



2011 Annual Report

A brief summary of the many projects and programs undertaken by your local Conservation District in 2011.

Year 2011 will be known for some time as the "year of the storm". On April 26th, the first of five major storm events ripped through the county, washing away roads, bridges, and private property. Many millions of dollars of damage was ravaged upon the municipalities and residents of Warren County, some of which still remains unrepaired today simply due to the high cost of reconstruction. When the storms hit, ultimately resulting in over \$25 million in public damage, the District set aside its traditional workload and went to work assisting the town and its residents in picking up the pieces. Local response efforts were truly amazing, from local emergency management to highway departments to public safety officials. Conservation District staff spent thousands of hours this past year working with towns and their constituents on reconstruction projects, from design to funding to construction. Things are mostly back to normal, people are getting on with their lives, and we applaud the local leaders and individuals who made that happen.

-Dave Wick, District Manager

Hurricane Irene and Her Lesser Cousins

Given New York State's northerly geographic location, we are generally spared the worst of tropical weather and the damage it can wreak. Not so in year 2011, as multiple storm events raged across the state, including Warren County. Five significant rainstorm events overwhelmed streams, rivers and local highway infrastructure, causing millions in public and private damage this past year. The small Town of Thurman in western Warren County suffered almost \$7 million in damage in one storm alone.

One of the main missions of the District is to assist municipalities on natural resource issues and projects. That mission was never so strongly evident than in 2011, when District staff assisted the town and highway departments in the county with storm damage restoration and infrastructure repair planning and construction. During the storms, dozens of road culverts and a few bridges washed away, leaving gaping holes in roadways and significant transportation issues. District staff worked with the highway departments on getting new culverts sized and installed properly, most of which were increased in size to handle future storm events without failing.

With these massive storms came streamflow volumes which caused significant streambank erosion, flooding, and gravel buildup in channels. District staff were onsite both during and after these events, and continued to work with both municipalities and landowners for many months on restoration of damaged properties. Dozens of washed out private driveways, roads and streambanks were assessed by the District, leading to restoration efforts that will hopefully be better suited in the future to withstand larger volumes of water. On the municipal side, the District worked with highway departments and FEMA to properly size new culverts using onsite investigations, surveying and hydrologic analysis. These technical efforts are needed for the towns to get reimbursed by FEMA, and the District's services are provided to the towns at no cost.

The hydrology and rainfall patterns of New York are changing, of that there is no doubt. We need to adapt to those changes by being prepared for more intense storm events, with properly sized stream crossings (bridges and culverts), stormwater infrastructure (driveway culverts, etc) and better stormwater management systems for our developments. Not only will this help keep storm damage and restoration costs down, but these efforts will help protect our streams and lakes which are so important to our economy and way of life up here in Warren County.



Village of Lake George Stormwater Improvement Project

If you've ever driven down Sewell Street in the Village of Lake George after a storm event, you've likely noticed the road is underwater from poor drainage and flooding, affectionately termed "Lake Sewell" by Mayor Blais. This area has been a thorn in the side of DPW Superintendent Dave Harrington for years. However, thanks to a \$15,000 stormwater grant from the Lake George Park Commission, this problem has been resolved.

The Warren County SWCD has been working for almost a decade with the Village on stormwater "retrofitting" projects, essentially putting road runoff into the ground through large infiltration systems. By doing so, we've been able to greatly reduce the volume of polluted road runoff from reaching Lake George. This past fall, the District and Village partnered together again to address the flooding and water quality problem on Sewell Street. District staff worked with the DPW to plan out subsurface road improvements, and designed a relatively simple infiltration system to get the runoff into the ground. The soil acts to filter and treat stormwater to help keep our streams and lake clean.

The District designed an interconnected series of three drywells and a catch basin to capture and infiltrate a large volume of runoff from NYS Route 9 and Sewell Street, and worked with the Village crew for three days on its installation. We had to modify the design mid-construction to avoid a 14" unmarked water main (that would have ruined our day), but that's what makes construction so fun.

