

February 2009

Tioga County Water Quality Strategy



Developed by the:





Tioga County Water Quality Coordinating Committee

TIOGA COUNTY WATER QUALITY STRATEGY

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Tioga County Water Quality Coordinating Committee

Water Quality Coordinating Committee

The Tioga County Water Quality Coordinating Committee (WQCC) was established in 1991 in response to Non-point Source Pollution problems and water quality issues. The committee is made up of several County, Town and Village members whose purpose is to use the expertise and knowledge of our committee as well as other local, state, or federal cooperating agencies to protect and preserve the water resources of Tioga County. The WQCC works together to address water quality concerns at the local level. The main purpose of the WQCC is to identify priority issues and solutions on a watershed wide basis in a *Water Quality Strategy*. The *Water Quality Strategy* allows participating agencies to agree on priority issues in the county and work together to access funding in order to implement the recommendations of the *Strategy*.

Committee Members:

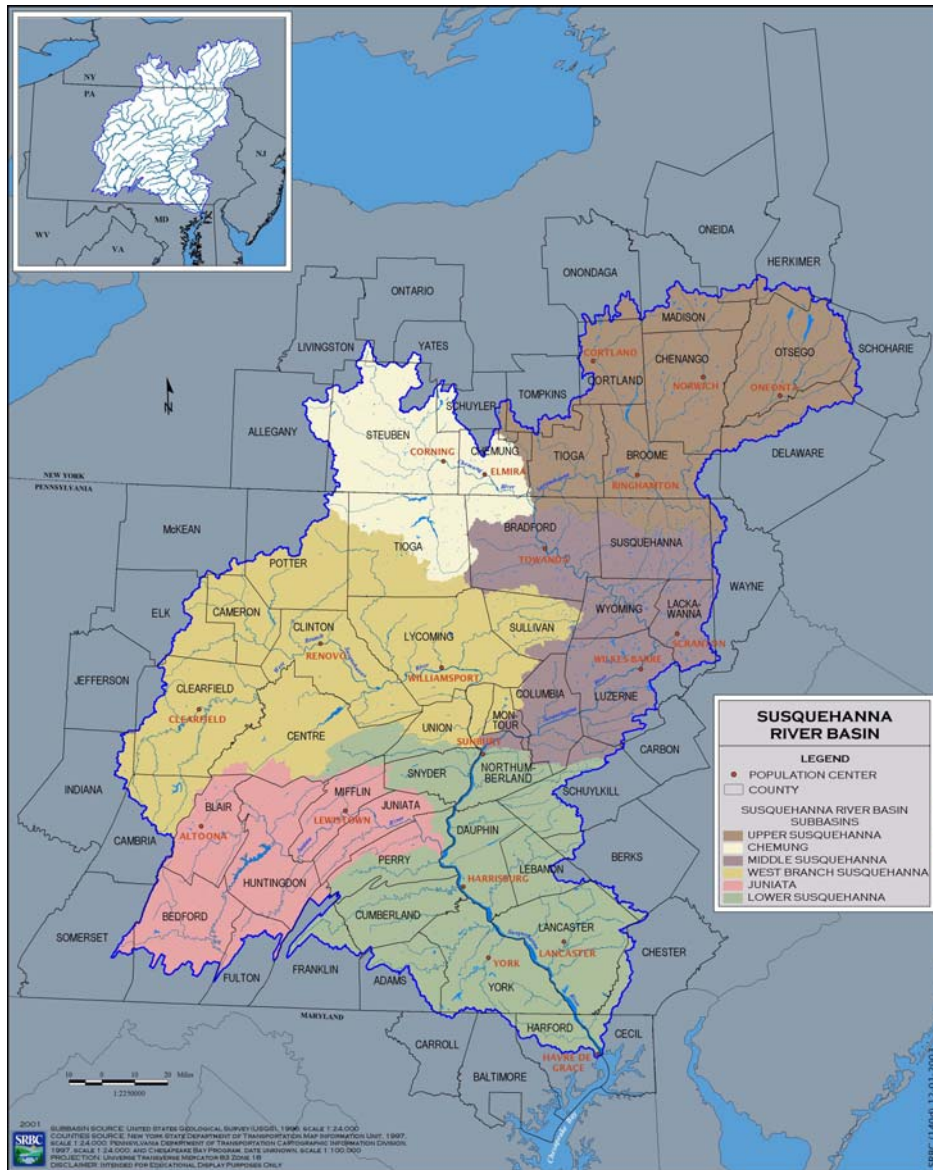
Tioga County Soil & Water Conservation District
Tioga County Department of Economic Development and Planning
Tioga County Department of Health
Tioga County Department of Solid Waste
Town of Owego Building, Planning and Zoning Department

Participating Agencies & Organizations:

NYS Department of Environmental Conservation – Region 7 Division of Water
Town of Owego Department of Utilities
U.S. Department of Agriculture NRCS
NYS Soil & Water Conservation Committee
Upper Susquehanna Coalition

Watershed Background:

Tioga County is located in the Susquehanna River Basin, which encompasses 27,486 square miles, and is the headwaters for the Chesapeake Bay. The Susquehanna River Basin is further subdivided into six sub-basins; the Upper Susquehanna River Basin is one of the six that covers 4918 square miles (4520 square miles in New York) including 334,028 acres or 99.9% of Tioga County. Most of this subbasin is steeply sloped with hills and ridges and dominated by forestland. The less steep areas are occupied by agriculture and the rural populations are dispersed throughout the subbasin in the form of small villages.



Tioga County can be further divided into smaller watersheds. At the 11-digit HUC level; which is utilized for grants and implementation activities there are 14 watersheds all of which drain to the Susquehanna River.

NYS DEC Protected Streams:

Water Quality Designations developed by DEC are based on a waterbody's existing or expected "best use". The most pristine waters are assigned a classification of AA; while the most degraded waters are assigned a classification of D. Additional classifications of "T" or "TS" can be added if a water body has sufficient amounts of dissolved oxygen to support trout and trout spawning. Waterbodies that are designated as C (T) or higher (for example C (TS), B or A) are collectively referred to as "protected streams", and are subject to regulations.

