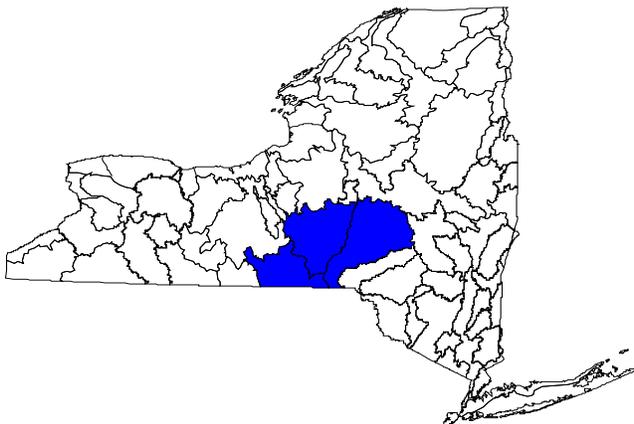


Bureau of Watershed Assessment and Management
Division of Water
NYS Department of Environmental Conservation

The Susquehanna River Basin Waterbody Inventory and Priority Waterbodies List

Encompassing all or portions of
Broome, Chemung, Chenango, Cortland,
Delaware, Herkimer, Madison, Oneida,
Onondaga, Otsego, Schoharie, Schuyler,
Tioga and Tompkins Counties



August 2009

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The Waterbody Inventory and Priority Waterbodies List

In order to fulfill certain requirements of the Federal Clean Water Act, the New York State Department of Environmental Conservation (NYSDEC) must provide regular, periodic assessments of the quality of the water resources in the state and their ability to support specific uses. These assessments reflect monitoring and water quality information drawn from a number of programs and sources, both within and outside NYSDEC. This information has been compiled by NYSDEC Division of Water and merged into an inventory database of all waterbodies in New York State. The database is used to record current water quality information, characterize known and/or suspected water quality problems and issues, and track progress toward their resolution. This inventory of water quality information is the division's Waterbody Inventory/Priority Waterbodies List (WI/PWL).

In addition to providing a baseline assessment of water quality, the Waterbody Inventory/Priority Waterbodies List supports program management within the Division of Water in other ways. For example:

A Focus for Division Program Activities

Because of limited resources, various division programs (monitoring, compliance, restoration and protection activities, grant funding) need to address those specific water quality issues – both statewide problems (e.g., stormwater, toxic/contaminated sediment) and site/waterbody-specific concerns – where program efforts will have the greatest impact.

A Consistent and Objective Inventory

WI/PWL assessments of water quality problems and issues are used in the development of program-specific priority ranking/scoring systems and efforts.

A Record of Water Quality History

Because the WI/PWL provides information for specific waterbodies, staff can easily respond to questions – from both within and outside the division (including the public) – concerning what is known about the water quality of specific rivers, lakes and watersheds.

A Measure of Progress

The WI/PWL also aids in the tracking of progress by division programs and other efforts toward improving the water resources of the state.

Comprehensive Assessment Strategy

The Waterbody Inventory/Priority Waterbodies List is a key component of the Division of Water's larger *Comprehensive Assessment Strategy*. This strategy is designed to integrate a variety of division activities into a more coordinated and comprehensive water quality program. The specific goals of the *Comprehensive Assessment Strategy* are to provide a:

- thorough (appropriate to available resources) monitoring of state waters;
- complete evaluation and consideration of all available monitoring data;
- comprehensive assessment of the quality of all waters in the state; and
- coordinated approach to improving and protecting these water resources.

Implementation of the *Comprehensive Assessment Strategy* relies on a rotating drainage basin approach. This approach focuses water quality monitoring and assessment activities on a portion of the state for a designated period of time, and then turns attention to other parts of the state. New York State's use of the rotating basin approach enables the updating of the WI/PWL in two or three of its seventeen drainage basins (about 20% of the state) each year. This schedule allows for a comprehensive reassessment of the water quality throughout the entire state over a five-year cycle (see Figure 1).

Statewide Waters Monitoring Program

Prior to the updating of the WI/PWL, the division conducts a two-year monitoring effort in the targeted drainage basins. These basin studies – conducted within the Division of Water's Statewide Waters Monitoring Program – involve a variety of sampling activities conducted by the division, other NYSDEC programs, and water quality partners outside NYSDEC.

The first year of these basin studies focuses on the review of existing water quality information and the incorporation of monitoring efforts being conducted by other basin/watershed partners. Division monitoring activities in the first year are generally limited to *biological screening*. Biological screening relies on the use of resident biological communities as indicators of water quality. The primary biological communities are fish, macroinvertebrates (aquatic insects) and algae. Of these, macroinvertebrates have proven the most appropriate for screening water quality at a large number of sites in a reasonable amount of time.

The second year of the basin studies involves more intensive chemical and biological monitoring. This includes water chemistry sampling at selected sites, sediment chemistry/toxicity sampling, multiple site surveys along specific river reaches, and other site- or problem-specific monitoring investigations.

Water Quality Assessments: Updating the WI/PWL

At the conclusion of the monitoring effort in a basin, the water quality data are evaluated to assess the ability of the waterbodies to support specific water uses (water supply, public bathing, aquatic life, secondary recreation, etc). As was the case with the monitoring effort, the evaluation and assessment of data and subsequent updating of WI/PWL information incorporates input from division/departments staff and outside partners as well. WI/PWL assessment workshops are conducted for NYSDEC regional staff and watershed partners within each targeted basin, and participants are encouraged to submit assessment worksheets for waterbodies for which they have information. This information – along with Statewide Waters Monitoring Program assessment information – is compiled and distributed to participants for review and comment before the Final WI/PWL Assessment Report is issued.

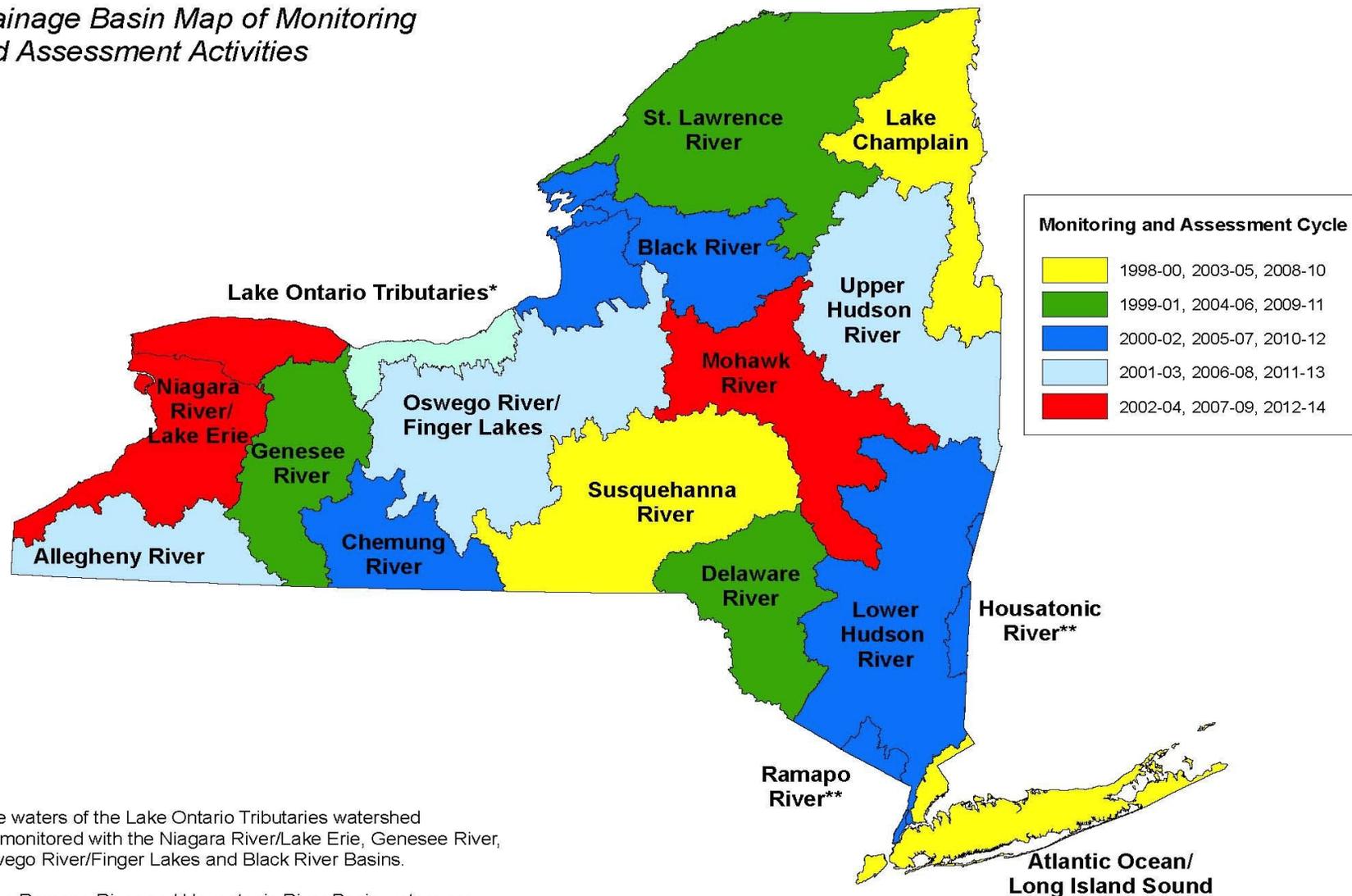
An Expanded *Waterbody Inventory*

Upon its inception in 1983 and through the mid-1990s, the Priority Waterbodies List was limited to recording information for only those waters with known or suspected water quality problems. The expansion of the database to include *all* waters in the state, including those with good and unknown water quality, is a fairly recent effort. However, while this expanded waterbodies database provides more complete water quality information, for program management purposes the division must also be able to cull a subset of "*priority*" waterbodies from the inventory of all waters on which the division should spend resources. In other words, there is a need for both a comprehensive *Waterbody Inventory* of water quality information for all waters in the state and a subset of this inventory that is limited to segments with well documented, potentially resolvable, higher priority problems and issues. This subset of the Waterbody Inventory is the *Priority Waterbodies List*.

Figure 1

Comprehensive Assessment Strategy

Drainage Basin Map of Monitoring and Assessment Activities



*The waters of the Lake Ontario Tributaries watershed are monitored with the Niagara River/Lake Erie, Genesee River, Oswego River/Finger Lakes and Black River Basins.

**The Ramapo River and Housatonic River Basin waters are monitored with the Lower Hudson River basin.

In order to achieve these multiple objectives, segments in the larger comprehensive Waterbody Inventory are segregated into one of six (6) *Water Quality Assessment Categories*. These are outlined below.

WI/PWL Waterbody Assessment Categories

Impaired Waters: These are waterbodies with well documented water quality problems that result in *precluded* or *impaired* uses (waters with *stressed* or *threatened* uses are not included in this category). This category includes *High* and *Medium Resolvability* segments where the Division of Water considers the expenditure of additional resources to improve water quality to be worthwhile given public interest and/or the expectation that a measurable improvement can be achieved; and *Low Resolvability* segments with persistent/intractable problems on which the division is not likely to spend any significant resources (e.g., segments affected by atmospheric deposition, etc.).

Waters with Minor Impacts: These are waterbodies where less severe water quality impacts are apparent but uses are still considered fully supported. These segments correspond to waters listed as having *stressed* uses.

Threatened Waterbodies: These are waterbodies for which uses are not restricted and no water quality problems exist but where specific land use or other changes in the surrounding watershed are known or strongly suspected of threatening water quality. Also included in this category are waterbodies where the support of a specific and/or distinctive use (e.g., unfiltered public water supply) make the waterbody more susceptible to water quality threats.

Waterbodies with Impacts Needing Verification: These are segments that are thought to have water quality problems or impacts but for which there is not sufficient or definitive documentation. These segments require additional monitoring to determine whether uses are restricted.

Waterbodies Having No Known Impacts: These are segments where monitoring data and information indicate that there are no restrictions to overall uses, although minor impacts to component indicators (such as biological assessments) may be present.

UnAssessed Waterbodies: These are segments where there is insufficient water quality information available to assess the support of designated uses.

Taken together, *Impaired Waters, Waters with Minor Impacts* and *Threatened Waterbodies* comprise the Division of Water Priority Waterbodies List (PWL). These segments are the focus of remedial/corrective and resource protection activities by the division and its water quality partners.

***Waterbodies with Impacts Needing Verification, Waterbodies Having No Known Impacts* and *UnAssessed Waterbodies* are tracked on the comprehensive Waterbody Inventory, but are not considered to be included among waters on the Priority Waterbodies List.** For these waters, additional monitoring and assessment activities to document possible or potential future impacts, causes and sources are more appropriate than remedial/corrective action or resource protection efforts.

Maintaining a comprehensive Waterbody Inventory allows division staff to easily respond to questions – from both within and outside NYSDEC – concerning the water quality of specific rivers, lakes and watersheds. By segregating the database in the manner described above, the division can also identify specific priorities where the coordination of limited resources can most effectively address water quality problems.

The Susquehanna River Basin

Basin Description

The Susquehanna River Basin is the second largest river basin – next to the Ohio River Basin – east of the Mississippi River and the largest on the Atlantic seaboard. The 444-mile Susquehanna River drains 27,500 square miles covering portions of New York, Pennsylvania and Maryland before emptying into the Chesapeake Bay. In New York State the Susquehanna Basin encompasses much of the south-central portion of the state. The western-most third of the New York State portion of the basin is drained by the Chemung River, which is a major tributary to the Susquehanna. (Within New York State, the Chemung River Basin is considered a separate drainage basin and is addressed in a separate WI/PWL Report.) Excluding the Chemung River drainage, the Susquehanna River drains approximately 4,520 square miles in central New York. This drainage area includes most of Broome, Chenango, Cortland, Otsego and Tioga Counties; parts of Delaware, Madison and Chemung Counties; and small portions of Schuyler, Tompkins, Onondaga, Oneida, Herkimer and Schoharie Counties.

The population of the entire Susquehanna River Basin totals over 4 million people: a number that includes about 438,938 (2000) New York State residents. The largest population centers within the New York State portion of the basin are the City of Binghamton (47,380), City of Cortland (18,740), Village of Johnson City (15,535), City of Oneonta (13,292) and Village of Endicott (13,038). The region is characterized by low rolling hills covered by hardwood forests and large wide valleys scattered with agricultural activity. Seventy percent (70%) of the basin is forested; agricultural land uses account for about 25% of the drainage area. Consequently most of the basin population is rural or located in smaller villages and hamlets.

There are about 7,597 miles of river and stream and over 400 lakes and ponds in the New York State portion of the Basin. Many of the ponds are too small to be individually assessed, but 129 significant* lake, pond and reservoir waterbody segments (covering 13,800 acres) are included in the Susquehanna River Basin Waterbody Inventory. The three main sub-basins of the Susquehanna Basin in New York are the Lower Susquehanna (below Binghamton to the state line), the Chenango River and the Upper Susquehanna (above Binghamton). The larger tributary watersheds in the Basin are the Tioughnioga River Watershed (1,293 miles of stream, or 17% of the basin total) which includes the Otselic River Watershed, the Unadilla River Watershed (936 miles, 12%), the Owego Creek Watershed (766 miles, 10%), and the Cayuta Creek Watershed (279 miles, 4%). Otsego Lake (4,100 acres) is the largest lake and accounts for 3% of basin lake acres. The next largest lakes are Canadargo Lake (1,882 acres, 1%), and Whitney Point Reservoir (1,235, 1%).

Water Quality Issues and Problems

Water quality in the Susquehanna River Basin generally ranges from satisfactory to very good. Over 85% of river miles and lake acres fully support uses with no more than minor impacts, and about two-thirds of river miles and lake acres were found to have no known impacts. Use impairments affect about 10% of basin waters. But these impairments are almost entirely a result of 1) a fish consumption advisory for mercury in specific waters that is largely attributed to atmospheric deposition, or 2) impacts to a single large lake from agricultural activities. Lesser impacts or threats affect another 10% of basin waters. The most significant sources of impacts include agricultural activities, inadequate on-site septic systems and streambank erosion.

* *Significant Lakes* are lakes of 6.4 acres (0.01 square miles) or larger and are included the New York State Lakes Gazeteer.

Agricultural Activity

Considerable agricultural activity in the largely rural Susquehanna River Basin has an impact on aquatic life use support and recreational uses of the waters. Agricultural runoff contributes nutrient and silt/sediment loads to the streams and lakes. If not properly managed these pollutants result in algal and weed growth and reduced water clarity that limits recreational use. Agricultural activities are a frequently cited source of impacted waters in the basin. However numerous state and local (county) agencies and organizations are actively working with the farming community to continue to manage these sources.

Atmospheric Deposition of Mercury

Mercury is a toxin that bioaccumulates up the food chain, and can concentrate in large predatory fish. Air emissions and the resulting atmospheric deposition of mercury on the land and into the waters remain a significant source. New York State has issued health advisories limiting the consumption of walleye taken from the Susquehanna, Chenango and Unadilla Rivers. A general advisory for limiting the consumption of sportfish from all waters of the state is in place due to the common occurrence of some chemicals (including mercury) in fish and the inability to test all waters. Though sources other than atmospheric deposition could possibly be contributing, mercury has been largely removed from most wastewater and industrial effluents and no other sources in the basin have been identified.

Streambank Erosion

Silt and sedimentation from the erosion of stream banks is a source of impacts to stream habitat and resident fisheries. Steep gradient streams that cut through silty soils are highly susceptible to erosion. Though some erosion may be considered the natural result of topography and soil type, uncontrolled livestock access to streams and other practices can exacerbate the problem.

Failing and/or Inadequate On-site Septic Systems

Recreational uses and aesthetics of lakes and streams in a number of smaller rural communities are impacted by failing and/or inadequate on-site septic systems. In some cases, raw sewage discharges to the waters have been observed. Such conditions raise obvious public health concerns as well. Efforts to address these problems are often hindered by fiscal considerations. Correcting individual systems and/or the sewerage of a larger neighborhood or community results in a significant (often insurmountable) financial burden. NYSDEC and the NYS Environmental Facilities Corporation works with local communities to identify funding opportunities to address the water quality impacts.

Municipal Wastewater Treatment

A number of municipal wastewater treatment facilities along the Lower Susquehanna River have undergone upgrades and collection system improvements in recent years. The Binghamton-Johnson City Joint STP, for example, has been nearly completely rebuilt and went on line in 2009. Plant capacity was increased from 20 mgd to 60 mgd and now includes advanced ammonia and total nitrogen removal. Ammonia, nitrogen, BOD and TSS levels are typically reported to be close to the method detection levels. In-line screening and upgrades to both Binghamton and Johnson City CSO outfall structures were also completed in 2002 resulting in 85% capture of wet weather flows which are being treated to at least secondary standards at the plant (exceeding EPA CSO policy which requires only primary treatment for 85% of the wet weather flows). These and other improvements have or will address most of the water quality impacts identified in previous assessments of the Lower Susquehanna River.

Flood Control

Hydrologic and topographic characteristics make the Susquehanna River Basin highly vulnerable to flooding and dams, flood walls and levies are found throughout the basin. In some ways the flood control effort conflicts with other uses of the waters. Stream access limitations as well as the modification of hydrology and habitat in some basin waters can impact recreation and aquatic life and habitat. Efforts are made to limit the impacts to these other uses, but the need to protect the life and property of basin residents from flood waters is recognized as a priority.

Chesapeake Bay Loading Reductions

The Upper Susquehanna River and its watershed is tributary to and therefore part of the 64,000 square mile Chesapeake Bay Watershed. The Chesapeake Bay and its tidal tributaries are listed as Clean Water Act Section 303(d) Impaired/TMDL Waters due to low dissolved oxygen and reduced water clarity. To address these impairments the USEPA Chesapeake Bay Program has collected water quality monitoring data and conducted watershed computer modeling that documents that these impairments are the result of sediment and nutrient (phosphorus and nitrogen) loadings from sources throughout the Chesapeake Bay Watershed.

By 2002, all of the Chesapeake Bay states had adopted a Memorandum of Understanding regarding cooperative efforts for the protection of the Chesapeake Bay. The MOU cites that unless water quality standards are met by 2010, the impairments to the Bay will require the establishment of a TMDL by May 2011. In the MOU, the signatories agree to work cooperatively to achieve the nutrient and sediment load reductions that are necessary to meet water quality standards in the Bay by 2010.

The watershed modeling shows that New York State's current nutrient and sediment loads contribute to the impairment in the Bay. implementation of agricultural best management practices (BMPs) and wastewater treatment plant improvements throughout the basin that reduce pollutant loadings will contribute to the restoration of the Bay. Although the waters that are the focus of this restoration lie well outside the borders of New York State, these and other activities that reduce nutrient inputs to the waters of the Susquehanna River Basin should be viewed as high priority water quality restoration efforts deserving of increased support.

Due to the impact of nutrient loads from the Susquehanna River Basin on the Chesapeake Bay and a commitment by New York State to reduce these impacts, efforts to reduce nitrogen in any waterbody in the basin can be considered to be contributing to the restoration of "stressed" uses, albeit those impacted uses lie beyond the New York State border.

Groundwater Resources

Although groundwater resources are not specifically tracked through the WI/PWL, they are considered *Priority Waters* nonetheless. Groundwater provides drinking water for about one-third of the population of New York State and is the source of base flow for most rivers and streams in the state. Management and protection of both the quantity and quality of this resource is critical for protecting public health and is also a key element of surface water quality and wetland management efforts. In the Susquehanna River Basin, the more significant threats to groundwater resources include pesticide application, chemical spills, animal feeding operations, inadequate on-site wastewater treatment systems, inactive hazardous waste sites and industrial discharges. The impact of increasing groundwater withdrawals in order to support development is an emerging issue that merits additional investigation.

Susquehanna River Basin Water Quality Assessment

The series of charts presented on the following pages provides an overall assessment of water quality conditions in the entire Susquehanna River Basin. For each waterbody type (rivers/streams and lakes/reservoirs) the first chart shows the percentage of the miles/acres of waters in the basin that fall into the various water quality assessment categories. The **red** portion of the first pie indicates the percentage of waters characterized as *Not Supporting Uses*. The **purple** portion represents segments with *Minor Impacts/Threats*. Taken together, these categories of waters comprise the *Priority Waterbodies* for that waterbody type. The percentage of miles/acres for the other water quality assessment categories – waterbodies having *No Known Impacts*, *UnAssessed Waters*, and waterbodies with *Impacts Needing Verification* – are shown in **blue**, **light blue**, and **green** respectively.

The second pie chart shows the severity of the most significant use impact or restriction for waters in the two categories that comprise the Priority Waterbodies. The levels of severity are:

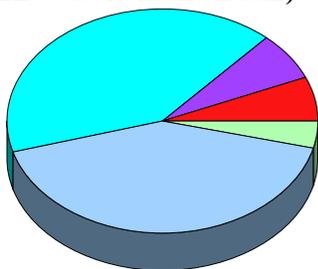
- Precluded:* waters do not support appropriate uses;
- Impaired:* waters frequently do not support appropriate uses;
- Stressed:* waters support appropriate uses, but other water quality impacts are apparent; and
- Threatened:* waters support uses and have no impacts, but activities threaten future use support.

More detailed descriptions of these levels of severity are outlined in *Appendix A - Assessment Methodology*.

The bar charts indicate the pollutant sources that are most frequently cited as major contributors to the water quality impacts for Priority Waterbodies in the Susquehanna River Basin. The charts reflect the percentage of miles/acres of the total waterbody area on the Priority Waterbodies List where a particular source is listed as a major contributor to the water quality impact. For each source, the color shading of the bar indicates the severity level (*Precluded*, *Impaired*, *Stressed*, *Threatened*) of the most significant water use impact to the waterbody.

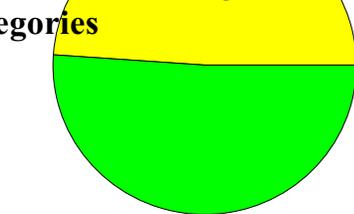
Rivers/Streams

Water Quality Assessment Categories
(for ALL Waters in the Basin)



- PWL - Not Supporting Uses
- PWL - Other Minor Impacts
- No Known Impacts
- UnAssessed Waters
- Impacts Needing Verification

Severity of Problems
(PWL Segments Only)

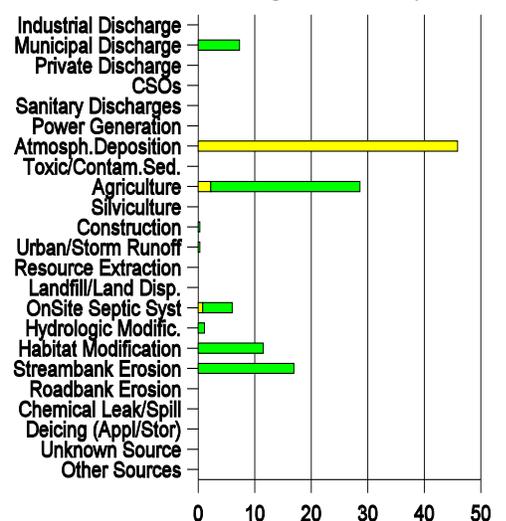


- Precluded
- Impaired
- Stressed
- Threatened

Susquehanna Basin

Total River Miles: 7,597
Total PWL Miles: 1,023

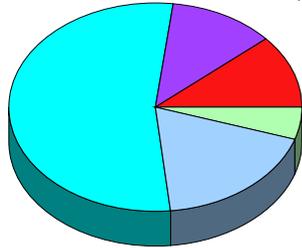
Major Sources of Impact
(PWL Segments Only)



Percent of PWL Waters Affected

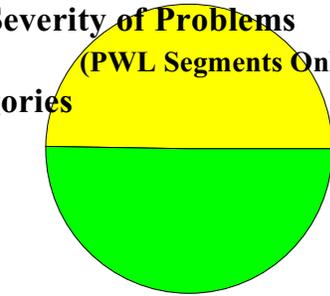
Lakes/Reservoirs

Water Quality Assessment Categories (for ALL Waters in the Basin)



- PWL - Not Supporting Uses
- PWL - Other Minor Impacts
- No Known Impacts
- UnAssessed Waters
- Impacts Needing Verification

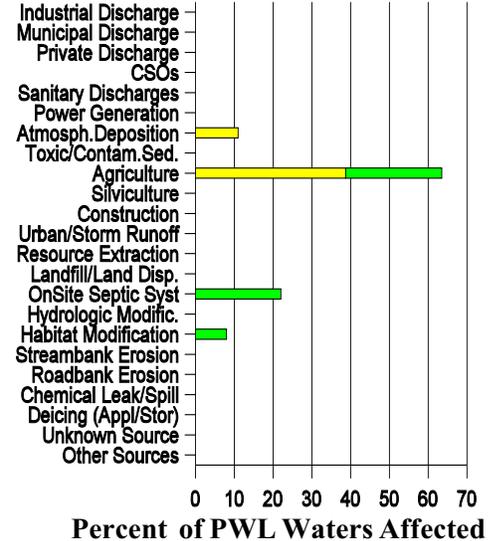
Severity of Problems (PWL Segments Only)



- Precluded
- Stressed
- Impaired
- Threatened

Susquehanna Basin	
Total Lake Acres:	85,723
Total PWL Acres:	46,449

Major Sources of Impact (PWL Segments Only)



Basin Water Quality Summary

About thirteen percent (13%, or 1,023 miles) of the 7,597 river miles in the New York State portion of the Susquehanna River Basin are included on the Priority Waterbodies List as either not supporting uses or having minor impacts or threats to water quality. Just over half (51%) of these Priority Waterbody Listed river miles are considered *Stressed* or *Threatened* waters that fully support appropriate uses but have minor impacts/threats to uses. Only about seven percent (7 %) of all basin river miles are *Impaired* and do not fully support appropriate uses.

Thirteen (13) of the 129 separate lake segments in the basin are included on the PWL as having either impaired uses or minor impacts/threats to uses. These impaired/impacted lakes represent about one-quarter (23%) of the total lake acres in the basin. For only two of these lakes (totaling 1,588 acres, or 12% of basin lake acres) the impacts are such that fish consumption, recreational uses and/or aquatic life are not fully supported.

The most frequently cited sources of impacts affecting water quality in the basin are atmospheric deposition and agricultural activities. These two sources are also the responsible for virtually all of the limited amount of water quality impairment that occurs in the basin. Stream erosion/habitat modification, inadequate on-site wastewater (septic) systems, and municipal wastewater impacts are also significant sources that contribute to lesser minor impacts and threats to water quality. The occurrence of agricultural sources reflects the rural character of the basin which includes significant farming regions. However, for the most part, agricultural activities result in less severe stresses and threats to water quality rather than more significant use impairment.