This project was only the first half of the grant. The second half includes the installation of a new pipe system and infiltration chamber bed for the remaining portion of the roadway. Keep an eye out in May for that project, and say goodbye forever to our unwanted Lake Sewell.



New in-stream sediment pond being created

English Brook Gets Some Help

English Brook is one of the largest streams that flows into Lake George. It also has the distinction of having the largest sediment delta in the lake (over 70,000 cubic yards), and can be seen from over 5 miles up in the sky.

This delta has resulted over the past 50 years from multiple sources, including the construction of the Adirondack Northway, upland development, road sanding, and natural streambank erosion. While many of those items have been addressed, many more issues still affect this important tributary to Lake George.

This past year, the District received a grant of \$186,850 from the NYS DEC to address stormwater runoff and sedimentation problems in English Brook. The goal is to eliminate or minimize as many sources of sediment and pollutants as possible to the brook by conducting roadway stormwater improvement projects, streambank protection measures and other means. Work will commence in the early summer of this year.

The District and Lake George Association got a jump start on projects for English Brook this past year, joining together to install a new in-stream sedimentation pond just above its outlet to capture sand and silt before reaching Lake George. Thanks to the Lochlea Estate folks for allowing this work on their property.

Many partners are already involved in this project, including the Town and Village highway departments, the NYS DOT, the Lake George Association and the DEC. Over the next two years, we hope to make these improvements a reality, protecting both English Brook and ultimately Lake George.



Schroon Lake Milfoil: Mapping and Management

One of the recommendations in the new Schroon Lake Watershed Management Plan was to develop an accurate mapping of all invasive plant species in Schroon Lake, and to develop a strategy to largely eradicate these plants. Working with the Plan's "Implementation Committee", the District sought consultants for this service and contracted with Lycott Environmental, LLC to undertake this project.

The findings of the report show that while there are many locations in Schroon Lake with Eurasian Watermilfoil (an invasive plant), these populations can be effectively addressed with a focused three year effort. While milfoil on Schroon Lake has had varying levels of management for the past 15 years, no cohesive plan had been created to generate funding and move aggressively ahead. The new goal is to eliminate all dense and moderate beds, and get milfoil management down to a small annual effort of harvesting scattered plants.

With this plan in hand and with funding from the towns of Chester, Horicon, and the East Shore Schroon Lake Association, the District is contracting with a professional firm in 2012 to advance these management efforts on Schroon Lake.

Schroon Lake Comprehensive Aquatic Plant Survey and Management Plan

Prepared for:

The Schroon Lake Watershed Management Plan Steering Committee

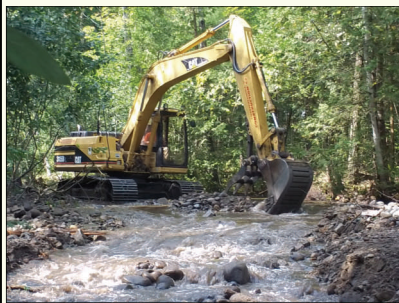
December 2011

Prepared by: Lycott Environmental Inc. Southbridge, MA USA
Richard King



Stream Channel Restoration - Post Storm

When the storms receded, a tremendous amount of gravel, trees and other debris was deposited in stream channels, greatly reducing capacity and leading to more flooding. Nowhere was this more prevalent than in two streams in Lake George; English Brook and West Brook. Within only a few days of the storm events, District staff had contracted with Morrissey Excavating to excavate hundreds of tons of excess gravel and dozens of trees out of these two brooks which lead to Lake George.



These projects, overseen on a daily basis by NYS Department of Environmental Conservation staff, proceeded very quickly and efficiently. Great care was taken to ensure that this work would restore a previous and natural condition, and to avoid over-excavating or channelizing these streams.