A= Drinking after chlorination and filtration

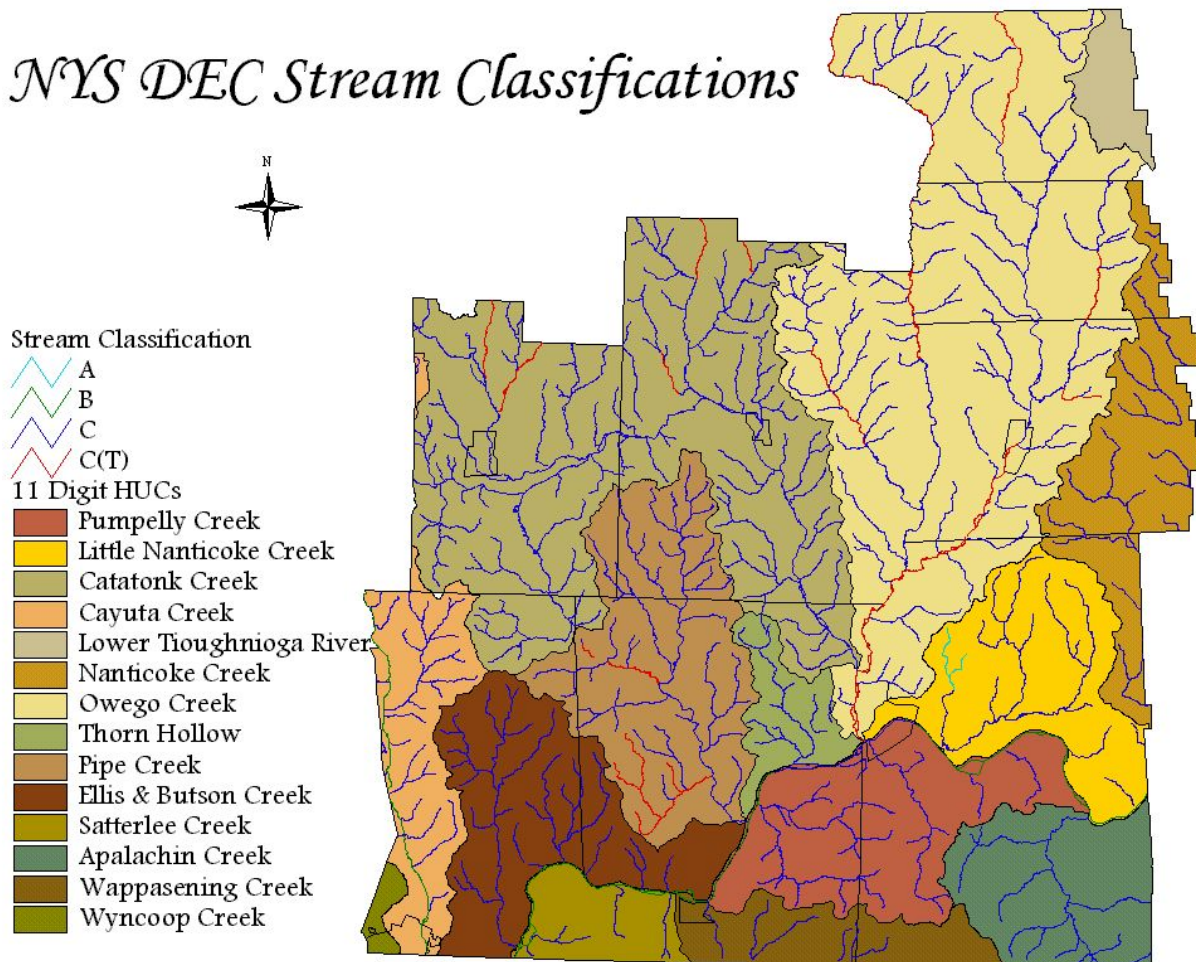
B=Bathing

C(T)= Trout Fishing

C= Fishing

D=secondary contact recreation

NYS DEC Stream Classifications

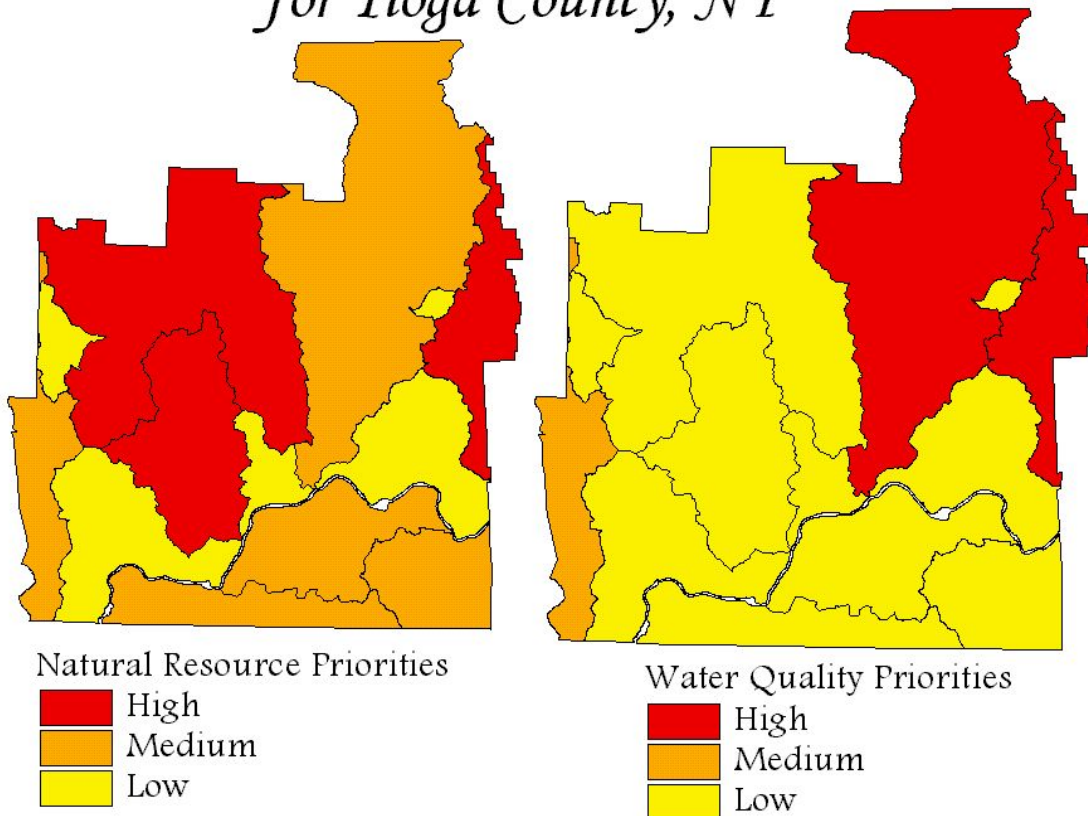


Streams listed in the NYS DEC 2001 Watershed Restoration & Protection Action Strategies (WRAPs):

Watershed Restoration & Protection Action Strategies is a concise, and action oriented document that compiles currently available information about the state of the watershed and ongoing assessments, outreach and implementation of activities, and-proposes environmental and natural resource priorities or goals and measurable objectives for achieving those goals.

The purpose of a Watershed Restoration and Protection Action Strategy (WRAPs) is to develop and/or compile and document a strategy for the watershed that brings together all appropriate agencies and stakeholders to focus support in the form of grant dollars, technical assistance and other resources to address the priority water and natural resource needs in the watershed. The WQCC participated in this effort for the Susquehanna and Chemung River Basins. Activities such as hydroseeding, stream assessments, stream cleanup programs, Best Management Implementation on farms were all listed as critical activities in the WRAPs strategy further stressing the need of our WQCC and our County Water Quality Strategy.

*2001 NYS DEC Priority Watersheds
for Tioga County, NY*



Streams listed on the 1999 Waterbody Inventory and Priority Waterbodies List:

The Waterbody Inventory and PWL is an inventory of water quality resources in the state that is compiled by the NYSDEC from a number of programs and sources, both within and outside DEC. The inventory is a database of all NYS waterbodies. It includes information on water quality, known or suspected water quality problems and issues, and tracks progress toward their resolutions. This is a 2 year process in which the first year focuses on review of the existing water quality information and the second year involves intensive chemical monitoring of the basin waters conducted by NYS DEC.

There are varying degrees of impairment identified in the process including:

P=Precluded (waters do not support appropriate uses)

I=Impaired (waters frequently do not support appropriate uses)

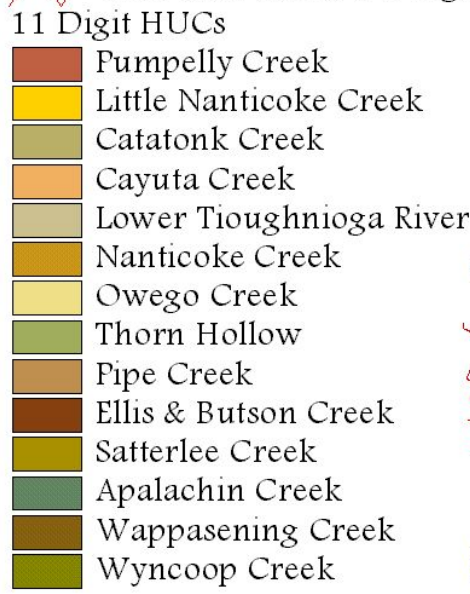
S=Stressed (waters support appropriate uses, but other water quality impacts are apparent)


T=Threatened (waters support uses and have no impacts, but activities threaten future use)


Some of the streams or waterbodies in Tioga County are listed in their entirety on the PWL while others only have sections listed on the PWL. The Susquehanna River for example is listed for its entire length in Tioga County (32.8 miles). There are PWL segments in 9 of our 14 11- Digit Hydrologic Unit Codes (HUCs) within the county.


