

**NEW YORK STATE**



**DEPARTMENT OF STATE**

# **INTERMUNICIPAL WATERSHED MANAGEMENT PROGRAM**

**FEBRUARY 2010**

## EXECUTIVE SUMMARY

All New Yorkers depend on clean water for drinking, recreation, and economic sustainability. Watershed management is critical to protect and restore New York's coastal waterbodies and inland waterways. Through the Intermunicipal Watershed Management Program, the Department of State has taken the lead in providing professional expertise and financial assistance to municipalities to protect and improve water quality. Across New York State, **37** Intermunicipal Watershed Management Plans are being developed and implemented with funding and assistance from the Department of State.

***A Comprehensive Approach*** - The Department of State has developed an integrated, comprehensive approach to watershed management planning - this approach is a major component of the Department of State's Intermunicipal Watershed Management Program. More than **458** communities in 53 counties, comprising watersheds of over **11,500** square miles (over 7 million acres), are actively involved with the Department in watershed planning across New York State. This represents **21%** of New York's land mass and **55%** of the communities eligible for funding from the Department of State through the NYS Environmental Protection Fund Local Waterfront Revitalization Program.

***Funding*** - Together, the Department and its partners have invested over **\$38 million** through the Environmental Protection Fund Local Waterfront Revitalization Program (EPF LWRP), Clean Water/Clean Air Bond Act, and Great Lakes Coastal Watershed Restoration Program to prepare and implement watershed management plans. As a direct result of the Department's involvement, as well as local expertise and matching funds, water quality is improving in New York waterbodies.

***Technical Assistance*** - The Department of State takes an active role in providing readily available, responsive, hands-on assistance, working with communities to develop and implement priority watershed improvement projects. To provide communities with much needed guidance, the Department developed a step-by-step process for creating and implementing watershed management plans, which can be found in the ***Watershed Plans: Protecting and Restoring Water Quality*** guidebook. The guidebook, developed in partnership with the Department of Environmental Conservation, is available for download at: [http://www.nyswaterfronts.com/watershed\\_home.asp](http://www.nyswaterfronts.com/watershed_home.asp)

***Training*** - The Department has been providing training to local governments and planning groups on Intermunicipal Watershed Management Plans and how to use their land use authority to protect and restore water quality. To date, the Department has conducted **11** training sessions to review the step-by-step process outlined in the guidebook.

## MOVING FORWARD IN 2010

***Targeting Watersheds*** - The Department will target the tributaries and embayments of Lake Ontario, Lake Erie, the St. Lawrence River, and the Mohawk River for restoration and protection using the EPF LWRP and other available funding sources.

***Training*** - The Department will pursue additional training workshops on the watershed planning and implementation process for municipalities and watershed organizations.

***New Efforts*** - The Department will initiate eight new watershed planning efforts recently funded under the 2009-2010 EPF LWRP, totaling over **\$2 million**:

- Mohawk River Watershed
- Salmon River Watershed
- Otisco Lake Watershed
- Lake Sacandaga-Lake Pleasant Watershed
- Quassaick Creek Watershed
- Rondout Creek Watershed
- Dering Harbor Watershed
- Alley Creek Watershed

***Additional Funding*** - The Department has applied to the U.S. Environmental Protection Agency for over **\$4 million** in funding under the Great Lakes Restoration Initiative to assist municipalities and Soil and Water Conservation Districts in preparing and implementing intermunicipal watershed management plans for tributaries and embayments of the Great Lakes and St. Lawrence River.

***Building Coordination*** - The Department will continue to reach out to the Department of Environmental Conservation, Soil and Water Conservation Districts, the Department of Agriculture and Markets, Department of Health, and other members of the State Soil and Water Conservation Committee, and to local agencies to strengthen partnerships for watershed management planning and implementation.

***Outreach*** - The Department will meet with municipalities and watershed groups that are not currently participating in the Intermunicipal Watershed Management Program, to discuss the benefits of watershed management planning and implementation and how the professional expertise of the Department of State and funding from the EPF LWRP can assist communities improve water quality.

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## OVERVIEW

**Intermunicipal Watershed Management Program** - The Department of State's Intermunicipal Watershed Management Program provides municipalities with professional expertise and funding to develop and implement watershed management plans to protect and restore water quality and related resources. The Intermunicipal Watershed Management Program focuses on identifying connections between land use and water quality to reach consensus on actions to protect water resources while facilitating economic development and guiding growth to the most appropriate locations. Department staff with backgrounds in the natural sciences and local and regional planning work closely with interested communities across the State.

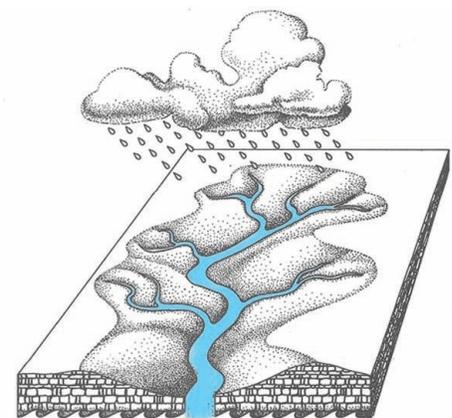
The Intermunicipal Watershed Management Program enables communities to:

- **Establish a mechanism** for long-term watershed management, often through the creation of an intermunicipal watershed organization;
- **Describe and understand existing water quality and watershed conditions**, current impairments and anticipated threats to water quality, and recognize the key problems and opportunities in the watershed;
- **Identify and describe priority actions** needed to address water quality impairments or threats;
- **Create an implementation strategy** identifying stakeholder roles and the financial and institutional resources needed to undertake these priorities;
- **Develop a means to measure success**, track implementation, and monitor performance; and
- **Network** with other communities, agencies and organizations with experience in the successful preparation and implementation of watershed management plans.

To this mix, Department of State, as New York's coastal management and community planning agency, brings its extensive experience in creating practical responses to land and resource management challenges— experience that has shown the importance of intermunicipal and interagency collaboration.