The many adjacent landowners who benefitted from these efforts were greatly appreciative of the work conducted, which they could not have done by themselves. Funding for the effort on English Brook came from a grant the District currently has from DEC, and the work on West Brook was generously paid for by the Lake George Association. Many thanks!

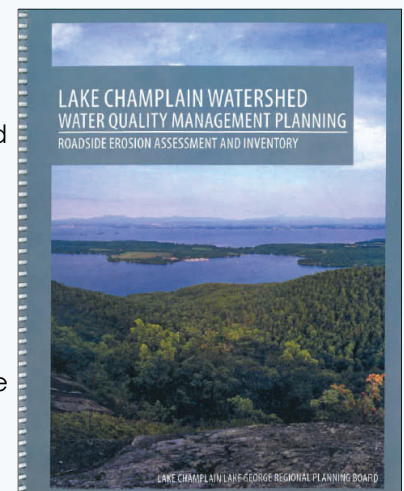
Roadside Erosion Study

Sediment (sand and silt) from eroding roadbanks and ditches has been determined to be one of the largest water quality impacts to lakes and streams in New York state. To understand this overall condition in the Lake Champlain Watershed, the Lake Champlain/Lake George Regional Planning Board received a grant for \$130,000 to conduct roadside assessments and recommendations.

Each of the five Soil and Water Conservation Districts in the Lake Champlain Watershed were contracted to review the roads in their county, and Warren County SWCD assessed more than 600 miles of roadway for erosion concerns. The Champlain Watershed in Warren County primarily consists of the Lake George Basin and the northern half of Queensbury.

The outcomes vary greatly by county, with Warren County being generally very well managed by our highway departments. The District has a very active roadside hydroseeding/erosion control program in partnership with local towns, which is credited for much of this success.

This study sets up opportunities to obtain grant funding to continue these important roadside erosion projects and programs, which greatly help in keeping our streams and lakes clean.





Bradley Street Stream Reconstruction

When storms overwhelm streams in developed areas such as the Lake George Village, damage to those streams and adjacent properties can be significant. One such case was on the north side of the Village, on Bradley Street where a narrow stream channel blew out and carved a gully down a few properties through this developed area.

Although no state or federal storm damage funding was available for restoration, thankfully the District had funding to protect and improve English Brook, which this small stream flows into. Given the enormous amount of sediment that washed out into the brook, the

grant was available to undertake stream channel protection and restoration work.

In a partnership effort, the District worked with the Village and Town of Lake George highway departments to undertake improvements on over 500 feet of channel. Morrissey Excavating conducted the heavy lifting, working to reconstruct a stable open channel, or a culvert pipe in tighter areas.

The outcome is that a longtime problematic stream has now been properly stabilized and protected, keeping hundreds of tons of sediment out of English Brook and its receiving water, Lake George.



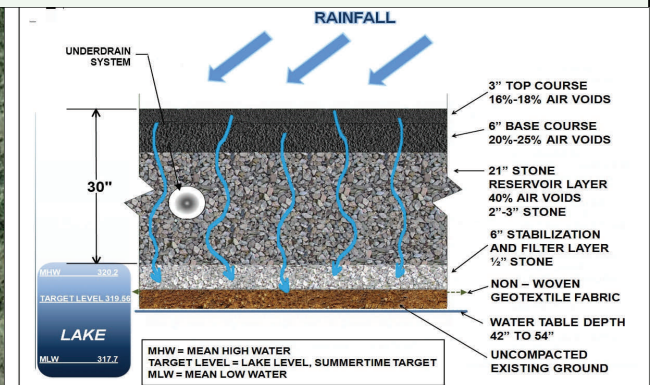
Beach Road Reconstruction: Porous Pavement Project

This coming year, Warren County is embarking upon a first of its kind project in New York State: a highway constructed of porous asphalt pavement.

On the southern tip of Lake George is a well known and well traveled road (Beach Road) which is slated for full-depth reconstruction. The Warren County DPW received state and federal grants to undertake this \$6 million project, beginning in 2012. In the planning stages, the District was asked to review the stormwater plans for the project by the county's retained engineering firm Barton and Loguidice (B&L), LLC. Having just heard from some nationally renowned speakers at the North Country Stormwater Tradeshow in Lake George, the District floated the concept of porous pavement for the project.