Figure 2
Susquehanna River Basin
WI/PWL Water Quality Assessment

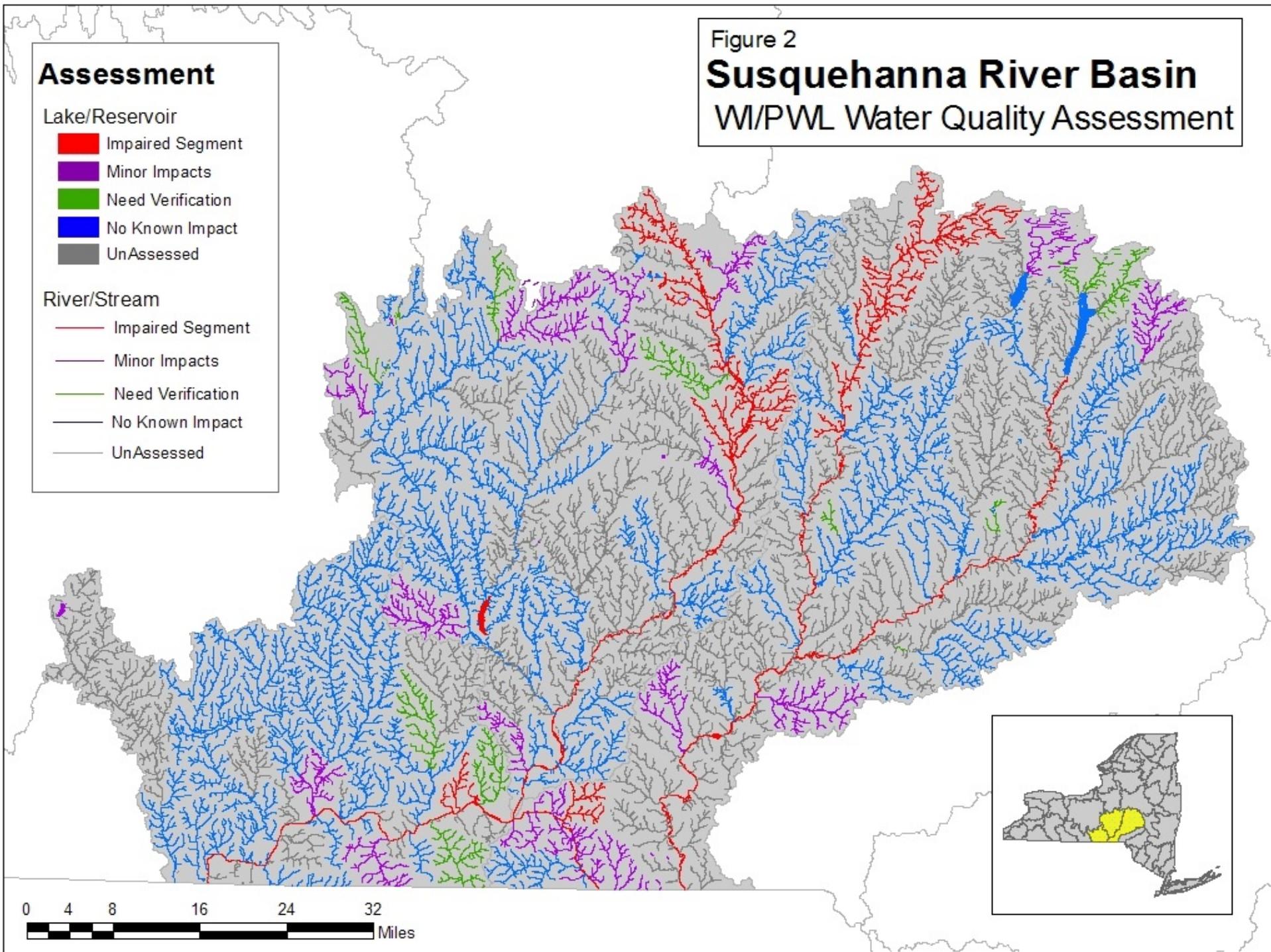
Assessment

Lake/Reservoir

- Impaired Segment
- Minor Impacts
- Need Verification
- No Known Impact
- UnAssessed

River/Stream

- Impaired Segment
- Minor Impacts
- Need Verification
- No Known Impact
- UnAssessed



The Susquehanna River Basin

Waterbody Inventory/Priority Waterbodies List

This compilation of water quality information includes individual waterbody *Data Sheets* describing the water quality conditions in the Susquehanna River Basin of New York State. Causes (pollutants) and sources of water quality problems for those waterbodies with known or suspected impacts are also outlined.

The data sheets are presented in hydrologic order, beginning with the most downstream waters and continuing upstream through the basin. Waterbody data sheets are grouped by US Geological Survey Hydrologic Unit Code (HUC) basin and presented as separate sections of this report (see Figure 3). A Waterbody Inventory of the specific waterbody segments in each watershed is included at the beginning of each watershed section.

Data sheets are included for each waterbody that has been assessed; i.e., waterbodies listed as *Impaired Waters* (Not Supporting Uses), Waters with *Minor Impacts*, *Threatened Waters*, waters with water quality impacts *Need Verification*, or waterbodies with *No Known Impact*. *UnAssessed* waterbodies are included in the Waterbody Inventory for each watershed, but because they have not been assessed data sheets for these waters have not been included.

The information outlined on the data sheets includes *Waterbody Location Information*, *Water Quality Problem/Issue Information*, *Resolution/Management Information* and *Further Details*. See *Appendix B – Waterbody Inventory Data Sheet Background Information* for more details about the data sheets.

Note that the assessments in this report reflect the best available water quality information at the time of publication. Water quality information may be added or modified subsequent to the preparation of this edition of the Waterbody Inventory and Priority Waterbodies List. When information is updated, the data sheet for the corresponding waterbody segment is issued with the date of revision. More recently revised data sheets supercede the corresponding waterbody information in this listing.

Following the individual waterbody data sheets in the watershed sections, a *Summary Listing of Priority Waters* provides a brief overview of all *Priority Waterbodies*, i.e., waterbodies listed as *Impaired Waters* (Not Supporting Uses), Waters with *Minor Impacts* and *Threatened Waters*.

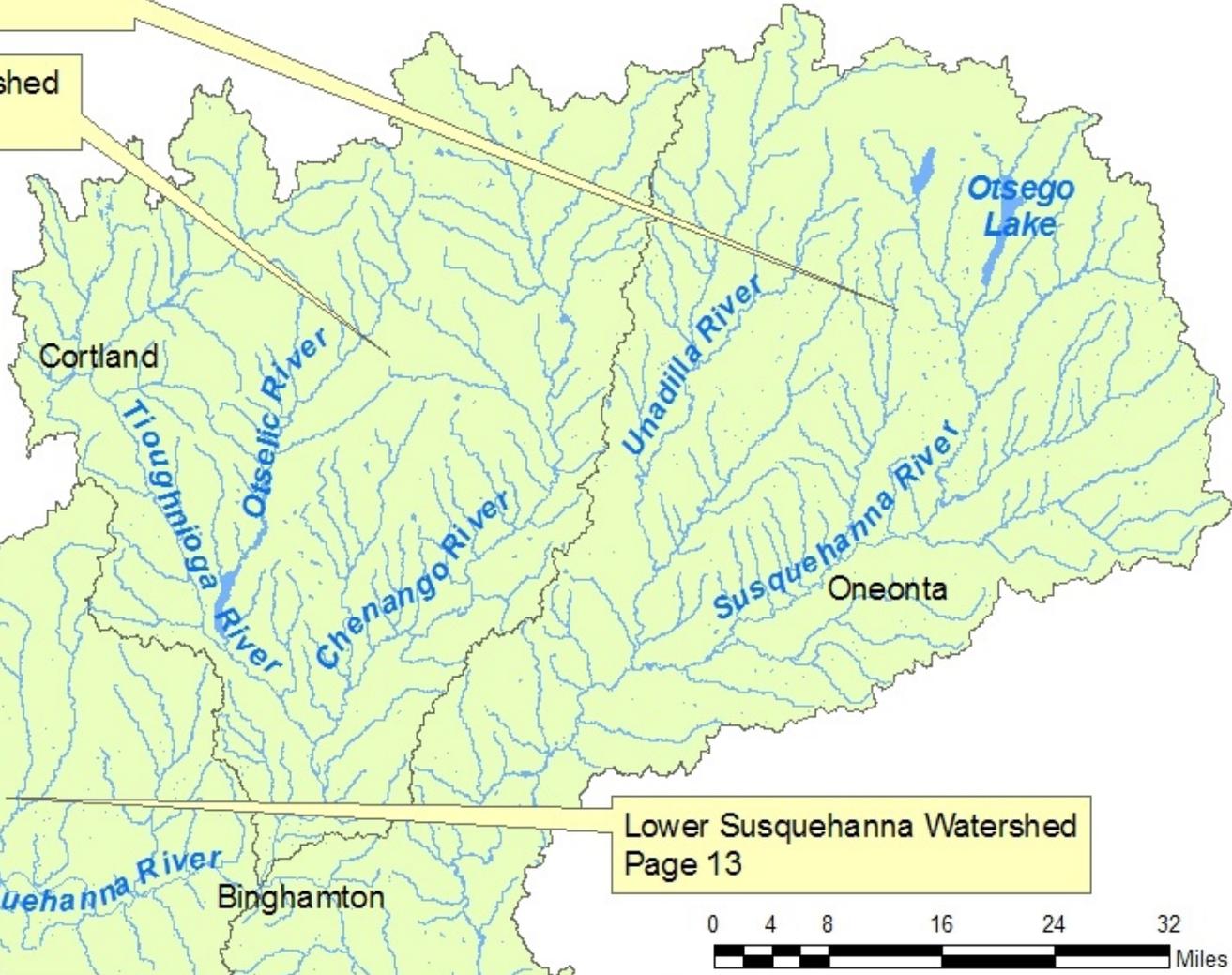
Indices of waterbody data sheets by both county and alphabetically by segment name are included as Appendix C and D, respectively.

Figure 3

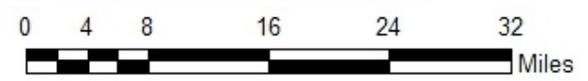
Susquehanna River Basin Watershed Map

Upper Susquehanna Watershed
Page 195

Chenango River Watershed
Page 73



Lower Susquehanna Watershed
Page 13



Waterbody Inventory for Lower Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Cayuta Creek Watershed		
SR (Pa)-1 (portion 1)	Cayuta Creek, Lower, and tribs (0603-0022)	NoKnownImpct
SR (Pa)-1 (portion 2)	Cayuta Creek, Middle, and tribs (0603-0064)	UnAssessed
SR (Pa)-1 (portion 3)	Cayuta Creek, Middle, and minor tribs (0603-0065)	UnAssessed
SR (Pa)-1 (portion 4)	Cayuta Creek, Upper, and minor tribs (0603-0066)	UnAssessed
SR (Pa)-1-26	Langford Creek and tribs (0603-0067)	UnAssessed
SR (Pa)-1-41	Jackson Creek and tribs (0603-0068)	UnAssessed
SR (Pa)-1-52	Pony Hollow Creek and tribs (0603-0069)	UnAssessed
SR (Pa)-1-P1-	Tribs to Cayuta Lake (0603-0056)	UnAssessed
SR (Pa)-1-P8	Cayuta Lake (0603-0005)	MinorImpacts
SR (Pa)-2	Dry Brook, Upper, and tribs (Waverly R) (0603-0074)	NoKnownImpct
SR (Pa)-P1	Dodge Pond (0603-0051)	UnAssessed
Lower Susquehanna River, Main Stem, Waverly to Binghamton		
SR (portion 1)	Susquehanna River, Lower, Main Stem (0603-0016)	Impaired Seg
SR (portion 2)	Susquehanna River, Lower, Main Stem (0603-0015)	Impaired Seg
SR (portion 3)	Susquehanna River, Lower, Main Stem (0603-0013)	Impaired Seg
SR (portion 4)	Susquehanna River, Lower, Main Stem (0603-0002)	Impaired Seg
Tribes to Lower Susquehanna River, Waverly to Owego		
SR- 1	Ellis Creek and tribs (0603-0023)	NoKnownImpct
SR- 2 thru 7 (selected)	Minor Tribs to Lower Susquehanna (south) (0603-0047)	UnAssessed
SR- 4 thru 9 (selected)	Minor Tribs to Lower Susquehanna (north) (0603-0024)	NoKnownImpct
SR- 10	Sackett Creek and tribs (0603-0025)	UnAssessed
SR- 11	Wappasening Creek and tribs (0603-0026)	NoKnownImpct
SR- 12	Pipe Creek, Lower, and tribs (0603-0027)	NoKnownImpct
SR- 12	Pipe Creek, Upper, and tribs (0603-0070)	UnAssessed
SR- 12- 9-Pxx	Empire Lake (0603-0052)	UnAssessed
SR- 13	Hunts Creek and tribs (0603-0028)	UnAssessed
SR- 14	Thorn Hollow Creek and tribs (0603-0030)	UnAssessed
SR- 15 thru 22 (selected)	Minor Tribs to Lower Susquehanna (south) (0603-0029)	NoKnownImpct
Owego Creek Watershed		
SR- 16	Owego Creek and minor tribs (0603-0031)	MinorImpacts
SR- 16- 4	Catatonk Creek, Lower and tribs (0603-0007)	NoKnownImpct
SR- 16- 4-	Catatonk Creek, Upper and minor tribs (0603-0008)	NoKnownImpct
SR- 16- 4-16	Willseyville Creek and minor tribs (0603-0032)	NoKnownImpct
SR- 16- 4-24	Dean Creek and minor tribs (0603-0036)	NoKnownImpct
SR- 16- 4-P13	Spencer Lake (0603-0048)	UnAssessed
SR- 16- 4-P13-1	Michigan Creek and tribs (0603-0055)	NoKnownImpct

...Lower Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Owego Creek Watershed (con't)		
SR- 16- 7	West Branch Owego Cr, Lower, and tribs (0603-0011)	NoKnownImpct
SR- 16- 7	West Branch Owego Cr, Upper, and tribs (0603-0035)	NoKnownImpct
SR- 16- 8	East Branch Owego Cr, Lower, and tribs (0603-0012)	NoKnownImpct
SR- 16- 8	East Branch Owego Cr, Upper, and tribs (0603-0034)	NoKnownImpct
Tribs to Lower Susquehanna River, Owego to Endicott		
SR- 19 thru 27 (selected)	Minor Tribs to Lower Susquehanna (north) (0603-0071)	UnAssessed
SR- 20	Little Nanticoke/Barnes Creeks and tribs (0603-0038)	NoKnownImpct
SR- 20-1	Barnes Creek, Upper, and tribs (0603-0072)	UnAssessed
SR- 22-P20	Mutton Hill Pond (0603-0049)	UnAssessed
SR- 24	Apalachin Creek and tribs (0603-0014)	MinorImpacts
SR- 26	Tracey Creek and tribs (0603-0039)	NoKnownImpct
Nanticoke Creek Watershed		
SR- 28	Nanticoke Creek, Lower, and tribs (0603-0045)	NoKnownImpct
SR- 28	Nanticoke Creek, Middle, and tribs (0603-0004)	Need Verific
SR- 28	Nanticoke Creek, Upper, and tribs (0603-0046)	UnAssessed
SR- 28- 2-P21	Bosket Lake (0603-0050)	UnAssessed
Tribs to Lower Susquehanna River, Endicott to Binghamton		
SR- 29	Choconut Creek and tribs (0603-0019)	Need Verific
SR- 30 thru 43 (selected)	Minor Tribs to Lower Susquehanna (south) (0603-0073)	UnAssessed
SR- 31 thru 37 (selected)	Minor Tribs to Lower Susquehanna (north) (0603-0044)	Impaired Seg
SR- 39	Little Choconut Creek and tribs (0603-0017)	Need Verific

Cayuta Creek, Lower, and tribs (0603-0022)

NoKnownImpct

Waterbody Location Information

Revised: 07/31/2009

Water Index No: SR (Pa)-1 (portion 1) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/220 **Str Class:** B **LowSusquehanna-Owego**
Waterbody Type: River (Low Flow) **Reg/County:** 8/Chemung Co. (8) ...
Waterbody Size: 51.4 Miles **Quad Map:** WAVERLY (M-14-3) ...
Seg Description: stream and tribs, from Waverly to Reniff

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Cayuta Creek in Milltown, PA was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities with some nonpoint influences. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Assessment of Cayuta Creek in Waverly by the Susquehanna River Basin Commission found a non-impaired biological community during sampling in all years from 2002 through 2006. The site has been used as a reference site by SRBC for NY-PA border streams as it had the best combination of conditions for biology, habitat, and water quality. Elevated chlorine levels, likely from the Waverly WWTP discharge were noted and should be investigated. (Assessment of Interstate Streams, SRBC, May 2007)

Previous Assessment

Concerns were raised by local agencies during previous (1998) assessment efforts regarding the impact of siltation and sediment loads from high gradient tributaries, erodible soils and various activities in the watershed. Aesthetics and flooding issues are also of concern along the creek and its tributaries. Streambank and roadbank erosion have been cited as contributing sources. Local efforts have included stabilization of streambanks using rip-rap and concrete walls and the removal of gravel from the stream channel. Various other fluvial geomorphic methods are also being examined. Various agricultural activity, gravel mining and a motorcycle hill climb in the watershed have also been noted as possible sources of sediment. (Tioga and Schuyler County WQCC, May 1999)

Previous concerns regarding impacts from gravel mines in the watershed have also been largely addressed. (DEC/DMR, July 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the NY-Pa state line in Waverly to/including Deans Brook (-14) in Reniff. The waters of this portion of the stream are Class B. Tribs to this reach/segment, including Spring Brook (-2), Lockwood Creek (-11) and Deans Brook (-14), are Class C. Middle/Upper Cayuta Creek are listed separately.

Cayuta Lake (0603-0005)

MinorImpacts

Waterbody Location Information

Revised: 06/25/2001

Water Index No:	SR (Pa)-1-P8	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/220	Str Class:	B
Waterbody Type:	Lake	Reg/County:	8/Schuyler Co. (49)
Waterbody Size:	376.5 Acres	Quad Map:	ALPINE (L-14-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Possible
Recreation	Stressed	Suspected
Aesthetics	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation), NUTRIENTS (phosphorus), D.O./Oxygen Demand
 Suspected: ---
 Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: ---
 Suspected: ON-SITE/SEPTIC SYST, Agriculture, Other Source (nutrient-rich sediment)
 Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Recreational uses (swimming, boating, fishing) in Cayuta Lake are known to experience minor impacts and threats due to rooted aquatic vegetation along the lake shore. Invasive plants are among the varieties of weeds.

Previous Assessment

Eurasian milfoil and white/yellow water lilies are prevalent at both the north and south ends of the lake. Cayuta Lake is among a number of lakes that are the focus of FL-LOWPA watershed protection activities. Other possible contributors to use impacts include some oxygen depletion, limited clarity and elevated nutrient levels in the lake that may contribute to the aquatic growth. Potential nutrient sources include failing and/or inadequate on-site septic systems serving lake shore homes, agricultural runoff in the watershed and nutrient-rich sediments. About 80 seasonal and year-round homes and a trailer park are located along the shore. Recreational sites include two campgrounds, three (private) boat launches, and a NYS DEC public access. A large dairy operation on Cayuta Inlet has a nutrient management plan in place. (Schuyler County SWCD and FL-LOWPA, November 2000)

Natural Resources Assessment

The lake is rather shallow (less than 24 feet) and somewhat naturally eutrophic. In spite of occasional summer anoxic conditions at lower depths, there is no evidence of fisheries or aquatic life impairment in the lake. There are several designated wetlands surrounding the lake. Along the inlet stream at the north end of the lake is a wetland preserve managed by Cornell University. Globally rare fresh water sponges have been found there. (Schuyler County SWCD, November 2000)

Dry Brook, Upper, and tribs (Waverly R) (0603-0074) NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No: SR (Pa)-2
Hydro Unit Code: 02050103/220 **Str Class:** AA
Waterbody Type: River (Low Flow) **Reg/County:** 8/Chemung Co. (8)
Waterbody Size: 0.0 Miles **Quad Map:** WAVERLY (M-14-3)
Seg Description: stream and tribs, above Waverly

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: OTHER POLLUTANTS (various), PATHOGENS

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, OTHER SOURCE (various)

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** High
TMDL/303d Status: n/a

Further Details

Overview

Water supply use of Dry Brook is thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate. Additionally, although there are no specific water quality impacts, the segment is considered a highly valued water resource due to its drinking water supply classification as a AA(T) water. The particular resource value reflected in this designation and the need to provide additional protection may result in an assessment of threatened (possible) for drinking water use.

Source (Drinking) Water Assessment

A source water assessment of Dry Brook found some elevated susceptibility to contaminants due to the extent of agricultural pastureland in the watershed. This level of susceptibility is fairly typical of many water supplies that experience no actual impacts to water supply use and reflects the need to protect the resource. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important

to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the Village of Waverly. (NYSDOH, Source Water Assessment Program, 2005)

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Susquehanna River in Smithboro, Tioga County, is conducted annually at Route 282. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. This Intensive Network sampling typically includes macroinvertebrate community analysis, sediment assessment, macroinvertebrate tissue analysis and toxicity testing, in addition to water chemistry. The most recent Intensive Network monitoring was conducted during 2003 and 2004. Biological (macroinvertebrate) sampling revealed non-impacted conditions, indicating very good water quality. Water column chemistry indicates iron to be present in concentrations that constitute parameters of concern. However iron is considered to be naturally occurring and not a source of water quality impacts. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Screening for acute toxicity indicated no sediment or porewater toxicity to be present, and while sediments were found to contain several contaminants, none was present in concentration above the threshold effects concentration. Based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. No organisms were collected at this location for tissue analysis. Based on the consensus of these established assessment methods, overall water quality at this site fully supports its aquatic life, and primary and secondary contact recreation uses. (DEC/DOW, BWAM/SWMS, August 2009).

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included a sampling site on the Susquehanna River in Smithboro (at DEC fishing access). Sampling results at the site indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions with minimal human impacts. These results reflect an improvement from previous sampling in 1997 which revealed slightly impacted conditions. Although higher flows may explain some of the improvement, significant wastewater treatment upgrades at municipal plants along this reach were completed between the two sampling events, and may also have contributed to the improved water quality in this reach. Aquatic life community is fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Water Quality Management/Chesapeake Bay

The Chesapeake Bay - the largest estuary in the United States - lies at the mouth of the Susquehanna River. The Bay watershed covers 64,000 square miles in portions of 6 states (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia) and the District of Columbia. The New York portion of the Bay watershed consists of the Chemung and Susquehanna River and makes up about 10 percent of the total Bay watershed area.

While monitoring data show generally good water quality in the Susquehanna River in New York, water quality in the Chesapeake Bay - 200 miles to the south - suffers significant degradation due to excess sediment and nutrients (nitrogen and phosphorus) loads. In 2000, New York State entered into an agreement to work cooperatively with the USEPA and other tributary states and the District of Columbia to restore Chesapeake Bay water quality. As a result New York State, like the other states, developed and is currently implementing a Tributary Strategy to reduce nitrogen and phosphorus loads to meet specific state allocations for these pollutants (New York's calculated sediment load is well under the state allocation). The Tributary Strategy outlines reductions through both regulated activities, mostly in the wastewater source category, and voluntary and incentive-based nonpoint source activities, such as those related to agriculture. NYSDEC has partnered with the Upper Susquehanna Coalition (USC, www.u-s-c.org) to help provide local input and technical support. The USC - a bi-state network of county natural resource professionals whose mission is to conserve the soil and water resources in the Upper Susquehanna Basin - is also well suited to implement and track many of the nonpoint aspects of this strategy. (New York State Tributary Strategy for Chesapeake Bay Restoration, DEC/DOW and Upper Susquehanna Coalition, 2006)

A number of municipal wastewater treatment facilities along the Lower Susquehanna River have undergone upgrades and collection system improvements in recent years. The Binghamton-Johnson City Joint STP has been nearly completely rebuilt and went on line in 2009. From July 2004 until April 2008, the plant was operating as a primary plant (settling and disinfection only) while the new plant constructed. Plant capacity was increased from 20 mgd to 60 mgd and now treats for ammonia and total nitrogen removal, and along with BOD and TSS were all being reported at close to the method detection levels. In-line screening and upgrades to both the Binghamton and Johnson City CSO outfall structures were also completed in 2002 resulting in 85% capture of wet weather flows with those flows being treated to at least secondary standards at the Binghamton-Johnson City STP (exceeding EPA CSO policy which requires only primary treatment for 85% of the wet weather flows). (DEC/DOW, Region 7 and BWC, June 2009)

The Town of Owego SD #1 WWTP in Owego was upgraded in 1999/2000. The upgrade included capability to provide treatment for industrial (formerly Hadco, now Sanmina) wastewater that was high in ammonia (150 mg/l). Prior to the upgrade, the plant discharged 50 to 80 mg/l of ammonia to the river in its effluent. Improvements to the SD #2 WWTP in Apalachin were made in 2002/03. DEC staff have been working with plant operators to optimize nitrogen and phosphorus removal. A new 40,000 gpd treatment plant was installed in the Town of Nichols in 2001/02. A new 40,000 gpd treatment plant was also installed in the Town of Nichols in 2001/02. (DEC/DOW, Region 7 and BWC, June 2009)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the NY-PA state line to a point 3 miles below the western boundary of the Village of Owego near Lounsberry. This reach of the river is Class B.

Susquehanna River, Lower, Main Stem (0603-0015)

Impaired Seg

Waterbody Location Information

Revised: 06/30/2009

Water Index No: SR (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/ **Str Class:** C **LowSusquehanna-Owego**
Waterbody Type: River (High Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 6.6 Miles **Quad Map:** OWEGO (M-15-3) ...
Seg Description: from near Lounsberry to Owego (Class C)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Aquatic Life	Threatened	Known

Type of Pollutant(s)

Known: METALS (mercury), Nutrients
Suspected: - - -
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Construction (resident.develop.), Municipal (Owego SD #1 WWTP), Urban/Storm Runoff
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Aquatic life support and other uses are fully supported in this New York portion of the Susquehanna, however aquatic life is listed as threatened in order to reflect the nutrient reduction efforts currently underway to restore water quality in Chesapeake Bay.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Susquehanna River in Smithboro, Tioga County, is conducted annually at Route 282, just below this reach. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. This Intensive Network sampling typically includes macroinvertebrate community analysis, sediment assessment, macroinvertebrate tissue analysis and toxicity testing, in addition to water chemistry. The most recent Intensive Network monitoring was conducted during 2003 and 2004. Biological (macroinvertebrate) sampling revealed non-impacted conditions, indicating very good water quality. Water column chemistry indicates iron to be present in concentrations that constitute parameters of concern. However iron is considered to be naturally occurring and not a source of water quality impacts. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Screening for acute toxicity indicated no sediment or porewater toxicity to be present, and while sediments were found to contain several contaminants, none was present in concentration above the threshold effects concentration. Based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. No organisms were collected at this location for tissue analysis. Based on the consensus of these established assessment methods, overall water quality at this site fully supports its aquatic life, and primary and secondary contact recreation uses. Though this site is downstream of this waterbody segment, these results are considered representative of water quality in the upstream site. (DEC/DOW, BWAM/SWMS, August 2009).

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included a sampling site on the Susquehanna River in Owego (at Route 17 rest area) and just below the reach in Smithboro (at DEC fishing access). Sampling results at the site indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions with minimal human impacts. These results reflect an improvement from previous sampling in 1997 which revealed slightly impacted conditions. Although higher flows may explain some of the improvement, significant wastewater treatment upgrades at municipal plants along this reach were completed between the two sampling events, and may also have contributed to the improved water quality in this reach. Aquatic life community is fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Water Quality Management/Chesapeake Bay

The Chesapeake Bay - the largest estuary in the United States - lies at the mouth of the Susquehanna River. The Bay watershed covers 64,000 square miles in portions of 6 states (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia) and the District of Columbia. The New York portion of the Bay watershed consists of the Chemung and Susquehanna River and makes up about 10 percent of the total Bay watershed area.

While monitoring data show generally good water quality in the Susquehanna River in New York, water quality in the Chesapeake Bay - 200 miles to the south - suffers significant degradation due to excess sediment and nutrients (nitrogen and phosphorus) loads. In 2000, New York State entered into an agreement to work cooperatively with the USEPA and other tributary states and the District of Columbia to restore Chesapeake Bay water quality. As a result New York State, like the other states, developed and is currently implementing a Tributary Strategy to reduce nitrogen and phosphorus loads to meet specific state allocations for these pollutants (New York's calculated sediment load is well under the state allocation). The Tributary Strategy outlines reductions through both regulated activities, mostly in the wastewater source category, and voluntary and incentive-based nonpoint source activities, such as those related to agriculture. NYSDEC has partnered with the Upper Susquehanna Coalition (USC, www.u-s-c.org) to help provide local input and technical support. The USC - a bi-state network of county natural resource professionals whose mission is to conserve the soil and water resources in the Upper Susquehanna Basin - is also well suited to implement and track many of the nonpoint aspects of this strategy. (New York State Tributary Strategy for Chesapeake Bay Restoration, DEC/DOW and Upper Susquehanna Coalition, 2006)

A number of municipal wastewater treatment facilities along the Lower Susquehanna River have undergone upgrades and collection system improvements in recent years. The Binghamton-Johnson City Joint STP has been nearly completely rebuilt and went on line in 2009. From July 2004 until April 2008, the plant was operating as a primary plant (settling and disinfection only) while the new plant constructed. Plant capacity was increased from 20 mgd to 60 mgd and now treats for ammonia and total nitrogen removal, and along with BOD and TSS were all being reported at close to the method detection levels. In-line screening and upgrades to both the Binghamton and Johnson City CSO outfall structures were also completed in 2002 resulting in 85% capture of wet weather flows with those flows being treated to at least secondary standards at the Binghamton-Johnson City STP (exceeding EPA CSO policy which requires only primary treatment for 85% of the wet weather flows). (DEC/DOW, Region 7 and BWC, June 2009)

The Town of Owego SD #1 WWTP in Owego was upgraded in 1999/2000. The upgrade included capability to provide treatment for industrial (formerly Hadco, now Sanmina) wastewater that was high in ammonia (150 mg/l). Prior to the upgrade, the plant discharged 50 to 80 mg/l of ammonia to the river in its effluent. Improvements to the SD #2 WWTP in Apalachin were made in 2002/03. DEC staff have been working with plant operators to optimize nitrogen and phosphorus removal. A new 40,000 gpd treatment plant was also installed in the Town of Nichols in 2001/02. These improvements have or will address most of the water quality impacts identified in previous assessments of the Lower Susquehanna River. (DEC/DOW, Region 7 and BWC, June 2009)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from a point 3 miles below the western boundary of the Village of Owego near Lounsbury to the eastern boundary of the Village of Owego. This reach of the river is Class C.

Susquehanna River, Lower, Main Stem (0603-0013)

Impaired Seg

Waterbody Location Information

Revised: 06/30/2009

Water Index No: SR (portion 3) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/ **Str Class:** B **LowSusquehanna-Owego**
Waterbody Type: River (High Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 10.3 Miles **Quad Map:** APALACHIN (M-16-4) ...
Seg Description: from Owego to Ross Corners (Class B)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (mercury), Nutrients (phosphorus)
Suspected: - - -
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: Municipal (upstream WWTPs)
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Urban/Storm Runoff
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Aquatic life support is thought to experience minor impacts due to nutrient loads from municipal wastewater discharges and various nonpoint sources. In spite of these impacts aquatic life is considered fully supported in this New York portion of the Susquehanna. However nutrient reduction efforts are currently underway to restore water quality in Chesapeake Bay.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Susquehanna River in Smithboro, Tioga County, is conducted annually at Route 282, just below this reach. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. This Intensive Network sampling typically includes macroinvertebrate community analysis, sediment assessment, macroinvertebrate tissue analysis and toxicity testing, in addition to water chemistry. The most recent Intensive Network monitoring was conducted during 2003 and 2004. Biological (macroinvertebrate) sampling revealed non-impacted conditions, indicating very good water quality. Water column chemistry indicates iron to be present in concentrations that constitute parameters of concern. However iron is considered to be naturally occurring and not a source of water quality impacts. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Screening for acute toxicity indicated no sediment or porewater toxicity to be present, and while sediments were found to contain several contaminants, none was present in concentration above the threshold effects concentration. Based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. No organisms were collected at this location for tissue analysis. Based on the consensus of these established assessment methods, overall water quality at this site fully supports its aquatic life, and primary and secondary contact recreation uses. Though this site is downstream of this waterbody segment, these results are considered representative of water quality in the upstream site. (DEC/DOW, BWAM/SWMS, August 2009).