**Benefits of Watershed Management** - Clean and plentiful waters are needed to support local economies, provide recreational opportunities, sustain fish and wildlife habitats, and enrich our everyday experiences. New York State's water resources - rivers and streams; lakes and reservoirs; estuaries; Great Lakes; and the Atlantic Ocean and Long Island Sound - all contribute to our quality of life. Planning on a watershed scale allows communities to effectively and comprehensively address water quality issues throughout their watershed, while balancing the need for economic growth and development.

**Watershed Definition** - A watershed is a geographic feature. It is the total area of land draining to a body of water such as a stream, river, wetland, estuary, or aquifer. Watersheds can range



A watershed is defined as the total area of land draining to a body of water.

in size from a few acres that drain into a small creek to a large basin that drains an entire region into a major waterbody, such as Lake Ontario. A watershed is not confined by jurisdictional boundaries. Its boundaries are determined by topography and on the nature of how water moves. More often than not, a watershed spans multiple jurisdictions. It is, therefore, important that counties, towns, villages and cities work together to address shared water quality problems and to seek available opportunities. By using the appropriate geographic scale, a watershed management plan can be developed that best meets the needs of any community.

***Department of State Intermunicipal Watershed Management Plans*** - The Department’s approach to watershed planning has proven highly successful throughout New York, from Long Island to the Adirondacks, and from the Hudson River Valley to the Great Lakes. Watershed management plans guide communities to identify critical actions needed to protect and restore water quality, set watershed priorities, and develop a strong and clear implementation strategy for the future. Together with municipal, State, and federal partners, the Department has assisted in the development and implementation of **37 watershed management plans covering 458 municipalities and over 11,500 square miles (over 7 million acres)**. This represents **21% of New York’s land mass**.

<b>Department of State Supported Watershed Planning Efforts</b>		
<b>Region</b>	<b>Number of Communities</b>	<b>Square Miles</b>
<b>Statewide</b>	<b>53 Counties 458 Municipalities</b>	<b>11,729</b>
Adirondack and Tug Hill	10 Counties 93 Municipalities	3,568
Great Lakes and Finger Lakes	19 Counties 157 Municipalities	3,103
Mohawk River Basin	14 Counties 127 Municipalities	3,510
Long Island and NYC	4 Counties 36 Municipalities	284
Hudson River	6 Counties 45 Municipalities	1,264

The Intermunicipal Watershed Management Program focuses on watersheds within New York State’s coastal area and designated inland waterbodies. To address the specific concerns pertaining to the New York City water supply, the Watershed Protection and Partnership Program assists watershed communities in preparing or updating comprehensive plans, establishing or revising community development tools and local laws, and creating strategic plans for the protection of water quality.

The Intermunicipal Watershed Management Program is also a key element of New York State’s Coastal Nonpoint Pollution Control Program. This program, approved by the National Oceanic and Atmospheric Administration’s Office of Coastal Resource Management in December 2006 was

developed jointly by the Departments of State and Environmental Conservation. It establishes management measures to protect and improve water quality within coastal watersheds. One of the main management measures focuses on the development of watershed management plans to address nonpoint pollution from forestry, agriculture, marinas, hydromodifications, urban, onsite wastewater treatment systems, and other sources. Management measures also address the protection of wetlands which serve to reduce the impact of nonpoint pollution; and the management of critical coastal areas.

**Watershed Management Plan Implementation** - The Intermunicipal Watershed Management Program emphasizes the implementation of watershed management plans and their priority management recommendations. Of the 37 management plans developed with funding and assistance from the Department of State, **all** 37 are being implemented in partnership with the Department. Projects include installation of best management practices, assessment of and improvements to local land use controls, invasive species control, habitat restoration, streambank stabilization, education and outreach programs, onsite wastewater treatment system inspection programs, and monitoring water quality for pollutants. All of these projects are critical to the protection and improvement of water quality.

## FUNDING AND TECHNICAL ASSISTANCE

**Financial Assistance** - Together, the Department and its partners have invested over **\$38 million** through the Environmental Protection Fund Local Waterfront Revitalization Program (EPF LWRP), Clean Water/Clean Air Bond Act, and Great Lakes Coastal Watershed Restoration Program to prepare and implement watershed management plans. As a direct result of the Department’s involvement, as well as local expertise and matching funds, water quality is improving in New York’s waterbodies. Municipalities are working together to share resources to save money as they address common issues. Organized by region, the following tables summarize the Department’s assistance to protect and restore New York watersheds.

Department of State Watershed Management Funding by Source					
	Clean Water/Clean Air Bond Act	EPF LWRP	Great Lakes Coastal Restoration Program	Local Match	Total Funds*
<b>Totals</b>	<b>\$1,459,944</b>	<b>\$17,200,811</b>	<b>\$522,088</b>	<b>\$19,182,843</b>	<b>\$38,365,686</b>
*Total Funds include NYS Environmental Protection Fund Local Waterfront Revitalization Program, NYS Clean Water/Clean Air Bond Act, NOAA Great Lakes Coastal Watershed Restoration Program and matching funds					