To imagine what porous pavement looks like, picture a black Rice Crispies treat. It is essentially a traditional high density asphalt mix without the finer particles. When water hits the surface, it doesn't run off, but rather flows downward through the pavement into a sub-base of stone. Road runoff pollutants filter down through the soil and get removed from the water, essentially eliminating stormwater runoff pollution from pipes entering the lake.

To see the only existing example of this type of highway, Tom Baird of B&L and SWCD Manager Dave Wick took a road trip up to Maine, where a similar but smaller highway project has been in place for three years and is holding up extremely well. In a proactive fashion, the Warren County DPW gave strong consideration of porous asphalt for this major reconstruction project. To assist in this effort, the District was able to secure a Green Innovation Grant for \$416,000 to defer project design and construction costs. In addition, the Lake George Association paid the up-front design costs to get the concepts prepared. The project is in the final review stages with federal approvals anticipated soon. This project will be one of the most important water quality protection projects ever for Lake George, and we are truly looking forward to it becoming a reality.



A Few Other Conservation and Recreation Efforts...

Stormwater Tradeshow and Conference: The District working with CWICNY and Regional Planning, organized and hosted the 7th Annual North Country Stormwater Tradeshow, drawing 144 attendees from around the region. This was one of the two largest stormwater conferences in New York State in 2011.

Contractors Erosion Training: The District organized and conducted eight Erosion and Sediment Control and Stormwater Management workshops for contractors in 2011, totaling over 300 contractors in attendance. The Warren County SWCD is one of only a handful of Districts in NYS with three technical staff who are *Certified Professionals in Erosion and Sediment Control, CPESC*.

Warrensburg Football Field: When the Town of Warrensburg needed a new junior football field, it contacted the District, who developed a game plan, laid out the field and oversaw construction at the recreation field. It goes into use this coming fall.

Town of Stony Creek Nature Trail: The Town of Stony Creek is embarking on the development of a top of the line handicap accessible nature trail, which will be an excellent outdoor resource in the western part of the county. The town, the District and County Planning are working together to make this project a reality. The trail design, permitting, and construction layout have been completed by the District, and the town is progressing with construction in the summer of 2012. Keep a lookout for this exciting new trail in Stony Creek.



Lake George Basin - Community Stormwater Retrofit Projects



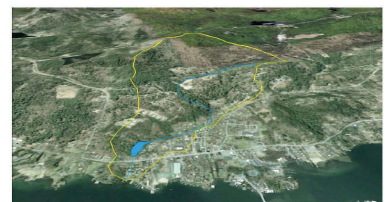
One of the largest challenges facing Lake George is polluted stormwater runoff entering the lake from developed areas and communities. Stormwater runoff has been identified as the largest contributor to water clarity and quality declines in Lake George over the past few decades. The only way to address this problem is to identify the contributions of stormwater and eliminate them.

In late 2011, the Lake George Park Commission put forth five \$15,000 stormwater retrofit planning grants for communities around the lake. Five towns responded and were awarded these funds: the

Village of Lake George, and the Towns of Queensbury, Bolton, Hague, and Ticonderoga. All five communities have partnered with the Warren County SWCD to undertake these projects, including mapping of stormwater inlets and outlets into the lake, prioritization of problem areas, and specific recommendations for improvements.

Each community has different interests and issues, and the District is working hand in hand with them to move ahead on the projects. In the Village, a large stormwater infiltration system has already been designed and installed, and in the Town of Bolton, an assessment of a priority area (Stewart Brook) has been completed. By the end of 2012, all reports and demonstration projects will be completed, setting the stage for much larger grants and projects in the future. Thanks to the Park Commission for putting these dollars forward in helping communities address stormwater runoff pollution issues.