1999 NYS DEC PWL Segments for Tioga County, NY


 1999 NYS DEC PWL Segments


 11 Digit HUCs


 Pumpelly Creek


 Little Nanticoke Creek


 Catatonk Creek


 Cayuta Creek

 Lower Tioughnioga River


 Nanticoke Creek


 Owego Creek


 Thorn Hollow


 Pipe Creek

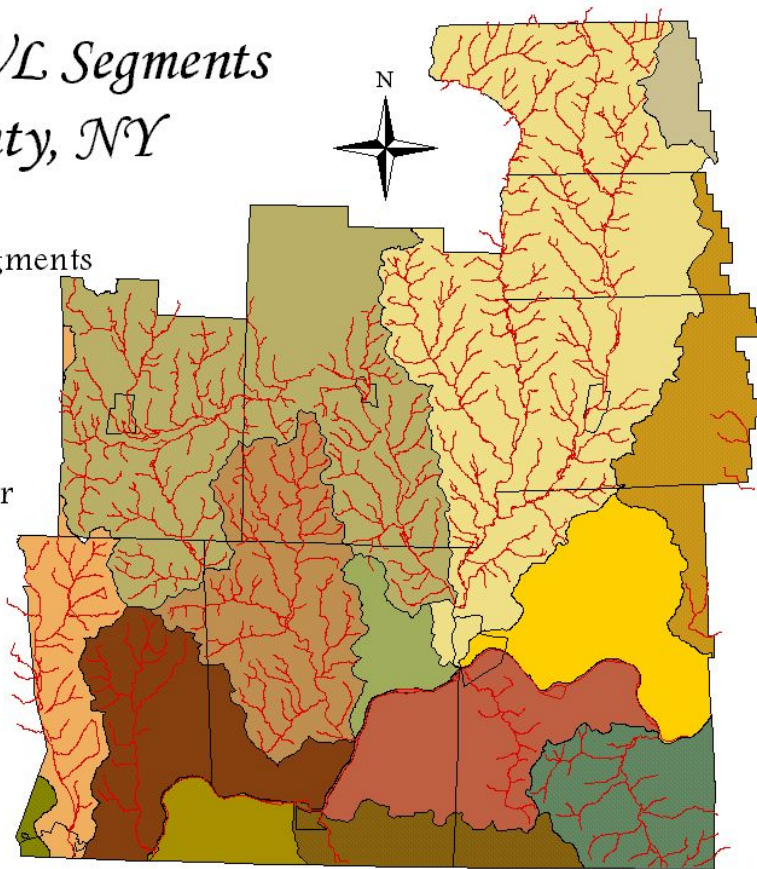
 Ellis & Butson Creek

 Satterlee Creek

 Apalachin Creek

 Wappasening Creek

 Wyncoop Creek



1999 Susquehanna River Basin Waterbody Inventory & Priority Waterbodies List

Waterbody Segment	Segment Identified	Degree of Impairment	Source of pollutant	Use Impacted
Cayuta Creek	Entire Stream	Stressed	Stream Bank Erosion	Aquatic life, Habitat/Hydrology, Aesthetics
Susquehanna River, Lower Main Stem	Entire Length of River in Tioga County (32.8 miles)	Impaired	Metals	Fish Consumption
Ellis Creek	Entire Stream (29.3 miles)	Stressed	Stream Bank Erosion	Aquatic Life, Habitat/Hydrology
Wappasening Creek	Entire Stream (2.7 miles)	No Use Impairment		
Pipe Creek	Entire Stream (97.6 miles)	Stressed	Stream Bank Erosion	Aquatic life, Habitat/Hydrology, Aesthetics
Owego Creek	Entire Stream (21.7 miles)	Stressed	Stream Bank Erosion	Aquatic Life, Habitat/Hydrology
Catatonk Creek	Entire Stream & Tribs (233.7 miles)	No Use Impairment		
West Branch Owego Creek	87.6 miles from mouth to Speedsville	No Use Impairment		
West Branch Owego Creek	78.5 miles above Speedsville	Stressed	Agriculture, Stream Bank Erosion	Aquatic Life, Habitat/Hydrology
Doolittle Creek	Entire Stream (36.5 miles)	Stressed	Stream Bank Erosion	Aquatic Life, Habitat/Hydrology
East Branch Owego Creek	45.4 miles from mouth to Wilson Creek	No Use Impairment		
East Branch Owego Creek	143.1 miles above Wilson Creek	Stressed	Agriculture, Stream Bank Erosion	Aquatic life, Habitat/Hydrology, Aesthetics
Pumpelly Creek	Entire stream (15.3 miles)	Stressed	Stream Bank Erosion	Aquatic Life, Habitat/Hydrology
Apalachin Creek	Entire Stream (37.8 miles)	Stressed	Hydro Modification	Habitat/Hydrology, Aesthetics

WATER QUALITY AND NATURAL RESOURCE GOALS:

Protect and conserve the water resources of Tioga County, through the identification of priority issues and development of solutions on a watershed wide basis.

- To insure the wise use and conservation of the Clinton Street Ball Park aquifer and its recharge areas (REFER TO MAP).
- To protect water quality and quantity in the County's streams, rivers and groundwater.
- Protect Drinking water supplies from contamination.
- Develop a system to identify and verify future non-point pollution problems.
- Provide local municipalities with the guidance necessary to identify and address water quality problems.
- Assist agricultural producers in the wisest and best use of crop nutrients and pesticides to lessen the threat of runoff to surface waters and leaching into the aquifer through the implementation of the County wide Agricultural Environmental Management (AEM) strategic plan.
- Assist agricultural producers in the County in meeting NYSDEC's Confined Animal Feeding Operation (CAFO) Program requirements.
- Heighten awareness of individual and community impacts on water resources.
- Assess and plan to protect the Clinton Street Ball Park Aquifer.
- Protect stream corridors, wetlands and land areas that act as recharge areas for our aquifer.
- To support upgrades to all point sources along the Susquehanna River necessary to continue optimum operations of these facilities to protect water quality in Tioga County.
- To keep the public informed of the water quality strategy so that they can contribute to the process in a knowledgeable fashion.
- To develop a system to identify and verify future non-point and point source pollution problems.
- Work to address County Flooding concerns and projects listed in the Hazard Mitigation Plan.
- Implement the MS4 Stormwater Management Program for Tioga County and the Town of Owego as well as educating the public, contractors and engineers of the Phase II Stormwater Construction General Permit (GP-02-01) on a county-wide basis.

WATER QUALITY PRIORITIES

1. Chesapeake Bay Issue - The Potential for a Basin Wide TMDL.
2. Clinton Street Ball Park Sole Source Aquifer
3. EPA Phase II Stormwater Permits
4. Flooding Events

1. The Chesapeake Bay Issue - The Potential for a Basin-Wide TMDL in NY

The Chesapeake Bay watershed covers more than 64,000 square miles extending over parts of six states: Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia. It is the largest estuary in the United States and has a rich diversity of productive agriculture operating in close proximity to nearly 17 million residents. Studies in the 1970's concluded that over-enrichment by nutrients and sediment disposition was affecting water quality and the aquatic habitat. Agriculture has been identified as a significant contributor. New York is at the headwaters of the Susquehanna River, which contributes about 50% of the Bay's fresh water. The River enters at the "head" of the Bay, thus nutrients and sediments are released in the most closed portion of the bay making them even more important contributor to the Bay's problems, as they are not easily flushed from the Bay.

The EPA through the Federal Clean Water Act has concluded that the Chesapeake Bay does not meet clean water standards. The Chesapeake Bay Program has developed nutrient and sediment load reduction guidelines that NY State has agreed to meet through the State's Tributary Strategy.