<b>Department of State Supported Watershed Planning Efforts - Adirondacks and Tug Hill</b>			
Watershed	Square Miles	Description of Watershed Management Planning Effort	Total Funds*
AuSable River	760	The Ausable River Association and all municipalities in the watershed developed the Ausable River Watershed Management Strategy, completed in 2008. Priority recommendations being implemented include an education and outreach program, an outfall inventory, and water quality assessment to pinpoint potential water quality impairments.	\$143,200
Black River	1,875	The Tug Hill Commission, Lewis County SWCD, NYSDEC, and watershed municipalities are currently developing the Black River Watershed Management Plan to identify water quality impairments, develop management recommendations, and construct an implementation strategy.	\$320,000
Boquet River	288	To address extensive erosion and nonpoint source pollution, the Boquet River Association along with watershed municipalities and the Essex County SWCD are preparing the Boquet River Watershed Management Plan.	\$100,000
Lake George	188	The <i>Lake George Planning for the Future Document</i> , completed in 2001, addresses lake sedimentation, invasive species, and stormwater runoff. Since that time extensive work has been completed to implement the plan including installation of stormwater management practices, invasive species removal, water quality monitoring, and outreach and education programs.	\$8,558,100
Lake Sacandaga-Lake Pleasant	21	Awarded in 2009, this new project will develop a waterbody management plan to address issues of excessive turbidity and invasive species.	\$50,400
Salmon River	276	Awarded in 2009, this is a new effort to begin the first phase in the development of the Salmon River Watershed Management Plan to address excessive erosion and agricultural runoff.	\$162,600
Schroon Lake	160	The Schroon Lake Watershed Management Plan is currently being developed by Warren County Soil and Water District, watershed municipalities, and other lake organizations. The Watershed Plan will focus on nonpoint source pollution and invasive species.	\$115,200
	<b>3568</b>		<b>\$9,449,500</b>
*Funding includes the NYS Environmental Protection Fund Local Waterfront Revitalization Program, NYS Clean Water/Clean Air Bond Act, National Oceanic and Atmospheric Administration's Great Lakes Watershed Restoration Program, and matching funds.			

<b>Department of State Supported Watershed Planning Efforts - Great and Finger Lakes and Western New York</b>			
Watershed	Square Miles	Description of Watershed Management Planning Effort	Total Funds*
Black Creek	202	The Black Creek Watershed Management Plan is currently being developed in partnership with the Genesee/Finger Lakes Regional Planning Council. The plan will focus on nonpoint source pollution and erosion.	\$149,000
Canandaigua Lake	174	The Canandaigua Lake Watershed Council is implementing key recommendations of the Canandaigua Lake Watershed Management Plan, completed in 1999. Implementation projects have included sediment reduction, nonpoint source modeling, and water quality monitoring.	\$576,000

Cayuga Lake	800	The Cayuga Lake Intermunicipal Organization is implementing key recommendations of the Cayuga Lake Watershed Restoration and Protection Plan, completed in 2001. Implementation Projects include streambank stabilization, subwatershed assessments, and the development of a hydroseeding program.	\$1,410,000
Cazenovia Lake	166	The watershed management plan completed for Cazenovia Lake establishes a long-term growth strategy for assuring that future growth occurs in a manner which protects natural, cultural, and agricultural resources. The plan will also focus on actions to protect water quality with the watersheds of Cazenovia Lake, Tuscarora Lake, and Eaton Brook Reservoir.	\$217,796
Chautauqua Lake	180	The Chautauqua Lake Watershed Management Plan is currently being developed by Chautauqua County, the Chautauqua Lake Management Commission, and watershed municipalities. The watershed plan will address sedimentation, nonpoint source pollution and invasive species.	\$460,000
Conesus Lake	70	The Conesus Lake Watershed Management Plan, completed in 2003, addresses sedimentation, agriculture runoff, and nonpoint pollution. Implementation projects have included streambank stabilization, road ditch stabilization and management, and numerous nonpoint source abatement projects.	\$1,150,000
Honeoye Lake	53	The Honeoye Lake Watershed Management Plan, completed in 2007, addresses nutrients and invasive species. Implementation projects have begun and include a local control assessment and streambank analysis.	\$180,000
Niagara River	745	The Niagara River Watershed Management Plan is in the early phases of development. The Watershed Management plan will address Combined Sewer Overflows, nonpoint source pollution and agricultural runoff.	\$938,000
Oatka Creek	214	The Oatka Creek Watershed Management Plan is currently being developed in partnership with the Genesee/Finger Lakes Regional Planning Council. The plan will focus on nonpoint source pollution and erosion.	\$149,000
Otisco Lake	42	Awarded in 2009, the Otisco Lake Watershed Management Plan will address turbidity, invasive species agricultural runoff.	\$120,000
Seneca Lake	457	The Seneca Lake Watershed Management Plan is currently under development to address sedimentation and nonpoint pollution.	\$305,000
	<b>3103</b>		<b>\$5,654,796</b>
*Funding includes the NYS Environmental Protection Fund Local Waterfront Revitalization Program, NYS Clean Water/Clean Air Bond Act, National Oceanic and Atmospheric Administration's Great Lakes Watershed Restoration Program, and matching funds.			

<b>Department of State Supported Watershed Planning Efforts - Mohawk River Basin</b>			
Watershed	Square Miles	Description of Watershed Management Planning Effort	Total Funds*
Mohawk River	3510	Awarded in 2009, the Mohawk River Watershed Management Plan involves 14 County SWCD and 127 municipalities. The watershed management plan will address agricultural runoff, nonpoint source pollution, and habitat protection.	\$740,540
Oneida Lake	480	The Town of Cicero, in coordination with the Central New York Regional Planning and Development Board, completed a watershed management plan for Oneida Lake. The plan includes prioritization of issues of concern, assessment of local land use controls, public outreach and education, and preparation of a final report.	\$100,000
	<b>3990</b>		<b>\$750,540</b>

\*Funding includes the NYS Environmental Protection Fund Local Waterfront Revitalization Program and matching funds.