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included a sampling site on the Susquehanna River in Apalachin (at above Apalachin Creek confluence). Sampling results at the site indicated slightly impacted conditions, but near the range of non-impacted. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities, but with evidence of nonpoint source influences. Sites downstream of this reach reflect non-impacted conditions. Although higher flows may explain some of the improvement, significant wastewater treatment upgrades at municipal plants along this reach were completed between the two sampling events, and may also have contributed to the improved water quality in this reach. Aquatic life community is fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Water Quality Management/Chesapeake Bay

The Chesapeake Bay - the largest estuary in the United States - lies at the mouth of the Susquehanna River. The Bay watershed covers 64,000 square miles in portions of 6 states (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia) and the District of Columbia. The New York portion of the Bay watershed consists of the Chemung and Susquehanna River and makes up about 10 percent of the total Bay watershed area.

While monitoring data show generally good water quality in the Susquehanna River in New York, water quality in the Chesapeake Bay - 200 miles to the south - suffers significant degradation due to excess sediment and nutrients (nitrogen and phosphorus) loads. In 2000, New York State entered into an agreement to work cooperatively with the USEPA and other tributary states and the District of Columbia to restore Chesapeake Bay water quality. As a result New York State, like the other states, developed and is currently implementing a Tributary Strategy to reduce nitrogen and phosphorus loads to meet specific state allocations for these pollutants (New York's calculated sediment load is well under the state allocation). The Tributary Strategy outlines reductions through both regulated activities, mostly in the wastewater source category, and voluntary and incentive-based nonpoint source activities, such as those related to agriculture. NYSDEC has partnered with the Upper Susquehanna Coalition (USC, www.u-s-c.org) to help provide local input and technical support. The USC - a bi-state network of county natural resource professionals whose mission is to conserve the soil and

water resources in the Upper Susquehanna Basin - is also well suited to implement and track many of the nonpoint aspects of this strategy. (New York State Tributary Strategy for Chesapeake Bay Restoration, DEC/DOW and Upper Susquehanna Coalition, 2006)

A number of municipal wastewater treatment facilities along the Lower Susquehanna River have undergone upgrades and collection system improvements in recent years. The Binghamton-Johnson City Joint STP has been nearly completely rebuilt and went on line in 2009. From July 2004 until April 2008, the plant was operating as a primary plant (settling and disinfection only) while the new plant constructed. Plant capacity was increased from 20 mgd to 60 mgd and now treats for ammonia and total nitrogen removal, and along with BOD and TSS were all being reported at close to the method detection levels. In-line screening and upgrades to both the Binghamton and Johnson City CSO outfall structures were also completed in 2002 resulting in 85% capture of wet weather flows with those flows being treated to at least secondary standards at the Binghamton-Johnson City STP (exceeding EPA CSO policy which requires only primary treatment for 85% of the wet weather flows). (DEC/DOW, Region 7 and BWC, June 2009)

The Town of Owego SD #1 WWTP in Owego was upgraded in 1999/2000. The upgrade included capability to provide treatment for industrial (formerly Hadco, now Sanmina) wastewater that was high in ammonia (150 mg/l). Prior to the upgrade, the plant discharged 50 to 80 mg/l of ammonia to the river in its effluent. Improvements to the SD #2 WWTP in Apalachin were made in 2002/03. DEC staff have been working with plant operators to optimize nitrogen and phosphorus removal. A new 40,000 gpd treatment plant was also installed in the Town of Nichols in 2001/02. These improvements have or will largely address most of the water quality impacts identified in previous assessments of the Lower Susquehanna River. (DEC/DOW, Region 7 and BWC, June 2009)

Source Assessment

Potential impacts to uses on the river due to excessive sedimentation remain a concern. The surrounding area has been subject to considerable residential development, which has led to hydrologic and habitat modification of tributary streams resulting in streambank erosion and sediment loads to the river. Particular tributaries affected include Apalachin Creek, Little Nanticoke Creek, Glann Road and Lane Court Creeks and the unnamed stream running through Pine Knolls/Crestview Heights. Agricultural activities (barnyard runoff, manure spreading, livestock access to streams) in tributary watersheds (Little Nanticoke and Apalachin) have also been cited as secondary sources. Though these sources should continue to be monitored, recent water quality sampling suggests current impacts to water quality in the Susquehanna are not significant. (DEC/DOW, Region 7, 1996)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the eastern boundary of the Village of Owego to the Tioga-Broome County line near Ross Corners. This reach of the river is Class B.

Susquehanna River, Lower, Main Stem (0603-0002)

Impaired Seg

Waterbody Location Information

Revised: 06/30/2009

Water Index No:	SR (portion 4)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/	Str Class:	A
Waterbody Type:	River (High Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	15.8 Miles	Quad Map:	BINGHAMTON WEST (M-17-4) ...
Seg Description:	from Ross Corners to Binghamton		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected
FISH CONSUMPTION	Impaired	Known
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (mercury), Nutrients, Nutrients
Suspected: Pathogens
Possible: Silt/Sediment

Source(s) of Pollutant(s)

Known: Municipal (Bingham-JC, Endicott WWTP)
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Landfill/Land Disp. (Endicott Village Landfill), Urban/Storm Runoff
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability:	3 (Strategy Being Implemented)	
Verification Status:	5 (Management Strategy has been Developed)	
Lead Agency/Office:	ext/EPA	Resolution Potential: Medium
TMDL/303d Status:	4a (TMDL Complete, Being Implemented, Not Listed)	

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Aquatic life support is thought to experience minor impacts due to nutrient loads from municipal wastewater discharges and various nonpoint sources. In spite of these impacts aquatic life is considered fully supported in this New York portion of the Susquehanna. However nutrient reduction efforts are currently underway to restore water quality in Chesapeake Bay. Water supply uses of this portion of the Susquehanna River are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed and the number of wastewater discharges. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Susquehanna River in Smithboro, Tioga County, is conducted annually at Route 282, below this reach. In addition, when RIBS Intensive Network monitoring is conducted in a targeted basin every five years, additional sampling methods are employed to gain an overall assessment of water quality. This Intensive Network sampling typically includes macroinvertebrate community analysis, sediment assessment, macroinvertebrate tissue analysis and toxicity testing, in addition to water chemistry. The most recent Intensive Network monitoring was conducted during 2003 and 2004. Biological (macroinvertebrate) sampling revealed non-impacted conditions, indicating very good water quality. Water column chemistry indicates iron to be present in concentrations that constitute parameters of concern. However iron is considered to be naturally occurring and not a source of water quality impacts. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Screening for acute toxicity indicated no sediment or porewater toxicity to be present, and while sediments were found to contain several contaminants, none was present in concentration above the threshold effects concentration. Based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. No organisms were collected at this location for tissue analysis. Based on the consensus of these established assessment methods, overall water quality at this site fully supports its aquatic life, and primary and secondary contact recreation uses. Though this site is downstream of this waterbody segment, these results are considered representative of water quality in the upstream site. (DEC/DOW, BWAM/SWMS, August 2009).

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included no sampling sites on the Susquehanna River within this reach, but samples were collected just below the reach in Apalachin (at above Apalachin Creek confluence). Sampling results at that site indicated slightly impacted conditions, but near the range of non-impacted. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities, but with evidence of nonpoint source influences. Sites downstream of this reach reflect non-impacted conditions. Although higher flows may explain some of the improvement, significant wastewater treatment upgrades at municipal plants along this reach were completed between the two sampling events, and may also have contributed to the improved water quality in this reach. Aquatic life community is fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Source (Drinking) Water Assessment

A source water assessment of Susquehanna River found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. There is also an elevated potential for contamination due to the total amount of wastewater discharged in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Binghamton. (NYSDOH,

Source Water Assessment Program, 2005)

Water Quality Management/Chesapeake Bay

The Chesapeake Bay - the largest estuary in the United States - lies at the mouth of the Susquehanna River. The Bay watershed covers 64,000 square miles in portions of 6 states (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia) and the District of Columbia. The New York portion of the Bay watershed consists of the Chemung and Susquehanna River and makes up about 10 percent of the total Bay watershed area.

While monitoring data show generally good water quality in the Susquehanna River in New York, water quality in the Chesapeake Bay - 200 miles to the south - suffers significant degradation due to excess sediment and nutrients (nitrogen and phosphorus) loads. In 2000, New York State entered into an agreement to work cooperatively with the USEPA and other tributary states and the District of Columbia to restore Chesapeake Bay water quality. As a result New York State, like the other states, developed and is currently implementing a Tributary Strategy to reduce nitrogen and phosphorus loads to meet specific state allocations for these pollutants (New York's calculated sediment load is well under the state allocation). The Tributary Strategy outlines reductions through both regulated activities, mostly in the wastewater source category, and voluntary and incentive-based nonpoint source activities, such as those related to agriculture. NYSDEC has partnered with the Upper Susquehanna Coalition (USC, www.u-s-c.org) to help provide local input and technical support. The USC - a bi-state network of county natural resource professionals whose mission is to conserve the soil and water resources in the Upper Susquehanna Basin - is also well suited to implement and track many of the nonpoint aspects of this strategy. (New York State Tributary Strategy for Chesapeake Bay Restoration, DEC/DOW and Upper Susquehanna Coalition, 2006)

A number of municipal wastewater treatment facilities along the Lower Susquehanna River have undergone upgrades and collection system improvements in recent years. The Binghamton-Johnson City Joint STP has been nearly completely rebuilt and went on line in 2009. From July 2004 until April 2008, the plant was operating as a primary plant (settling and disinfection only) while the new plant constructed. Plant capacity was increased from 20 mgd to 60 mgd and now treats for ammonia and total nitrogen removal, and along with BOD and TSS were all being reported at close to the method detection levels. In-line screening and upgrades to both the Binghamton and Johnson City CSO outfall structures were also completed in 2002 resulting in 85% capture of wet weather flows with those flows being treated to at least secondary standards at the Binghamton-Johnson City STP (exceeding EPA CSO policy which requires only primary treatment for 85% of the wet weather flows). These improvements have largely addressed most of the water quality impacts identified in previous assessments of the Lower Susquehanna River. (DEC/DOW, Region 7 and BWC, June 2009)

Though designated Class A, there are currently no known permitted public bathing beaches on the Susquehanna River in the Binghamton-Johnson City, Endicott area. (NYS DOH, December 2000)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the Tioga-Broome County line near Ross Corners to the Rock Bottom Dam in Binghamton. This reach of the river is Class A.

Ellis Creek and tribs (0603-0023)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No:	SR- 1	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/200	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Tioga Co. (54)
Waterbody Size:	29.4 Miles	Quad Map:	OWEGO (M-15-3) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Ellis Creek in Ellistown (at Route 17C) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies in previous (1998) assessments regarding impacts from silt/sedimentation from stream and roadbank erosion. Possible agricultural impacts were also noted at the time. However this more recent sampling indicates there are not significant impacts to the stream from these or other sources. Segment Description This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Miami Creek (-4) and Reed Brook (-5), are also Class C.

Minor Tribs to Lower Susquehanna (north) (0603-0024)NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 4 thru 9 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/200 **Str Class:** C **LowSusquehanna-Owego**
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 29.7 Miles **Quad Map:** OWEGO (M-15-3)
Seg Description: total length of select tribs fr Barton to Tioga Center

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Butson Creek in Barton (at Route 17C) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. Butson Creek is just one of several streams that make up this waterbody segment, but it is considered representative of water quality in the segment as a whole. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the total length of selected/smaller tribs to the north of the Lower Susquehanna River (from Barton to Tioga Center). Tribs within this segment, including Butson Creek (-5), are Class C. Ellis Brook (-1) and Pipe Creek (-12) is listed separately.

Wappasening Creek and tribs (0603-0026)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 11
Hydro Unit Code: 02050103/190 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 2.7 Miles
Seg Description: entire stream and tribs (within NYS)

Drain Basin: Susquehanna River
Reg/County: 7/Tioga Co. (54)
Quad Map: OWEGO (M-15-3)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Wappasening Creek in Nichols (at River Road/Route 502) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Assessment of Wappasening Creek in 1998 by Susquehanna River Basin Commission found comparable conditions in 2003 (slight impacts) and 2004 (non-impacted). No sampling was conducted in 2004. In 2006 sampling revealed a decline in biological community but these results might have been influenced by considerable bed movement from previous high flow events. (Assessment of Interstate Streams, SRBC, May 2007)

Segment Descriptions

This segment includes the entire stream and all tribs, within New York State. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Pipe Creek, Lower, and tribs (0603-0027)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR- 12
Hydro Unit Code: 02050103/160 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 97.6 Miles **Quad Map:** OWEGO (M-15-3)
Seg Description: stream and tribs, from mouth to Straits Corners

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Pipe Creek in Tioga Center, Tioga County, (at Route 17) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions, indicating very good water quality. Water column sampling revealed no parameter(s) of concern. Sediment screening for acute toxicity indicated no toxicity to be present. Sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates were not collected at this site for chemical analysis. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous Assessment Concerns were raised during a previous assessment effort in 1998 regarding impacts from roadbank and streambank erosion in high gradient streams and during "flashy" runoff events. Sediment and gravel deposits and

other stream course alterations may impact stream fishery habitat. While more recent monitoring reveals no water quality impacts in the stream, habitat conditions should continue to be monitored. (DEC/DOW, BWAM/WQAS, August 2009)

Segment Description

This segment includes the portion of the stream and all tribs, from the mouth to/including Halsey Valley Creek (-8) near Strait Corners. The waters of the stream are Class C. Tribs to this reach/segment, including Dry Brook (-1), Diamond Valley Creek (-2), Dubois Creek (-3), Frost Hollow Creek (-7), Halsey Valley Creek (-8), are Class C,C(T). Upper Pipe Creek is listed separately.

Minor Tribs to Lower Susquehanna (south) (0603-0029)NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 15 thru 22 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/170 **Str Class:** C **LowSusquehanna-Owego**
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 15.3 Miles **Quad Map:** OWEGO (M-15-3)
Seg Description: total length of select tribs fr Lounsberry to Apalachin

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Pumpelly Creek (at Route 434) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. Pumpelly Creek is just one of several streams that make up this waterbody segment, but it is considered representative of water quality in the segment as a whole. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Local agencies have previously (1999) raised concerns regarding impacts from silt/sedimentation from stream and roadbank erosion and the removal of riparian vegetation. However this more recent sampling suggests that while these sources should continue to be monitored, they appear to have no significant impact on stream water quality. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total length of selected/smaller tribs south of the Lower Susquehanna River (from Lounsberry to Apalachin). Tribs within this segment, including Pumpelly Creek (-17), are Class C. Hunts Creek (-13) and Apalachin Creek (-24) are listed separately.

Owego Creek and minor tribs (0603-0031)

MinorImpacts

Waterbody Location Information

Revised: 07/16/2009

Water Index No:	SR- 16	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/140	Str Class:	C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	7/Tioga Co. (54)
Waterbody Size:	21.7 Miles	Quad Map:	OWEGO (M-15-3) ...
Seg Description:	stream and select tribs fr mouth to East/West Branch		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Suspected

Type of Pollutant(s)

Known: ---
 Suspected: SILT/SEDIMENT, THERMAL CHANGES
 Possible: ---

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION, STREAMBANK EROSION
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Overview

Habitat/hydrology of Owego Creek is thought to experience minor impacts from silt/sediment loads and elevated temperatures due to stream modifications.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Owego Creek in Owego (at Route 17C/at ball field) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

These results are consistent with sampling conducted at the same site during a biological (macroinvertebrate) survey of Owego Creek in 1998 (Owego Creek Biological Assessment Report, Bode etal. DEC/DOW, BWAR/SBU, June 1999). Owego Creek was sampled at two sites below the confluence of the East and West Branches. One of these was in Owego at the Route 17C site where non-impacted conditions, like those found in 2003, were reported. The other sample, collected above Owego at Route 96, revealed slight impact, but very near the range of non-impacted. Although the fauna

showed some influence from nonpoint sources, the sample was diverse and well-balanced. (DEC/DOW, BWAM/WQAS, June 2009)

A RIBS Intensive Network Monitoring site was also located on Owego Creek in Owego in 1998. Chemical monitoring at the site indicated no significant parameters of concern and water quality was assessed as good. A fishery assessment found an abundant and diverse fishery with suitable habitat. (DEC/DOW, RIBS, August 2000)

Habitat Assessment

Streambank erosion reported in previous assessments continues to be a major concern. Past practices have allowed highway departments and private landowners to conduct stream "maintenance" channelization which had previously kept many section of streams artificially straight. Now many areas of stream are trying to reestablish a more natural, meandering stream pattern. This process of stream migration has impacts on the fishery habitat. However, it is likely that over the long term the return to more natural channel processes should create better trout habitat in terms of quality pools and riffle/pool ratios. (DEC/DFWMR, Region 7, December 2000)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are also/primarily Class C. Catatank Creek (-4), West Branch (-7) and East Branch (-8) are listed separately.

Catatonk Creek, Lower and tribs (0603-0007)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR- 16- 4
Hydro Unit Code: 02050103/120 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 70.5 Miles **Reg/County:** LowSusquehanna-Owego
Seg Description: stream and tribs, from mouth to Gridleyville **Quad Map:** 7/Tioga Co. (54)
OWEGO (M-15-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Catatonk Creek near Catatonk, Tioga County, (at Glen Mary Drive) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions, indicating very good water quality. Water column sampling revealed no parameters of concern to be present. Sediment screening for acute toxicity indicated some slight sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of Lower Catatonk Creek conducted below Hubbardtown and Catatonk indicated generally non-impacted water quality conditions. Two large dairy farms are located along this reach of the creek. And while the samples did show slight effects of nonpoint/agricultural impacts, water quality was not substantially diminished. (Owego Creek Biological Assessment Report, DEC/DOW, BWAR/SBU, June 1999)

Previous Assessment

The stream is a warmwater fishery (smallmouth bass, walleye), and portions are stocked. It is slow-moving and flat, resulting in higher stream temperatures and the settling of sediments that enter the stream. In fact the county reports increases in sediment and weed growth where there were once gravel spawning beds. While natural conditions (stream gradient, etc) limit the fishery, there is evidence of eutrophication and any man-induced sediment reaching the stream makes matters worse. Specific sources of nutrients and sediment identified by the county include cropland erosion, barnyard runoff, onsite systems in Candor and Spencer, manure spreading and road sand piles stored near the stream. Cropland erosion occurs mostly during flooding especially after fall or spring plowing. More recently, the use of improved agricultural and forestry management practices have reduced the impact of these activities on the stream. (Tioga County WQCC/SWCD, 1996)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Willseyville Creek (-16) in Gridleyville. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Hoyt Creek (-7), Hubbard Run (-12) and Cole Brook (13), are also Class C. Willseyville Creek (-16) and Upper Catatonk Creek are listed separately.

(-P13-1) and Lower Catatank Creek are listed separately.

Willseyville Creek and minor tribs (0603-0032)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No:	SR- 16- 4-16	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/120	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Tioga Co. (54) ...
Waterbody Size:	76.3 Miles	Quad Map:	WILLSEYVILLE (L-15-4) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Willseyville Creek in Willseyville (at Route 96B) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Biological assessment of two tribs to Willseyville Creek were also conducted as part of the RIBS biological screening effort in 2003. Sampling results for Prospect Valley Creek in Willseyville (at Route 96B) indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. A biological assessment of Danby Creek in Willseyville (at Route 96B) also reflected non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Dry Brook (-1), Prospect Valley Creek (-2) and Danby Creek (-4), are also Class C,C(T).

Dean Creek and minor tribs (0603-0036)

NoKnownImpet

Waterbody Location Information

Revised: 07/01/2009

Water Index No:	SR- 16- 4-24	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/110	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Tioga Co. (54)
Waterbody Size:	58.4 Miles	Quad Map:	SPENCER (M-15-1) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Deans Creek/South Branch in Tyler Hollow (at Owl Creek Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be (relatively) insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to communities influenced by impoundment effects. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including South Branch (-2), are also Class C.

Michigan Creek and tribs (0603-0055)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 16- 4-P13-1
Hydro Unit Code: 02050103/120 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 23.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Reg/County: 7/Tioga Co. (54)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Michigan Creek in North Spencer (at Signor Hill Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C.

West Branch Owego Cr, Lower, and tribs (0603-0011) NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 16- 7
Hydro Unit Code: 02050103/140 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 87.6 Miles **Quad Map:** NEWARK VALLEY (M-16-1) ...
Seg Description: stream and tribs, from mouth to Jenksville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of West Branch Owego Creek in Weltonville (at West Creek Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with sampling conducted at this site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of a West Branch trib, Doolittle Creek (-2), in Weltomville (at West Creek Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A biological survey of Owego Creek and the East and West Branches of Owego Creek at multiple sites was conducted in 1998. Sampling results indicated very good water quality, non-impacted conditions or slightly impacted just outside the non-impacted range. Two of three sites on the West Branch (in Jenksville and in Welton) revealed non-impacted water quality, while the most upstream site (above Speedsville) was assessed as slightly impacted. Nonpoint sources impacts were present at all three sites, but these impacts were determined to be minimal. (Owego Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, June 1999)

Previous Assessment

Local agencies had previously (1996) expressed concern regarding possible impacts to the West Branch Owego Creek and Doolittle Creek due to silt/sedimentation from stream and roadbank erosion. Gravel removal in the stream and tribs and the removal of riparian vegetation had been noted. However more recent sampling indicates any impacts to the aquatic community are not significant. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including unnamed trib (-3) near Jenksville. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Doolittle Creek (-2), are Class C,C(T). Upper West Branch is listed separately.

West Branch Owego Cr, Upper, and tribs (0603-0035) NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 16- 7
Hydro Unit Code: 02050103/140 **Str Class:** C(T)
Waterbody Type: River (Low Flow)
Waterbody Size: 78.5 Miles
Seg Description: stream and tribs, above Jenksvile

Drain Basin: Susquehanna River
Reg/County: 7/Tioga Co. (54) ...
Quad Map: SPEEDSVILLE (L-15-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological survey of Owego Creek and the East and West Branches of Owego Creek at multiple sites was conducted in 1998. Sampling results indicated very good water quality, non-impacted conditions or slightly impacted just outside the non-impacted range. Two of three sites on the West Branch (in Jenksville and in Welton) revealed non-impacted water quality, while the most upstream site (above Speedsville) was assessed as slightly impacted. Nonpoint sources impacts were present at all three sites, but these impacts were determined to be minimal. (Owego Creek Biological Assessment Report, DEC/DOW, BWAR/SBU, June 1999)

Previous Assessment

Local/county agencies have previously expressed concerns regarding poor agricultural practices in the watershed, and potential future impacts on the fishery. Potential source of impairment are typical of rural/agricultural areas. (Tioga/Tompkins WQCCs, 1996)

Segment Description

This segment includes the portion of the stream and all tribs above unnamed trib (-3) near Jenksville. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Boyer Creek (-11), Rawson Hollow Creek

(-15) and Willow Creek (-22), are Class C,C(T). Lower West Branch is listed separately.

East Branch Owego Cr, Lower, and tribs (0603-0012) NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 16- 8
Hydro Unit Code: 02050103/140 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54)
Waterbody Size: 45.4 Miles **Quad Map:** NEWARK VALLEY (M-16-1) ...
Seg Description: stream and tribs, from mouth to Newark Valley

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of East Branch Owego Creek in Newark Valley (at Knapp Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with sampling conducted at this site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

A biological assessment of Wilson Creek in Newark Valley (at Route 38) was also conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A biological survey of Owego Creek and the East and West Branches of Owego Creek at multiple sites was conducted in 1998. Sampling results indicated very good water quality, non-impacted conditions or slightly impacted just outside

the non-impacted range. Two of three sites on the East Branch (in Newark Valley and in Berkshire) revealed non-impacted water quality, while the most upstream site (below Richford) was assessed as slightly impacted. Nonpoint sources impacts were present at all three sites, but these impacts were determined to be minimal. (Owego Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, June 1999)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Wilson Creek (-8) near Newark Valley. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Wilson Creek (-8), are also Class C,C(T). Upper East Branch is listed separately.

East Branch Owego Cr, Upper, and tribs (0603-0034) NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 16- 8
Hydro Unit Code: 02050103/140 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Tioga Co. (54) ...
Waterbody Size: 141.4 Miles **Quad Map:** RICHFORD (L-16-4) ...
Seg Description: stream and tribs, above Newark Valley

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological survey of Owego Creek and the East and West Branches of Owego Creek at multiple sites was conducted in 1998. Sampling results indicated very good water quality, non-impacted conditions or slightly impacted just outside the non-impacted range. Two of three sites on the East Branch (in Newark Valley and in Berkshire) revealed non-impacted water quality, while the most upstream site (Below Richford) was assessed as slightly impacted. Nonpoint sources impacts were present at all three sites, but these impacts were determined to be minimal. (Owego Creek Biological Assessment Report, DEC/DOW, BWAR/SBU, June 1999)

Previous Assessment

Concerns were raised by local agencies during a previous assessment (1999) regarding stream aesthetics, odors and debris that discourage recreational uses. Several residents have suggested that the fishery has never fully recovered from a 1980 spill at an ARCO underground storage facility in Harford Mills and the resulting major fishkill. Also noted was the washing of material from a Town of Richford cinder storage facility during rain events. These specific sources should continue to be monitored, however based available sampling data they do not appear cause any significant water quality impacts to the stream. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the portion of the stream and all tribs above Wilson Creek (-8) near Newark Valley. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Hubby Creek (-12), are also Class C,C(T),C(TS). Lower East Branch is listed separately.

Little Nanticoke/Barnes Creeks and tribs (0603-0038) NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No:	SR- 20	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/100	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Tioga Co. (54)
Waterbody Size:	42.9 Miles	Quad Map:	APALACHIN (M-16-4) ...
Seg Description:	entire stream and minor tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Little Nanticoke Creek in Owego (at Route 17C) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Lower Barnes Creek (-1), are also Class C. Upper Barnes Creek (-1) is listed separately.

Apalachin Creek and tribs (0603-0014)

MinorImpacts

Waterbody Location Information

Revised: 09/15/2009

Water Index No: SR- 24
Hydro Unit Code: 02050103/090 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 38.5 Miles **Reg/County:** 7/Tioga Co. (54)
Seg Description: entire stream and tribs (within NYS) **Quad Map:** APALACHIN (M-16-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: - - -
Possible: Unknown Toxicity

Source(s) of Pollutant(s)

Known: - - -
Suspected: MUNICIPAL
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg7 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support and recreational uses in Apalachin Creek are known to experience minor impacts from elevated nutrient loads. Sampling results indicate municipal wastewater could be contributing to the impacts but possible sources need verification. Agricultural and other nonpoint sources are also likely contributors.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Apalachin Creek in Apalachin (at Route 434) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by municipal and toxic inputs. (DEC/DOW, BWAM/SBU, January 2009)

Assessment of Apalachin Creek in Little Meadows, PA, by the Susquehanna River Basin Commission in 1998 found a non-impaired biological community, despite less than ideal habitat conditions. This represented an improvement over

slightly impaired conditions in 1997. This site is located near the state line, well above the site in Apalachin and would not be influenced by downstream sources. (Assessment of Interstate Streams, SRBC, May 2007)

Biological sampling in 1991 led to the discovery of a broken sewer line that has since been repaired. Subsequent sampling in 1992 found slightly impacted communities at both upstream and downstream sites. (Twenty Year Trends Report, DEC/DOW, BWAR/SBU, 1993)

Previous Assessment

Concerns were raised by local agencies regarding impacts due to high gradient streams and "flashy" runoff events that result in significant sediment load to the stream. These conditions are to some degree the result of natural topography, but various nonpoint source activities (residential development) and removal of riparian vegetation have been identified as possible sources that may exacerbate impacts. These specific sources should continue to be monitored, however based available sampling data they do not appear cause any significant water quality impacts to the stream. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs, within New York State. The waters of the stream are Class C. Tribs to this reach/segment, including Deerlick Creek (-1), are also Class C.10/01/1903

Tracey Creek and tribs (0603-0039)

NoKnownImpet

Waterbody Location Information

Revised: 06/26/2009

Water Index No:	SR- 26	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/070	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	14.1 Miles	Quad Map:	ENDICOTT (M-16-3)
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Tracey Creek in Vestal (at Owego Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Nanticoke Creek, Lower, and tribs (0603-0045)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR- 28
Hydro Unit Code: 02050103/060 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Broome Co. (4) ...
Waterbody Size: 21.7 Miles **Quad Map:** ENDICOTT (M-16-3) ...
Seg Description: stream and tribs, from mouth to Union Center

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Nanticoke Creek in Endicott, Broome County, (at Route 17C) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions, indicating very good water quality. Water column sampling revealed iron to be a parameter of concern, however, iron is considered to be naturally occurring and not a source of water quality impacts. Sediment screening for acute toxicity indicated a possibility of slight sediment toxicity but while sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates were not collected at this site for chemical analysis. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

A biological (macroinvertebrate) assessment of a Nanticoke Creek trib, Bradley Creek (-6), in Union Center (at Bradley Creek Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of another Nanticoke Creek trib, Crocker Creek (-8), in Union Center (at Route 86) was conducted as part of the RIBS biological screening effort in 2003. Sampling results also indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Crocker Creek (-8) in Union Center. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Bradley Creek (-6) and Crocker Creek (-8), are also Class C. Middle/Upper Nanticoke Creek are listed separately.

Nanticoke Creek, Middle, and tribs (0603-0004)

Need Verific

Waterbody Location Information

Revised: 07/31/2009

Water Index No: SR- 28
Hydro Unit Code: 02050103/060 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 22.4 Miles **Reg/County:** 7/Broome Co. (4) ...
Seg Description: stream and tribs, from Union Center to Mainer **Quad Map:** MAINE (M-16-2) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT, Nutrients
Possible: Water Level/Flow, Thermal Changes

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE, CONSTRUCTION (resident.develop.), STREAMBANK EROSION
Possible: Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in this portion of Nanticoke Creek may experience minor impacts due to silt/sedimentation from streambank erosion and other nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Ketchumville Branch, a trib to Nanticoke Creek, in Maine (at Bailey Hollow Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to natural conditions with evidence of some silt/sedimentation influences. Aquatic life support is considered to be fully supported in the stream. Although this trib is considered somewhat representative of water quality in the larger segment, sampling of Nanticoke Creek in the lower portion of this reach is recommended in order to verify conditions. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised in previous (1996) assessments regarding high gradient streams and "flashy" runoff events that result in significant sediment load to the stream. These conditions are to some degree the result of natural topography, but various nonpoint source activities (residential development, agricultural, etc) have been identified as possible sources that may exacerbate impacts. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the portion of the stream and all tribs from Crocker Creek (-8) in Union Center to/including Ketchumville Branch (-13) in Maine. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Ketchumville Branch (-13), are also Class C,C(T). Lower/Upper Naticoke Creek are listed separately.