The “Chesapeake Bay Program” (CBP) is a multi-state/federal voluntary partnership that has been working toward restoring the Chesapeake Bay since 1983. Continued water quality impairments within the Chesapeake Bay, however, led the EPA and the bordering states to list over 90% of the Bay tidal waters as “impaired” due to low dissolved oxygen levels and other problems related to nutrient pollution. The EPA, as a result of a lawsuit, is required to develop a Total Maximum Daily Load (TMDL) for the Chesapeake Bay in 2011. The court also stated however, that this regulatory TMDL could be avoided if the Chesapeake Bay Program partners could correct all nutrient and sediment problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove it from the list of impaired waterbodies under the Clean Water Act by 2010.

The Chesapeake Bay Program (CBP) defined the water quality conditions necessary to protect aquatic living resources (through Chesapeake Bay water quality criteria for dissolved oxygen, chlorophyll a, and water clarity). The Program then assigned load reductions for nitrogen, phosphorus, and sediment needed from each tributary basin to achieve the necessary water quality. The Susquehanna River contributes 50% of the fresh water to the Bay.

In 2000, Governor Pataki, through a Memorandum of Understanding, joined executives from the other Chesapeake Bay Watershed states and the federal government in agreeing to:

- “Work cooperatively to achieve the nutrient and sediment reduction targets that we agree are necessary to achieve the goals of a clean Chesapeake Bay by 2010, thereby allowing the Chesapeake and its tidal tributaries to be removed from the list of impaired waters.
- Provide for an inclusive, open and comprehensive public participation process.
- Collaborate on the development and use of innovative measures such as effluent trading, cooperative implementation mechanisms, and expanded interstate agreements to achieve the necessary reductions.”




The New York State Department of Environmental Conservation took the lead role in developing the Tributary Strategy for NYS with the assistance of the Upper Susquehanna Coalition (USC) whom is a key partner in stakeholder outreach, developing a scientific basis for strategy development and strategy implementation for nonpoint source pollution problems.

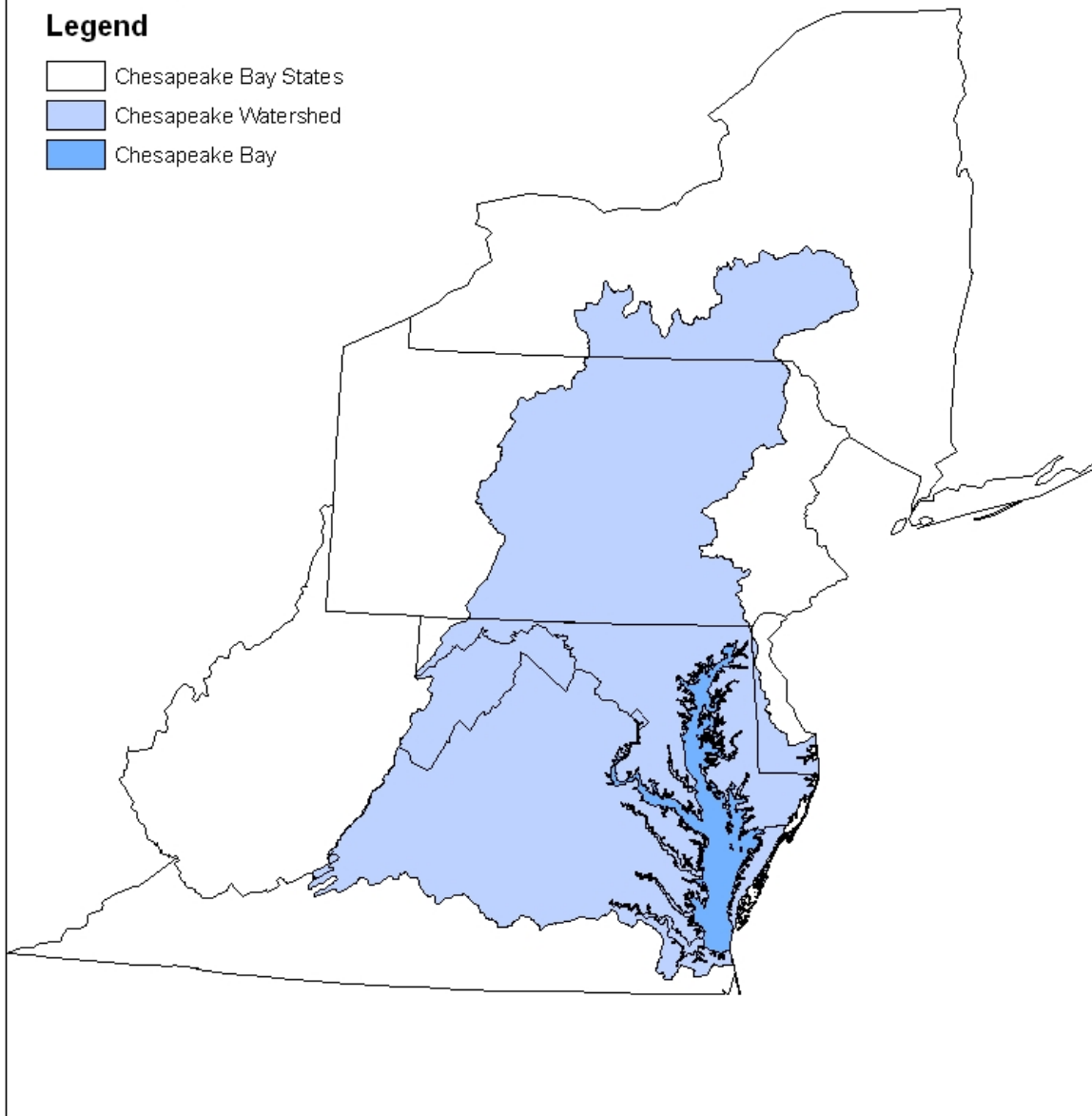
Based on a CBP Watershed Model, NY was given a cap load allocation for nitrogen, phosphorus and sediment. Agriculture was the largest single source identified as having the potential for significant reductions. Tioga County and other Bay Watershed County’s AEM strategic plans have been integrated into NY State’s Chesapeake Bay Tributary Strategy and describe the agricultural component of how NY will meet its Cap Load Allocations.