<b>Department of State Supported Watershed Planning Efforts - Long Island and NYC</b>			
Watershed	Square Miles	Description of Watershed Management Planning Effort	Total Funds*
Alley Creek	13	Awarded in 2009, the Alley Creek Watershed Management Plan will address stormwater runoff, aging infrastructure, habitat protection, and invasive species removal. It will build on NYC Department of Environmental Protection's long term control planning efforts that focus on Combined Sewer Overflows.	\$700,000
Beaverdam Creek	4	The Beaverdam Creek Action Plan address critical issues including stormwater runoff and nonpoint source pollution. A variety of implementation project have included stormwater abatement projects and habitat restoration.	\$696,406
Bronx River	60	The Bronx River Watershed Management Plan is in its final stages of development. The plan will address nonpoint pollution, Combined Sewer Overflows, and degraded habitat. Implementation project have begun that include stormwater demonstration projects and habitat restoration.	\$542,104
Dering Harbor	27	Awarded in 2009, the Dering Harbor Watershed Management Plan will address stormwater runoff, sedimentation, and nitrogen.	\$72,974
Forge River	16	The Forge River Watershed Management Plan will address stormwater runoff, nutrients, and other nonpoint source pollution issues.	\$676,000
Great Cove Tributaries	21	The Town of Islip is preparing watershed management plans for five tributaries to Great Cove and studying the feasibility of restoring the Mill Pond/Ice Pond in Bay Shore.	\$100,000
Glen Cove	1	The Glen Cove Water Quality Improvement Plan, completed in 2008, focuses on stormwater runoff and other nonpoint source pollution. A number of priority stormwater abatement project have been implemented including a study of erosion along East Island.	\$586,000
Greens Creek Browns River	12	The Greens Creek and Browns River Watershed Management Plan, completed in 2007, addresses stormwater runoff and other nonpoint source pollution issues. Numerous priority water quality projects have been implemented including a number of stormwater abatement projects.	\$1,021,200

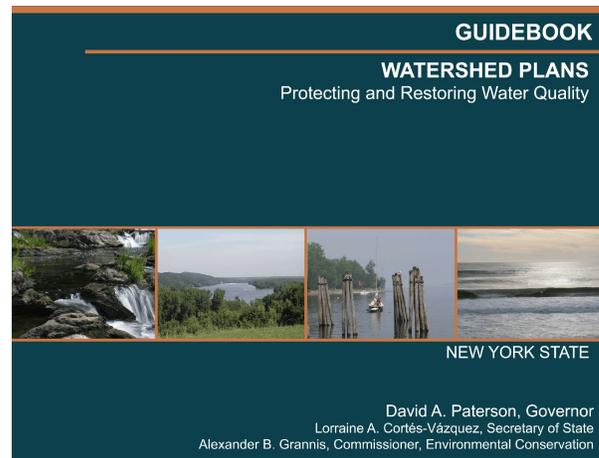
Hashamomuck Pond	1	The watershed management plan was completed for Hashoamomuck Pond in 2006 by the Peconic Estuary Program and Suffolk County. Implementation projects of Best Management Practices include installation of grass channels, bioretention systems, dry swales, sediment forebays, oil separators, low flow outlets and site restoration.	\$682,000
Hempstead Harbor	28	The Hempstead Harbor Water Quality Improvement Plan, completed in 1998, addresses stormwater runoff, habitat protection, and other nonpoint source pollution issues. Numerous priority implementation projects have been completed including subwatershed plans and assessments, stormwater abatement projects, and wetland creation/restoration.	\$5,065,608
Ketcham's Creek	1	The Ketcham's Creek Corridor Plan, completed in 2002, addresses habitat protection and nonpoint source pollution. Priority implementation projects have included stormwater abatement and invasive species control.	\$97,930
Lake Montauk	3	The Lake Montauk Watershed Management Plan is being developed to address stormwater runoff and other nonpoint source pollution.	\$150,000
Mamaroneck & Sheldrake River Watersheds	32	The watershed management plan for the Mamaroneck and Sheldrake Rivers focuses on controlling nonpoint source pollution and recommends best management practices to address water quality problems. Implementation has included the reduction of sediment habitat restoration, and stormwater abatement.	\$2,213,000
Manhasset Bay	20	The Manhasset Bay Intermunicipal Watershed Plan, completed in 2000, addresses stormwater runoff, nutrients, and other nonpoint source pollution issues. Extensive implementation has taken place since that time including shoreline stabilization, stormwater abatement, subwatershed assessments, water quality monitoring, and wetland creation.	\$7,290,812
Massapeequa Creek	6	The Watershed and Corridor Restoration Plan for Massapeequa Creek focuses on restoration of shellfish habitat and nonpoint source pollution.	\$176,000
Mattituck Creek	6	The watershed plan for Mattituck Creek was completed in 2001. Since that time, numerous water quality improvement projects have been implemented including erosion control and stormwater retrofits.	\$780,000
Mecox and Quantuck Bay	21	The watershed action plans for Mecox and Quantuck Bays are currently under development. The plan will address nonpoint source pollution, and habitat restoration associated with eelgrass beds and shellfish.	\$180,000
Swan River	9	Completed in 2007, the Swan River Watershed Action Plan focuses on habitat protection and nonpoint source pollution. Currently, priority projects are being implemented including a fish ladder and habitat restoration project.	\$790,000
Whites Creek	3	The Town of Oyster Bay completed a watershed analysis for Whites Creek to determine the best mitigation methods for preventing nonpoint source pollution from entering Oyster Bay.	\$80,000
	<b>284</b>		<b>\$21,900,034</b>

\*Funding includes the NYS Environmental Protection Fund Local Waterfront Revitalization Program, NYS Clean Water/Clean Air Bond Act, and matching funds.

Department of State Supported Watershed Planning Efforts - Hudson River			
Watershed	Square Miles	Description of Watershed Management Planning Effort	Total Funds*
Quassaick Creek	51	Awarded in 2009, the Quassaick Creek Watershed Management Plan will address Combined Sewer Overflows, nutrients, and nonpoint source pollution.	\$87,000
Rondout Creek	1011	Awarded in 2009, the Rondout Creek Watershed Management Plan will address nonpoint source pollution, drainage patterns, and Combined Sewer Overflows.	\$253,816
Wappinger Creek	202	The Wappinger Creek Intermunicipal Watershed and Natural Resource Plan addresses nonpoint source pollution and natural resource protection. Implementation projects have included a full build-out analysis to address future land use changes.	\$270,000
	<b>1264</b>		<b>\$610,816</b>
*Funding includes the NYS Environmental Protection Fund Local Waterfront Revitalization Program and matching funds			

**Technical Resources** - In addition to funding, the Department supports the Program and ensures local successes through a practical how-to information package, analytical tools, and hands-on assistance as communities develop and implement Intermunicipal Watershed Management Plans.