Choconut Creek and tribs (0603-0019)

Need Verific

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR- 29
Hydro Unit Code: 02050103/050 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 46.9 Miles
Seg Description: entire stream and tribs (within NYS)

Drain Basin: Susquehanna River
LowSusquehanna-Owego
Reg/County: 7/Broome Co. (4)
Quad Map: ENDICOTT (M-16-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS, SILT/SEDIMENT, Thermal Changes
Possible: Pesticides

Source(s) of Pollutant(s)

Known: ---
Suspected: STREAMBANK EROSION, Construction (resident.develop.), Other Sanitary Disch
Possible: URBAN/STORM RUNOFF, Roadbank Erosion

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life support in Choconut Creek and its tributaries may experience minor impacts due to silt/sedimentation and nutrient inputs from streambank erosion, urban runoff and various other nonpoint sources.

Water Quality Sampling

Biological (macroinvertebrate) sampling results have ranged from slightly to non-impacted. The most recent RIBS Screening conducted in 1997 near the mouth in Vestal revealed slightly impacted conditions. However, a more recent assessment of Choconut Creek in Vestal Center by the Susquehanna River Basin Commission found non-impacted conditions in 2002, 2003 and 2004 and slightly impacted conditions in 2005 and 2006. The 2006 results were improved over 2005, but still reflected slight impacts. (DEC/DOW, BWAM/SBU and Assessment of Interstate Streams, SRBC, 2007)

Previous Assessment

Concerns were raised by local agencies in previous (1996) assessments regarding the rapid urbanization of the watershed has greatly increased storm water runoff which has resulted in increased streambank and roadbank erosion. The Town

of Vestal has required stormwater detention ponds in all new subdivisions to help address the problem. The loss of riparian vegetation and tree cover due to development has also been noted. Additional sampling at the Vestal site to verify conditions is recommended. (DEC/DOW, BWAM/SBU, June 2009)

Segment Description

This segment includes the entire stream and all tribs, within New York State. The waters of the stream are Class C. Tribs to this reach/segment, including Sugar Creek (-8), are also Class C.

Minor Tribs to Lower Susquehanna (north) (0603-0044) Impaired Seg

Waterbody Location Information

Revised: 07/16/2009

Water Index No: SR- 31 thru 37 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050103/030 **Str Class:** C **LowSusquehanna-Owego**
Waterbody Type: River (Low Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 22.5 Miles **Quad Map:** MAINE (M-16-2) ...
Seg Description: total length of select tribs fr Endicott to Johnson Cty

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known
RECREATION	Impaired	Known

Type of Pollutant(s)

Known: - - -
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus)
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, Urban/Storm Runoff
Possible: Chemical Leak/Spill

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg7 **Resolution Potential:** Medium
TMDL/303d Status: n/a->3b*

Further Details

Overview

Aquatic life support and recreational uses in these tributaries are considered to be impaired due to organic wastes identified in the sampling of one of the tribs, Patterson Creek. The exact source of the impairment is not certain and need to be investigated.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Patterson Creek in Endwell (at Argonne Street) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated moderately impacted conditions. In such samples sensitive species are markedly reduced or missing and the distribution of major groups is significantly unbalanced relative to what would be expected. Samples are dominated by more tolerant species. The nutrient biotic index indicates elevated/highly elevated enrichment and impact source determination reveals a community that is influenced by animal sewage wastes. Water quality is considered to be poor and aquatic life is not fully supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, January 2009)

Sources Assessment

The exact source of the impairment to the stream has not been identified. In the 1990s a significant manure spill into Upper Patterson Creek resulted in a fishkill in Patterson Pond, however it is not likely that effects from that spill are responsible for the impairment. The nature of the impact suggests agricultural sources, but there are no farming operations that are considered obvious sources. Additional investigation to determine the actual source of the water quality problem is needed. (DEC/DOW, Region 7 and Broome County WQCC, June 2009)

Section 303(d) Listing

This segment including Patterson Creek is not currently included on the NYS 2008 Section 303(d) List of Impaired Waters. However this updated assessment suggests it is appropriate to include this waterbody on the 2008 List. Due to uncertainty regarding the exact pollutants and source of the impairment, it is recommended that the segment be added to Part 3b, as a waterbody for which TMDL development is deferred pending the verification of the pollutant/cause on impairment. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total length of selected/smaller tribs to the north of the Lower Susquehanna River (from Endicott to Johnson City). Tribs within this segment, including Patterson Creek (-36), are Class C. Nanticoke Creek (-28) and Little Choconut Creek (-39) are listed separately.

Little Choconut Creek and tribs (0603-0017)

Need Verific

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR- 39
Hydro Unit Code: 02050103/010 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 43.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Reg/County: 7/Broome Co. (4)
Quad Map: CASTLE CREEK (M-17-1) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT, THERMAL CHANGES, Water Level/Flow
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: HYDRO MODIFICATION, POWER GENERATION (NYSE&G), STREAMBANK EROSION
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life support and stream habitat/hydrology may experience minor impacts from silt/sedimentation and thermal effects. Various nonpoint sources and a NYSE&G power plant cooling water discharge are the suspected sources of these impacts. Further sampling to verify any impacts is recommended.

Previous Assessment

Concerns have been raised during previous (1998) assessments due to excessive silt and sedimentation and hydrologic and habitat modification. Streambank erosion has been cited as a source. Residential development in the watershed is also thought to be contributing to the problem. The sediment load is also affecting the flood control in the watershed. Flood control reservoirs along the creek are filling up with silt much faster than was anticipated during design. (DEC/DOW, Region 7, 1996)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

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Waterbody Inventory for Chenango River Watershed

Water Index Number	Waterbody Segment	Category
Lower Chenango River Watershed, Binghamton to Chenango Forks		
SR- 44 (portion 1)	Chenango River, Lower, Main Stem (0602-0033)	Impaired Seg
SR- 44- 1 thru 13 (selected)	Minor Tribs to Lower Chenango River (0602-0117)	NoKnownImpct
SR- 44- 5	Castle Creek, Lower, and minor tribs (0602-0065)	MinorImpacts
SR- 44- 5	Castle Creek, Upper, and tribs (0602-0166)	UnAssessed
SR- 44- 5- 3	Glen Castle Creek and tribs (0602-0118)	UnAssessed
SR- 44- 5- 3-P26a	St Johns Pond (0602-0073)	UnAssessed
SR- 44- 6	Thomas Creek and minor tribs (0602-0120)	NoKnownImpct
SR- 44-10	Osborne Creek and minor tribs (0602-0030)	NoKnownImpct
SR- 44-11	Page Brook, Lower and tribs (0602-0036)	NoKnownImpct
SR- 44-11	Page Brook, Upper and tribs (0602-0122)	UnAssessed
SR- 44-11- 8-1...Pxx	Truitt Pond (0602-0074)	UnAssessed
SR- 44-12-P32	Chenango Lake (0602-0075)	UnAssessed
SR- 44-12-P32-P34	Lily Lake (0602-0076)	UnAssessed
Lower Tioughnioga River Watershed, Chenango Forks to Whitney Point		
SR- 44-14 (portion 1)	Tioughnioga River, Lower, Main Stem (0602-0066)	NoKnownImpct
SR- 44-14- 1 thru 26 (selected)	Minor Tribs to Lower Tioughnioga River (0602-0123)	UnAssessed
SR- 44-14-10	Halfway/Ticknor Brook and tribs (0602-0124)	NoKnownImpct
Otselic River Watershed		
SR- 44-14-27 (portion 1)/P35a	Whitney Point Lake/Reservoir (0602-0004)	Impaired Seg
SR- 44-14-27 (portion 2)	Otselic River, Lower, Main Stem (0602-0024)	NoKnownImpct
SR- 44-14-27 (portion 3)	Otselic River, Middle, Main Stem (0602-0015)	NoKnownImpct
SR- 44-14-27 (portion 4)	Otselic River, Upper and minor tribs (0602-0043)	MinorImpacts
SR- 44-14-27- 1 thru 12	Minor Tribs to Whitney Point Reservoir (0602-0029)	NoKnownImpct
SR- 44-14-27-13	Merrill Creek and tribs (0602-0052)	NoKnownImpct
SR- 44-14-27-13-10-P36	Dean Pond (0602-0077)	UnAssessed
SR- 44-14-27-14 thru 31	Minor Tribs to Lower Otselic River (0602-0161)	UnAssessed
SR- 44-14-27-19-P38	Bloody Pond (0602-0078)	UnAssessed
SR- 44-14-27-23- 4-P38a	Stump Pond (0602-0079)	UnAssessed
SR- 44-14-27-23-P39	Ellis/Melody Lake (0602-0053)	MinorImpacts
SR- 44-14-27-26-P40	Glover Pond/High Lake (0602-0080)	UnAssessed
SR- 44-14-27-32	Gee Brook and tribs (0602-0125)	NoKnownImpct
SR- 44-14-27-33 thru 55	Minor Tribs to Upper Otselic River (0602-0162)	UnAssessed
SR- 44-14-27-34	Brakel Creek and tribs (0602-0046)	NoKnownImpct
SR- 44-14-27-35	Mead Brook and tribs (0602-0126)	NoKnownImpct
SR- 44-14-27-37	Pond Creek and tribs (0602-0128)	NoKnownImpct
SR- 44-14-27-37-P42	Solon Pond (0602-0081)	UnAssessed

...Chenango River Watershed

Water Index Number	Waterbody Segment	Category
Otselic River Watershed (con't)		
SR- 44-14-27-38	Mud Creek and tribs (0602-0068)	NoKnownImpct
SR- 44-14-27-44	Glen Brook and tribs (0602-0167)	UnAssessed
SR- 44-14-27-47	Ashbell Brook and tribs (0602-0168)	UnAssessed
SR- 44-14-27-48	Upper Perkins Pond Outlet and tribs (0602-0169)	UnAssessed
SR- 44-14-27-53	Mann Brook and tribs (0602-0129)	UnAssessed
SR- 44-14-27-61	Otselic Creek and tribs (0602-0130)	NoKnownImpct
SR- 44-14-27-64-P48	Fisk Marsh Pond (0602-0082)	UnAssessed
SR- 44-14-27-P49	Torpy Pond (0602-0083)	UnAssessed
Middle/Upper Tioughnioga River Watershed, Whitney Point to Cortland		
SR- 44-14 (portion 2)	Tioughnioga River, Middle, and mnr tribs (0602-0067)	NoKnownImpct
SR- 44-14 (portion 3)	Tioughnioga River, Upper, and mnr tribs (0602-0002)	NoKnownImpct
SR- 44-14-30	Dudley Creek and tribs (0602-0037)	MinorImpacts
SR- 44-14-33	Jennings Creek/Big Brook and tribs (0602-0131)	NoKnownImpct
SR- 44-14-38	Hunts Creek and tribs (0602-0054)	NoKnownImpct
SR- 44-14-43	Gridley Creek and tribs (0602-0055)	NoKnownImpct
SR- 44-14-58	Trout Brook, Lower, and tribs (0602-0056)	NoKnownImpct
SR- 44-14-58	Trout Brook, Upper, and tribs (0602-0057)	NoKnownImpct
East Branch Tioughnioga River Watershed		
SR- 44-14-59	East Branch Tioughnioga, Low, and tribs (0602-0020)	NoKnownImpct
SR- 44-14-59	East Branch Tioughnioga, Upp, and tribs (0602-0132)	NoKnownImpct
SR- 44-14-59	Tioughnioga Creek and tribs (0602-0133)	MinorImpacts
SR- 44-14-59- 9	Chenango Creek and tribs (0602-0058)	UnAssessed
SR- 44-14-59-11-P51	Labrador Pond (0602-0084)	UnAssessed
SR- 44-14-59-25	Tioughnioga Cr West Br and minor tribs (0602-0059)	Need Verific
SR- 44-14-59-25-2	Fabius Brook and tribs (0602-0026)	NoKnownImpct
SR- 44-14-59-25-P55	Carpenter Pond (0602-0085)	UnAssessed
SR- 44-14-59-34-P56	DeRuyter Reservoir (0602-0086)	MinorImpacts
West Branch Tioughnioga River Watershed		
SR- 44-14-60	West Branch Tiough River and minor tribs (0602-0060)	NoKnownImpct
SR- 44-14-60- 1	Otter Creek and tribs (0602-0061)	UnAssessed
SR- 44-14-60- 2	Dry Creek and tribs (0602-0062)	UnAssessed
SR- 44-14-60- 4	Factory Brook and tribs (0602-0025)	MinorImpacts
SR- 44-14-60- 6	Cold Brook and tribs (0602-0011)	Need Verific
SR- 44-14-60-P67	Lower/Upper Little York Lakes (0602-0017)	Need Verific
SR- 44-14-60-P67-2-P71	Green Lake (0602-0087)	UnAssessed
SR- 44-14-60-P67a	Green Lake (0602-0088)	UnAssessed
SR- 44-14-60-P67b	Goodale Lake (0602-0089)	NoKnownImpct
SR- 44-14-60-P68	Tully Lake (0602-0018)	Need Verific
SR- 44-14-60-P68-P72	Song Lake (0602-0019)	MinorImpacts
SR- 44-14-60-P68-P73	Crooked Lake (0602-0090)	NoKnownImpct
SR- 44-14-60-P68-P73-3-P74-1-P75	Gatehouse Pond (0602-0091)	UnAssessed

...Chenango River Watershed

Water Index Number	Waterbody Segment	Category
Middle Chenango River Watershed, Chenango Forks to Oxford		
SR- 44 (portion 2)	Chenango River, Middle, Main Stem (0602-0009)	Impaired Seg
SR- 44-15 thru 41 (selected)	Minor Tribs to Middle Chenango River (0602-0136)	UnAssessed
Geneganselet Creek Watershed		
SR- 44-23	Geneganselet Creek, Lower, and tribs (0602-0063)	NoKnownImpct
SR- 44-23	Geneganselet Creek, Middle, and tribs (0602-0137)	UnAssessed
SR- 44-23	Geneganselet Creek, Upper, and tribs (0602-0138)	UnAssessed
SR- 44-23- 3-P78	Lake Petonia (0602-0092)	NoKnownImpct
SR- 44-23-11-P81	Echo Lake (0602-0093)	NoKnownImpct
SR- 44-23-14-1-P82	Round Pond (0602-0094)	UnAssessed
SR- 44-23-14-P83	Long Pond (0602-0095)	UnAssessed
SR- 44-23-14-P83-2-P84	Cincinnatus Lake (0602-0064)	UnAssessed
SR- 44-23-35-P88	Genegantslet Lake (0602-0096)	NoKnownImpct
Middle Chenango River Watershed, Oxford to Norwich		
SR- 44 (portion 3)	Chenango River, Middle, Main Stem (0602-0164)	Impaired Seg
SR- 44-30	Spring Brook and tribs (0602-0140)	UnAssessed
SR- 44-31	Tillotson Creek and tribs (0602-0141)	UnAssessed
SR- 44-32	Wheeler Brook and tribs (0602-0142)	UnAssessed
SR- 44-38	Bear/Padget Brook and tribs (0602-0143)	NoKnownImpct
SR- 44-38- 1-P95	Trestle Lake (0602-0097)	UnAssessed
SR- 44-38- 1-P95-1-P97	Lake Gerry (0602-0098)	NoKnownImpct
SR- 44-38- 9-P98	Tank Pond (0602-0099)	UnAssessed
SR- 44-39	Bowman Creek and tribs (0602-0144)	NoKnownImpct
SR- 44-39- 5-P99	Lake Ludlow (0602-0100)	UnAssessed
SR- 44-41	Mill Brook and tribs (0602-0146)	UnAssessed
SR- 44-41-P101	Steer Pond (0602-0101)	UnAssessed
SR- 44-42 thru 57 (selected)	Minor Tribs to Middle Chenango River (0602-0151)	UnAssessed
SR- 44-44	Fly Meadow Creek and tribs (0602-0147)	UnAssessed
SR- 44-44- 2-P103	McCall Pond (0602-0102)	UnAssessed
SR- 44-45	Lyon Brook and tribs (0602-0148)	UnAssessed
SR- 44-45- 2-2-P106	North Pond (0602-0103)	UnAssessed
Canasawacta Creek Watershed		
SR- 44-54	Canasawacta Creek, Lower and minor tribs (0602-0013)	MinorImpacts
SR- 44-54	Canasawacta Creek, Upper and tribs (0602-0149)	UnAssessed
SR- 44-54- 5	East Branch and tribs (0602-0150)	UnAssessed
SR- 44-54- 7-P107a	Round Pond (0602-0104)	UnAssessed
SR- 44-54- 8-P107	Plymouth Reservoir (0602-0014)	MinorImpacts
SR- 44-56-P108/P109	Norwich Reservoirs (0602-0010)	Need Verific
Upper Chenango River Watershed, above Norwich		
SR- 44 (portion 4)	Chenango River, Upper, and minor tribs (0602-0069)	Impaired Seg
SR- 44 (portion 5)	Chenango River, Upper, and minor tribs (0602-0165)	Impaired Seg
SR- 44-68	Handsome Brook and minor tribs (0602-0070)	NoKnownImpct

...Chenango River Watershed

Water Index Number	Waterbody Segment	Category
Upper Chenango River Watershed, above Norwich (con't)		
SR- 44-68- 5	Pleasant Brook and tribs (0602-0154)	UnAssessed
SR- 44-68- 7-P124	Sears Pond (0602-0105)	UnAssessed
SR- 44-69a-P123 a	Rogers Game Farm Pond (0602-0106)	UnAssessed
SR- 44-71	Pleasant Brook and minor tribs (0602-0071)	Need Verific
SR- 44-71- 1	Cold Spring Brook and minor tribs (0602-0155)	UnAssessed
SR- 44-71- 1-5	South Lebanon Brook and tribs (0602-0156)	UnAssessed
SR- 44-72	Sangerfield River and minor tribs (0602-0072)	NoKnownImpct
SR- 44-72- 8-P129	Poolville Pond (0602-0107)	UnAssessed
SR- 44-72-17	Hunt Creek and tribs (0602-0051)	NoKnownImpct
SR- 44-72-24-P136	Gorton Lake (0602-0040)	MinorImpacts
SR- 44-74	Stone Mill/Lebanon Brook and tribs (0602-0157)	UnAssessed
SR- 44-76-P146	Earlville/Craine Lake (0602-0108)	NoKnownImpct
SR- 44-78	Payne Brook and tribs (0602-0003)	MinorImpacts
SR- 44-78- 3-P148	Woodman Pond (0602-0048)	UnAssessed
SR- 44-78-P152	Lake Moraine (0602-0007)	MinorImpacts
SR- 44-79-P153	Lebanon Reservoir (0602-0109)	MinorImpacts
SR- 44-79-P153-1a-P153a	Seymour Pond (0602-0110)	UnAssessed
SR- 44-80-P154	Bradley Brook Reservoir (0602-0111)	NoKnownImpct
SR- 44-80-P154-1-P155	Hatch Lake (0602-0112)	NoKnownImpct
SR- 44-82	Eaton Brook and tribs (0602-0159)	UnAssessed
SR- 44-82-P163	Eaton Brook Reservoir (0602-0041)	NoKnownImpct
SR- 44-83-P163a	Electric Light Pond (0602-0114)	UnAssessed
SR- 44-P110	Mead Pond (0602-0115)	UnAssessed
SR- 44-P94	Lake Warn (0602-0116)	MinorImpacts

Chenango River, Lower, Main Stem (0602-0033)

Impaired Seg

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR- 44 (portion 1) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/130 **Str Class:** B Chenango River
Waterbody Type: River (Med. Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 21.4 Miles **Quad Map:** CHENANGO FORKS (M-17-2)
Seg Description: from mouth to Chenango Forks

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: METALS (mercury), Silt/Sediment
Suspected: Nutrients, Thermal Changes
Possible: Salts

Source(s) of Pollutant(s)

Known: Agriculture, Comb. Sewer Overflow, Habitat Modification, Urban/Storm Runoff
Suspected: ATMOSPHERIC DEPOSITION, Hydro Modification
Possible: Municipal

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Chenango River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Aquatic life support and recreational uses in this reach of the Chenango River is thought to experience minor impacts and threats due to nutrient loads and silt/sedimentation from agricultural and other nonpoint sources in the watershed, and urban/storm runoff in the more urban downstream part of the reach. Impacts due to habitat modification, the result of stream channelization through the city of Binghamton, are also a concern.

Fish Consumption Advisories

Fish consumption in this portion of the Chenango River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Chenango Forks and Norwich. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources

have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Chenango River in Binghamton, Broome County, (at Clinton Street) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted water quality conditions, indicating generally good water quality. Water column sampling revealed iron and pH to be parameters of concern, but iron levels and elevated pH are considered to be natural characteristics of the river at this site and not a source of water quality impacts. Sediment screening for acute toxicity indicated slight sediment toxicity but no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates were not collected at this site for chemical analysis. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows minor impacts but aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impairments to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

A biological (macroinvertebrate) assessment of Chenango River in Binghamton (at Route 17) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate elevated enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. These results are consistent with results from previous sampling at this site; previous results alternate between non- and slightly impacted water quality conditions. In spite of these minor impacts, aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Source Assessment

The upper reach is thought to be more affected by nutrients, sediments and agricultural inputs. Although agricultural land use in this reach is limited, considerable activity farther upstream in the drainage area contributes loadings. Elevated nutrients alter habitat, reduces suitable nursery and spawning areas, and foster algae growth which discourages the favored species, smallmouth bass. (Broome County WQCC, 1998)

Sources of silt/sedimentation include agricultural activities upstream, urban runoff and various other nonpoint sources. Gravel mining activity was previously cited as a contributing source, however the Barrett/ Boland Mine directly next to the river was reclaimed over a decade ago. (DEC/DMR, July 2009)

In the lower reach, water quality concerns impacting recreational uses are related to urban sources including urban runoff, CSOs, and thermal and hydrologic effects due to hydro and habitat modification. The river is significantly channelized within the City of Binghamton. (DEC/DOW, Region 7, January 2000)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Chenango River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the mouth to the Tioughnioga River (-14) in Chenango Forks. This reach of the river is Class B.

Minor Tribs to Lower Chenango River (0602-0117)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44- 1 thru 13 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/130 **Str Class:** C Chenango River
Waterbody Type: River **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 13.4 Miles **Quad Map:** ()
Seg Description: total length of selected tribs, mouth to Chenango Forks

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Phelps Creek (at Chenango Street) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. Phelps Creek is just one of several streams that make up this waterbody segment, but it is considered representative of water quality in the segment as a whole. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were previously raised by local agencies (Broome County WQCC, 1998) regarding the impact of silt/sedimentation from stream and roadbank erosion, and residential development. While monitoring of impacts from such sources continue, it appears from the most recent sampling that these sources have little if any water quality impacts on the aquatic community. (DEC/DOW, BWAM, June 2009)

Segment Description

This segment includes the total length of selected/smaller tribs to the Lower Chenango River (from the mouth to Tioughnioga River in Chenango Forks). Tribs within this segment, including Phelps Creek, are Class C. Castle Creek (-5), Thomas Creek (-6), Osborne Creek (-10), Page Brook (-11) and Tioughnioga River (-14) are listed separately.

Castle Creek, Lower, and minor tribs (0602-0065)

MinorImpacts

Waterbody Location Information

Revised: 06/25/2001

Water Index No:	SR- 44- 5	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/110	Str Class:	C
Waterbody Type:	River	Reg/County:	7/Broome Co. (4)
Waterbody Size:	28.7 Miles	Quad Map:	CASTLE CREEK (M-17-1) ...
Seg Description:	stream and tribs, from mouth to Castle Creek		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Known

Type of Pollutant(s)

Known: SILT/SEDIMENT
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION, Roadbank Erosion
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Habitat/hydrology in Castle Creek is known to experience minor impacts due to excessive silt and sediment loads, the result of streambank and roadbank erosion.

Water Quality Sampling

Biological (macroinvertebrate) sampling of the Castle Creek in Hinman Corners (at Route 11) indicated the stream to be non-impacted. The fauna appeared diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Biological sampling of Glen Castle Creek, a trib to Castle Creek, in 2003 found slightly impacted conditions. Indices suggested elevated nutrient enrichment, however the fauna was most similar to natural communities. (DEC/DOW, BWAM/SBU. June 2009)

Source Assessment

High gradient streams and "flashy" runoff events result in significant sediment load to the stream. Poor management practices in the watershed exacerbate the problem. However the sampling results indicate these conditions do not appear

have a significant impact on water quality. (DEC/DFWMR, Region 7, November 2000)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Brooks Creek (-7) near Castle Creek. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Glen Castle Creek (-3) and Brooks Creek (-7), are Class C,C(T). Upper Castle Creek is listed separately.

Thomas Creek and minor tribs (0602-0120)

NoKnownImpet

Waterbody Location Information

Revised: 07/15/2009

Water Index No: SR- 44- 6
Hydro Unit Code: 02050102/130 **Str Class:** C
Waterbody Type: River
Waterbody Size: 17.2 Miles
Seg Description: entire stream and selected tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Broome Co. (4)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Thomas Creek in Chenango Bridge (at Route 12A) was conducted as part of the RIBS biological screening effort in 2003 and in 2008. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The 2003 sample was initially assessed as moderately impacted, but this was thought to be heavily influenced by low gradient and marshy areas upstream of the site. When subsequently evaluated using low gradient (sandy stream) criteria, the assessment was clearly in the slightly impacted range. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Gilbert Creek (-2), are Class C.

Osborne Creek and minor tribs (0602-0030)

NoKnownImpet

Waterbody Location Information

Revised: 06/22/2009

Water Index No:	SR- 44-10	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/130	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	32.9 Miles	Quad Map:	CHENANGO FORKS (M-17-2) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Osborne Creek in Port Crane (at Ballyhack and Pleasant Hill Roads) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

A biological assessment of Ballyhack Creek in Port Crane (above Osborne Creek) was also conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate elevated enrichment in the stream but fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were previously raised by local agencies (Broome County WQCC, 1998) regarding the impact of silt/sedimentation from stream and roadbank erosion, and residential development. While monitoring of impacts from such sources continue, it appears from the most recent sampling that these sources have little if any water quality impacts on the aquatic community. (DEC/DOW, BWAM, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Ballyhack Creek (-1) and Porter Creek (-7), are Class C.

Waterbody Location Information

Revised: 09/16/2009

Water Index No:	SR- 44-11	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/120	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	42.0 Miles	Quad Map:	CHENANGO FORKS (M-17-2) ...
Seg Description:	stream and tribs from mouth to Quinneville		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Page Brook in Fenton, Broome County, (at Rogers Road) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions, indicating very good water quality. Water column sampling revealed pH to be parameter(s) of concern, however, pH is considered to be naturally high and not a source of water quality impacts. Sediment screening for acute toxicity indicated no toxicity to be present. Sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Chronic toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that in spite of some concerns that should continue to be monitored, aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of Lower Page Brook near Chenango Bridge in 1998 also indicated the stream to be non-impacted. The fauna appeared diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Previous Assessment Concerns were raised during a previous assessment effort in 1998 regarding impacts from roadbank and streambank erosion in high gradient streams and during "flashy" runoff events. While more recent monitoring reveals no water quality impacts in the stream, habitat conditions should continue to be monitored. (DEC/DOW, BWAM/WQAS, August 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including unnamed trib (-8) in Page Brook. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Dry Brook (-2), are also Class C. Upper Page Brook is listed separately.

Tioughnioga River, Lower, Main Stem (0602-0066)

NoKnownImpct

Waterbody Location Information

Revised: 07/16/2009

Water Index No:	SR- 44-14 (portion 1)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/100	Str Class:	B
Waterbody Type:	River	Reg/County:	7/Broome Co. (4)
Waterbody Size:	14.9 Miles	Quad Map:	WHITNEY POINT (L-17-4) ...
Seg Description:	river from mouth to Whitney Point		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of the Tioughnioga River in Chenango Forks (at Route 12) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with previous sampling at this site in 1997. (DEC/DOW, BWAM/SBU, January 2009)

Water Quality Management

The Village of Whitney Point, located at the confluence of the Otselic and Tioughnioga Rivers, completed construction of a new sewage treatment plant in December 2007. The plant, which is designed to handle up to 110,000 gpd, serves the village and service is being extended to some nearby areas as well. Prior to the plant, going online, on-site wastewater (septic) systems, many of which were failing, served most homes in the village. (DEC/DOW, Region 7, June 2009)

Concerns were raised in previous assessments regarding the impact of flood control practices in Whitney Point Reservoir on recreational uses in the river. A new reservoir water release scenario is going into affect next year that will provide for additional releases from the reservoir during periods of low flow. This is expected to benefit the river uses. SRBC will be evaluating impacts of the low flow releases. (DEC/DFWMR, Region 7, June 2009)

Segment Description

This segment includes the main stem portion of the river from the mouth in Chenango Forks to the Otselic River (-27) in Whitney Point. This reach of the river is Class B.

Halfway/Ticknor Brook and tribs (0602-0124)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-10
Hydro Unit Code: 02050102/100 **Str Class:** C
Waterbody Type: River
Waterbody Size: 45.2 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Broome Co. (4)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Halfway Creek in Itaska (at Cloverdale Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are Class C(T). Upper Halfway Brook continues along trib -8; the stream above trib -8 is known as Ticknor Brook.

Whitney Point Lake/Reservoir (0602-0004)

Impaired Seg

Waterbody Location Information

Revised: 09/11/2009

Water Index No: SR- 44-14-27 (portion 1)/P35a
Hydro Unit Code: 02050102/070 **Str Class:** C
Waterbody Type: Lake (Eutrophic)
Waterbody Size: 1235.4 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Broome Co. (4)
Quad Map: WHITNEY POINT (L-17-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
RECREATION	Impaired	Known
Habitat/Hydrology	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (vegetation, algal blooms), NUTRIENTS (phosphorus), Water Level/Flow, Silt/Sediment
Suspected: - - -
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: AGRICULTURE, Hydro Modification
Suspected: On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg7 **Resolution Potential:** Medium
TMDL/303d Status: 1,4c (Individual Waterbody Impairment Requiring a TMDL, more)

Further Details

Overview

Recreational uses (swimming, fishing, boating) and aesthetics in Whitney Point Reservoir are restricted by high nutrient loads and resulting algal blooms and high suspended solids. Agricultural and other nonpoint source activities are the leading source of impacts. Hydrologic modification to support flood control and drought management goals may have occasional impacts on other recreational uses.

Water Quality Sampling

The algal blooms result in inadequate dissolved oxygen levels in depths greater than 15 feet which impact fish/aquatic life. These conditions are widely known and were specifically noted during a 1998 Lake Classification and Inventory (LCI) evaluation. DEC Regional Water staff also monitored the reservoir in 2000. The Otselic River and agricultural sources within the watershed are the primary source of these nutrients. (DEC/DOW, BWM/Lake Services, August 2000).