Chesapeake Bay Watershed



Legend

-  Chesapeake Bay States
-  Chesapeake Watershed
-  Chesapeake Bay

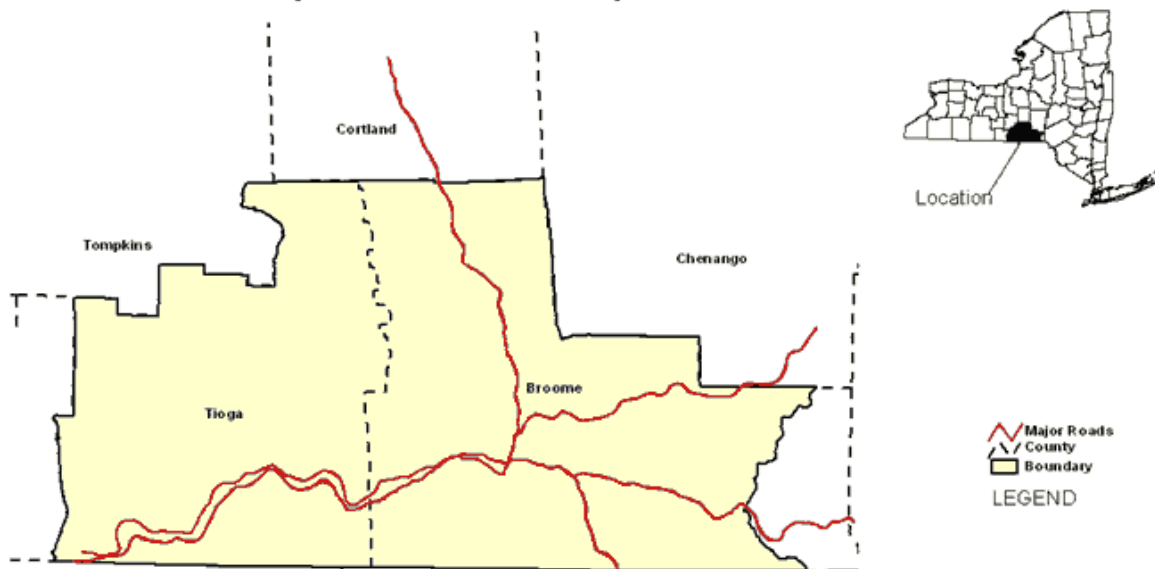


2. Clinton Street Ballpark Sole Source Aquifer

The Clinton Street Ballpark aquifer is the water supply for the Villages of Owego, Nichols and Waverly, the Town of Owego and all residential and business wells outside these municipal water systems. The threat of nutrients and pesticides mixing with runoff that reaches surface waters and then leaches into aquifer recharge areas (ground water) is a major concern as well as pollution from other sources. The need for protection is great, for current uses and future growth. Tioga County has been designated as a sole source aquifer by the Environmental Protection Agency for the Clinton Street Ballpark Aquifer because of its susceptibility to pollution. The aquifer is unconfined unconsolidated system that is vital to the County and its residents. The Sole Source Aquifer designation is a tool to assist communities in protecting their drinking water resource. By definition a sole source aquifer designation protects drinking water supplies in areas with few or no alternative sources to the ground water resource, and where if contamination occurred, using an alternative source would be extremely expensive.

Streams are a major recharge source of the aquifer. Monitoring of certain streams may determine if pollutants are endangering the aquifer from this recharge. Two streams evaluated in Tioga County Pumpelly Creek and Thorn Hollow Creek were found to lose an average of 835 gallons/day per foot of stream channel and 1,000 gallons/day per foot of stream channel respectively in their downstream reaches. This is a countywide issue as most of the streams in Tioga County flow into the valley of the Clinton Ball Park aquifer.

Clinton Street Ballpark Sole Source Aquifer







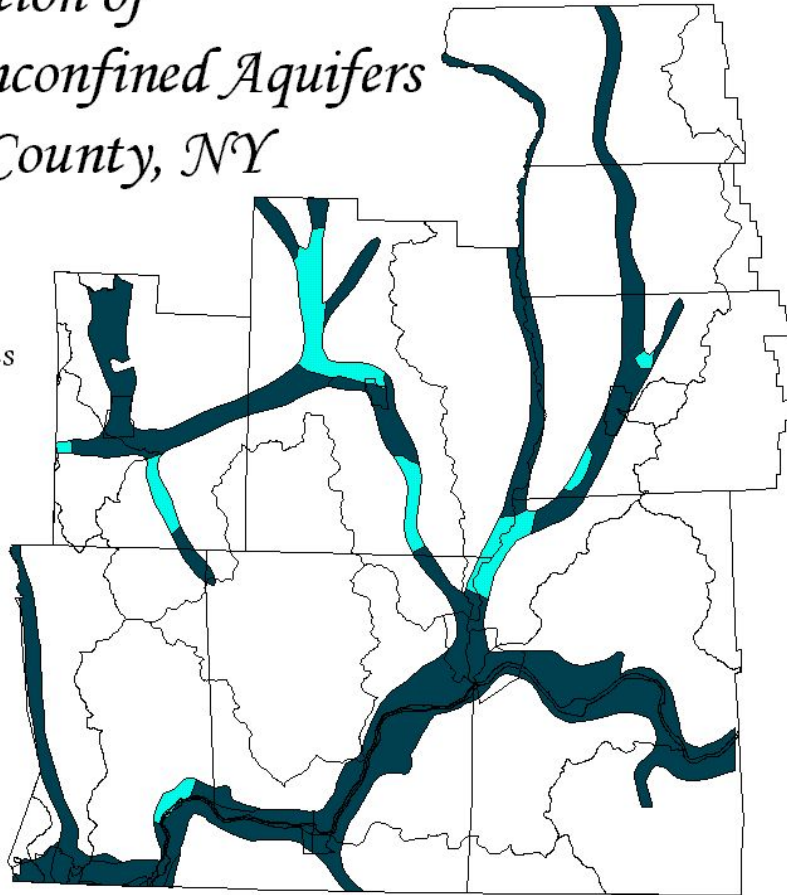
Notes and Explanation:
The Clinton Street Ballpark Sole Source Aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register Citation-50FR 2025. Publication Date-01/14/85.

Map Status and Disclaimer:
Please note that this working map is a computer representation compiled by the Environmental Protection Agency (EPA) from sources which have supplies data or information that may not have been verified by EPA. This data is offered here as a general representation only, and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.



Location of Confined and Unconfined Aquifers in Tioga County, NY

-  Municipal Boundaries
-  11 Digit HUCs
- Tioga Aquifer
-  Confined
-  Unconfined



3. EPA Phase II Stormwater Permits

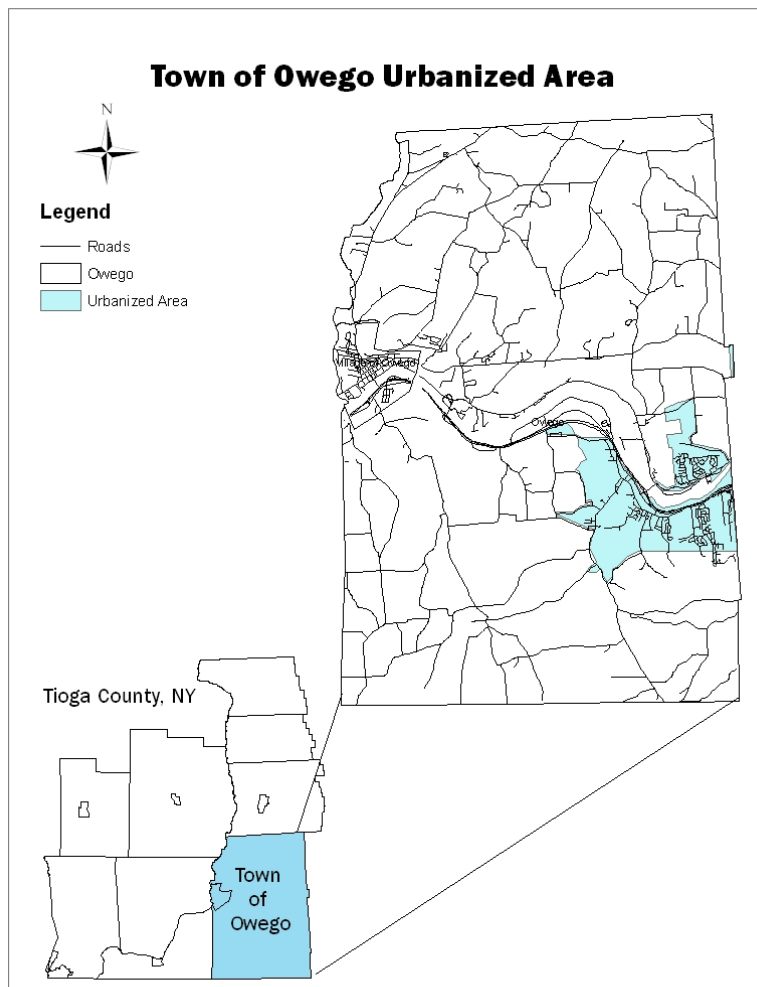
According to the federal law commonly known as Stormwater Phase II, permits are required for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and for all construction activities (both inside and outside of MS4 areas) that disturb one or more acres. The New York State Department of Environmental Conservation has developed two general permits as part of the State Pollutant Discharge Elimination System (SPDES) to implement this law in NYS.