Stewart Brook / Dula Pond Watershed Assessment



*Prepared For the Town of Bolton
by the Warren County Soil and Water Conservation District
through the
Lake George Park Commission
Community Stormwater Grant Program
February 2012*

Lake George Septic Pumpout Program

In 2011 the District continued its efforts to reduce water quality impacts from on site wastewater treatment systems. The Lake Champlain-Lake George Regional Planning Board (LCLGRP) received a grant from the Lake Champlain Basin Program to assist landowners with septic pump outs and raise awareness of their water quality on Lake George. The District has previously conducted four of these types of programs in the county, was asked to assist.

With assistance from the Lake George Association, the LCLGRP selected several priority areas on Lake George to solicit volunteers for the program. Homeowners were sent a letter describing the program which included a 50% cost share septic tank pump out, a water conservation kit that included a low flow shower head, toilet tank bag and educational materials dealing with septic systems. If a landowner in the priority area was interested, they sent back a preaddressed stamped postcard confirming their participation. Over 80 systems were pumped through this program. The District was present during the pumpouts to educate landowners on how septic systems function and what maintenance should be done.



Hydroseeding for Erosion and Sediment Control

The Warren County SWCD continues to assist municipalities with the implementation of erosion and sediment control through its hydroseeding program. Last year the District hydroseeded nearly 8 acres in the county, mainly roadside ditches. This program is available at no or low cost to the town, county and state municipalities. It is recognized that 90% of erosion can be eliminated through proper vegetation establishment and hydroseeding is extremely effective.

The District also has switched from a low phosphorus to a zero phosphorus fertilizer. Most of the soils in our county have adequate phosphorus, which in nature limits plant growth. Excessive phosphorus in water helps to feed plant growth, leading to many negative consequences.

If any municipality is interested in partnering with the District for hydroseeding, please feel free to give us a call and we would be happy to assist you.

New Roles For Conservation District

This past year The District has taken on several new roles. Warren County had requested that the District become its Stormwater Management Officer for the NYSDEC's Municipal Separate Storm Sewer System Program (MS4). The District is responsible for assisting the county with its stormwater program to meet all of the NYSDEC's Minimum Measures for the program. In addition, the Town of Queensbury requested the District's assistance with their program responsibilities.

The District now also has the responsibility of the Hazard Mitigation Coordinator. In this capacity the District works with various state and federal programs to secure funding for the municipalities for mitigating potential resource hazards.

The District is capable of a wide variety of projects, programs and responsibilities, by being flexible in order to better serve the people of Warren County.



The 2011 Warren County Envirothon



The 18th Annual Warren County Envirothon was a great success. Eighty high school students attended this event. The Envirothon, an annual day-long program, allows high school students from across the county to compete as a five person team. The teams answer hands on exam questions in five different areas of study. Soils, Aquatics, Forestry, Wildlife and a current topic. Although hosted by the District, stations of the program are ran by local professionals in each area of expertise. The team that wins the event at our local Envirothon advance to compete at the state level, and potentially the national level. In 2011 the winning team came from North Warren for a second time in a row. Congratulations Cougars!! A tremendous thanks goes out to the nearly two dozen businesses that donate funds and prizes for this fun and educational event.

Conservationist of the Year

The 2012 Warren County SWCD Conservationist of the Year goes to Mike Travis, Highway Superintendant of the Town of Queensbury.

Mike has become a consistent and strong partner with the District in addressing natural resource issues in the town. He and his department contact the District regularly to see if there is a different way to deal with resource issues, especially in and around streams. The town is very progressive with its stormwater infiltration program, including the maintenance of those structures.

The District feels that the Town HWD goes above and beyond for its protection of natural resources and is proud to recognize Mike for his efforts, **CONGRATULATIONS!**



Mike Travis (l), Frank Thomas, SWCD Chairman (r)

Landowner Assistance

Soil and Water Conservation Districts were established in the 1930's to assist farmers and landowners primarily with erosion control. Through the years, Districts evolved to meet the needs of their local constituency.