Hydrologic/Habitat Impacts

Fluctuating water levels in this flood control reservoir also impact the fishery/aquatic life by limiting the growth of vegetation that would be beneficial to fish. The annual water level control reduces the surface area by up to 300 acres, which also impacts recreational uses. However support of these uses are difficult to reconcile with the primary use of the reservoir that of flood control. (DEC/DFWMR, Region 7, 1998)

Section 303(d) Listing

Whitney Point Reservoir is included on the 2008 NYS Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for phosphorus. This waterbody was first listed on the 2002 Section 303(d) List. (DEC/DOW, BWAM/WQAS, September 2009)

Background

Whitney Point Lake is a US Army Corps of Engineers reservoir project, located on the Otselic River in Broome County. It is primarily operated for flood control, but is also used for recreation and upland wildlife management. The project provides flood control for the valley along the lower Tioughnioga River, the lower Chenango River, and the Susquehanna River downstream of Binghamton. When Whitney Point Lake dam was constructed, no recreation facilities were included in the project. However, in the early 1960's, at the urging of the State of New York, recreation was added as a project purpose and normal summer pool levels were raised to provide a larger lake. Recreational facilities at Whitney Point include two Broome County Department of Parks and Recreation recreational facilities at Dorchester Park in the southern portion of the lake near the dam and Upper Lisle Park which is at the upstream end of the lake. These areas provide swimming, picnicking, boating, fishing, and camping opportunities. In the Upper Lisle area, the NYSDEC maintains a wildlife management area that is used by hunters, wildlife observers, and other outdoor enthusiasts. A recent change in water level management was implemented in 2009 to reduce previously routine winter drawdowns and maintain the pool all year except during periods of summer drought. Periodic releases will occur during these periods to augment downstream flows and protect ecosystem resource. (USACO, September 2009)

Segment Description

This segment includes the total area of the reservoir.

Otselic River, Lower, Main Stem (0602-0024)

NoKnownImpct

Waterbody Location Information

Revised: 11/08/2000

Water Index No: SR- 44-14-27 (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/070 **Str Class:** C(T) Chenango River
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 27.9 Miles **Quad Map:** WILLET (L-17-1) ...
Seg Description: river from Whitney Point Lake/Reservoir to Cincinnatus

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Otselic River in Landers Corners (at Landers Corners Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with sampling conducted at the same site during a biological (macroinvertebrate) survey of the Otselic River in 1997 (Otselic River Biological Assessment Report, Bode et al. DEC/DOW, BWAR/SBU, April 1998). The lower reach of the river from Landers Corners to South Otselic was assessed as non-impacted. Although faunas were influenced by nonpoint sources, the samples were diverse and well-balanced. (DEC/DOW, BWAM/SBU, January 2009)

A RIBS Intensive Network Monitoring site was located on the river in Willet in 1998. Chemical monitoring at the site indicates no significant parameters of concern and water quality was assessed as good. A fishery assessment found an abundant and diverse fishery with suitable habitat. However sediment and streambank erosion concerns remain throughout the Otselic River Watershed. (DEC/DOW, RIBS, August 2000)

Water Quality Management

The Village of Whitney Point, located at the confluence of the Otselic and Tioughnioga Rivers, completed construction of a new sewage treatment plant in December 2007. The plant, which is designed to handle up to 110,000 gpd, serves the village and service is being extended to some nearby areas as well. Prior to the plant, going online, on-site wastewater (septic) systems, many of which were failing, served most homes in the village. (DEC/DOW, Region 7, June 2009)

Segment Description

This segment includes the main stem portion of the river from Whitney Point Lake to Gee Brook (-32) near Cincinnatus. This reach of the river is Class C.

Otselic River, Middle, Main Stem (0602-0015)

NoKnownImpct

Waterbody Location Information

Revised: 07/15/2009

Water Index No:	SR- 44-14-27 (portion 3)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/070	Str Class:	C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	16.7 Miles	Quad Map:	OTSELIC (K-18-1) ...
Seg Description:	river from Cincinnatus to Otselic		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey of the Otselic River at multiple sites between Landers Corners and Otselic was conducted in 1997. Three of the six Otselic River sites - in Lower Cincinnatus (at Route 23), in Pitcher (at Route 26), and in South Otselic (at Route 13) - were located in this reach. Sampling results at the two downstream sites indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Evidence of some influence from nonpoint sources were noted. Slightly impacted conditions were indicated in the upstream site in South Otselic. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. At this site the nonpoint source influences were greater. In spite of these minor affects, water quality in this reach is satisfactory and aquatic life support is considered to be fully supported in the stream. (Otselic River Biological Assessment Report, Bode et al., DEC/DOW, BWAR/SBU, April 1998)

Previous Assessment

Concerns were raised by local agencies during previous (1998) assessment efforts regarding impacts due to nutrient loads and silt/sedimentation from agricultural nonpoint source runoff. The loss and removal of riparian vegetation contributes to thermal stresses and streambank erosion and cattle access to the river have also been noted as a problem by the county.

While efforts to minimize potential impacts to the stream from these source should continue, available sampling results suggest these activities are not currently causing significant water quality impacts in this reach of the river. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the main stem portion of the river from Gee Brook (-32) near Cincinnatus to/including unnamed trib (-55) near Otselic. This reach of the river is Class C(T).

Otselic River, Upper and minor tribs (0602-0043)

MinorImpacts

Waterbody Location Information

Revised: 06/26/2009

Water Index No:	SR- 44-14-27 (portion 4)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/060	Str Class:	C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	55.4 Miles	Quad Map:	WEST EATON (J-18-4) ...
Seg Description:	stream and selected tribs above Otselic		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
 Suspected: SILT/SEDIMENT, Pathogens, Thermal Changes
 Possible: - - -

Source(s) of Pollutant(s)

Known: AGRICULTURE
 Suspected: Streambank Erosion
 Possible: Habitat Modification

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Aquatic life support and recreational uses in this reach of the Otselic River is known to experience impacts due to nutrient loads and silt/sedimentation from agricultural activities and related nonpoint source runoff.

Water Quality Sampling

A biological macroinvertebrate assessment of Otselic River above Georgetown (at Lebanon Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and elevated levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found a community that is most similar to communities influenced by nonpoint sources. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) survey of the Otselic River at multiple sites between Landers Corners and Otselic was conducted in 1997. Two of the six Otselic River sites - in Otselic Center (at Route 16) and above Otselic (at Mill Road)

- were considered to be reflective on conditions in this reach. Sampling results at these two sites also indicated slightly impacted conditions. Nonpoint source influences were noted at these sites. (Otselic River Biological Assessment Report, Bode et al., DEC/DOW, BWAR/SBU, April 1998)

Source Assessment

Agricultural nonpoint sources have been identified by local agencies as the primary source of these impacts. Cattle grazing in the river have also been noted as a problem by the county. The loss and removal of riparian vegetation also contributes to thermal stresses and streambank erosion. (Madison County WQCC, 1996)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-55) in Otselic. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Muller Brook (-60) and Georgetown Creek (-63), are also Class C,C(T). Otselic Creek (-61) is listed separately.

Minor Tribs to Whitney Point Reservoir (0602-0029) NoKnownImpct

Waterbody Location Information

Revised: 06/25/2001

Water Index No: SR- 44-14-27- 1 thru 12
Hydro Unit Code: 02050102/070 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 13.6 Miles **Quad Map:** WHITNEY POINT (L-17-4) ...
Seg Description: total length of select tribs to reservoir

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Page Brook in Triangle (at Route 26) indicated the stream to be non-impacted. The fauna appeared diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Source Assessment

The Army Corps of Engineers has documented that sediment from streambank and roadbank erosion contributes to sediment problems in Whitney Point Reservoir. However, impacts to the tribs do not appear to be significant. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total length of selected/smaller tribs to Whitney Point Reservoir. Tribs within this segment, including Page Brook (-3) and Landers Creek (-12), are primarily Class C,C(TS). Merrill Creek (-13) is listed separately.

Merrill Creek and tribs (0602-0052)

NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-27-13
Hydro Unit Code: 02050102/070 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12) ...
Waterbody Size: 44.8 Miles **Quad Map:** WILLET (L-17-1) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Merrill Creek in Upper Lisle (at Cold Spring Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies in previous (1998) assessments regarding impacts from silt/sedimentation and nutrient loads from various nonpoint sources and the loss of riparian vegetation. However, while continued implementation of agricultural and other BMPs is encouraged, this more recent sampling indicates there are no significant impacts to the stream from these or other sources. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C, C(T). Tribs to this reach/segment are also Class C.

Ellis/Melody Lake (0602-0053)

MinorImpacts

Waterbody Location Information

Revised: 07/06/2009

Water Index No:	SR- 44-14-27-23-P39	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/070	Str Class:	C
Waterbody Type:	Lake (Eutrophic)	Reg/County:	7/Cortland Co. (12)
Waterbody Size:	40.8 Acres	Quad Map:	WILLET (L-17-1)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, vegetation), Nutrients (phosphorus)
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: AGRICULTURE
 Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	3 (Cause Identified, Source Unknown)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Ellis Pond/Melody Lake are known to experience impacts from excessive algal and weed growth. Elevated nutrient levels may contribute to the plant growth. Sampling from 1980s and 1990s and continuing through the present indicate a trend toward improving water quality. In more recent years impacts have been primarily related to weeds.

Water Quality Sampling

Ellis Pond/Melody Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) from 1987 through 1991 and from 1997 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses but exceedences appear to be less frequent. Corresponding transparency measurements only rarely fail to exceed the recommended minimum for swimming beaches. Measurements of pH fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, March 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be increasingly favorable. The recreational suitability of the lake during more recent sampling is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear" or as having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants do not grow to the lake surface in more recent sampling years. Aquatic plants are dominated by a mix of native species and non-native Eurasian milfoil and have been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, March 2007)

Lake Uses

This lake waterbody is designated class C, suitable for use as general recreation and aquatic life support, but not as a public water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the lake.

Gee Brook and tribs (0602-0125)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-27-32
Hydro Unit Code: 02050102/070 **Str Class:** C
Waterbody Type: River
Waterbody Size: 25.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Gee Brook in Gee Brook (at Routes 26/41) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Brakel Creek and tribs (0602-0046)

NoKnownImpct

Waterbody Location Information

Revised: 07/15/2009

Water Index No:	SR- 44-14-27-34	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/070	Str Class:	C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	7/Chenango Co. (9) ...
Waterbody Size:	29.5 Miles	Quad Map:	CINCINNATUS (K-17-4) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Brackel Creek in Cincinnatus (at Route 166) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concern were raised by local agencies during previous (1998) assessment efforts regarding impacts due to silt/sedimentation, nutrient loads and thermal stresses from agricultural nonpoint source activities. Specific concerns included the loss/removal of riparian vegetation that contributes to thermal stresses and streambank erosion and livestock access to the creek. Local agencies have emphasized agricultural BMP implementation. Dredging and bulldozing in the stream by localities also destabilizes the streambanks. These specific sources should continue to be monitored, however based available sampling data they do not appear cause any significant water quality impacts to the stream. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Mead Brook and tribs (0602-0126)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-27-35
Hydro Unit Code: 02050102/070 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 9.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Mead Brook in Cincinnatus (at Piety Hill Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Pond Creek and tribs (0602-0128)

NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR- 44-14-27-37
Hydro Unit Code: 02050102/070 **Str Class:** C
Waterbody Type: River
Waterbody Size: 12.6 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Pond Creek in Taylor (at Route 26) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Wells Creek (-1), Class C.

Mud Creek and tribs (0602-0068)

NoKnownImpet

Waterbody Location Information

Revised: 06/26/2009

Water Index No:	SR- 44-14-27-38	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/070	Str Class:	C(T)
Waterbody Type:	River	Reg/County:	7/Chenango Co. (9) ...
Waterbody Size:	48.8 Miles	Quad Map:	CINCINNATUS (K-17-4) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Mud Creek above Pitcher (at closed bridge) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions, but near the range of non-impacted. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities with some evidence of nonpoint source influences. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) survey of the Otselic River conducted in 1997 also included sampling of Mud Creek at this site. Although the stream appeared to be carrying a heavy load of silt and plankton, the fauna was diverse and well-balanced. Many clean-water indicators were present, and overall water quality indices were in the range of non-impacted conditions. (Otselic River Biological Assessment Report, Bode et al. DEC/DOW, BWAR/SBU, April 1998)

Previous Assessment

Concerns have been raised by local agencies during previous (2000) assessments of the stream regarding impacts of silt and sediment loads from high gradient "flashy" tributary flow. However the sampling results indicate these conditions do not appear have a significant impact on water quality. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment, including Factory Gulf (-2) and Linklean Creek (-5), are Class C,C(T).

Otselic Creek and tribs (0602-0130)

NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-27-61
Hydro Unit Code: 02050102/060 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 10.4 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Madison Co. (27)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Otselic Creek in Georgetown (at Route 26) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T).

Tioughnioga River, Middle, and mnr tribs (0602-0067) NoKnownImpct

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR- 44-14 (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/100 **Str Class:** B Chenango River
Waterbody Type: River **Reg/County:** 7/Broome Co. (4) ...
Waterbody Size: 21.3 Miles **Quad Map:** MARATHON (L-16-2) ...
Seg Description: river and select tribs, fr Whitney Pt to Messengerville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of the Tioughnioga River in Lisle indicated the stream to be non-impacted. Filter-feeding caddisflies dominated the sample, but diversity was high with many mayflies present. A RIBS Intensive Network Monitoring site was located on the river in Marathon in 1998. Chemical monitoring at the site indicates no significant parameters of concern and water quality was assessed as good. A fishery assessment found an abundant and diverse fishery with suitable habitat. (DEC/DOW, RIBS, 2001)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Otselic River (-27) in Whitney Point to Gridley Creek (-43) in Messengerville. The waters of this portion of the stream are Class B. Tribs to this reach/segment are Class C,C(T). Otselic River (-27), Dudley Creek (-30), Jennings Creek/Big Brook (-33), Hunts Creek (-38) and Gridley Creek (-43) are listed separately.

Tioughnioga River, Upper, and mnr tribs (0602-0002) NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR- 44-14 (portion 3) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/100 **Str Class:** B Chenango River
Waterbody Type: River (Med. Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 11.4 Miles **Quad Map:** MCGRAW (K-16-3) ...
Seg Description: river select tribs, from Messengersville to Cortland

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Tioughnioga River in Blodgett Mills, Cortland County, (at Blodgett Mills Road) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non- to slightly impacted water quality conditions, indicating good to very good water quality. Water column sampling revealed iron no parameter of concern to be present. Sediment screening for acute toxicity indicated possibility of slight sediment toxicity. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of the river below Cortland conducted in 1997 revealed a slightly impacted community. This marked a significant improvement of 1992 sampling results which reflected a moderate impact from the Cortland WWTP. The WWTP was upgraded in 1997-98. Sampling farther downstream in Blodgett Mills also found slight impacts. The fauna was dominated by filter-feeding midges and riffle beetles. Considerable macrophytes and duckweed were also noted. (DEC/DOW, BWAR/SBU, April 1998)

Previous Assessment

In a previous assessment effort in 1998, aquatic life in this reach of the Tioughnioga River was considered to be affected by nutrient loads, oxygen demand and various toxic pollutants. The Cortland WWTP was considered to be the most likely source. The plant has since been upgraded and more recent water quality sampling reveals improved conditions. (DEC/DOW, BWAM/WQAS, August 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Gridley Creek (-43) in Messengerville to the confluence of the East (-59) and West (-60) Branches in Cortland. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment, including Hoxie Creek (-49), are also/primarily Class C,C(T),C(TS). Trout Brook (-58) is listed separately.

Dudley Creek and tribs (0602-0037)

MinorImpacts

Waterbody Location Information

Revised: 06/25/2009

Water Index No:	SR- 44-14-30	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/100	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4) ...
Waterbody Size:	66.7 Miles	Quad Map:	MARATHON (L-16-2) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Suspected

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT, Nutrients, Thermal Changes
Possible: ---

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION (stream bulldozing), STREAMBANK EROSION
Suspected: Agriculture (cattle grazing)
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

While water quality in Dudley Creek is generally good, aquatic habitat in the stream and its tribs is known to experience impacts due to the loss of riparian cover, streambank erosion and habitat modification (including bulldozing in the stream) limit the survival of wild brook trout. The county has expressed concerns about nonpoint runoff from agricultural activity and modest residential development in the watershed that may affect water quality. Restoration and protection of the stream has been identified as a high priority by local agencies. (DEC/DFWMR, Region 7 and Broome County WQCC, October 2000)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Dudley Creek in Lisle (at Walker Avenue) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate elevated enrichment in the stream and fauna that is most similar to communities influenced by excessive silt and sedimentation. In spite of these minor impacts, aquatic life support is considered to be fully supported in the stream. These results show somewhat

reduced water quality from sampling conducted at the same site in 1997 that showed non-impacted conditions. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Culver Creek (-3), are Class C,C(T),C(TS).

Jennings Creek/Big Brook and tribs (0602-0131)

NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No:	SR- 44-14-33	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/100	Str Class:	C
Waterbody Type:	River	Reg/County:	7/Broome Co. (4)
Waterbody Size:	31.4 Miles	Quad Map:	()
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Jennings Creek/Big Brook in Killawog (at Jennings Creek Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are Class C,C(T).

Hunts Creek and tribs (0602-0054)

NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-38
Hydro Unit Code: 02050102/100 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 19.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: MARATHON (L-16-2) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Hunts Creek in Marathon (at Galatia Road/CR 116) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies in previous (1998) assessments regarding impacts from silt/sedimentation from stream and roadbank erosion. However this more recent sampling indicates there are no significant impacts to the stream from these or other sources.

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Gridley Creek and tribs (0602-0055)

NoKnownImpet

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-43
Hydro Unit Code: 02050102/100 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 27.1 Miles **Quad Map:** MARATHON (L-16-2) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Gridley Creek in Messengerville (at Francis Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Water quality concerns include planned development of a ski resort, municipal discharges to the creek and impact on water supply aquifer. (Cortland County WQCC, April 1999)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Trout Brook, Lower, and tribs (0602-0056)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44-14-58
Hydro Unit Code: 02050102/100 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 57.0 Miles **Quad Map:** MCGRAW (K-16-3) ...
Seg Description: stream and tribs, from mouth to McGraw

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey/assessment of Trout Brook in Pokeville (at Route 81 overpass) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are reflect an improvement compared with previous sampling at this site in 1997 which found slight impacts. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of a trib to Trout Brook, Smith Brook in McGraw (at East Academy Street) was also conducted as part of the RIBS biological screening effort in 2003. Sampling results also indicated non-impacted conditions and the aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Smith Brook (-4) in McGraw. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including Mosquito Creek (-3) and

Smith Brook (-4), are Class C,C(T). Upper Trout Brook is listed separately.

Trout Brook, Upper, and tribs (0602-0057)

NoKnownImpet

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44-14-58
Hydro Unit Code: 02050102/100 **Str Class:** C
Waterbody Type: River
Waterbody Size: 14.8 Miles
Seg Description: stream and tribs, above McGraw

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: MCGRAW (K-16-3)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Trout Brook below this reach in Pokeville (at Route 81 overpass) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with previous sampling at this site in 1997. Though this sampling point is just below the described segment, it is considered representative of water quality in the upper reach. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concern had been raised by local agencies during previous (1999) assessments about impacts from silt/sedimentation from stream and roadbank erosion. Severe erosion has been noted in several areas along McGraw-Marathon Road. Several streambank stabilization projects has been undertaken. However these more recent sampling results indicate that these impacts do not have a significant effect on water quality. (Cortland County WQCC, April 1999)

Segment Description

This segment includes the portion of the stream and all tribs above Smith Brook (-4) in McGraw. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment, including Mayberry Brook (-7) and Solon Creek (-11), are Class C,C(T),C(TS). Lower Trout Brook is listed separately.

East Branch Tioughnioga, Low, and tribs (0602-0020) NoKnownImpct

Waterbody Location Information

Revised: 06/25/2009

Water Index No: SR- 44-14-59
Hydro Unit Code: 02050102/080 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 23.4 Miles **Quad Map:** HOMER (K-16-1) ...
Seg Description: stream and selected tribs from mouth to East Homer

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of East Branch Tioughnioga River in Cortland (at Route 81) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These result reflect an improvement in water quality from conditions noted in sampling at this site in 1998. That sampling found slightly impacted water quality from nonpoint sources. While impacts from nonpoint sources should continue to be monitored, such impact do not currently appear to have any significant effect on the stream. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Albright Creek (-4) in East Homer. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Albright Creek (-4), are Class C,C(T),C(TS). Upper East Branch Tioughnioga River is listed separately.

East Branch Tioughnioga, Upp, and tribs (0602-0132) NoKnownImpet

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44-14-59
Hydro Unit Code: 02050102/080 **Str Class:** C
Waterbody Type: River
Waterbody Size: 99.5 Miles
Seg Description: stream and selected tribs from East Homer to Tripoli

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of East Branch Tioughnioga River in Crains Mills (at Crains Mills Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural conditions with evidence of some nonpoint source influences. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

A biological (macroinvertebrate) assessment of Labrador Creek, a trib to East Branch Tioughnioga, in Truxton (at Labrador Street) was also conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to natural conditions with

evidence of some nonpoint source and silt/sedimentation influences. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above Albright Creek (-4) in East Homer to the Middle/West Branch Tioughnioga Creek confluence in Cuyler. The waters of this portion of the stream are Class C,C(T),C(TS). Tribs to this reach/segment, including Hights Creek (-6), Trout Brook (-7), Kenney Brook (-10), Labrador Creek (-11), Morgan Hill Creek (-15) and Maxon Creek (-22), are Class C,C(T),C(TS). Cheningo Creek (-9), East Branch Tioughnioga Creek (-25), Middle Branch Tioughnioga Creek and Lower East Branch Tioughnioga River are listed separately.

Tioughnioga Creek and tribs (0602-0133)

MinorImpacts

Waterbody Location Information

Revised: 09/10/2009

Water Index No: SR- 44-14-59
Hydro Unit Code: 02050102/080 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 89.7 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Madison Co. (27)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, NUTRIENTS (phosphorus)
Suspected: ---
Possible: Thermal Changes

Source(s) of Pollutant(s)

Known: AGRICULTURE
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in portions of Tioughnioga Creek and its tribs is thought to experience minor impacts due to nutrient loadings and algal growth due to agricultural nonpoint sources.

Water Quality Sampling

Biological (macroinvertebrate) assessments of East Branch Tioughnioga Creek in DeRuyter (at Mechanic Street) and of Middle Branch Tioughnioga Creek in DeRuyter (at Middle Lake Road) were conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions in the Middle Branch and non-impacted conditions in the East Branch.

In the Middle Branch sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to have similarities to various communities types and is somewhat inconclusive. Field observations noted that cattle have access to the stream and the sample was noticeably

enriched. The nutrient levels in conjunction with a lack of canopy cover likely produce a substantial algal population and dissolved oxygen fluctuations that contribute to a slightly degraded community. (DEC/DOW, BWAM/SBU, September 2009)

In the East Branch the samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is considered to be fully supported at both sites. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs above its mouth at the confluence of the West Branch Tioughnioga Creek (-25) in Cuyler. The waters of the stream are Class C(TS). Tribs to this reach/segment, including Hills Creek (-28), East Branch (-32), DeRuyter Outlet (-34) and Pleasant Creek (-37), are also/primarily Class C,C(T). Above the East Branch confluence, the stream is known as the Middle Branch. West Branch Tioughnioga Creek (-25) is listed separately.

Tioughnioga Cr West Br and minor tribs (0602-0059)

Need Verific

Waterbody Location Information

Revised: 07/15/2009

Water Index No: SR- 44-14-59-25
Hydro Unit Code: 02050102/080 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 26.2 Miles
Seg Description: entire stream and selected tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Onondaga Co. (34) ...
Quad Map: DE RUYTER (J-17-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Threatened	Suspected
Recreation	Threatened	Suspected

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT, Nutrients
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

All uses in West Branch Tioughnioga Creek are fully supported and there are currently no significant water quality impacts to the stream. However threats to water quality, primarily agricultural activities and practices, have been identified. Cortland County has identified this stream as a priority for water quality protection efforts and implementation of agricultural BMPs.

Water Quality Sampling

A biological (macroinvertebrate) assessment of the West Branch Tioughnioga Creek in Keeney (at West Keeney Settlement Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to natural communities with some slight evidence of influences from silt/sedimentation. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Source Assessment

Concerns have been raised by local agencies regarding impacts due nutrient loads and silt/sedimentation from agricultural nonpoint source activities. Local assessment of agricultural operations indicate the need for BMP implementation. The loss and removal of riparian vegetation also contributes to thermal stresses and streambank erosion. Although available sampling results indicate no current water quality impacts, efforts to address these potential sources should continue. The county has identified the area for emphasis regarding agricultural BMP implementation. (Cortland County WQCC, April 1999)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T). Fabius Brook (-2) is listed separately.

Fabius Brook and tribs (0602-0026)

NoKnownImpet

Waterbody Location Information

Revised: 07/16/2009

Water Index No: SR- 44-14-59-25-2
Hydro Unit Code: 02050102/080 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Onondaga Co. (34)
Waterbody Size: 36.0 Miles **Quad Map:** DE RUYTER (J-17-4) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Fabius Brook in Fabius (at Parker Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural conditions with evidence of some nonpoint source influences. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies during previous (1999) assessments regarding impacts due to thermal stress resulting from various agricultural nonpoint source activities. Such activities could threaten this high quality trout stream. Channelization for field drainage and the loss and removal of riparian vegetation might contribute to warming of trout waters in the watershed. Volunteer (student) monitoring through the "Project Watershed" program has been initiated. Although available sampling results indicate no water quality impacts, these habitat concerns should continued to be monitored. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T).

DeRuyter Reservoir (0602-0086)

MinorImpacts

Waterbody Location Information

Revised: 07/07/2009

Water Index No:	SR- 44-14-59-34-P56	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/080	Str Class:	B
Waterbody Type:	Lake(R) (Mesotrophic)	Reg/County:	7/Onondaga Co. (34)
Waterbody Size:	554.2 Acres	Quad Map:	DE RUYTER (J-17-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (excessive weed growth)
Suspected: NUTRIENTS (phosphorus)
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	3 (Cause Identified, Source Unknown)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	4c->n/a	

Further Details

Overview

Recreational uses (swimming, fishing, boating) in DeRuyter Reservoir are thought to experience minor impacts due to algal and aquatic weed growth in the lake.

Water Quality Sampling

DeRuyter Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1992 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Conditions in 2005 suggested lower productivity (mesoligotrophic), but that assessment may have been driven by favorable weather conditions. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses, though they were somewhat higher in 2006. Corresponding transparency measurements exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly to moderately colored. (DEC/DOW, BWAM/CSLAP, February 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants occasionally grow to the lake surface but not densely. Aquatic plants are dominated by a mix of native and non-native (Eurasian milfoil) species. Although surface weed coverage is occasionally noted, "excessive weed growth" is not frequently identified as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, February 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a Public bathing beach and for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303d Listing

DeRuyter Reservoir was delisted from the NYS Section 303(d) List of Impaired Waters during the development of the 2008 List. The lake was included on Part 3a of the List as a Water Requiring Verification of Impairment, however updated assessment of the lake suggested that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total area of the entire lake.

West Branch Tiough River and minor tribs (0602-0060) NoKnownImpct

Waterbody Location Information

Revised: 07/10/2000

Water Index No: SR- 44-14-60
Hydro Unit Code: 02050102/080 **Str Class:** C
Waterbody Type: River
Waterbody Size: 54.4 Miles
Seg Description: entire stream and selected tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: HOMER (K-16-1) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of West Branch Tioughnioga River in Cortland (at Route 13) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling conducted at the site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C,C(T),C(TS). Otter Creek (-1), Dry Creek (-2), Factory Brook (-4) and Cold Brook (-6) are listed separately.

Factory Brook and tribs (0602-0025)

MinorImpacts

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR- 44-14-60- 4
Hydro Unit Code: 02050102/080 **Str Class:** C(TS)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Cortland Co. (12)
Waterbody Size: 26.6 Miles **Quad Map:** HOMER (K-16-1) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT
Possible: Nutrients

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE, STREAMBANK EROSION
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in Factory Brook is thought to experience minor impacts due to silt/sedimentation from streambank erosion and agricultural activity.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Factory Brook above Homer (at Route 41) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition suggests conditions are sufficient to cause some stress to aquatic life. Impact source determination found a community that is most similar to communities influenced by siltation, with some evidence of impoundment effects. Sampling of this site in 1997 and 1998 reflected non-impacted conditions. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns regarding the impact of agricultural activity in the watershed were raised by local agencies in previous (1998)

assessments. A milking barn (450 head of cattle) has been built near the headwater. (Cortland County WQCC, 1998)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T),C(TS). Tribs to this reach/segment, including Homer Gulf (-4), are Class C,C(TS).

Cold Brook and tribs (0602-0011)

Need Verific

Waterbody Location Information

Revised: 07/11/2000

Water Index No: SR- 44-14-60- 6
Hydro Unit Code: 02050102/080 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Chenango Co. (9) ...
Waterbody Size: 24.7 Miles **Quad Map:** HOMER (K-16-1) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Possible
Aesthetics	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: NUTRIENTS, SILT/SEDIMENT, Thermal Changes

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: ext/WQCC **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support and aesthetics in Cold Brook and its tributaries may be limited by excessive sedimentation and nutrient loadings. The magnitude of impacts and specific sources have yet to e identified.

Previous Assessment

Concerns were raised regarding algae and rooted aquatic weed growth in the stream. Agricultural activities (barnyard runoff, manure spreading, livestock access to streams), and inadequate and/or failing on-site septic systems are possible sources of impacts. While the brook remains a fair trout stream, fishermen have recently been complaining about poor condition of the stream. (DEC/DOW, Region 7, 1996)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Callan Creek (-3), are Class C,C(T),C(TS).

Lower/Upper Little York Lakes (0602-0017)

Need Verific

Waterbody Location Information

Revised: 09/14/2009

Water Index No: SR- 44-14-60-P67
Hydro Unit Code: 02050102/080 **Str Class:** B
Waterbody Type: Lake (Mesotrophic)
Waterbody Size: 120.7 Acres
Seg Description: total area of both lakes

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: HOMER (K-16-1)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Threatened	Suspected
Recreation	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ALGAL/WEED GROWTH (aquatic vegetation), D.O./OXYGEN DEMAND, Nutrients

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, Habitat Modification

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
TMDL/303d Status: n/a->B

Resolution Potential: Medium

Further Details

Overview

Aquatic life support and recreational uses in Lower/Upper York Lakes may experience minor impacts/threats due to low dissolved oxygen in deeper portions of the lake. These conditions may be naturally occurring.

Water Quality Sampling

The lake was last sampled by NYSDEC during a 1998 Lake Classification and Inventory (LCI) evaluation. This monitoring revealed hypoxia below 9 meters and anoxia below 12 meters during the summer months. While the impact of these conditions may or may not affect the fishery (in fact, they could represent natural lake conditions), they suggest at least threat to aquatic life. (DEC/DOW, BWM/Lake Services, August 2000).