Phase II Municipal Separate Storm Sewer Systems regulation took effect in 2003, and updated in 2007. This program requires that any municipality within an MS4 region develop detailed Stormwater Management Plans to prevent/reduce pollution of our rivers, streams and groundwater during storm events. The Stormwater Management Plan must address six minimum measures associated with the control of pollutants from the MS4.

1. **Public Education and Outreach** - distribution of educational materials and performing outreach to inform citizens about impacts that polluted stormwater runoff can have on water quality.
2. **Public Participation and Involvement** - providing opportunities for citizens to participate in program development and implementation.

3. **Illicit Connection Detection and Elimination** - developing and implementing a plan to detect and eliminate illicit discharges to the storm water system.
4. **Construction Site Runoff Control** - developing, implementing and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land.
5. **Post-Construction Controls** - developing, implementing and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas.
6. **Good Housekeeping and Pollution Prevention** - developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. (i.e. staff training)

The Town of Owego is the only municipality with a high enough population density to have an urbanized area in Tioga County and therefore must meet MS4 regulations. Also Tioga County filed a Notice of Intent with NYSDEC because a section of the county's road system is included in the urbanized area of the MS4.



Phase II Construction Permit also took effect in 2003 and was updated in May of 2007, and regulates construction activities that disturb or expose one or more acres of soil. According to the permit the stormwater runoff from a site must be covered by a State Pollutant Discharge Elimination System (SPDES) Permit for Stormwater Discharges from Construction Activity (GP-0-08-001) issued

by the New York State Department of Environmental Conservation (NYSDEC). Under the SPDES permit regulations, soil disturbance includes clearing vegetation, grubbing, filling, grading, excavation, demolition and any current or proposed construction activity. The owner/operator of the site is responsible for obtaining coverage under the SPDES Permit prior to commencing construction activities, and maintaining Erosion and Sediment Control measures until the site has been stabilized.

To obtain coverage under this General Permit, Stormwater Pollution Prevention Plan (SWPPP) must be prepared in conformance with NYSDEC technical standards and SPDES Stormwater Permit requirements. After a SWPPP is developed, the owner/operator must complete a Notice of Intent (NOI), and mail it to NYSDEC Central Office in Albany.

Upon updating the General Construction Permit (GP-0-08-001) there are new requirements that state all contractors that engage in soil disturbance activities must have trained individual on staff and present at the site once during soil disturbance activities. This trained individual must complete a 4-hour Erosion and Sediment Control Training that can be instructed by Tioga County SWCD. Also if within an MS4 area the SWPPP must be submitted to the local municipality for review and approval prior to submitting to NYSDEC.

4. Flooding

Flooding is among the most expensive natural disaster, both in terms of property damage and loss of life. In June 2006, a devastating flood occurred throughout the Susquehanna River Basin impacting Tioga County and its residents. This event quickly became the record flood for Tioga County in terms of the level of water and also the estimated damage it caused. Shortly after the event another flash flood occurred in November 2006. These events spurred the creation of the Tioga County Flood Mitigation Group whose overall goal is to provide a scientific basis for municipal officials to make decisions on flooding issues.

Flood Mitigation Group Goal Statement: To work with all communities in Tioga County to help answer questions on flooding needs, and as feasible, assist in the acquisition of necessary funds to systematically update and implement the Tioga County All Hazards Mitigation Plan, including a variety of safeguards to communities and individuals from flood risks to the extent that is practically achievable. To consider and promote flooding issues on a watershed level for the entire Upper Susquehanna River Basin.

As a group we reviewed the current Tioga County All Hazards Mitigation Plan and identified three focus areas that needed immediate attention within the plan: Strategies and Policy, Education and Outreach, and Rehabilitation and Mitigation Projects. The group has tasked itself with the updating and enhancement of these plan areas.

TASKS TO MEET WATER QUALITY PRIORITIES:

Tasks – Short Term (1 to 2 years)

Aquifer Protection

- Update County Water Quality Coordinating Committee Strategy (inclusion of Point sources issues as well as non-point sources) that allows all the participating agencies to agree on priority issues, and work together to access funding in order to implement the recommendations. Disseminate brochures and information on county Water Quality Strategy.
- Integrate various agencies and organizations into a coordinated comprehensive approach.
- Have a central point for information on the various technical capabilities and resources available from agencies, organizations and individuals.
- Encourage Best management practices by land users including the agricultural community.
- Conduct pesticide clean sweep programs throughout the County.
- Educate residents and municipal officials on the importance of septic system maintenance, especially in the villages and hamlets without any public water or sewer system.
- Develop wellhead protection programs and source water assessment programs to be implemented by municipalities that operate public drinking water supplies.

Chesapeake Bay Program

- Collect “Best Management Practice” information in a comprehensive and digital format to be able to track progress over time.
- Develop a list of nutrient and sediment sources and reduction practices that may be installed and seek buy-in from county agencies and residents to address them (suggested components: agricultural runoff, road ditch and road bank erosion, streambank erosion, gravel deposition and other flood related problems.
- Form a subcommittee of the point-source WWTP operators in order to more efficiently address and comply with impending TMDL standards for the Susquehanna River coming from these sources.

MS4 Stormwater

- Assist MS4 municipalities with implementation of their Stormwater Management Program
- Educate residents, municipal officials and code enforcement officers on incorporating MS4 and/or stormwater construction related requirements into their building permit process.
- Educate highway personnel on incorporating MS4 and/or stormwater best management practices into their municipal operations.
- Participate in the Broome Tioga Stormwater Coalition

Flooding:

- Update and adoption of Tioga County’s All Hazards Mitigation Plan by the County Legislature and municipalities to include sections on flood mitigation policies (such as land use regulations, buy out areas, enforcement and a county wide hazardous areas map), education and outreach strategies and projects updates as a result of the Floods of 2006 and the work of the Tioga County Flood Mitigation Group.

- Continue to hold meetings of the Flood Mitigation Group to ensure implementation of the County All Hazards Mitigation Plan.

Tasks – Medium Term (2 to 5 years)

Aquifer Protection

- Develop a management and implementation plan for the aquifer, which can be used as a guide for the remainder of the County.
- Approach and work with agricultural community with voluntary Agriculture Environmental Management Program (AEM). Complete Tiers I-V.
- Gather data on suspected pollution sites and develop a GIS data layer to track information.
- Re-establish a stream-monitoring program.

Chesapeake Bay Program

- Support tertiary treatment and other nutrient reduction technologies for Sewage Treatment Plants in Owego, Nichols and Waverly
- Ramp up BMP installation on farms, especially those that have high nutrient reduction capabilities
- Conduct training and projects on road ditches and road banks to reduce erosion and stabilize streambanks at stream crossings
- Support the USC wetland program to maximize wetland implementation for flood attenuation and water quality improvement

MS4 Stormwater

- Assist MS4 municipalities with implementation of their Stormwater Management Program

Flooding:

- Apply for funding opportunities to assist with the implementation of the Tioga County All Hazards Mitigation Plan.

Tasks – Long Term (5+ years)

Aquifer Protection

- Provide technical assistance to PWS operators, homeowners, and special event operators, experiencing water quality and/or quantity problems.
- Implement new Safe Drinking Water Act Programs.
- Work with selected municipalities (villages and towns with hamlets that have no water or sewer systems) to develop and implement septic system maintenance ordinances

Chesapeake Bay Program

- Continue BMP implementation on farms and in the stormwater arena
- Continue wetland development
- Consider protection, in some form, of aquifer recharge areas, headwater wetland complexes and stream corridor to reduce future remediation costs

PROGRAM EVALUATION:

- Nutrient and sediment reduction documented in the CBP Watershed Model
- Projects and municipal compliance with MS4 Stormwater construction regulations – no stop work orders or fines
- Number of farms enrolled in the NYS AEM program.
- Number of upgrades to Publically Owned Treatment Works (POTW) and resulting water quality improvements.