Landowners throughout the year request assistance through the year from pond siting, forestry visits, stormwater issues, wildlife plantings, streambank stabilization and many, many others.

The annual tree and shrub seedling sale is held in the spring and is one way that many people recognize us. The District offers low cost, bare root seedlings for conservation purposes to landowners, which is really the essence of conservation on the ground.

In addition to site visits, our office has historic aerial imagery available for viewing, along with topographic maps, wetlands maps and offers basic mapping services.

If you have a need or would like to know more about the services that we can offer, please feel free to contact us or check out our website at www.warrenswcd.org.



Municipal Technical Assistance

Every year brings on new challenges for local municipalities. Whether they are unfunded state mandates, specific program requirements or community assistance the District has been called on many issues for help.

The District has worked with municipalities on a variety of programs including stormwater remediation, flood attenuation, erosion and sediment control, trail layout and design, recreation field development, resource education and habitat improvement.

Each year the District gets more calls for assistance using its NYSDEC General Permit. This is a permit that allows certain activities to be undertaken through the District on behalf of the DEC. By utilizing this permit, municipalities can reduce permit turn around time and undertake projects in a more timely fashion.

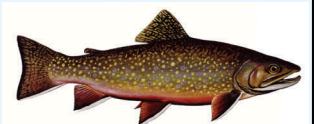


If you have any questions or think that the District may be able to assist you, please feel free to contact us, we would be happy to come out and see what we can do!

District Fish and Tree Programs

The Warren County SWCD offers programs to landowners to assist them with enhancing habitat for wildlife through an annual tree and shrub program, providing over 30 different species of tree's and shrubs, Conservation packs, wildflower seeds, and bird and bat houses. A little over 6,000 low cost tree and shrub seedlings were sold in 2011. This preorder program is offered beginning in February. Orders are placed with a one day pickup for those orders at our office. If other pickup arrangements need to be made, please contact our office.

This year the District has expanded its fish sale to include the spring. Traditionally this is a fall program, but we wanted to see what the interest level was from pond owners for an earlier sale. The District offers brook, brown and rainbow trout, large mouth bass and fathead minnows. Please contact the office with any questions or for more information call or check us out at our [website](http://www.warrenswcd.org) for more information.

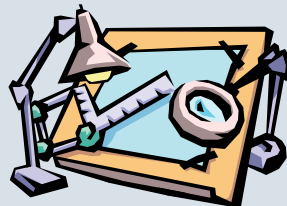




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By The Numbers...

- The Warren County Soil and Water Conservation District has been in existence for 56 years, and was created by the Warren County Board of Supervisors in 1956 under NYS Soil and Water District Law.
- The District is a county-based organization overseen locally by a seven member board of Directors.
- The District's total 2011 operating expenses were \$395,187.
- Our 2011 funding allocation from Warren County was \$268,000. The remainder of the District budget comes from competitive grants and some reimbursement from NYS.
- The District has received over 60 grants in the past ten years, totaling over \$4 million dollars. These dollars go directly to conservation projects and programs for Warren County.
- The District fielded over 1,700 calls related to conservation issues in 2011.
- SWCD staff conducted more than 350 landowner and municipal site visits in 2011 related to conservation issues.



2012 Board of Directors

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Ron Montesi - Vice Chairman
Evelyn Wood
Mark Brown
Tim Costello
Charlie Maine
George Ryan

District Staff

James Lieberum, District Manager
Rhonda Jarvis, Office Manager
Nick Rowell, Nat. Resource Spec.
Bob Bombard, Water Resource Spec.
Dean Moore, Sr. District Technician

The District's mission is to protect and improve the lakes, rivers, streams, soils and other natural resources of Warren County through locally-led conservation projects and programs.

Visit us online at our website: www.warrenswcd.org or on Facebook at www.facebook.com/pages/Warren-County-Soil-and-Water-Conservation-District/300484853328896