Previous Assessment

Concern was raised by local agencies during a previous assessment in 1998 regarding impacts to recreational uses (swimming, fishing, boating) due to excessive weed growth in the lake. Weed harvesting to control rooted aquatic vegetation along the shore of the lake has been practiced in the past, but not at that time. Current conditions in the lake need to be verified. (DEC/DOW, BWAM/WQAS, August 2009)

Section 303(d) Listing

Lower/Upper York Lakes are included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Goodale Lake (0602-0089)

NoKnownImpct

Waterbody Location Information

Revised: 09/15/2009

Water Index No:	SR- 44-14-60-P67b	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/080	Str Class:	C
Waterbody Type:	Lake	Reg/County:	7/Cortland Co. (12)
Waterbody Size:	38.0 Acres	Quad Map:	HOMER (K-16-1)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Goodale Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) screening effort in 2008. Nutrient, chlorophyll a and clarity measurements taken at that time revealed no significant eutrophication of the lake and algal growth did not appear to impact recreational uses. Measurement of dissolved oxygen did not indicate any D.O. depletion that would affect the fishery or other aquatic resources. (DEC/DOW, BWAM/LCI, September 2009)

Tully Lake (0602-0018)

Need Verific

Waterbody Location Information

Revised: 09/14/2009

Water Index No:	SR- 44-14-60-P68	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/080	Str Class:	B
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Cortland Co. (12) ...
Waterbody Size:	226.1 Acres	Quad Map:	OTISCO VALLEY (J-16-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Threatened	Suspected
Recreation	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: D.O./OXYGEN DEMAND, Algal/Weed Growth (aquatic vegetation)

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, Habitat Modification

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a->B	

Further Details

Overview

Aquatic life support and recreational uses in Tully Lake may experience minor impacts/threats due to low dissolved oxygen in deeper portions of the lake. These conditions may be naturally occurring. Weed growth may also be contributing to recreational use impacts.

Previous Assessment

Concerns were raised during previous assessments in 1998 that aquatic life support and recreational uses may be threatened by low dissolved oxygen. These conditions were noted during a 1998 Lake Classification and Inventory (LCI) evaluation. While the impact of these conditions may or may not affect the fishery (in fact, they could represent natural lake conditions), they suggest a possible threat to aquatic life and should be verified. (DEC/DOW, BWAM/WQAS, August 2009).

Public bathing and other recreational uses (swimming, fishing, boating) in the lake are also considered threatened by excessive weed growth (muskgrass) in the lake. Access to open water is difficult at times. Weed harvesting to control rooted aquatic vegetation along the shore of the lake has been conducted occasionally, most recently in 1999. A lake

management plan was developed jointly by Onondaga and Cortland Counties. (Onondaga County WQCC, December 2000)

The Tully WWTP permit was modified in 1990 to include a limit on phosphorus. (DEC/DOW, Region 7, 1998)

Section 303(d) Listing

Tully Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Song Lake (0602-0019)

Minor Impacts

Waterbody Location Information

Revised: 07/02/2009

Water Index No: SR- 44-14-60-P68-P72
Hydro Unit Code: 02050102/080 **Str Class:** B
Waterbody Type: Lake (Unknown Trophic)
Waterbody Size: 105.4 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Cortland Co. (12)
Quad Map: OTISCO VALLEY (J-16-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ---
Suspected: ALGAL/WEED GROWTH (aquatic vegetation), NUTRIENTS (phosphorus)
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Public Bathing and other recreational uses in Song Lake are thought to experience minor impacts due to elevated nutrient levels that contribute to algal and weed growth. Agricultural activities and other nonpoint sources in the watershed are the likely source of the pollutants.

Water Quality Sampling

Song Lake was sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) in 2007. Prior to that, the lake was sampling through CSLAP in 1988. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as mesoeutrophic, or moderately productive. Phosphorus levels in the lake occasionally exceeded the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically exceed what is the recommended minimum for swimming beaches. Measurements of pH are somewhat high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is slightly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, January 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be mostly favorable in 2008. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is somewhat more favorable than occurs in lakes with similar water quality. Assessments have noted that aquatic plants do not grow to the lake surface. (DEC/DOW, BWAM/CSLAP, January 2008)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a public water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Previous Assessment

Based on previous CSLAP sampling in 1988, recreational uses in Song Lake were assessed as possibly being stressed. However impacts to the lake were noted as needing verification. The more recent sampling suggests impacts to uses are present but fairly minor. (DEC/DOW, BWM/Lake Services, January 2008).

Segment Description

This segment includes the total area of the lake.

Crooked Lake (0602-0090)

NoKnownImpct

Waterbody Location Information

Revised: 07/08/2009

Water Index No: SR- 44-14-60-P68-P73
Hydro Unit Code: 02050102/080 **Str Class:** B
Waterbody Type: Lake (Mesotrophic)
Waterbody Size: 105.6 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Onondaga Co. (34)
Quad Map: OTISCO VALLEY (J-16-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Crooked Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 through 1990 and from 1993 continuing through 1998. An Interpretive Summary report of the findings of this sampling was published in 1999. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, 1999)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" and occasionally as "having a definite algal greenness," an assessment that is consistent with measured water quality characteristics. Assessments have noted that rooted aquatic plants typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, 1999)

Lake Uses

This lake waterbody is designated class B, suitable for a public bathing beach, for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Chenango River, Middle, Main Stem (0602-0009)

Impaired Seg

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44 (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/050 **Str Class:** B Chenango River
Waterbody Type: River (Med. Flow) **Reg/County:** 7/Chenango Co. (9)
Waterbody Size: 42.2 Miles **Quad Map:** GREENE (L-17-3) ...
Seg Description: from Chenango Forks to near Oxford

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Chenango River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Chenango River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Chenango Forks and Norwich. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A RIBS Intensive Network Monitoring site was located on the river below Norwich in 1998. Chemical monitoring at the site at that time indicated no significant parameters of concern and water quality was assessed as good. Although a fishery assessment found generally good habitat, silt and sedimentation from streambank erosion and agricultural runoff

were noted. (DEC/DOW, RIBS, August 2000)

Biological (macroinvertebrate) sampling conducted in the lower reach near Chenango Forks in 1997 revealed slightly impacted conditions with considerable Macrophytes. However, other sites along the reach in Greene and Norwich found non-impacted conditions. (DEC/DOW, BWAR/SBU, January 1999)

Previous Assessment

Concerns regarding impacts from nonpoint sources loads to the river have been raised in previous assessments. However, while these sources represent an ongoing threat and should continue to be monitored and reduced when possible, current impacts on the river water quality do not appear to be significant. Previously cited problems attributed to the Norwich WWTP appear to have been addressed with the plant upgrade in November 1989. (DEC/DOW, Region 7, 1998)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Chenango River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the Tioughnioga River (-14) in Chenango Forks to Mill Creek (-41) below Oxford. This reach of the river is Class B.

Geneganselet Creek, Lower, and tribs (0602-0063)

NoKnownImpct

Waterbody Location Information

Revised: 07/06/2009

Water Index No: SR- 44-23
Hydro Unit Code: 02050102/040 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Chenango Co. (9)
Waterbody Size: 117.9 Miles **Quad Map:** GREENE (L-17-3) ...
Seg Description: stream and tribs, from mouth to Smithville Flats

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Genegantslet Creek in Greene (at Slater Road) indicated non-impacted water quality conditions. The sample was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

The creek supports a valuable trout fishery with wild populations of both brook and brown trout. NYSDEC also stocks the stream with brown trout. The decline of agricultural activity over the past 25 years has led to the re-establishment of riparian vegetation, cooler temperatures and improved water quality. (DEC/DFWMR, Region 7, November 2000)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Pond Brook (-14) in Smithville Flats. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Indian Creek (-1), Round Pond Outlet (-3), Echo Lake Outlet (-11) and Pond Brook (-14), are Class C. Middle/Upper Geneganselet Creek are listed separately.

Lake Petonia (0602-0092)

NoKnownImpct

Waterbody Location Information

Revised: 07/06/2009

Water Index No:	SR- 44-23- 3-P78	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/040	Str Class:	A
Waterbody Type:	Lake (Oligotrophic)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	24.1 Acres	Quad Map:	GREENE (L-17-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Petonia Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 through 1991 and from 2001 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately unproductive. Phosphorus levels in the lake are typically well below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements consistently exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, July 2007) Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "crystal clear" to "not quite crystal clear," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants rarely grow to the lake surface. Aquatic plants are dominated by native and have not typically been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, July 2007)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Echo Lake (0602-0093)

NoKnownImpct

Waterbody Location Information

Revised: 07/06/2009

Water Index No:	SR- 44-23-11-P81	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/040	Str Class:	C
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	60.7 Acres	Quad Map:	SMITHVILLE FLATS (L-17-2)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Echo Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 through 1996 and from 2002 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake are consistently below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements easily exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, August 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface but not densely. Aquatic plants are dominated by native and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, August 2007)

Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation and aquatic life support, but not for drinking water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Genegantslet Lake (0602-0096)

NoKnownImpet

Waterbody Location Information

Revised: 07/07/2009

Water Index No: SR- 44-23-35-P88
Hydro Unit Code: 02050102/040 **Str Class:** B
Waterbody Type: Lake (Mesotrophic)
Waterbody Size: 108.6 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: PITCHER (K-17-3)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Genegantslet Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1990 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake are consistently below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements easily exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, April 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants rarely grow to the lake surface. Aquatic plants are dominated by native and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, April 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Chenango River, Middle, Main Stem (0602-0164)

Impaired Seg

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44 (portion 3)
Hydro Unit Code: 02050102/050 **Str Class:** C
Waterbody Type: River
Waterbody Size: 16.1 Miles
Seg Description: from near Oxford to Norwich

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA
TMDL/303d Status: 4a*

Resolution Potential: Medium

Further Details

Overview

Fish consumption in this portion of the Chenango River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Chenango River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Chenango Forks and Norwich. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) assessment of Chenango River below Norwich (at RR Trestle) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some

additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Chenango River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from Mill Creek (-41) below Oxford to the Norwich-North Norwich Town line near Woods Corners. This reach of the river is Class C.

Bear/Padget Brook and tribs (0602-0143)

NoKnownImpet

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR- 44-38
Hydro Unit Code: 02050102/050 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 53.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Bear Brook in South Oxford (at Route 32) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Eddy Brook (-1) and Cheshire Creek (-5), are also Class C,C(T).

Lake Gerry (0602-0098)

NoKnownImpct

Waterbody Location Information

Revised: 07/07/2009

Water Index No: SR- 44-38- 1-P95-1-P97
Hydro Unit Code: 02050102/050 **Str Class:** C
Waterbody Type: Lake
Waterbody Size: 33.1 Acres
Seg Description: entire lake
Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: OXFORD (L-18-2)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Lake Gerry has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) in 2004 and 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately to highly colored, and color may be sufficiently high to limit lake clarity at times. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "crystal clear" to "not quite crystal clear," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

This lake waterbody is designated class C, suitable for use as for general recreation use and aquatic life support, but not for drinking water supply or as a public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Bowman Creek and tribs (0602-0144)

NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR- 44-39
Hydro Unit Code: 02050102/050 **Str Class:** C
Waterbody Type: River
Waterbody Size: 52.7 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Bowman Brook in Tyner (at Livingston Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Ludlow Creek (-5), are also Class C,C(T).

Canasawacta Creek, Lower and minor tribs (0602-0013) MinorImpacts

Waterbody Location Information

Revised: 07/16/2009

Water Index No: SR- 44-54
Hydro Unit Code: 02050102/030 **Str Class:** B
Waterbody Type: River (Low Flow) **Reg/County:** 7/Chenango Co. (9)
Waterbody Size: 11.6 Miles **Quad Map:** NORWICH (K-18-3) ...
Seg Description: stream and selected tribs from mouth to South Plymouth

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT
Possible: ---

Source(s) of Pollutant(s)

Known: HYDRO MODIFICATION
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/Reg7 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Habitat/hydrology in Canasawacta Creek experiences impacts due to stream modification and silt/sedimentation from road work along Route 23.

Water Quality Sampling

Biological (macroinvertebrate) assessment of Canasawacta Creek in Norwich in 1997 passed field screening criteria and were assessed as non-impacted. However re-sampling of the stream is recommended in order to confirm water quality conditions. (DEC/DOW, BWAR/SBU, June 2009)

Stream Management

Concerns were raised by regional staff in previous (1998) assessment regarding roadway maintenance by NYS DOT along Route 23 that destabilized streambanks. More recently the USFWS in conjunction with NYSDEC, SWCD, DOT, and a local citizens group has received major funding for stream restoration work in a 4-5 mile stretch of the stream in the Town of Plymouth. Numerous rock vane structures are being installed in conjunction with the reconstruction of a more natural meander pattern in an effort to reduce erosion and flooding in the system. In many areas the stream is also being reconnected to its old flood plain or as well. When the project is complete, major improvements in the fishery are

expected and it is hoped that some flooding problems and road side maintenance issues will be resolved as well. (DEC/DFWMR, Region 7, June 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to East Branch Canaswacta Creek (-5). The waters of this portion of the stream are Class B from the mouth to unnamed trib (-3) and Class C(T) for the remainder of the reach. Tribs to this reach/segment are Class C,C(T). East Branch (-5) and Upper Canaswacta Creek are listed separately.

Plymouth Reservoir (0602-0014)

MinorImpacts

Waterbody Location Information

Revised: 07/07/2009

Water Index No:	SR- 44-54- 8-P107	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/030	Str Class:	B
Waterbody Type:	Lake (Mesotrophic)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	79.0 Acres	Quad Map:	EAST PHARSALIA (K-18-4)
Seg Description:	entire reservoir		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Possible
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation)
 Suspected: Nutrients (phosphorus)
 Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
 Suspected: HABITAT MODIFICATION
 Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	3 (Cause Identified, Source Unknown)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Plymouth Reservoir are thought to experience minor impacts due to algal and aquatic weed growth in the lake. The lake is very shallow, so weed growth could be somewhat natural; but might be exacerbated by excess nutrient input. Grass carp have been introduced into the lake in an effort to control the weeds.

Water Quality Sampling

Plymouth Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 and continuing through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Lake productivity as reflected in phosphorus and algal measurements was lower than expected in 2006. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements regularly exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately to highly colored, and color does limit water transparency when algae levels are reduced. (DEC/DOW, BWAM/CSLAP,

March 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable, and more so in 2006. The recreational suitability of the lake is described most frequently as "excellent" for most uses. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is consistent measured water quality characteristics. More recent assessments have noted that aquatic plants do not grow to the lake surface after June. Aquatic plants are dominated by a mix of native and non-native (Eurasian milfoil) species. Weed growth in the lake has been quite variable in recent years, perhaps related to the introduction of grass carp. (DEC/DOW, BWAM/CSLAP, March 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Norwich Reservoirs (0602-0010)

Need Verific

Waterbody Location Information

Revised: 06/12/2009

Water Index No: SR- 44-56-P108/P109
Hydro Unit Code: 02050102/020 **Str Class:** A
Waterbody Type: Lake(R)
Waterbody Size: 15.1 Acres
Seg Description: total area of both reservoirs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: HOLMESVILLE (K-19-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: PATHOGENS, Algal/Weed Growth (algal blooms, turbidity)

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM
TMDL/303d Status: n/a->B

Resolution Potential: Medium

Further Details

Overview

Water supply uses of the Norwich Reservoirs are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed and the number of wastewater discharges. Current information does not indicate any significant impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Source (Drinking) Water Assessment

A source water assessment of the Norwich Reservoirs found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Norwich. (NYSDOH, Source Water Assessment Program, 2005)

Previous Assessments

The drinking water supply use of the Norwich Reservoirs was reported in previous assessments to be stressed by algal blooms and reduced water clarity. Lower dissolved oxygen levels were noted during a 1998 Lake Classification and Inventory (LCI) evaluation. (DEC/DOW, BWM/Lake Services, August 2000).

Section 303(d) Listing

Norwich Reservoirs are included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment suggests that there are no significant impacts to the fishery and other uses are fully supported. Based on this assessment the lake is assessed as having no known impacts. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Agricultural activity in the watershed and failing and/or inadequate on-site septic systems are suspected sources of nutrients to the reservoir. (Chenango County WQCC, 1998)

Chenango River, Upper, and minor tribs (0602-0069)

Impaired Seg

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR- 44 (portion 4) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/020 **Str Class:** B(T) Chenango River
Waterbody Type: River **Reg/County:** 7/Chenango Co. (9) ...
Waterbody Size: 43.4 Miles **Quad Map:** NORWICH (K-18-3) ...
Seg Description: stream and select tribs, from Norwich to Randallville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Chenango River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Chenango River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Chenango Forks and Norwich. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) assessment of Chenango River above Norwich (near Route 320) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall

abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate elevated enrichment in the stream yet fauna is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

A RIBS Intensive Network Monitoring site was located on the river in Sherburne in 1998. Chemical monitoring at the site indicates no significant parameters of concern and water quality was assessed as good. Although a fishery assessment found generally good habitat, silt and sedimentation from streambank erosion and agricultural runoff were noted. (DEC/DOW, RIBS, August 2000)

Biological samples taken in Sherburne in 1997 found slightly impacted conditions but indices were most closely aligned with natural communities, indicating possible habitat effects. (DEC/DOW, BWAR/SBU, January 1999)

Biological assessments of Cold Brook in North Norwich (at Route 12) and Fly Creek in North Norwich (at Route 12) were conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions at both sites. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. The Fly Creek site was evaluated using low gradient (sandy stream) criteria due to the lack of a suitable sampling riffle. Aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Chenango River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Chenango River. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Norwich-North Norwich Town line near Woods Corners to Payne Brook (-78) in Randallville. The waters of this portion of the stream are Class B,B(T). Tribs to this reach/segment, including Cold Brook (-59), Whapanaka Brook (-60), Fly Creek (-61), West Brook (-64), Pleasant Valley Creek (-65), Mad Brook (-66) and Kingsley Brook (-79), are primarily Class C,C(T),C(TS). Upper Mad Brook (-66), Handsome Brook (-68), Pleasant Brook (-71), Sangerfield River (-72), Stone Mill Brook (-74) and Payne Brook (-78) are listed separately.

Chenango River, Upper, and minor tribs (0602-0165)

Impaired Seg

Waterbody Location Information

Revised: 09/17/2009

Water Index No: SR- 44 (portion 5) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050102/020 **Str Class:** C(T) Chenango River
Waterbody Type: River **Reg/County:** 7/Madison Co. (27)
Waterbody Size: 86.4 Miles **Quad Map:** ()
Seg Description: stream and select tribs, above Randallville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Suspected
Aquatic Life	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: METALS (mercury), Nutrients (nitrite, phosphorus), Silt/Sediment, Unknown Toxicity
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Municipal (Morrisville WWTP)
Possible: Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a*

Further Details

Overview

Fish consumption in this portion of the Chenango River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Aquatic life support in the stream experiences minor impacts and threats due to elevated nutrient levels and sediment loadings. Agricultural and other nonpoint sources are likely sources of these pollutants. Municipal wastewater discharges may also be contributing but this needs to be verified.

Fish Consumption Advisories

Fish consumption in this portion of the Chenango River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Chenango Forks and Norwich. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Chenango River in Eagleville, Madison County, (at Hart Road) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted water quality conditions, indicating generally good water quality. Water column sampling revealed nutrients (nitrite) to be a parameter of concern. Sediment screening for acute toxicity indicated moderate sediment toxicity but no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed significant reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site suggests minor impacts to aquatic life, although the biological community and fishery (including trout), as well as recreational uses, are supported in the stream. (DEC/DOW, BWAR/RIBS, August 2009)

The biological assessments noted above were conducted as part of the RIBS biological screening effort in 2003 though the Intensive Network sampling in 2004. Sampling results for both years indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by nonpoint sources and siltation. (DEC/DOW, BWAM/SBU, September 2009)

Watershed Management

During the sampling conducted in 2003 and 2004, a cow crossing just upstream of the sampling bridge was considered to be an obvious source of impacts. Livestock had access to the stream for a significant distance upstream. Since that sampling, SUNY Morrisville has taken over management of these lands and have implemented BMP's, such as removing the animal crossing, installing fencing to keep animals off the bank and out of the stream. The number of livestock have also been reduced. These actions are thought to have resulted in significant water quality improvements. Additional monitoring to verify current conditions are now underway. (DEC/DOW, Region 7, September 2009)

Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Chenango River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Chenango River. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above Payne Brook (-78) in Randallville. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Bradley Brook (-80), Electric Light Stream (-83) and Callahan Brook (-87), are also Class C,C(T). Payne Brook (-78) and Eaton Brook (-82) are listed separately.

Handsome Brook and minor tribs (0602-0070)

NoKnownImpct

Waterbody Location Information

Revised: 07/10/2009

Water Index No:	SR- 44-68	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	C(T)
Waterbody Type:	River	Reg/County:	7/Chenango Co. (9) ...
Waterbody Size:	44.7 Miles	Quad Map:	SHERBURNE (K-19-1) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Handsome Brook in Sherburne was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate very low enrichment in the stream and fauna that is most similar to communities influenced by impoundment effects (which could skew the results toward poorer water quality than actually occurs) and some nonpoint sources. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C,C(T),CT(S). Pleasant Brook (-5) is listed separately.

Pleasant Brook and minor tribs (0602-0071)

Need Verific

Waterbody Location Information

Revised: 07/15/2009

Water Index No:	SR- 44-71	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	C
Waterbody Type:	River	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	43.8 Miles	Quad Map:	EARLVILLE (K-18-2) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: HABITAT MODIFICATION (stream bulldozing)
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Overview

Habitat/hydrology in Pleasant Brook may experience impacts due to silt/sedimentation resulting from roadway maintenance practices.

Water Quality Sampling

Biological (macroinvertebrate) assessment of Pleasant Brook in Sherburne in 1997 passed field screening criteria and were assessed as non-impacted. The sample was diverse, well-balanced. However re-sampling of the stream is recommended in order to confirm water quality conditions. (DEC/DOW, BWAR/SBU, June 2009)

Previous Assessment

Concerns were raised by DEC Regional staff in previous (2000) assessment regarding roadway maintenance by local municipalities. This maintenance included the bulldozing of areas in the stream to protect roadways. Lower portions of the stream have been destabilized. Initial sampling indicated no significant impacts to water quality, however this sampling was conducted quite some time ago and conditions need to be verified. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the creek and all tribs, except Cold Spring Brook (-1) which is assessed separately. The waters of this segment are primarily Class C, with some designated Class C(T).

Sangerfield River and minor tribs (0602-0072)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No:	SR- 44-72	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	C(T)
Waterbody Type:	River	Reg/County:	7/Madison Co. (27) ...
Waterbody Size:	74.5 Miles	Quad Map:	EARLVILLE (K-18-2) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey/assessment of Sangerfield River in Earlville (at Earlville Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. These results are consistent with previous sampling at this site in 1998 (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the creek and all tribs, except for Hunt Creek (-17) and various lakes which are assessed separately. The waters of this segment are designated Class C and C(T).

Hunt Creek and tribs (0602-0051)

NoKnownImpet

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR- 44-72-17
Hydro Unit Code: 02050102/020 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Madison Co. (27)
Waterbody Size: 4.1 Miles **Quad Map:** HUBBARDSVILLE (J-19-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Hunt Creek in Hubbardsville (at Route 89) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised in previous assessments by local agencies (Madison County WQCC, 1998) about impacts from nutrient enrichment and excessive sedimentation related to agricultural activities (livestock access to the stream and lack of riparian vegetation). However the more recent sampling indicates little if any water quality impact to aquatic life in the stream. (DEC/DOW, BWAM, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C.

Gorton Lake (0602-0040)

MinorImpacts

Waterbody Location Information

Revised: 07/07/2009

Water Index No: SR- 44-72-24-P136
Hydro Unit Code: 02050102/020 **Str Class:** B
Waterbody Type: Lake (Mesotrophic)
Waterbody Size: 16.4 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Madison Co. (27)
Quad Map: BROOKFIELD (J-19-3)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation), PROBLEM SPECIES
Suspected: NUTRIENTS (phosphorus)
Possible: - - -

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: ON-SITE/SEPTIC SYST
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Gorton Lake are thought to experience minor impacts due to algal and aquatic weed growth in the lake and elevated nutrient levels that exacerbate weed and algal growth. Failing and/or inadequate on-site septic systems serving lakeshore residences are suspected sources of nutrients to the reservoir.

Water Quality Sampling

Gorton Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesoeutrophic, or moderately to highly productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly to moderately colored. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates

recreational suitability of the lake to be somewhat favorable. The recreational suitability of the lake is described most frequently as "slightly" impacted. The lake itself is most often described as "not quite crystal clear," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface and are cited as limiting recreational uses. Aquatic plants are dominated by primarily native species, although non-native Eurasian milfoil occurs in some areas of the lake and is likely responsible for much of the weed impacts. (DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Source Assessment

The Madison County Health Department and the Town of Brookfield have worked to identify and correct failing and/or inadequate septic systems and many have been replaced. Because of small lot sizes and steep surrounding topography alternative wastewater systems (sand filters or incinerating toilets) may, in some cases, be the only alternative. (Madison County WQCC, 1998)

Segment Description

This segment includes the total area of the entire lake.

Earlville/Craine Lake (0602-0108)

NoKnownImpct

Waterbody Location Information

Revised: 07/08/2009

Water Index No:	SR- 44-76-P146	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	C
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	27.4 Acres	Quad Map:	HAMILTON (J-18-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Earlville (aka Craine) Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, May 2002)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that rooted aquatic plants are visible but do not typically grow to the lake surface, and are not frequently cited as impacting recreational uses.

(DEC/DOW, BWAM/CSLAP, May 2002)

Lake Uses

This lake waterbody is designated class C, suitable for general recreation use and aquatic life support, but not for drinking water supply or as a public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Payne Brook and tribs (0602-0003)

MinorImpacts

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR- 44-78
Hydro Unit Code: 02050102/020 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 35.7 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Madison Co. (27)
Quad Map: HAMILTON (J-18-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
Recreation	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: Aesthetics (sludge deposits)
Possible: D.O./Oxygen Demand, Pathogens

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE, MUNICIPAL (Hamilton WWTP)
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg7
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life support and recreational uses in Payne Brook are known to experience minor impacts due to nutrient loads from nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Payne Brook in Middleport (at Middleport Road) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna is most similar to communities influenced by nonpoint sources. Though sampling in the 1990s suggested a decline in water quality, more recent sampling indicates improvement. Biological sampling found slight impacts in 1997 and moderately impacted conditions in 1998. (DEC/DOW, RIBS/SBU, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T),CT(S). Tribs to this reach/segment are Class C,C(T).

Lake Moraine (0602-0007)

MinorImpacts

Waterbody Location Information

Revised: 07/06/2009

Water Index No:	SR- 44-78-P152	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	B
Waterbody Type:	Lake (Mesotrophic)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	242.7 Acres	Quad Map:	HAMILTON (J-18-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Aquatic Life	Threatened	Suspected
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation)
 Suspected: D.O./Oxygen Demand, Nutrients (phosphorus)
 Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
 Suspected: ON-SITE/SEPTIC SYST, Agriculture
 Possible: - - -

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a->B	

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Lake Moraine are known to experience impacts from excessive algal and weed growth. Elevated nutrient levels may contribute to the plant growth. Inadequate on-site wastewater treatment (septic) systems are a suspected source of the impacts. Low dissolved oxygen in deeper parts of the lake may also threaten aquatic life.

Water Quality Sampling

Lake Moraine has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2000 and continuing through 20006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are somewhat high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, July 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be less favorable in 2006 due primarily to increased weed growth. Conditions are more favorable than was the case in 1990s. The recreational suitability of the lake is described most frequently as "excellent" or "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or as having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface. Aquatic plants are dominated by a mix of native species and non-native Eurasian milfoil and in recent years have been frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, July 2007)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a public water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Previous Assessment

Heavy algal blooms and dense aquatic rooted vegetation covering large portions of the lake were identified in previous assessments. Failing and/or inadequate on-site septic systems serving seasonal homes were cited as known sources. The lake management association has instituted a 50% refund program to encourage septic tank pump-outs. Other likely sources include agricultural runoff from cropland and manure spreading. (Madison County WQCC, January 2001)

Section 303(d) Listing

Lake Moraine is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters.

Segment Description

This segment includes the total area of the lake.

Lebanon Reservoir (0602-0109)

MinorImpacts

Waterbody Location Information

Revised: 07/07/2009

Water Index No: SR- 44-79-P153
Hydro Unit Code: 02050102/020 **Str Class:** B(T)
Waterbody Type: Lake(R) (Mesotrophic) **Drain Basin:** Susquehanna River
Waterbody Size: 92.4 Acres **Reg/County:** 7/Madison Co. (27)
Seg Description: entire lake **Quad Map:** HAMILTON (J-18-3)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Threatened	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (aquatic vegetation), PROBLEM SPECIES
Suspected: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus), Acid/Base (pH) (high pH)
Possible: ---

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: ---
Possible: AGRICULTURE

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a->B

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Lebanon Reservoir are thought to experience minor impacts due to algal and aquatic weed growth in the lake. Elevated nutrient levels may also exacerbate weed and algal growth. Low dissolved oxygen in deeper areas of the lake may also cause threat to the fishery.

Water Quality Sampling

Lebanon Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2005. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH generally high and at times exceed the state water quality range of 6.5 to 8.5. The lake water is moderately colored but lake color does not appear to limit clarity. (DEC/DOW, BWAM/CSLAP, February 2006)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as "crystal clear," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface and are cited as limiting recreational uses. Aquatic plants are dominated by primarily native species, although non-native Eurasian milfoil occurs in some areas of the lake and is likely responsible for much of the weed impacts. (DEC/DOW, BWAM/CSLAP, February 2006)

Lake Uses

This lake waterbody is designated class B(T), suitable for use as a public bathing beach and for general recreation and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303(d) Listing

Lebanon Reservoir is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total area of the entire lake.