**Guidance** - To promote watershed planning, the Department of State, in partnership with the Department of Environmental Conservation, prepared a multi-media package entitled *Watershed Plans: Protecting and Restoring Water Quality*, which summarizes the integrated approach to planning and implementation. The informational package, available at [www.nyswaterfronts.com/watershed\\_home.asp](http://www.nyswaterfronts.com/watershed_home.asp), includes a step-by-step guidebook, an explanatory video, and reference web-pages containing additional resources and case studies.



This guidebook helps communities:

- **Understand their watershed and the importance of water quality;**
- **Recognize the relationships among economic, social, and natural processes;**
- **Define a vision for the future;**
- **Set realistic goals; and**
- **Develop a detailed strategy for implementation, including local laws.**

**Technical Assistance** - The Department of State works closely with communities to provide them with the professional expertise needed to develop their watershed management plans. The Department:

- **Assists in the initial organization** of communities and watershed stakeholders and the formation of intermunicipal organizations;

- **Provides hands on assistance** related to watershed characterization, review of local land use controls, and prioritizing recommendations for capital improvement projects and actions;
- **Reviews materials** (including project designs) and provides critical feedback;
- **Facilitates partnerships** between state, federal, and nonprofit organizations;
- **Assists in the prioritization** of watersheds and management recommendations
- **Helps conduct** public meetings and outreach sessions;
- **Aids in the preparation and refinement** of implementation strategies.

*Assessing Local Controls and Practices* - To address water quality problems and threats, the Department of State, in 2001, developed a tool to assess local nonpoint pollution controls and practices, as part of the *Long Island South Shore Estuary Comprehensive Management Plan*. This assessment was critical in identifying gaps in local land use controls and implementation of local laws, practices, and programs. In 2001, the Department partnered with and funded (**\$267,000 grant through the Great Lakes Coastal Watershed Restoration Program**) the Genesee/Finger Lakes Regional Planning Council to adapt the assessment tool to be used statewide. The tool and manual entitled, *Protecting Water Resources through Local Controls and Practices: An Assessment Manual for New York Municipalities* is available at: <http://www.gflrpc.org/> .

Communities can use this manual to perform a self assessment in order to gain a greater understanding of how their local land use authority can impact water quality.

The manual represents real life examples because it was developed as part of the Genesee/Finger Lakes Regional Planning Council's assessment of programs, practices and local development controls of 56 municipalities in the watersheds of Conesus, Cayuga and Canandaigua lakes, with more detailed analysis of over a dozen key municipalities. Gaps and specific solutions to better protect water quality were identified, including an environmental protection overlay district, subdivision regulations, wetlands protection, watercourse protection, and onsite wastewater treatment system regulation. These specific examples of local controls can be readily adapted to communities across the State.

As a result, local governments will be better able to avoid unwanted impacts of development and related activities on natural resources and water quality. The Department of State will continue to work with municipalities to use this assessment tool as part of the watershed management planning process.

## AT WORK IN COMMUNITIES ACROSS NEW YORK STATE

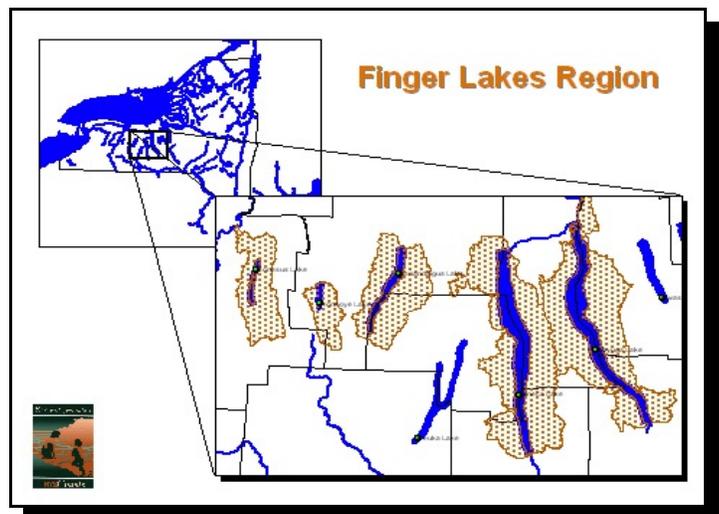
**Statewide Success** - The Department of State works with communities across New York to develop and implement intermunicipal watershed management plans to protect and restore coastal waterbodies and inland waterways. From Lake Montauk in the east end of Long Island to Chautauqua Lake in the western region of New York, communities are improving their watersheds by working together. Currently, there are **458 municipalities** involved in watershed management planning statewide, which represents **55%** of the eligible communities under the Local Waterfront Revitalization Program.

**Watershed Partners** - One component of all successful watershed management plans is the development of effective partnerships that bring expertise and resources to the planning process. The Department of State works with County Soil and Water Conservation Districts, Department of Environmental Conservation, State and local Departments of Health, Department of Agriculture and Markets, local and regional planning councils, local watershed organizations, academic institutions, and others. None of the success achieved would be possible without these and other dedicated partners in watershed management.

### **WATERSHED PLANNING IN THE FINGER LAKES REGION**

The Finger Lakes Region has been the focus of proactive efforts in watershed management planning and has had tremendous success in developing and implementing watershed management plans. Because of the effective partnerships created through the watershed management planning approach, the region has been at the forefront of the watershed planning movement.

The Finger Lakes region of central New York is characterized by a dozen lakes with watersheds containing a variety of valuable natural resources, including water, fish and wildlife habitat, wetlands, and forests. The lakes and their watersheds are used extensively for drinking water, agriculture, recreation, and tourism, resulting in a firm link between resource protection and the regional economy.



The following highlights the watershed management accomplishments of the Department of State, working together with partners in the Finger Lakes region.

**Finger Lakes Funding** - Since 1998, over **\$5.4 million** of watershed planning and implementation work has been funded in the Finger Lakes Region from the EPF LWRP and the National Oceanic and Atmospheric Administration's Great Lakes Coastal Watershed Restoration Program funding managed by the Department.