COMMITTEE MEMBER ROLES:

The **Tioga County Soil and Water Conservation District** has traditionally been involved in water quality concerns in working with soil erosion problems. Since being formed in 1944 the District, with assistance from the USDA Soil Conservation Service, has offered landowners planning assistance in managing soil and water resources on their property. It has offered technical assistance to install conservation practices, educated the public on natural resource issues and provided soils information for potential land uses and limitations. The main goal of the practices implemented by the District is to prevent soil erosion and degradation of water quality. When soil erosion is reduced less sediment and nutrients are contained in run off. In recent years practices have been implemented on farms which affect water quality more directly. These include manure storage structures, barnyard practices and milk house waste treatment.

In 1978 the District was designated by the County Legislature as the local planning, management and implementing agency to protect water resources from non-point water pollution in the areas of agriculture, construction activity, silviculture, stream banks, and roadbanks. The District is also involved in stream stabilization projects and assisting with the implementation of the Phase II Stormwater Program by reviewing Stormwater Pollution Prevention Plans (SWPPPs) for communities, completing site inspections on behalf of DEC and providing education and outreach materials to residents, contractors and engineers. The District has a Certified Professional Erosion and Sediment Control on staff that takes the lead of these programs.

The District role in the County water quality strategy would be to contribute its planning and implementation resources to the effort of protecting the Clinton Ball Park Aquifer and Surface Waterbodies in the County. District staff pending workload priorities can do technical work.

The **Tioga County Economic Development & Planning** provides technical support to local municipalities and planning and zoning boards in the following areas: Resource inventories, land use plan, ordinance development (zoning, subdivision and floodplain, etc.) and design and operating standards.

Reviews and coordinates local plans and permits subject to Sections 239 l and m of General Municipal Law and 6 NYCRR PART 617 (SEQR).

Coordinates planning efforts of state and regional agencies within the county.

Develops and implements educational programs and provide mechanism for public involvement.

Serves as the county's Stormwater Management Program Coordinator and ensures Tioga County's compliance with Phase II MS4 Stormwater regulations.

The **Tioga County Department of Health:**

- Reviews and approves realty subdivisions in accordance with Article 11, Title II of The Public Health Law.
- Reviews and issues approvals for all modification to any public water systems, as defined in Part 5 of Title 10 NYCRR for Tioga County.
- Reviews all public water systems including all monthly water quality data reports, water quantity reports, operator certifications and all laboratory analysis as required by New York State Law Title 10 NYCRR
- Performs yearly sanitary surveys and inspections for all public water systems.

- Inspects and permits children's camps, campsites and parks, hotels and motels, bathing beaches and public swimming pools, mobile home parks, and migrant labor camps.
- Regulates the installation of all Onsite Wastewater Treatment Systems within the county in accordance with Appendix 75 of Title 10 NYRCC.

The primary function of the **Tioga County Department of Solid Waste** is to provide a safe and economical method for residents to dispose of their waste and to recycle items which may be mandated by State law.

The Tioga County Solid Waste Department manages the County Transfer Station which receives solid waste from citizens, private and public haulers for a fee. Other items collected are scrap metal, items that have/had Freon, household batteries, tires (on or off the rim), ballast containing PCBs, florescent light bulbs, and used motor oil.

Manages Hazardous Waste program including electronic equipment.

Administers the County Recycling Program which offers curbside recycling pickup for all households within the County.

The primary function of the **Town of Owego Building, Planning & Zoning Department** is the interpretation, application and enforcement of the Code of the Town of Owego, including zoning, subdivision, flood plain and stormwater regulations, as well as the New York State Building Code.

The Department processes petitions for Site Plan Approval, Special Use Permits, Area and Use variances, and rezoning requests in addition to plan reviews and building permits. It also oversees the stormwater management program.

The Town of Owego is a designated MS4 and must prepare and implement a stormwater management program (SWMP) to comply with state and federal stormwater regulations. Within the Town of Owego permits are required for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and for all construction activities (both inside and outside of MS4 areas) that disturb one or more acres. The purpose for this is to reduce the pollutants from storm sewer systems. There are six minimum control measures that must be included in the SWMP. For each of these six minimum measures, the Town must identify measurable goals and select and implement management practices to achieve those measurable goals. The six minimum measures are: Public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site runoff control, post construction site runoff control, pollution prevention and good housekeeping. The Town of Owego is one of 15 municipalities that are members of the Broome-Tioga Stormwater Coalition.

PARTICIPATING AGENCIES & ORGANIZATIONS:

The **NYS Department of Environmental Conservation** is responsible for the administration and enforcement of the Environmental Conservation Law that conserves, protects and improves natural resources.

The **U.S. Department of Agriculture NRCS** provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment. Assistance and expertise is

offered to landowners on conserving soil, water, and other natural resources. Technical assistance is given and based on sound science that is suited to a customer's specific needs.

The mission of the **New York State Soil and Water Conservation Committee** is to develop and oversee implementation of an effective soil and water conservation and agricultural nonpoint source water quality program for the State of New York that is implemented primarily through county Soil and Water Conservation Districts.

Responsibilities:

- Serves as an information and idea exchange between member agencies and groups. This improves trust and cooperation, and results in better program implementation
- Establishes policy to guide the programs of New York's 58 County Soil and Water Conservation Districts.
- Helps Soil and Water Conservation Districts organize, develop and carry out their programs
- Advises all agencies of government on matters relating to soil and water conservation.
- Serves as "lead agency" for New York State's agricultural nonpoint source pollution control programs.

The **Upper Susquehanna Coalition (USC)**, established in 1992, is a network of county natural resource professionals who develop strategies, partnerships, programs and projects to protect the headwaters of the Susquehanna River and Chesapeake Bay watersheds. The USC is comprised of representatives from 16 counties in New York and 3 in Pennsylvania.

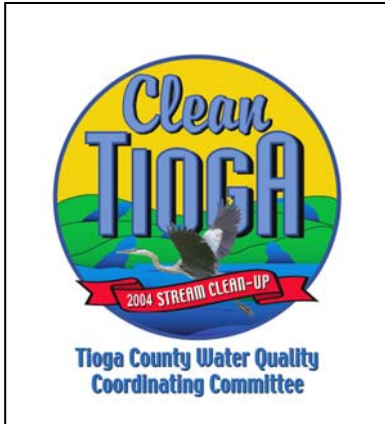
The USC members are Soil and Water Conservation Districts in NY and Conservation Districts in PA. All USC members have signed a Memorandum of Understanding that reflects their endorsement of the development of non-point-source projects on a watershed basis. Over the last ten years, USC has united its members in a genuinely coordinated effort. Through shared projects and regular meetings, the USC has maintained a remarkable degree of cordiality and cooperation between its members and its many partners.

19 Counties, 2 States, 1 Watershed The Upper Susquehanna Coalition



PROGRAMS & ACCOMPLISHMENTS OF THE WQCC

Stream Cleanup



In 2000 the WQCC began an annual stream cleanup event where volunteers select any stream within Tioga County to clean. The participants are supplied with trash bags and receive a t-shirt to commemorate the event. The town highway departments partner in this event to coordinate pickup, disposal and then transport the collected trash to Taylor's Garbage Service, in Owego. Many different organizations participate in this event including: Boy and Girl Scout Troops, OFA Key and Science Clubs, Kiwanis, Citizen's for Catatonk Creek, Carantouan Greenway, and local fisherman. These groups have cleaned portions of the Susquehanna River, Catatonk, Cayuta, Little Nanticoke, Owego and Wappasening Creeks. The program was kicked off through funding by NYSWCC but costs are now covered by donations from business and organizations through out the County.