Bradley Brook Reservoir (0602-0111)

NoKnownImpct

Waterbody Location Information

Revised: 07/08/2009

Water Index No:	SR- 44-80-P154	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	B
Waterbody Type:	Lake(R) (Mesotrophic)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	139.2 Acres	Quad Map:	WEST EATON (J-18-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Bradley Brook reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2001. An Interpretive Summary report of the findings of this sampling was published in 2002. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive, despite slightly higher productivity in more recent years. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, September 2002)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, September

2002)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Hatch Lake (0602-0112)

NoKnownImpet

Waterbody Location Information

Revised: 07/08/2009

Water Index No:	SR- 44-80-P154-1-P155	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	B
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	134.9 Acres	Quad Map:	WEST EATON (J-18-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Hatch Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2004. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. The most recent sampling years reflect lower productivity than usual, though this decrease may not be statistically significant. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH are occasionally high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, and color does not appear to limit lake clarity. (DEC/DOW, BWAM/CSLAP, October 2005)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer" to "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with measured water quality characteristics. Assessments have noted that aquatic plants

include native and non-native species and typically grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, October 2005)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Eaton Brook Reservoir (0602-0041)

NoKnownImpet

Waterbody Location Information

Revised: 07/08/2009

Water Index No:	SR- 44-82-P163	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050102/020	Str Class:	B
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Madison Co. (27)
Waterbody Size:	274.6 Acres	Quad Map:	WEST EATON (J-18-4)
Seg Description:	entire reservoir		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a->B	

Further Details

Water Quality Sampling

Eaton Brook Reservoir has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1988 and continuing through 2000. An Interpretive Summary report of the findings of this sampling was published in 2005. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. The most recent sampling years reflect lower productivity than usual, though this decrease may not be statistically significant. Phosphorus levels in the lake only rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements routinely exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, January 2002)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as "crystal clear," an assessment that is mostly consistent with measured water quality characteristics. Assessments have noted that aquatic plants occasionally grow to the lake surface, but are not frequently cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, January

2002)

Lake Uses

This lake waterbody is designated class B, suitable for use as a public bathing beach and for general recreation use and aquatic life support, but not for drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303(d) Listing

Eaton Brook Reservoir is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding dissolved oxygen levels, whether any low levels are natural or the result of anthropogenic sources, or the resulting level of fishery impact, if any. However available information suggests no significant impact and based on this assessment the lake is assessed as having no known impacts. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total area of the entire lake.

Lake Warn (0602-0116)

MinorImpacts

Waterbody Location Information

Revised: 07/06/2009

Water Index No: SR- 44-P94
Hydro Unit Code: 02050102/050 **Str Class:** C
Waterbody Type: Lake (Unknown Trophic)
Waterbody Size: 30.4 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Chenango River
Reg/County: 7/Chenango Co. (9)
Quad Map: BRISBEN (L-18-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (excessive weed growth)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: HABITAT MODIFICATION
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 4c->n/a

Resolution Potential: Medium

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Warn Lake are thought to experience minor impacts due to algal and aquatic weed growth in the lake.

Water Quality Sampling

Lake Warn has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1991 through 1995 and from 2001 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. In recent years productivity in the lake has increased, but this is thought to be a result of weather patterns. Phosphorus levels in the lake are typically below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements regularly exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, October 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates

recreational suitability of the lake to be very favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface but not densely. Aquatic plants are dominated by a mix of native and non-native species. Historically dense weed growth was probably due to the Eurasian watermilfoil, and it is likely that recent (since the mid-1990s) reductions in aquatic plant coverage may be due to grass carp stocking that occurred at that time, or due to lily control with herbicides more recently. Although surface weed coverage is still noted, "excessive weed growth" has not been identified as impacting recreational uses in recent years. have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, October 2007)

Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation and aquatic life support, but not for drinking water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Segment Description

This segment includes the total area of the entire lake.

Waterbody Inventory for Upper Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Upper Susquehanna River, Main Stem, Binghamton to Portlandville		
SR (portion 5)	Susquehanna River, Main Stem (0601-0182)	Impaired Seg
SR (portion 6)	Susquehanna River, Main Stem (0601-0040)	Impaired Seg
SR (portion 7)	Susquehanna River, Main Stem (0601-0020)	Impaired Seg
SR (portion 8)/P360	Goodyear Lake (0601-0015)	Impaired Seg
Tribs to Upper Susquehanna River, Binghamton to NY-PA State Line		
SR- 45 thru 78 (selected)	Minor Tribs to Susquehanna River (0601-0028)	MinorImpacts
SR- 53	Park Creek and tribs (0601-0031)	Impaired Seg
SR- 64	Little Snake Creek and tribs (0601-0042)	NoKnownImpct
SR- 64-5-Pxx	Clines Pond (0601-0063)	UnAssessed
SR- 66	Snake Creek and tribs (0601-0043)	NoKnownImpct
SR- 78-P173	Hawkins Pond (0601-0064)	UnAssessed
Tribs to Upper Susquehanna River, NY-PA State Line to Sidney		
SR- 94 thru 121 (selected)	Minor Tribs to Susquehanna River (0601-0123)	UnAssessed
SR- 94-1-2-Pxx	Mud Pond (0601-0065)	UnAssessed
SR- 99- 1-P174	Beaver Lake (0601-0066)	MinorImpacts
SR-100-P174a(?)	White Birch Lake (0601-0068)	MinorImpacts
SR-103	Hotchkiss Creek, Upper, and tribs (0601-0185)	UnAssessed
SR-105	Occanum Creek and tribs (0601-0126)	UnAssessed
SR-105-3-2-Pxx	Agfa Lake (0601-0069)	UnAssessed
SR-105-3-2-Pxx	Rogers/Sweet Lake (0601-0090)	UnAssessed
SR-118-P175	Beaver/Marsh Pond (0601-0070)	UnAssessed
SR-122	Belden Brook and tribs (0601-0129)	UnAssessed
SR-123	Wylie Brook and tribs (0601-0044)	MinorImpacts
SR-124 thru 145 (selected)	Minor Tribs to Susquehanna River (0601-0186)	UnAssessed
SR-124-P177	Pickrel Pond (0601-0071)	UnAssessed
SR-132	Cornell Creek and tribs (0601-0130)	UnAssessed
SR-132- 3-P178	Perch Pond (0601-0072)	UnAssessed
SR-134	Kelsey Brook, Lower and minor tribs (0601-0045)	NoKnownImpct
SR-134	Kelsey Brook, Upper and tribs (0601-0131)	UnAssessed
SR-134- 1-P344	Smith Pond (0601-0073)	UnAssessed
SR-134- 8	Wilkins Brook and tribs (0601-0133)	UnAssessed
SR-134- 8-4-Pxx	Echo Lake (0601-0074)	UnAssessed
SR-134-P179	Brackett Lake (0601-0075)	UnAssessed
SR-135-P180	Afton Lake (0601-0010)	Need Verific
SR-139	Big Brook/Bennettsville Creek and tribs (0601-0048)	MinorImpacts
SR-139-10-3-1-P182a	Youngs Pond (0601-0076)	UnAssessed
SR-142	Yaleville Brook, Upper, and tribs (0601-0187)	UnAssessed

...Upper Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Lower Unadilla River Watershed, Sidney to New Berlin		
SR-146 (portion 1)	Unadilla River, Lower, Main Stem (0601-0003)	Impaired Seg
SR-146- 1	Guilford Creek and tribs (0601-0049)	NoKnownImpact
SR-146- 1- 1	Upper Peckam Brook and tribs (0601-0189)	UnAssessed
SR-146- 1- 1-P186	Sidney Reservoir (0601-0137)	UnAssessed
SR-146- 1-P188	Guilford Lake (0601-0012)	NoKnownImpact
SR-146- 2	Rogers Hollow Creek and tribs (0601-0138)	UnAssessed
SR-146- 3 thru 35 (selected)	Minor Tribs to Lower Unadilla River (0601-0136)	UnAssessed
SR-146- 9 (portion 1)	Butternut Creek, Lower, and minor tribs (0601-0050)	NoKnownImpact
SR-146- 9 (portion 2)	Butternut Creek, Middle, and tribs (0601-0140)	NoKnownImpact
SR-146- 9 (portion 3)	Butternut Creek, Middle, and tribs (0601-0190)	NoKnownImpact
SR-146- 9 (portion 4)	Butternut Creek, Upper, and tribs (0601-0141)	NoKnownImpact
SR-146- 9- 7	Dunderberg Creek , Upper, and tribs (0601-0191)	Need Verific
SR-146- 9-11-P194	Allen Pond (0601-0077)	UnAssessed
SR-146- 9-14-P195	Pickens Pond (0601-0078)	UnAssessed
SR-146- 9-29-2-P205a	Duck Pond (0601-0079)	UnAssessed
SR-146- 9-34-P207	Card Pond (0601-0080)	UnAssessed
SR-146- 9-36-P208	Crystal Lake (0601-0081)	UnAssessed
SR-146- 9-40-P210	Gardners Pond (0601-0082)	UnAssessed
SR-146- 9-45-P211	Zimmermans Pond (0601-0083)	UnAssessed
SR-146-17- 1-P212	Whites Pond (0601-0084)	UnAssessed
SR-146-19	Great Brook and tribs (0601-0051)	NoKnownImpact
SR-146-19- 6-1-P213	Chenango Lake (0601-0013)	NoKnownImpact
SR-146-19- 6-P214	Jackson Pond (0601-0085)	UnAssessed
SR-146-26-P215	Hunts Pond (0601-0086)	UnAssessed
SR-146-33-P216	Silver Lake (0601-0023)	UnAssessed
Upper Unadilla River Watershed, above New Berlin		
SR-146 (portion 2)	Unadilla River, Middle, and minor tribs (0601-0037)	Impaired Seg
SR-146 (portion 3)	Unadilla River, Upper, and minor tribs (0601-0188)	Impaired Seg
SR-146-36	Wharton Creek, Lower, and minor tribs (0601-0052)	NoKnownImpact
SR-146-36	Wharton Creek, Middle, and tribs (0601-0145)	UnAssessed
SR-146-36	Wharton Creek, Upper, and tribs (0601-0146)	UnAssessed
SR-146-36- 9	Mill Creek and tribs (0601-0149)	UnAssessed
SR-146-36-23-P228	Summit Lake (0601-0024)	NoKnownImpact
SR-146-38	Center Brook and minor tribs (0601-0147)	NoKnownImpact
SR-146-38- 1	Shawler Brook and tribs (0601-0148)	UnAssessed
SR-146-43	Tallete Creek and tribs (0601-0150)	UnAssessed
SR-146-44	Beaver Creek, Lower, and tribs (0601-0053)	NoKnownImpact
SR-146-44	Beaver Creek, Upper and tribs (0601-0151)	UnAssessed
SR-146-44-P243a	Chittning Lake (0601-0087)	UnAssessed
SR-146-64	West Branch Unadilla River and tribs (0601-0153)	UnAssessed
SR-146-69	North Winfield Creek and tribs (0601-0035)	Impaired Seg
SR-146-69- 5-P241	Cedar Lake (0601-0088)	UnAssessed
SR-146-P244	Unadilla Lake (0601-0089)	UnAssessed

...Upper Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Tribs to Upper Susquehanna River, Sidney to Otego		
SR-147 thru 171 (selected)	Minor Tribs to Susquehanna River (0601-0154)	UnAssessed
SR-153	Carrs Creek, Lower and tribs (0601-0005)	NoKnownImpct
SR-154	Carrs Creek, Upper and tribs (0601-0155)	UnAssessed
SR-155	Ouleout Creek, Lower, and tribs (0601-0054)	UnAssessed
SR-155	Ouleout Creek, Upper, and minor tribs (0601-0057)	UnAssessed
SR-155- 3	Handsome Br/West Branch and minor tribs (0601-0055)	NoKnownImpct
SR-155- 3-2-3-P265	Chisholm Pond (0601-0091)	UnAssessed
SR-155- 3-2-P268	Bourn Pond (0601-0092)	UnAssessed
SR-155- 7	Treadwell Creek and tribs (0601-0058)	NoKnownImpct
SR-155-P262	East Sidney Reservoir (0601-0001)	Need Verific
SR-156-P279a	Buckhorn Lake (0601-0093)	UnAssessed
SR-158	Sand Hill Creek and tribs (0601-0156)	UnAssessed
SR-165	Otsdawa Creek and minor tribs (0601-0059)	NoKnownImpct
Otego Creek Watershed		
SR-172	Otego Creek, Lower, and minor tribs (0601-0046)	NoKnownImpct
SR-172	Otego Creek, Middle and tribs (0601-0161)	UnAssessed
SR-172	Otego Creek, Upper/Clark Brook and tribs (0601-0162)	UnAssessed
SR-172- 8-15-P282a	YMCA Pond (0601-0094)	UnAssessed
SR-172-18-P287	Gilbert Lake (0601-0095)	UnAssessed
SR-172-29	West Branch Otego Creek and tribs (0601-0165)	UnAssessed
SR-172-34b-P290a	Hartwick Reservoir (0601-0096)	UnAssessed
Tribs to Upper Susquehanna River, Otego to Portlandville		
SR-173 thru 185	Minor Tribs to Susquehanna River (0601-0192)	UnAssessed
SR-179	Oneonta Creek, Upper, and tribs (0601-0166)	Need Verific
SR-179-P295	Oneonta Lower Reservoir (0601-0097)	Need Verific
SR-179-P297	Wilber Lake (0601-0098)	NoKnownImpct
Charlotte Creek Watershed		
SR-183	Charlotte Creek, Lower, and tribs (0601-0014)	NoKnownImpct
SR-183	Charlotte Creek, Middle, and minor tribs (0601-0167)	NoKnownImpct
SR-183	Charlotte Creek, Upper, and tribs (0601-0193)	UnAssessed
SR-183- 7-P303	Pine Lake (0601-0099)	UnAssessed
SR-183- 8	Kortright Creek and tribs (0601-0060)	NoKnownImpct
SR-183-15-P310	Beaver Spring Pond (0601-0100)	UnAssessed
SR-183-17-P311	Sexsmith Lake (0601-0101)	NoKnownImpct
SR-183-19	Middle Brook and minor tribs (0601-0061)	NoKnownImpct
SR-183-19- 8	Center Brook and tribs (0601-0168)	UnAssessed
SR-183-19-11-P320	Titus Lake (0601-0102)	UnAssessed
SR-183-23-P327	Clapper Lake (0601-0103)	UnAssessed
SR-183-P335	Fox Vly (0601-0104)	UnAssessed

...Upper Susquehanna River Watershed

Water Index Number	Waterbody Segment	Category
Schenevus Creek Watershed		
SR-187	Schenevus Creek, Lower and tribs (0601-0062)	NoKnownImpact
SR-187	Schenevus Creek, Upper and minor tribs (0601-0169)	UnAssessed
SR-187-12a-1-P341	Seward Lake (0601-0105)	UnAssessed
SR-187-14	Elk Creek, Lower and tribs (0601-0019)	NoKnownImpact
SR-187-14	Elk Creek, Upper and tribs (0601-0170)	UnAssessed
SR-187-20-1-P346	Caryl Lake (0601-0106)	UnAssessed
SR-187-21	Decatur Creek and tribs (0601-0173)	UnAssessed
SR-187-26-P352	Hudson Lake (0601-0107)	UnAssessed
SR-187-28-P359	Bear Swamp Pond (0601-0108)	UnAssessed
Upper Susquehanna River Watershed, Portlandville to Otsego Lake		
SR (portion 9)	Susquehanna River, Upper, Main Stem (0601-0041)	Impaired Seg
SR-188 thru 207 (selected)	Minor Tribs to Susquehanna River (0601-0194)	UnAssessed
SR-190-P362	Arnold Lake (0601-0109)	NoKnownImpact
SR-191a-P363	Saddlebag Lake (0601-0116)	UnAssessed
SR-193-P366	Crumhorn Lake (0601-0110)	UnAssessed
SR-195	Cherry Valley Creek, Lower and tribs (0601-0022)	NoKnownImpact
SR-195	Cherry Valley Creek, Upper and tribs (0601-0174)	MinorImpacts
SR-195-21	Pleasant Brook and tribs (0601-0175)	UnAssessed
SR-195-23-P376	Belvedere Lake (0601-0111)	UnAssessed
SR-196-2-P378	Little (Goey) Pond (0601-0112)	UnAssessed
Oaks Creek Watershed		
SR-204	Oaks Creek and minor tribs (0601-0047)	NoKnownImpact
SR-204- 5	Fly Creek and tribs (0601-0176)	UnAssessed
SR-204- 5- 8-P385a	Muskrat Pond (0601-0113)	UnAssessed
SR-204-P392	Canadarago Lake (0601-0016)	NoKnownImpact
SR-204-P392-	Minor Tribs to Canadarago Lake (0601-0171)	UnAssessed
SR-204-P392- 1	Herkimer Creek and tribs (0601-0177)	UnAssessed
SR-204-P392- 3	Hyder Creek and tribs (0601-0178)	UnAssessed
SR-204-P392- 5	Ocuionis Creek and tribs (0601-0034)	MinorImpacts
SR-204-P393- 7-P400	Bailey Pond (0601-0114)	UnAssessed
SR-204-P399	Mud Lake (0601-0115)	UnAssessed
Otsego Lake Watershed		
SR-P404	Otsego Lake (0601-0033)	NoKnownImpact
SR-P404-	Minor Tribs to Otsego Lake (0601-0179)	UnAssessed
SR-P404- 9-P405	Allen Lake (0601-0117)	NoKnownImpact
SR-P404-10	Cripple Creek and tribs (0601-0027)	Need Verify
SR-P404-10-P408	Young Lake (0601-0026)	Need Verify
SR-P404-10-P409	Weaver Lake (Maumee Swamp) (0601-0025)	Need Verify
SR-P404-10-P409-	Minor Tribs to Weaver Lake (0601-0039)	MinorImpacts
SR-P404-11-P406	Clarke Pond (0601-0118)	UnAssessed
SR-P404-12	Hayden Creek and tribs (0601-0180)	Need Verify
SR-P404-12-P411	Summit Lake (0601-0119)	UnAssessed
SR-P404-14	Shadow Brook and tribs (0601-0181)	Need Verify

Susquehanna River, Main Stem (0601-0182)

Impaired Seg

Waterbody Location Information

Revised: 06/23/2009

Water Index No: SR (portion 5) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/ **Str Class:** A Upper Susquehanna
Waterbody Type: River (High Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 16.7 Miles **Quad Map:** BINGHAMTON EAST (M-17-3) ...
Seg Description: from Binghamton to NY-Pa state line nr Riverside

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Possible
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: Nutrients, Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPHERIC DEPOSITION
Possible: Agriculture

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Water supply uses of this portion of the Susquehanna River are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed and the number of wastewater discharges. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included sampling sites on the Susquehanna River in Conklin (at Sandy Beach Park). Sampling results at the site indicated slightly impacted conditions, but very near the non-impacted range. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream. These results are consistent with previous sampling conducted at this site in 1997 which revealed non-impacted conditions, with a diverse and well-balanced fauna dominated by clean water mayflies. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Source (Drinking) Water Assessment

A source water assessment of Susquehanna River found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. There is also an elevated potential for contamination due to the total amount of wastewater discharged in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Binghamton. (NYSDOH, Source Water Assessment Program, 2005)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the Rock Bottom Dam in Binghamton to the NY-PA state line near Riverside. This reach of the river is Class A from the Rock Bottom Dam to a point one mile upstream of the Conklin-Kirkwood bridge (near Conklin Station) and is designated Class B for the remainder of the reach.

Susquehanna River, Main Stem (0601-0040)

Impaired Seg

Waterbody Location Information

Revised: 06/19/2009

Water Index No:	SR (portion 6)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/220	Str Class:	B
Waterbody Type:	River (High Flow)	Reg/County:	7/Broome Co. (4) ...
Waterbody Size:	53.3 Miles	Quad Map:	GULF SUMMIT (M-18-3) ...
Seg Description:	from NY-Pa state line to Sidney		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: ---

Resolution/Management Information

Issue Resolvability:	3 (Strategy Being Implemented)	
Verification Status:	5 (Management Strategy has been Developed)	
Lead Agency/Office:	ext/EPA	Resolution Potential: Medium
TMDL/303d Status:	4a (TMDL Complete, Being Implemented, Not Listed)	

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling.

However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included sampling sites on the Susquehanna River in Windsor (at Route 17) and in Bainbridge (at Route 206). Sampling results at both sites indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Previous biological sampling on the Susquehanna in Bainbridge in 1997 revealed slightly impacted condition. Filamentous algae and diatoms were numerous, indicating some enrichment. A site near the head of this reach in Unadilla was assessed as clearly non-impacted in 1997 and 1998, with a diverse and well-balanced fauna. (DEC/DOW, BWAR, SBU, October 1999)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the NY-PA state line at State Line to the Unadilla River (-146) in Sydney. This reach of the river is Class B.

Susquehanna River, Main Stem (0601-0020)

Impaired Seg

Waterbody Location Information

Revised: 09/11/2009

Water Index No: SR (portion 7)
Hydro Unit Code: 02050101/220 **Str Class:** B
Waterbody Type: River (Med. Flow)
Waterbody Size: 9.2 Miles
Seg Description: from Sidney to Colliersville

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39) ...
Quad Map: UNADILLA FORKS (J-20-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: Pathogens
Possible: Nutrients

Source(s) of Pollutant(s)

Known: On-Site/Septic Syst
Suspected: ATMOSPHERIC DEPOSITION, Agriculture
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is thought to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Recreational uses are also thought to experience minor impacts due to inadequate on-site wastewater treatment (septic) systems.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Susquehanna River at multiple sites along its entire length was conducted in 2003. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most of the river displaying very good water quality. Results at a number of sites showed better water quality than previous sampling. However this may be at least in part the result of high flows at the time of the survey. High flow conditions tend to de-emphasize point source contribution due to increased dilution and increase nonpoint source contributions due to increase runoff. This survey included sampling sites on the Susquehanna River in Unadilla (at DEC fishing access) and in Oneonta (at Route 23). Sampling results at both sites indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (Susquehanna River Biological Assessment Report, DEC/DOW, BWAM/SBU, January 2004)

Previous biological sampling on the Susquehanna in Colliersville (1991, 92 97) revealed slightly impacted condition, with low species richness and absence of stoneflies. Crayfish, caddisflies and riffle beetles were numerous. However, these impacts are now considered to be primarily the result of impoundment effects from Goodyear Lake. The results at the Oneonta site farther downstream are considered to be more representative on this reach. (DEC/DOW, BWAR/SBU, January 2004)

RIBS Intensive Network monitoring of the river was conducted at Unadilla in 1998. Water quality at the site was assessed as good. Biologic communities were non-impacted, and there were no significant chemical parameters of concern in the water column. A fishery assessment indicates an abundant, diverse and healthy fishery. Elevated levels of some pesticides (chlordan, lindane) which may impact aquatic life were noted in bottom sediment samples. RIBS sampling of the river in Colliersville in 1991-92 also revealed good water quality. (DEC/DOW, BWAR/RIBS, 1999)

Water Quality Management

In a number of small unsewered communities along this reach, inadequate residential and commercial on-site wastewater treatment systems result in the discharge of untreated or poorly treated wastewater to the ground or directly into the river. Such instances have been documented in the Hamlet of Riverside and elsewhere in the Town of Unadilla (Otego, Wells Bridge, Unadilla). Construction of a collection and conveyance system to address the discharges to the Susquehanna and Unadilla Rivers in the town has been discussed, but adequate funding has not been identified. Individual discharges are currently being addressed on a case-by-case basis by NYSDEC and health department staff. (DEC/DOW, Region 4, September 2009)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the Unadilla River (-146) in Sydney to Goodyear Lake in Colliersville. This reach of the river is Class B.

Goodyear Lake (0601-0015)

Impaired Seg

Waterbody Location Information

Revised: 06/26/2001

Water Index No: SR (portion 8)/P360
Hydro Unit Code: 02050101/030 **Str Class:** B
Waterbody Type: Lake
Waterbody Size: 352.2 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39)
Quad Map: MILFORD (K-21-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
FISH CONSUMPTION	Impaired	Suspected
Recreation	Stressed	Known
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: METALS (mercury), Algal/Weed Growth (vegetation, algal blooms), Nutrients, Silt/Sediment
Possible: Pathogens

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION, On-Site/Septic Syst
Possible: Agriculture, Unknown Source

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a (TMDL Complete, Being Implemented, Not Listed)

Further Details

Overview

Fish consumption in the Goodyear Lake portion of the Susquehanna River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Recreational uses are also thought to experience minor impacts due to algal blooms and weed growth.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Previous Assessment

Public Bathing and other recreational uses (swimming, boating) in Goodyear Lake are thought to be affected by high nutrient levels and resulting algal blooms and excessive aquatic vegetation. Failing and/or inadequate on-site septic systems are considered a likely source of pollutants. Nutrients loading from the Cherry Valley Creek watershed is also considered to be significant. (DEC/DOW, Region 4, January 2001)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the total area of the entire lake.

Minor Tribs to Susquehanna River (0601-0028)

MinorImpacts

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR- 45 thru 78 (selected) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/ **Str Class:** C Upper Susquehanna
Waterbody Type: River (Low Flow) **Reg/County:** 7/Broome Co. (4)
Waterbody Size: 3.0 Miles **Quad Map:** BINGHAMTON WEST (M-17-4) ...
Seg Description: total length of selected tribs fr Binghamton to Pa line

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected
Habitat/Hydrology	Stressed	Possible

Type of Pollutant(s)

Known: - - -
Suspected: SILT/SEDIMENT
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: CONSTRUCTION (resident, comm develop), URBAN/STORM RUNOFF
Possible: Streambank Erosion

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in these small tribs to the Susquehanna are thought to be affected by silt/sedimentation from ongoing land development and residential construction project. Sampling has been limited to only a few of the multiple tribs that make up this segment, but results for these streams are considered to be representative of the segment as a whole.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Pierce Creek in Binghamton (at Beldon Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and high levels of enrichment that are sufficient to cause stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by aquatic toxicity. (DEC/DOW, BWAM/SBU, January 2009)

Previous Assessment

Concerns were raised by local agencies during previous (1996) assessment efforts regarding rapid urbanization of the watershed and the resulting deterioration of streambed and banks. The Town of Binghamton does not require stormwater detention basins in new subdivision, which would help the situation. (Broome County WQCC, 1998)

Segment Description

This segment includes the total length of selected/smaller tribs to the Susquehanna River from Chenango River (-44) and the PA state line. Tribs within this segment, including Park Creek (-45), Brandywine Creek (-46), Pierce Creek (-47), Acre Creek (-50), Stratton Mill Creek (-52), Carlin Creek (-57), Riverside Creek (-67) and Trowbridge Creek (-68), are Class C,C(T). Chenango River (-44), Park Creek (-53), Little Snake Creek (-64) and Snake Creek (-66) are listed separately.

Park Creek and tribs (0601-0031)

Impaired Seg

Waterbody Location Information

Revised: 09/10/2009

Water Index No: SR- 53
Hydro Unit Code: 02050101/370 **Str Class:** C
Waterbody Type: River (Low Flow)
Waterbody Size: 0.5 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 7/Broome Co. (4)
Quad Map: BINGHAMTON EAST (M-17-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
RECREATION	Impaired	Known
Habitat/Hydrology	Stressed	Possible
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: AESTHETICS (odors, floatables), NUTRIENTS (phosphorus), PATHOGENS
Suspected: D.O./Oxygen Demand
Possible: Restricted Passage

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (West Windsor)
Suspected: - - -
Possible: Habitat Modification

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg7
TMDL/303d Status: 1->4b

Resolution Potential: High

Further Details

Overview

Recreational uses (swimming, fishing), aesthetics and aquatic life support are thought to be impaired by raw sewage discharges from failing/inadequate on-site septic systems.

Source Assessment

A subdivision was built with central sewers in mind. However, only septic tanks have been installed and the effluent from these enters a central pipe which flows untreated into a field below the subdivision and into the creek. There are other ongoing septic system problems in the hamlet of West Windsor as well. However the Town of Windsor recently broke ground for a new wastewater treatment plant for the hamlet of West Windsor. This 110,000 gpd plant will serve about 350 homes, about 80% of which have failing on-site systems. (DEC/DOW, Region 7, June 2009)

Water Quality Sampling

A biological (macroinvertebrate) assessment of Park Creek in Binghamton (at Beldon Road) was conducted as part of

the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be satisfactory. The nutrient biotic index and impact source determination indicate some/elevated enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. This sampling indicates that in spite of these impacts, aquatic life support is considered to be fully supported at this site. However known impacts upstream result in impaired uses in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Habitat Assessment

DEC fisheries staff indicated during a previous assessment effort in 2000, that the stream channel and fishery habitat was impacted by past and on-going NYS DOT work on Route 17 (future I-86). This work included several long culverts which restrict fish passage. (DEC/DFWMR, Region 7, October 2000).

Section 303(d) Listing

Park Creek is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for pathogens. However based on the construction of the wastewater treatment plant that is currently underway, it is considered more appropriate to include this waterbody among "category 4b" waters, for which required control measures other than a TMDL are expected to restore uses. As a result, this waterbody will be proposed for delisting in the 2010 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment, including Stanley Hollow Creek (-1), are also Class C.

Little Snake Creek and tribs (0601-0042)

NoKnownImpct

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR- 64
Hydro Unit Code: 02050101/340 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 50.5 Miles **Reg/County:** 7/Broome Co. (4)
Seg Description: entire stream and tribs (within NYS) **Quad Map:** BINGHAMTON EAST (M-17-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Assessment of Little Snake Creek in Brackney, PA, by the Susquehanna River Basin Commission has found non-impacted to slightly impacted conditions in the years from 2002 through 2006. These results reflect an improvement over moderately impaired conditions in 1997, though the 1997 results may have been influenced by low flows. (Assessment of Interstate Streams, SRBC, 2007)

Segment Description

This segment includes the entire stream and all tribs within New York State. The waters of the stream are Class C. Tribs to this reach/segment, including Gratsinger Run (-3), Horton Creek (-4) and Upper Little Snake Creek (-5), are also Class C. Above Upper Little Snake Creek (-5) stream is known as West Fork Little Snake Creek.

Snake Creek and tribs (0601-0043)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No:	SR- 66	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/300	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	1.7 Miles	Quad Map:	BINGHAMTON EAST (M-17-3)
Seg Description:	entire stream and tribs (within NYS)		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Snake Creek in Corbettsville, Broome County, (at Route 7A and RR bridge) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted to slightly impacted water quality conditions, indicating good to very good water quality. Water column sampling revealed no parameter of concerns. Sediment screening for acute toxicity indicated no sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of Snake Creek in Corbettsville in 1998 also indicated non-impacted water quality conditions. Filter-feeding caddis were dominant, indicating some enrichment, but the fauna was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Assessment of Snake Creek in Brookdale, PA, by the Susquehanna River Basin Commission in 1998 also found a non-impaired biological community and excellent habitat conditions. The site was designated as a reference site. (Assessment of Interstate Streams, SRBC, May 2007)

Previous Assessment

Concerns were raised in a previous assessment effort in 1998 regarding habitat disturbances from "stone pickers" who gather river stone and rock to sell to landscape companies. Methods of picking varies from hand collection of surface stones to raking up the stream bottom with fork lift-type machinery. A number of complaints have been received about this activity occurring in Snake Creek. Such practices should continue to be monitored. (DEC/DOW, BWAM/WQAS, August 2009)

Segment Description

This segment includes the entire stream and all tribs within New York State. The waters of the stream are Class C. Tribs to this reach/segment are also Class C.