Within the region, through the Department’s financial assistance and hands-on technical expertise, watershed management plans have been completed for four lakes - Cayuga Lake, Conesus Lake, Canandaigua Lake, and Honeoye Lake. A watershed management plan is about to be initiated for Seneca Lake, the largest of the Finger Lakes.

**Technical Assistance Provided to Finger Lakes Watersheds** - The Department of State was instrumental in the development of the watershed management plans in the Finger Lakes Region. The Department:

- **Facilitated meetings** with Finger Lakes- Lake Ontario Watershed Protection Alliance to discuss availability of funding for watershed management plans. As a direct result, applications were developed for the preparation of the Cayuga, Canandaigua, and Conesus Lake watershed management plans and funded under the Environmental Protection Fund Local Waterfront Revitalization Program.
- **Directly organized** the creation of the intermunicipal organizations for Cayuga Lake and Conesus Lake.
- **Met individually** with shoreline communities to discuss participation in the intermunicipal organizations and watershed management planning process.
- **Participated** in project meetings and public meetings.
- **Reviewed products and provided feedback** on draft reports.
- **Assisted** in the prioritization of recommendations.
- **Approved** each final watershed management plan document.



Outreach and education is an important step in the watershed management process. The Department helps conduct meetings to get feedback from the public.

**Intermunicipal Organizations** - Intermunicipal organizations, comprised of the local governments within each watershed, state agencies, and advocacy organizations involved in lake protection and restoration were created to oversee preparation of the watershed management plans in the Finger Lakes. All of the intermunicipal organizations chose to continue this collaborative process to focus on implementation, a testament to the successful partnerships established as part of the planning process.

Watershed	Intermunicipal Organization	Mechanism	Date Established
Cayuga Lake	Cayuga Lake Intermunicipal Organization	Formal Memorandum of Agreement with By-Laws	2001
Conesus Lake	Conesus Lake Watershed Coalition	Intermunicipal Agreement	2003
Canandaigua Lake	Canandaigua Lake Watershed Council	Memorandum of Agreement	2001
Honeoye Lake	Honeoye Lake Task Force	Intermunicipal Agreement	1998

## **CAYUGA LAKE**

***Watershed Restoration and Protection Plan*** - To address priority water quality issues in Cayuga Lake, including sedimentation, excessive use of fertilizers, and invasive species, the Cayuga Lake Watershed Restoration and Protection Plan (RPP) was developed. The RPP identified and prioritized actions necessary to protect and improve the lake's water quality. These actions focus on reducing nonpoint sources of pollution, such as sedimentation from tributary streams in the southern portion of the watershed, runoff from agricultural uses, and road runoff. **Three EPF LWRP grants totaling \$294,000** were awarded to the Town of Ledyard on behalf of the 31 watershed municipalities to prepare the plan.



Cayuga Lake

***Cayuga Lake Intermunicipal Organization*** - To establish a mechanism for long term management, the Department assisted in the creation of an intermunicipal organization and prepared a Memorandum of Agreement (MOA) which was signed by watershed municipalities. The Department, along with local and regional planning councils, met face-to-face with watershed municipalities to explain the planning process and to gain buy-in of the MOA. Today, the Cayuga Lake Intermunicipal Organization is a voluntary partnership of 31 villages, towns, cities and counties and also includes representatives from regional planning boards, and nonprofit organizations working together to implement the Cayuga Lake Watershed Restoration and Protection Plan.

The Intermunicipal Organization has been instrumental in addressing key water quality issues identified in the RPP. The Intermunicipal Organization continues to target known polluted and threatened areas for restoration and protection, while at the same time assessing and prioritizing subwatersheds to increase the ability of local governments to identify specific sources of pollution and to focus future efforts.

***Implementation*** - Since the completion of the RPP, the towns of Lansing and Ledyard have taken the lead in representing the Intermunicipal Organization on a variety of implementation projects throughout the watershed to reduce sedimentation in the lake from tributary streams. **Over \$1 million from the EPF LWRP and the Great Lakes Coastal Watershed Restoration Program** was awarded to complete these water quality projects that have helped improve water quality throughout the watershed. Watershed partners continue to implement on-the-ground projects:

- **Over 2,500 feet** of streambank on Six Mile Creek has been stabilized to help reduce erosion and sedimentation. Willow fascines and ten native species of trees have been planted to keep soil from eroding into the waterway, and the stream has been reconnected to its floodplain.
- **1,500 feet** of streambank at Virgil Creek has been realigned, and adjacent steep banks re-vegetated, which has reduced sedimentation of the lake.
- Hydroseeding programs have been established to decrease exposed soils and increase the stability of road banks to reduce sedimentation. These programs allow municipalities to share expensive equipment and resources to service a wider area.

Estimates show that over **16,000 tons of sediment enter Cayuga Lake each year**, much of that comes from agriculture, eroding streambanks, and exposed soils. By addressing sedimentation through streambank stabilization and hydroseeding, the Cayuga Lake communities and the Department of State are reducing the number of sources of sediments and so improving water quality in Cayuga Lake.

## **CONESUS LAKE**

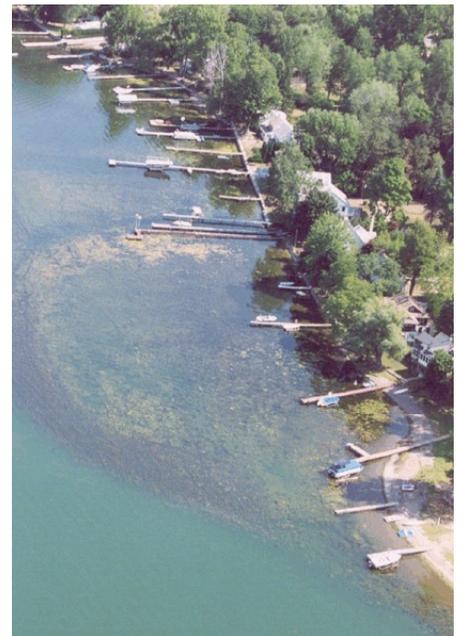
**Watershed Coalition** - Increasing concerns related to water quality, recreation, and aesthetics spurred communities to address water quality issues through comprehensive watershed management planning. After meeting with local governments and other lake protection stakeholders, the Department assisted in the formation of an intermunicipal watershed organization. The Conesus Lake Watershed Coalition, was tasked with developing the watershed management plan, which was completed in 2003. The Coalition, has taken the watershed management process a step further to address long-term management by hiring a designated watershed manager who assists the county and watershed municipalities with the implementation of the watershed management plan and associated activities.