Rural Design Workbook

A collection of creative design solutions for real properties that protect and preserve the rural environment, with strategies, funding sources, and ideas that can be implemented. It offers assistance for everyone involved in the planning and development of rural land. Landowners can learn how to better take advantage of environmental cost share and tax incentives. They can also use actual sites as examples of good design that are economically beneficial to the owner but, at the same time protect the environment and water quality. Local developers can be inspired to design

more creatively. Local planning boards can gain confidence to ask for and receive good designs for their communities.

Two sites in the Catatonk Creek Watershed were selected with both being in the Town of Spencer. Designs created by landscape architecture students of Cornell University for the Janiak site and the Rautine site focused on the allowing mining while protecting farmland and natural resources and to do so in a way that allows for concurrent development. Copies were distributed to each town and updates are distributed as the projects are completed.



Pesticide Clean Sweep

This program consisted of collecting obsolete, unwanted or banned pesticides from landowners including farmers, schools, municipalities, greenhouses and golf courses for safe disposal.

The program had two major components. The first component involved the creation of and education/outreach effort to identify and educate all active and inactive farms, golf courses, municipal facilities, and schools about proper storage, handling, and labeling of banned, obsolete, or unwanted pesticides. The second component was to provide all the above generators the opportunity to safely and responsibly dispose of banned, obsolete, or unwanted pesticides. The program assisted in improving overall pesticide management by informing these communities about pesticide reduction practices and helped clear storage areas in the County of waste pesticides.

Road Ditch & Road bank Assessment

The District and USC inventoried highly eroding road ditches through out the county and estimated the potential for sediment reductions with the use of Best Management Practices such as Hydroseeding along eroding road ditch and road banks. Also developed was a data layer from this information in our GIS assessment tool that is used for planning and implementation proposals on road ditches. With this information we conducted a Road Ditch Demonstration Project which took place on Elmer Hill Road in Candor and was presented at the Tioga County Highway Superintendent Association Meeting.



Upper end of project before stabilization



During Construction



Project after 3 weeks of growth

Storm Drain Stenciling

Storm drain stenciling is simply the act of labeling storm drain inlets with messages that remind people not to dump anything down the drain. Using a stencil, a reminder is spray painted next to the storm drain, deterring people from dumping items in it. The message usually says something like “Don’t Dump, Drains to River” or “No Dumping” as seen in the photo below. Several storm drain stenciling projects have been completed since the inception of the WQCC. This is an important activity because unlike water that goes down your drain and into the sanitary sewer toward your local sewage treatment plant, water that enters storm drains remains untreated and flows directly to local water bodies. Any substances that this water carries are potential contaminants that can degrade water quality. Therefore, it's very important to prevent contaminants from entering storm drains and to never pour anything into them. Intentionally pouring pollutants into street gutters and storm drains is not only dangerous to the environment, it is illegal. Since people often don't realize what happens to water that goes down the storm drain, people who would never dream of polluting a lake or stream might dump fertilizer, paint, used motor oil, pet waste, cigarette butts or litter down storm drains. Storm drain stenciling is a simple way to prevent this kind of pollution in your neighborhood. It lets your neighbors and visitors know that anything dumped in the street winds up in our waterways.



Tire Cutter/ West Nile Virus:

Old discarded tires with standing water are a potential breeding area for the West Nile Virus. A tire cutter was purchased and is available to rent to local farms in the area so that cut tires can be used for silo bunk covers. Using cut tires can reduce numerous breeding areas for mosquitoes; while at the same time making the tires easier and drier for handling. The tire cutter is available for \$50/day to the farming community.



Tire Cleanup:

Tioga County Department of Solid Waste will be facilitating a Tire Cleanup program within the Towns of Barton, Candor, Owego and Spencer in 2008. The primary intent of the program is to provide a safe and economical method for residents and municipalities to dispose of their waste tires.

Tire piles are not only unsightly; they are an ideal breeding ground for disease-bearing mosquitoes and animals. If a tire pile catches on fire, this can cause significant air and water pollution. Tire fires are also extremely difficult to extinguish. There are hundreds of tons of waste tires located throughout Tioga County. Municipality's highway departments and code officers within the County have acknowledged this. The tires are in two main categories small piles (4-10) usually located close to the residence and large piles (20 or more) dumped in unpopulated areas or located on farms.

In May of 2004, Water Quality Coordinating Committee conducted its annual stream clean up in which they collected and disposed of 1.26 tons of tires along streams in Tioga County. Neighboring County of Chemung has held tire events for the past two years collecting and disposed of over 15 tons of tires. What is missing is that these programs do not address the large tire piles located throughout the County.

The program has two major components. The first component involves the creation of an educational effort to identify/locate tire piles in Tioga County and to educate residents about the hazards of not properly disposing of tires. The second component is to provide the residents and municipalities the opportunity to properly dispose of waste tires. The program will also improve the overall way residents look at how to dispose of unwanted tires by informing them of the environmental impacts and about proper disposal methods and helping to clear tire pile throughout the County.

Each town will hold a tire and scrap metal collection week at their highway barns with advertising being handled by the Department of Solid Waste. Residents will then bring their tires to their Town highway barn where tires off the rim will be loaded on to the tire trailer and when the event is complete the tires will be placed in a Casings tire trailer for proper disposal. Tires on the rim will be loaded onto a Highway truck and taken to Upstate Shredding for disposal.



LID Projects

Low Impact Development (LID) helps integrate stormwater management early in site planning activities using natural hydrologic functions as the integrating framework. The focus is on prevention rather than mitigation with emphasis on simple, nonstructural, low-tech, and low cost methods. Common LID practices on site include: rain gardens and bioretention, vegetated swales, buffers, and strips, tree preservation, permeable pavers, soil amendments, and impervious surface reduction. Building related practices such as rooftop gardens, roof leader disconnection, rain barrels and cisterns are also used. There is currently a presentation of this topic available to support local initiatives to tackle stormwater phase II issues.

In 2006 the Tioga County WQCC received funding through the Upper Susquehanna Coalition to promote the use of Low Impact Development Projects in the County. Two projects were selected and funded by the committee, including the 231 Main rehabilitation project and the Terrace in the Woods Subdivision. Both projects incorporated Low Impact Development practices into their design of their stormwater facilities.

231 Main Estates stands brightly in the heart of the Village of Owego as a shining example of historic preservation and revitalization done right. Bruce Nelson, the man behind this amazing transformation, incorporated Low Impact Development techniques during this revitalization process. These techniques include significantly reducing impervious surface on the lot, installing a rain

garden and other water absorbing and filtering vegetation around the entire property including shrubs, bushes and flowering plants.



The Terrace in the Woods Subdivision is located in the Town of Owego, a designated MS4 (Small Municipal Separate Storm Sewer System) community by the NYS Department of Environmental Conservation Phase II Stormwater Regulations; that were enacted in March 2003. Dan Myers, developer of Terrace in the Woods subdivision, was recognized for his foresight in utilizing Low Impact Development techniques such as tree preservation during the construction of his new subdivision. Not only were trees saved during housing construction (see picture), deed restrictions require property owners to preserve the native vegetation, such as trees and other fauna, on site. This is an example of a Low Impact Development Practice that will reduce stormwater runoff and associated impacts throughout the rest of Tioga Terrace.



WQCC FUNDING

Funding has been provided through Water Quality Mini- Grants from NYS DEC and the NYS SWCC. The Tioga WQCC has been awarded several grants thru this funding source however in the last couple of years no funding as been available.

AWARDS AND RECOGNITION

Stewardship Recognition

The New York State
Department of Environmental Conservation



**Tioga County Water Quality
Coordinating Committee**

This certificate is awarded in appreciation of your stewardship accomplishments. You have demonstrated that you care for our waters through activities to preserve and protect the water resources of New York State and to increase environmental awareness in your community. Thank you for lending a helping hand by participating in the Department of Environmental Conservation's *Water Stewardship* program.


Erin M. Crotty
Commissioner

2003


Sandra L. Allen, Director
Division of Water

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