.

The local resource conservation organizations have productive working relationships with highway officials, municipalities, and landowners. Staff from CWICNY, WQCC, SWCDs and local watershed associations will organize erosion and sediment control workshops to address the shortfall of training and awareness for highway crews and contractors throughout the Lake Champlain Watershed. Education about impacts of land disturbing activities is a necessary, much needed component of this planning process. Due to the isolated location of the region, municipal officials and local contractors are often not up to date on practices involving erosion and sediment control and pertinent State regulations. Relevant educational opportunities are typically held in southern and central New York requiring long, discouraging drives or unfunded over-night trips.

IV. Year 3 (2011) - Plan of Action:

The *Lake Champlain Watershed Water Quality Management Planning* program will result in a plan of action matrix including future funding needs, control measures for each site, responsibilities, and dates for implementation. Re-establishing adequate slope vegetation and critical area stabilization is sure to require arduous efforts if not planned for adequately and appropriately. Traditional stabilization practices, such as seeding with grasses and planting of trees requiring suitable soils to establish, may be neither adequate nor feasible. Coarse, low organic, sandy soils and steep topography throughout the region means that each individual site will require specific planning; landowner input, BMP selection, technical expertise, and review from regional partners.

JOB CREATION

To accomplish the planning objectives outlined in this project, the LC-LG Regional Planning Board, CWICNY, and regional partners will utilize current and future staff contracted through the five Soil and Water Conservation Districts and watershed associations. The Districts and local watershed associations are effectively the “go to” agencies with staff capable of accomplishing the tasks and objectives associated with this planning endeavor.

Despite uncertain budgetary concerns and shortfalls, a strong willingness exists to support and assist with this project utilizing supplemental funding for personnel. The dollars provided through the 604(b) section of the American Recovery and Reinvestment Act will go towards helping to fund support staff in each county for the life of the project.

In anticipation of completion of this project, additional implementation funding will be sought after and leveraged through the plan of action. Those dollars will help foster additional regional job opportunities similar to those created through this proposal.

ANTICIPATED RESULTS

The Lake Champlain Watershed Water Quality Management Planning project will be the initial “building block” towards the implementation of a comprehensive watershed critical area stabilization program targeting high risk areas prone to erosion; in essence a “**BETTER BACK ROADS**” program for the Lake Champlain Watershed. Consistent, long term site stabilization through practice implementation will be the ultimate, extended objective of this program.

The following assessment and prioritization goals will be achieved throughout the Lake Champlain Watershed:

- ✓ **150 miles of eroding roadway infrastructure**
- ✓ **50 critical areas lacking vegetation greater than .5 acres**
- ✓ **35 failing road culverts**
- ✓ **Erosion and sediment control educational workshops**
- ✓ **Creation of 4 part-time and retention of 3 full time staff**

The data collected will be employed to prioritize high risk sites, needed stabilization practices, and associated implementation costs that are site specific to restore and protect those areas. Erosion and Sediment control educational workshop targeting local officials and contractors will be scheduled to accommodate those in need of training throughout the watershed. The workshops will also invite attendees familiar with sites to provide local input and reasoning on developing the prioritization list for critical areas throughout the watershed.

FINANCIAL OVERVIEW

A total of \$137,500.00 is being requested to assist the LC/LG Regional Planning Board, CWICNY Soil and Water Conservation Districts, watershed associations, and partners to develop this program for erosion and sediment control throughout the Lake Champlain Watershed. Local partners will provide approximately \$39,000 or 28% non-federal match towards the project through December 2011:

Program Budget
May 2009 - December 2011

Expenditure Category	604(b) Funds Requested	Non-Federal Match	Project Totals
Personal Services			
Salaries and Wages	\$102,000.00	\$25,000.00	\$127,000.00
Fringe Benefits			
Coordinator	\$15,000.00		\$15,000.00
Indirect and Overhead			
Nonpersonal Services			
Equipment		\$4,500.00	\$4,500.00
Travel	\$15,000.00	\$7,500.00	\$22,500.00
Supplies and Materials		\$2,000.00	\$2,000.00
Consulting and Other Services			
Erosion and Sediment Control Workshop	\$5,500.00		\$5,500.00
Total Project Costs	\$137, 500.00	\$39,000.00	\$176,500.00

CONCLUSION

The Lake Champlain Watershed Improvement Coalition of NY (CWICNY), the LC-LG Regional Planning Board (LC-LG RPB) and their partners are seeking funding for the *Lake Champlain Watershed Water Quality Management Planning Project*. The project will combine education and planning to develop a critical area stabilization program to protect water quality throughout the Lake Champlain Watershed. This planning project will be utilized to prioritize sites requiring a unique approach to remediation and corrective action.

Through remedial planning efforts, protection of the environmental and economic integrity of the region will be pursued. Ultimately, future BMP implementation emphasizing long term reductions in sedimentation and phosphorus loading throughout the upland areas of the Lake Champlain watershed will be realized.