**Watershed Plan Development** - The Department financed preparation of the plan through three grants totaling **\$192,000 from the EPF LWRP**. Throughout the planning process the Department worked closely with the communities to strengthen partnerships, provide project oversight, and develop appropriate and timely recommendations.

**Implementation** - Following the completion of the plan, the towns of Groveland and Livonia, as representatives of the Coalition, were awarded **over \$561,000 from the EPF LWRP** for the stabilization of road and streambanks, which will significantly reduce the volume of sediment entering the lake. The Coalition also works closely with the Conesus Lake Watershed Inspector to protect Conesus Lake as a potable water source and to assist in administering the NYS Department of Health's Watershed Rules and Regulations.

While their Stream Restoration Program is in its beginning stage, Livingston County, along with the Conesus Lake Watershed Manager, has implemented projects to reduce erosion and sedimentation in the Lake. Early estimates of total suspended solids in Conesus Lake show that, conservatively, close to **1,000 tons** of sediment enter the lake each year. To address this issue on-the-ground projects are being implemented. Some of their results include:

- **Twenty-five tons of sediment** have been removed from the North McMillan Stream, which will help reduce sedimentation in the lake;
- Installation of a settlement pool and stream realignment has resulted in the removal of **two to three tons of sediment per year**;
- **Stabilization of over 17 miles** of roadbank has resulted in the reduction of **25 tons of sediment per year**;
- **4,500 feet of buffers** have been created on agricultural lands to reduce runoff of fertilizers and pesticides;



Weeds and algal blooms on Conesus Lake shoreline. Priority recommendations in the watershed management plan address excess nutrients which may cause blooms.

- **Twelve streams** feeding Conesus Lake underwent a comprehensive engineering study to identify critical erosion areas; and
- Extensive renovations have been carried out on **95,080 feet** of steep roadside ditch slopes.

The Coalition has also worked to improve local controls and institute new ordinances throughout the watershed municipalities:

- Erosion and Sediment Control Laws were adopted by all four watershed towns
- Formal Highway Department Management Plans were developed for the Town of Conesus
- Dock and Moorings Laws have been adopted by all four watershed towns.

These ordinances will allow for greater control of on-the-ground practices. With the assistance of formal laws and management plans, the watershed communities will take a proactive approach to how exposed soils are treated and how roads are treated and maintained.

The watershed management plan has helped the Conesus Lake Watershed Coalition, Livingston County, and other watershed stakeholders continue to put improvement projects on the ground by identifying priority projects that will make a difference.

### ***CANANDAIGUA LAKE***

***Watershed Council*** - In 2001, the Canandaigua Lake Watershed Council, made up of representatives of the 14 watershed municipalities and other stakeholder organizations, developed the Canandaigua Lake Watershed Plan. The Council's goal is to maintain and enhance the high water quality through education, research, restoration and, if necessary, regulation. Today, the Council continues to implement numerous priority actions, including a Homeowners Integrated Pest Management Program, a model local ordinance for controlling soil erosion, tributary stream corridor improvements, a water supply study, a comprehensive septic system management program, and a nonpoint source pollution prediction model.

Through recommendations from the Department of State, the Canandaigua Lake Council hired a Watershed Manager to oversee the implementation of the watershed management plan. This position, partially funded through EPF LWRP grant awards, is critical to the success of the Council's work and the efforts put forth to educate watershed residents on the importance of water quality and watershed protection.



Canandaigua Lake Watershed Council developed a model steep slope legislation to protect its shoreline.

***Implementation*** - The Department has awarded **nearly \$250,000 in EPF LWRP** grants to implement stream corridor improvements along Sucker Brook, a major tributary stream, to reduce sediment entering the lake and other nonpoint pollution, which threaten Canandaigua Lake water quality.

While overall lake estimates have not been calculated, recent monitoring has shown that in only 50 rain events, nearly 1,000 tons of sediment enter Canandaigua Lake through 17 tributaries. This is a considerable load that enters the lake from eroding streambanks, exposed soil, and agricultural practices. Projects are currently being undertaken by the Watershed Council have produced the following results, which are making a difference:

- Over **2.5 miles of streambanks** have been stabilized within the Sucker Brook, Naples' Creek, and Fall Brook sub-watersheds.
- **Over 4,200 tons** of contaminated sediment have been removed from Sucker Brook.
- Nearly **eleven miles** of road bank stabilization has been implemented watershed-wide.
- 25 of Canandaigua Lake's tributaries have been monitored on over 50 storm events.
- **Over 4,000 students** have been educated about the importance of water quality.
- **One mile of sewer extensions** have been installed within the City of Canandaigua to eliminate pollution from deficient on-site waste water disposal systems.
- Steep slope legislation, timber harvesting laws, zoning amendments, and docks and mooring controls were developed to strengthen the ability of municipalities to implement best management practices for improving water quality.



Before- Stream bank undercutting and experiencing high levels of erosion due to exposed soils.



After- First phase of stabilization completed. Additional plantings will be installed to further stabilize the bank.

The Canandaigua Lake Watershed Council continues to review and update the watershed management plan in order to keep projects and management actions relevant. In 2008, the City of Canandaigua was awarded an additional **EPF LWRP grant of \$84,300 to update the plan** and identify the next generation of projects to continue this collaborative effort.

### ***HONEOYE LAKE***

The efforts in the Honeoye Lake watershed are relatively new. Completed in 2007, with support from the Department, the Honeoye Lake Watershed Management Plan identifies major actions needed to protect and improve the water quality of the lake. These actions include wetland and habitat restoration, water quality monitoring programs, an aquatic weed management plan, and the adoption of municipal land use regulations to minimize erosion.

Located within Ontario and Livingston counties, Honeoye Lake is one of the smallest of the Finger Lakes, with a watershed encompassing 38 square miles spanning six municipalities. Although, the lake and watershed are small, their issues are significant and are threatening water quality. To assess these issues, the Department and the Honeoye Lake Task Force partnered with the Genesee/Finger Lakes



Honeoye Lake

Regional Planning Council (G/FLRPC) to gain further understanding of the watershed and the local laws and controls that affect water quality throughout the watershed. Recommendations based on the assessment completed by G/FLRPC and vetted through a review process were developed as the basis of the watershed management plan's implementation strategy.

The Town of Richmond received a **\$40,000 grant from the EPF LWRP to prepare the plan**. Subsequently, the Town of Canadice received a **\$50,000 grant from the EPF LWRP for implementation activities**, including an in-depth review of local laws and development controls, and the development of a streambank monitoring program.

## EVOLVING AND IMPROVING WATERSHED MANAGEMENT

As the Department of State continues to promote the Intermunicipal Watershed Management Program throughout the State, the Department will move forward in identifying how to improve the planning process and keep watershed planning and implementation relevant and based on sound science and new assessment techniques.

***New Initiatives*** - The Department has recently seen a tremendous increase in interest in watershed management planning for both coastal waterbodies and designated inland waterways. As a result, over **\$1 million** of awards from the 2009-2010 EPF LWRP, will fund the preparation of eight additional watershed management plans:

- Mohawk River Watershed Basin- 3510 sq miles 127 Municipalities, 14 Counties **\$370,000**
- Salmon River Watershed- Phase I- 88 sq miles, 15 Municipalities, 2 Counties **\$ 81,500**
- Otisco Lake Watershed- 42 sq miles, 7 Municipalities, 1 County **\$ 60,000**
- Lake Sacandaga-Lake Pleasant Watershed- 21 sq miles, 2 municipalities, 1 county **\$ 25,200**
- Quassaick Creek Watershed- 51 sq miles, 5 Municipalities, 2 Counties **\$ 43,500**
- Rondout Creek Watershed- 1011 sq miles , 30 Municipalities, 3 Counties **\$126,908**
- Dering Harbor Watershed- 27 sq miles, 1 Municipality, 1 County **\$ 72,974**
- Alley Creek Watershed - 13 sq miles, 1 Municipality, 1 County **\$350,000**

***Additional Training Efforts*** - The Department is pursuing additional training opportunities in 2010 for municipalities and watershed organization on the process of watershed management planning and implementation.

***Additional Funding Sources*** - In 2010, the Department submitted applications to the US EPA Great Lakes Restoration Initiative Grant Program to provide additional funding to New York communities for the development and implementation of watershed management plans. The Department submitted applications to develop a *Finger Lakes Nonpoint Source Reduction Grants Program* to implement targeted watershed management plans; prepare an *Eastern Lake Ontario Dunes: Watershed Restoration*

and Protection Plan; and to continue the *Tug Hill Aquifer Study* in the Black River Watershed. The Department's applications to the U.S. Environmental Protection Agency will total over **\$4 million**.

***Beyond Watershed Planning*** - As a result of successful watershed management plans, many intermunicipal organizations frequently expand their focus to address other revitalization issues, and provide a forum for all interested parties to contribute. The Department of State is able to provide funding and expertise to municipalities to address tourism and recreational opportunities that are directly influenced by water quality. For example, the Department has provided through the EPF LWRP:

- **\$61,5000** to the Towns of Wheatland and Williamson to being preparation of a regional blueways plan to support recreation and the region's tourism economy, as well as a program to identify and protect the historic resources of several village downtowns.
- **\$352,647** to the Town of Bolton and Village of Lake George for the development of the Lake George Blueway Trail and Underwater Blueway Trail.
- **\$158,000** to the Town of Martinsburg for the Black River Blueway Trail. In 2007, the *Wet, Still & Wild - A Blueway Trail Development Plan for the Black River* won the **Planning Excellence Award for Grassroots Initiative**, from the WNY Section of the American Planning Association.

***Building Coordination*** - In 2010, the Department will step up its interaction with local governments, regional planning councils and boards, non-governmental organizations and academic institutions, to strengthen existing partnerships and form new networks for watershed management planning and implementation. Increased participation from Soil and Water Conservation Districts and the Department of Agriculture and Markets in both rural and urban watersheds is an anticipated result.

***Targeting Watersheds*** - The Department will work with existing partners to revisit existing watershed management plans and identify needed updates to recommendations, as well as the next set of priorities for implementation. In 2010, the Department will also focus on encouraging new watershed management plans for the tributaries and embayments of Lake Ontario, Lake Erie, the St. Lawrence River, the Hudson River, the Mohawk River and the Long Island Sound.

***Focus more on groundwater*** - Because surface water and groundwater are often inextricably linked, the Department will reach out to the Department of Health, watershed organizations, and communities to incorporate groundwater protection in the context of watershed management planning.

***Climate Change*** - The Department will begin to address climate change issues in watershed management plans. Plans will begin to identify risks and impacts to water quality, water supply, living resources, and aquatic habitats. Plans will also begin to identify strategies for addressing impacts in a sustainable and comprehensive manner.

***Ecosystem-Based Management*** - The Department will integrate the principles of Ecosystem-based Management (EBM) into the Intermunicipal Watershed Management Program. The evolution of the Department of State's planning and implementation efforts, within EBM's flexible framework, will continue to foster broad-based partnerships, alignment of programs and resources, adaptive management, and local and regional capacity needed to meet existing and emerging challenges and opportunities.