Beaver Lake (0601-0066)

MinorImpacts

Waterbody Location Information

Revised: 07/07/2009

Water Index No:	SR- 99- 1-P174	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/220	Str Class:	C
Waterbody Type:	Lake (Eutrophic)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	35.9 Acres	Quad Map:	WINDSOR (M-18-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, clarity), NUTRIENTS (phosphorus)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: HABITAT MODIFICATION, ON-SITE/SEPTIC SYST
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	3 (Cause Identified, Source Unknown)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	3a->n/a	

Further Details

Overview

Recreational uses (swimming, fishing, boating) in Beaver Lake are thought to experience minor impacts due to algal and aquatic weed growth and elevated nutrients levels in the lake. Inadequate on-site septic systems serving lakeshore residences are a possible source of these impacts. More recent sampling indicates steadily improving water quality.

Water Quality Sampling

Beaver Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1992 through 1994 and from 2002 through 2006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. However in recent years productivity in the lake has steadily decreased. Phosphorus levels in the lake are regularly above the state guidance values indicating impacted/stressed recreational uses, though less so in recent years. Corresponding transparency measurements have typically met the recommended minimum for swimming beaches since 2002; clarity readings fell below this threshold in 2006 but this is thought to be the result of heavy flooding at the time. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly to moderately colored. (DEC/DOW, BWAM/CSLAP, august 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable. The recreational suitability of the lake is described most frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear," an assessment that is somewhat more favorable than expected based on measured water quality characteristics but is perhaps reflective on improving water quality in recent years. Assessments have noted that aquatic plants typically grow to the lake surface, but weed growth is not cited as limiting recreational uses. Aquatic plants are dominated by a mix of native species. (DEC/DOW, BWAM/CSLAP, August 2007)

Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation and aquatic life support, but not for drinking water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303d Listing

Beaver Lake is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. This lake will be considered for delisting during the development of the 2010 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total area of the entire lake.

White Birch Lake (0601-0068)

MinorImpacts

Waterbody Location Information

Revised: 07/08/2009

Water Index No: SR-100-P174a(?)
Hydro Unit Code: 02050101/220 **Str Class:** C
Waterbody Type: Lake
Waterbody Size: 30.7 Acres
Seg Description: entire lake

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 7/Broome Co. (4)
Quad Map: WINDSOR (M-18-4)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH (algal blooms, clarity)
Suspected: NUTRIENTS (phosphorus)
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ON-SITE/SEPTIC SYST

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: 3a->n/a

Resolution Potential: Medium

Further Details

Overview

Recreational uses (swimming, fishing, boating) in White Birch Lake are thought to experience minor impacts due to algal and aquatic weed growth in the lake.

Water Quality Sampling

White Birch Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1986 and continuing through 2000. An Interpretive Summary report of the findings of this sampling was published in 2001. These data indicate that the lake continues to be best characterized as eutrophic, or highly productive. Productivity as measured by trophic indicators has been consistent over the sampling period. Phosphorus levels in the lake typically exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements do not meet the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. (DEC/DOW, BWAM/CSLAP, December 2001)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable. The recreational suitability of the lake is described most

frequently as "excellent" to "slightly" impacted. The lake itself is most often described as "not quite crystal clear" or having "definite algal greenness," an assessment that is somewhat more favorable than expected given measured water quality characteristics. Assessments have noted that aquatic plants typically grow to the lake surface but not densely. Although surface weed coverage is still noted, "excessive weed growth" has not been identified as impacting recreational uses in recent years. have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, December 2001)

Lake Uses

This lake waterbody is designated class C, suitable for use as a general recreation and aquatic life support, but not for drinking water supply or public bathing beach. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Section 303d Listing

White Birch Lake is currently included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment, however this updated assessment suggests that the suspected impacts to water quality and uses are not sufficient to warrant continued listing. This lake will be considered for delisting during the development of the 2010 Section 303(d) List. (DEC/DOW, BWAM/WQAS, June 2009)

Segment Description

This segment includes the total area of the entire lake.

Wylie Brook and tribs (0601-0044)

MinorImpacts

Waterbody Location Information

Revised: 07/16/2009

Water Index No:	SR-123	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/210	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Chenango Co. (9) ...
Waterbody Size:	47.5 Miles	Quad Map:	AFTON (M-18-2) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS
Possible: Pathogens

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: On-Site/Septic Syst (Harpursville (v))

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	3 (Cause Identified, Source Unknown)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Aquatic life support and recreational uses may experience minor impacts from nutrients and organic loadings. Though biological indices are relatively high, indications of organics and possible sewage influences should be investigated. Inadequate on-site wastewater (septic) systems are a possible source.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Wylie Brook in Harpursville was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be generally limited and water quality is considered to be satisfactory. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to communities influenced by organic inputs. Aquatic life support is considered to be fully supported in the stream, however the indications that organics and possible sewage inputs are contributing to water quality impacts should be investigated. (DEC/DOW, BWAM/SBU, January 2009)

Source Assessment

In addition to the agricultural activity in the watershed, failing and/or Inadequate on-site wastewater (septic) systems serving homes in Harpursville may also be a contributing source. Harpursville was identified as an unsewered community where soil characteristics may not be entirely suitable for on-site systems. (DEC/DOW, Region 7, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are also Class C.

Kelsey Brook, Lower and minor tribs (0601-0045)

NoKnownImpet

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR-134
Hydro Unit Code: 02050101/200 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 7/Chenango Co. (9)
Waterbody Size: 14.2 Miles **Quad Map:** WEST BAINBRIDGE (L-18-3) ...
Seg Description: stream and selected tribs from mouth to North Afton

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Kelsey Creek in Afton was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions, but very near the range of non-impacted. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Wilkins Brook (-8) in North Afton. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are also Class C. Wilkins Brook (-8) and Upper Kelsey Brook are listed separately.

Afton Lake (0601-0010)

Need Verific

Waterbody Location Information

Revised: 09/14/2009

Water Index No:	SR-135-P180	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/220	Str Class:	B
Waterbody Type:	Lake (Unknown Trophic)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	32.9 Acres	Quad Map:	AFTON (M-18-2)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: D.O./OXYGEN DEMAND, NUTRIENTS (nutrient recycling), Algal/Weed Growth (algal blooms, vegetation)

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a->B	

Further Details

Overview

Aquatic life support and recreational uses in Afton Lake may experience minor impacts/threats due to low dissolved oxygen in deeper portions of the lake. These conditions may be naturally occurring.

Previous Assessment

Concerns were raised during previous assessments in 1998 that aquatic life support and recreational uses may be threatened by low dissolved oxygen and pH. Nutrients in the lake bottom which contribute to algal blooms and reduced clarity were also noted. These conditions were noted during a 1998 Lake Classification and Inventory (LCI) evaluation. (DEC/DOW, BWM/Lake Services, August 2009).

Section 303(d) Listing

Afton Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in

thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Big Brook/Bennettsville Creek and tribs (0601-0048)

MinorImpacts

Waterbody Location Information

Revised: 07/16/2009

Water Index No: SR-139
Hydro Unit Code: 02050101/190 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 28.9 Miles **Reg/County:** 7/Chenango Co. (9)
Seg Description: stream and tribs fr mouth to Bundy Hollow/Masonville Cr **Quad Map:** SIDNEY (L-19-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: SILT/SEDIMENT
Possible: ---

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION
Suspected: STREAMBANK EROSION, Agriculture (cattle grazing)
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Habitat/hydrology of Big/Bennettsville Creek is known to experience impacts from stream modification and silt/sediment loadings. Agricultural activities have been identified as a major source of the impacts.

Water Quality Sampling

Biological (macroinvertebrate) assessments of Big/Bennettsville Creek in Bennettsville (at Route 206) and Big/Masonville Creek in Masonville (at Church Road) were conducted as part of the RIBS biological screening effort in 2003. Sampling results at both sites indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling results collected at the Bennettsville site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Habitat Assessment

The fishery habitat in Big Brook/Bennettsville Creek is affected by severe streambank erosion in the lower reaches downstream of Route 206. Stream is very unstable, and agricultural activity (cattle grazing) in the upper portion of the segment near the Chenango/Delaware County line is thought to exacerbate erosion, loss of riparian vegetation and

thermal conditions in the stream. As a result, wild brook trout habitat has been impacted in this area. (DEC/DFWMR, Region 7, June 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Masonville Creek (-9), and East Masonville Creek (-10), are Class C,C(T),C(TS).

Unadilla River, Lower, Main Stem (0601-0003)

Impaired Seg

Waterbody Location Information

Revised: 09/16/2009

Water Index No:	SR-146 (portion 1)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/180	Str Class:	B
Waterbody Type:	River (Med. Flow)	Reg/County:	7/Chenango Co. (9) ...
Waterbody Size:	1.3 Miles	Quad Map:	GUILFORD (L-19-1)
Seg Description:	river from mouth to New Berlin		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Known

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: - - -
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPH. DEPOSITION
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability:	3 (Strategy Being Implemented)	
Verification Status:	5 (Management Strategy has been Developed)	
Lead Agency/Office:	ext/EPA	Resolution Potential: Medium
TMDL/303d Status:	4a (TMDL Complete, Being Implemented, Not Listed)	

Further Details

Overview

Fish consumption in this portion of the Unadilla River is known to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination. Inadequate on-site wastewater treatment (septic) systems have been identified in some communities in the watershed are being addressed on a case-by-case basis.

Fish Consumption Advisories

Fish consumption in this portion of the Unadilla River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Rockdale. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Unadilla River in Rockdale, Chenango/Otsego Counties, (at Route 40) was conducted in 2003 and 2004. Intensive Network sampling typically

includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions, indicating very good water quality. Water column sampling revealed iron to be a parameter of concern, but iron is considered to be naturally occurring and not a source of water quality impacts. Sediment screening for acute toxicity indicated no sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels but based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

A biological (macroinvertebrate) survey of the Unadilla River was conducted in 1998. The survey included 4 sites along the reach of the Lower Unadilla. Water quality at all sites was found to be non-impacted, although indices approached slight impact. In previous years, during lower stream flows, water quality at some sites fell into the slightly impacted range. The composition of the macroinvertebrate fauna indicated mild nutrient enrichment, but the communities are diverse and well-balanced. (Unadilla River Biological Assessment Report, Bode et al, DEC/DOW, RIBS/SBU, May 1999)

Water Quality Management

In a number of small unsewered communities along this reach, inadequate residential and commercial on-site wastewater treatment systems result in the discharge of untreated or poorly treated wastewater to the ground or directly into the river. Such instances have been documented in the Hamlets of Riverside and Rockdale; similar conditions exist for the Village of New Berlin and several other hamlets along of the stream. Adequate funding to address the problems with a collection system or treatment plant has not been identified. Individual discharges are currently being addressed on a case-by-case basis by NYSDEC and health department staff. (DEC/DOW, Region 4, September 2009)

Various agricultural activity in the watershed are also of concern regarding water quality. Management practices at several dairy and other farms near the river contribute to livestock waste loadings to the river. Some barnyard boundaries permit unrestricted access to the river, resulting in nutrient and pathogen loads and also contributing to streambank destabilization. Row crop production on steep and/or flood prone fields also contribute to erosion and increase silt and sedimentation in the stream. Improper manure application on these fields is also a concern. (Chenango County WQCC, 1996)

Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Unadilla River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Unadilla River. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from the mouth in Sidney to Wharton Creek (-36) in New Berlin. This reach of the river is Class B.

Guilford Creek and tribs (0601-0049)

NoKnownImpct

Waterbody Location Information

Revised: 07/19/2000

Water Index No:	SR-146- 1	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/180	Str Class:	C,C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	36.2 Miles	Quad Map:	SIDNEY (L-19-4) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Guilford Creek in East Guilford (at Route 8) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling collected at this site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Lower Peckam Brook (-1), are Class C,C(T),C(TS). Upper Peckam Brook (-1) is listed separately.

Guilford Lake (0601-0012)

NoKnownImpct

Waterbody Location Information

Revised: 07/02/2009

Water Index No:	SR-146- 1-P188	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/180	Str Class:	AA
Waterbody Type:	Lake (Mesotrophic)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	72.9 Acres	Quad Map:	OXFORD (L-18-2)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: OTHER POLLUTANTS

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: OTHER SOURCE

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: High
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Guilford Lake was sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2004 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2008. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake do not typically exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements exceed what is the recommended minimum for swimming beaches. Measurements of pH are somewhat high but typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, January 2008)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable in 2008. The recreational suitability of the lake is described most frequently as "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent with water quality measurements. Assessments have noted that aquatic plants grow to the lake surface but not densely enough to impact uses. (DEC/DOW, BWAM/CSLAP, January 2008)

Lake Uses

This lake waterbody is designated class AA, suitable for use as a drinking water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Drinking Water Supply

Gilford Lake has been designated a Class AA water, suitable for use as a drinking water supply. Although there are no specific water quality impacts, the waterbody is considered a highly valued water resource due to its drinking water supply classification as an AA water. The particular resource value reflected in this designation and the need to provide additional protection may result in an assessment of threatened (possible) for drinking water use.

Previous Assessment

Regional Fisheries staff indicate that Guilford Lake exhibits no significant water quality impacts and supports all uses. No algal blooms have been noted and the level of weed coverage is not excessive, but reasonable and expected for any lake. A Lake Classification and Inventory study (DEC/DOW, Lake Services) found some elevated nutrients and low dissolved oxygen at the lake bottom. But Fisheries data (from the late 1960s to present) shows that these levels have remained stable, and likely represent the natural condition of the lake. There is adequate cool water habitat all year round and in spite of low hypolimnetic D.O. trout survival is not affected. (DEC/DFWMR, Region 7, June 1998)

Segment Description

This segment includes the total area of the lake.

Butternut Creek, Lower, and minor tribs (0601-0050) NoKnownImpct

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-146- 9 (portion 1) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/180 **Str Class:** C(T)* Upper Susquehanna
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 63.5 Miles **Quad Map:** GILBERTSVILLE (L-19-2) ...
Seg Description: stream and selected tribs from mouth to Gilbertsville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey of Butternut Creek at multiple sites from the mouth in Mount Upton to Garrattsville was conducted during the RIBS Biological Screening effort in 2003. Sampling results indicated primarily non-impacted conditions; results at one site located in Morris (well above this reach) indicated slight impacts. The samples from the four sites within this reach (two at Mount Upton, Copes Corners and Gilbertsville) were dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported at these sites and i this reach. These results are consistent with sampling conducted in Mount Upton in 1998. (Butternut Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, March 2004)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to/including Cahoon Creek (-8) in Gilbertsville. The waters of this portion of the stream are primarily Class C,C(T), with a small 0.3 mile reach above unnamed trib (-6) designated Class B(T). Tribs to this reach/segment, including Shaw Brook (-2), Dry Brook (-3), Halbert Brook (-4), Lower Dunderberg Creek (-7) and Cahoon Creek (-8), are Class C,C(T),C(TS). Upper Dunderberg Creek (-7) and other portions of Butternut Creek are listed separately.

Butternut Creek, Middle, and tribs (0601-0140)

NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR-146- 9 (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/180 **Str Class:** C(T) Upper Susquehanna
Waterbody Type: River **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 63.9 Miles **Quad Map:** ()
Seg Description: stream and tribs, from Gilbertsville to Morris

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey of Butternut Creek at multiple sites from the mouth in Mount Upton to Garrattsville was conducted during the RIBS Biological Screening effort in 2003. Sampling results indicated primarily non-impacted conditions; results at one of three sites located in the upper end of this reach in Morris indicated slight impacts. The samples from the three sites within this reach (Gilbertsville, below Morris and in Morris) were dominated by clean-water species and conditions that reflect a natural community with minimal human impacts. The samples reveal no, or only incidental, anomalies. Aquatic life community is clearly fully supported at these sites and in this reach. (Butternut Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, March 2004)

Previous Assessment

Concern had been raised regarding silt/sediment impacts to fishery habitat due to a collapsing retaining wall along a trib (Silver Creek) in the Village of Morris. However the Otsego County SWCD funded repairs to the wall in 2001. (DEC/DOW, Region 4, July 2009)

Segment Description

This segment includes the portion of the stream and all tribs from Cahoon Creek (-8) in Gilbertsville to/including Silver

Creek (-17) in Morris. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Thorp Brook (-10), Morris Brook (-11), Calhoun Creek (-16) and Silver Creek (-17), are Class C,C(T),C(TS). Other portions of Butternut Creek are listed separately.

Butternut Creek, Middle, and tribs (0601-0190)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR-146- 9 (portion 3) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/180 **Str Class:** C(T) Upper Susquehanna
Waterbody Type: River **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 74.8 Miles **Quad Map:** ()
Seg Description: stream and tribs, from Morris to Garrattville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Butternut Creek in Butternuts, Otsego County, (at Flat Iron Road) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non- impacted conditions, indicating very good water quality. Water column sampling revealed no parameters of concern. Sediment screening for acute toxicity indicated some sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Elevated levels of PAHs in sediment samples may have been related to use of creosote during a bridge construction project. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

A biological (macroinvertebrate) survey of Butternut Creek at multiple sites from the mouth in Mount Upton to Garrattsville was conducted during the RIBS Biological Screening effort in 2003. Sampling results indicated primarily non-impacted conditions; results at one of three site located in the lower end of this reach in Morris indicated slight impacts. The samples from the three sites within this reach (in Morris, in New Lisbon, in Garrattsville) were dominated by clean-water species and conditions that reflect a natural community with minimal human impacts. The samples reveal no, or only incidental, anomalies. Aquatic life community is clearly fully supported at these sites and in this reach. (Butternut Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, March 2004)

Segment Description

This segment includes the portion of the stream and all tribs from Silver Creek (-17) in Morris to/including Garrattville Creek (-37) in Garrattville. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Ketchum Creek (-18), Stony Creek (-29), Crystal Lake Outlet (-36) and Garrattville Creek (-37), are Class C,C(T),C(TS). Other portions of Butternut Creek are listed separately.

Butternut Creek, Upper, and tribs (0601-0141)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR-146- 9 (portion 4) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/180 **Str Class:** C(TS) Upper Susquehanna
Waterbody Type: River **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 42.4 Miles **Quad Map:** ()
Seg Description: stream and tribs, above Garrattville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Butternut Creek in Butternuts, Otsego County, (at Flat Iron Road) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted conditions, indicating very good water quality. Water column sampling revealed no parameters of concern. Sediment screening for acute toxicity indicated some sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Elevated levels of PAHs in sediment samples may have been related to use of creosote during a bridge construction project. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

A biological (macroinvertebrate) survey of Butternut Creek at multiple sites from the mouth in Mount Upton to Garrattsville was conducted during the RIBS Biological Screening effort in 2003. Sampling results indicated primarily non-impacted conditions; results at one site located in Morris (well below this reach) indicated slight impacts. The sample from the upper most site within this reach (in Garrattsville) was dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported at these sites and in this reach. (Butternut Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, March 2004)

Segment Description

This segment includes the portion of the stream and all tribs above Garrattville Creek (-37) in Garrattville. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Gardiners Pond Outlet (-40) and Methodist Hollow Creek (-45), are Class C,C(T),C(TS). Other portions of Butternut Creek are listed separately.

Dunderberg Creek , Upper, and tribs (0601-0191)

Need Verific

Waterbody Location Information

Revised: 06/12/2009

Water Index No: SR-146- 9- 7
Hydro Unit Code: 02050101/180 **Str Class:** AA(T)
Waterbody Type: River
Waterbody Size: 8.7 Miles
Seg Description: stream and tribs, above Gilbertsville

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: PATHOGENS

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DEC/DOW
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Water supply uses of the Gilbertsville Reservoir and Upper Dunderberg Creek are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Source (Drinking) Water Assessment

A source water assessment of the Upper Dunderberg Creek watershed found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the Village of Gilbertsville. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the portion of the stream and all tribs above a point 2.3 miles above the mouth near Gilbertsville. The waters of this portion of the stream are Class AA(T). Tribs to this reach/segment are Class AA.

Great Brook and tribs (0601-0051)

NoKnownImpet

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-146-19
Hydro Unit Code: 02050101/170 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 45.7 Miles **Reg/County:** 7/Chenango Co. (9)
Seg Description: entire stream and tribs **Quad Map:** HOLMESVILLE (K-19-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Great Brook in Holmesville (at Route 8) indicated non-impacted water quality conditions. The sample was diverse, well-balanced (dominated by midges) and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the entire stream and all tribs. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Chenango Lake Outlet (-3) and West Branch (-6), are also Class C,C(T).

Chenango Lake (0601-0013)

NoKnownImpct

Waterbody Location Information

Revised: 07/06/2009

Water Index No:	SR-146-19- 6-1-P213	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/170	Str Class:	A
Waterbody Type:	Lake(R)	Reg/County:	7/Chenango Co. (9)
Waterbody Size:	133.9 Acres	Quad Map:	HOLMESVILLE (K-19-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a->B	

Further Details

Water Quality Sampling

Chenango Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2000 and continuing through 20006. An Interpretive Summary report of the findings of this sampling was published in 2007. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately productive. Phosphorus levels in the lake rarely exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically exceed the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, but color does not limit water transparency. (DEC/DOW, BWAM/CSLAP, July 2007)

Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be very favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer" or "excellent." The lake itself is most often described as "not quite crystal clear," an assessment that is consistent measured water quality characteristics. Assessments have noted that aquatic plants only rarely grows to the lake surface. Aquatic plants are dominated by a mix of native species and non-native Eurasian milfoil and have not been cited as impacting

recreational uses. (DEC/DOW, BWAM/CSLAP, July 2007)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Source (Drinking) Water Assessment

A source water assessment of Chenango Lake found no elevated susceptibility to contaminants. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Norwich. (NYSDOH, Source Water Assessment Program, 2005)

Previous Assessment

Concerns regarding threats to recreational uses in Chenango Lake were raised during previous assessments in 2000. These concerns were based on conditions noted during a 1998 Lake Classification and Inventory (LCI) evaluation and the identification of inadequate and/or failing on-site septic systems serving homes around the lake that were identified by the Norwich Water Department and the local lake association. Conversion of summer cottages to year-round residences coupled with poor site conditions (high water table, small lots, inadequate soils), and poor design of systems were noted. Although efforts to address on-site septic system issues should continue, more recent sampling indicates that any impacts from this or other sources is limited and does not impact uses. (DEC/DOW, BWAM/WQAS, June 2009)

Section 303(d) Listing

Chenango Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment suggests that there are no significant impacts to the fishery and other uses are fully supported. Based on this assessment the lake is assessed as having no known impacts. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters.

Segment Description

This segment includes the total area of the lake.

Unadilla River, Middle, and minor tribs (0601-0037)

Impaired Seg

Waterbody Location Information

Revised: 09/11/2009

Water Index No: SR-146 (portion 2) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/140 **Str Class:** B Upper Susquehanna
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39) ...
Waterbody Size: 3.2 Miles **Quad Map:** WEST WINFIELD (J-20-1) ...
Seg Description: stream and select tribs, fr New Berlin to Leonardsville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Suspected

Type of Pollutant(s)

Known: METALS (mercury)
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ATMOSPH. DEPOSITION
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 1->4a

Further Details

Overview

Fish consumption in this portion of the Unadilla River is thought to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Unadilla River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Rockdale. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Unadilla River was conducted in 1998. The survey included two sites along the lower portion of the segment reach. Water quality at both sites (in fact, all Unadilla River sites) was found to

be non-impacted, although indices approached slight impact. In previous years, during lower stream flows, water quality at some sites fell into the slightly impacted range. The composition of the macroinvertebrate fauna indicated some nutrient enrichment, but the communities are diverse and well-balanced. (Unadilla River Biological Assessment Report, Bode et al, DEC/DOW, RIBS/SBU, May 1999)

Watershed Management

While monitoring data show generally good water quality in much of the Susquehanna River Basin, agricultural activity and its impact on water quality in the watershed are of some concern. Local agencies, including the Upper Susquehanna Coalition, conduct assessments, provide technical support and implement watershed management programs to focus attention and protect water quality in the watershed. The incentive-based nonpoint sources control activities support Chesapeake Bay Program goals to reduce nutrients in the watershed and are outlined in a CBP Tributary Strategy developed by New York State. (DEC/DOW, BWAM/BWM, April 2009)

Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Unadilla River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Unadilla River. (DEC/DOW, BWAM, January 2009)

This portion of the Unadilla River is also currently included on the NYS 2008 Section 303(d) List of Impaired/TMDL Waters. However the current listing reflects the water quality problems and impairment that occurs primarily in the North Winfield Creek segment (0601-0035), which is a tributary to this segment. The updated assessments for both of these segments suggest it is more appropriate to include North Winfield segment on the List rather than this segment.

It is recommended that this waterbody segment be removed from (replaced) on the 2010 List. (DEC/DOW, BWAM/WQAS, September 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Wharton Creek (-36) in New Berlin to unnamed trib (-56) in Leonardsville. The waters of this portion of the stream are Class B from New Berlin to unnamed trib (-39) in South Edmeston, Class C to unnamed trib (-40) above south Edmeston, and Class B for the remainder of the reach. Tribs to this reach/segment, including Five Corners Creek (-46) and Button Creek (-52), are also/primarily Class C,C(T). Center Brook (-38), Tallette Creek (-43), Beaver Creek (-44) and Lower/Upper Unadilla River are listed separately.

Unadilla River, Upper, and minor tribs (0601-0188)

Impaired Seg

Waterbody Location Information

Revised: 06/15/2009

Water Index No: SR-146 (portion 3) **Drain Basin:** Susquehanna River
Hydro Unit Code: 02050101/140 **Str Class:** C(T) Upper Susquehanna
Waterbody Type: River **Reg/County:** 6/Herkimer Co. (22)
Waterbody Size: 107.5 Miles **Quad Map:** ()
Seg Description: stream and select tribs, above Leonardsville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Suspected

Type of Pollutant(s)

Known: ---
Suspected: METALS (mercury)
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: ---

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: ext/EPA **Resolution Potential:** Medium
TMDL/303d Status: 4a*

Further Details

Overview

Fish consumption in this portion of the Unadilla River is thought to be impaired due to a health advisory that recommend restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Unadilla River is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Rockdale. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

A biological (macroinvertebrate) survey of the Unadilla River was conducted in 1998. The survey included one site near the downstream end of the segment reach. Water quality at this site (in fact, all Unadilla River sites) was found to be

non-impacted, although indices approached slight impact. Initial sampling at this site suggested slight impacts, but these results were determined to be influenced by poor sampling substrate. An adjusted assessment that accounted for the substrate indicated non-impacted conditions. The composition of the macroinvertebrate fauna indicated some nutrient enrichment, but the communities are diverse and well-balanced. (Unadilla River Biological Assessment Report, Bode et al, DEC/DOW, RIBS/SBU, May 1999)

Section 303(d) Listing

Due to the fish consumption advisory that extends for the entire length of the river this portion of the Unadilla River remains impaired. However it is not included on the current (2008) Section 303(d) List due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage specifically for the Unadilla River. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above unnamed trib (-56) in Leonardsville. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Button Creek (-52), are also/primarily Class C,C(T). West Branch Unadilla River (-64), North Winfield Creek (-9) and Lower/Middle Unadilla River are listed separately.

Wharton Creek, Lower, and minor tribs (0601-0052) NoKnownImpet

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-146-36
Hydro Unit Code: 02050101/150 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 55.4 Miles
Seg Description: stream and selected tribs from mouth to Edmeston

Drain Basin: Susquehanna River
Reg/County: 4/Otsego Co. (39)
Quad Map: NEW BERLIN NORTH (K-19-2) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Wharton Creek in New Berlin (at Route 18) indicated non-impacted water quality conditions. Streambanks were exposed and elevated sediment loads were noted during sampling; but the sample was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Mill Creek (-9) in Edmeston. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T),C(TS). Mill Creek (-9) is listed separately.

Summit Lake (0601-0024)

NoKnownImpct

Waterbody Location Information

Revised: 09/15/2009

Water Index No:	SR-146-36-23-P228	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/150	Str Class:	B
Waterbody Type:	Lake	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	33.5 Acres	Quad Map:	UNADILLA FORKS (J-20-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Summit Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) screening effort in 2008. Nutrient, chlorophyll a and clarity measurements taken at that time revealed no significant eutrophication of the lake and algal growth did not appear to impact recreational uses. Measurement of dissolved oxygen did not indicate any D.O. depletion that would affect the fishery or other aquatic resources. (DEC/DOW, BWAM/LCI, September 2009)

Previous Assessment

Concerns were raised during a previous assessment effort in 1998 regarding impacts on recreational uses (swimming, fishing, boating) in Summit Lake may be affected by high nutrient levels and resulting algal blooms and excessive aquatic vegetation. However more recent sampling could not verify such impacts and water quality was found to be fully supportive of uses. (DEC/DOW, BWAM/WQAS, September 2009)

Center Brook and minor tribs (0601-0147)

NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR-146-38
Hydro Unit Code: 02050101/140 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 28.4 Miles
Seg Description: entire stream and selected tribs

Drain Basin: Susquehanna River
Reg/County: 7/Chenango Co. (9)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Center Brook in Five Corners (at Route 8) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C. Shawler Brook (-1) is listed separately.

Beaver Creek, Lower, and tribs (0601-0053)

NoKnownImpct

Waterbody Location Information

Revised: 11/08/2000

Water Index No: SR-146-44
Hydro Unit Code: 02050101/130 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 7/Madison Co. (27) ...
Waterbody Size: 16.1 Miles **Quad Map:** BROOKFIELD (J-19-3) ...
Seg Description: stream and tribs from mouth to near Brookfield

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Beaver Creek in South Brookfield (off South Brookfield Road) indicated non-impacted water quality conditions. The sample was diverse, well-balanced and satisfied screening criteria. Livestock in the stream were noted during sampling, but apparently did not impact the fauna substantially. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including West Creek (-9) in West Brookfield. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including West Creek (-9), are also Class C,C(T). Upper Beaver Creek is listed separately.

North Winfield Creek and tribs (0601-0035)

Impaired Seg

Waterbody Location Information

Revised: 09/10/2009

Water Index No: SR-146-69
Hydro Unit Code: 02050101/140 **Str Class:** C(T)
Waterbody Type: River (Low Flow)
Waterbody Size: 8.0 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 6/Herkimer Co. (22)
Quad Map: WEST WINFIELD (J-20-1)

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
RECREATION	Impaired	Known

Type of Pollutant(s)

Known: PATHOGENS
Suspected: ---
Possible: Nutrients

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (West Winfield)
Suspected: Agriculture
Possible: ---

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg6
TMDL/303d Status: 4b->1*

Resolution Potential: High

Further Details

Overview

Recreational uses (swimming, fishing) in North Winfield Creek are impaired by pathogen contamination from failing on-site septic systems. While these impacts do not affect the entire segment, the localized impacts are sufficiently significant to suggest assessment as an impaired waterbody.

Source Assessment

Numerous on-site septic systems in the Village of West Winfield are failing due to poor soils and inadequate lot sizes. As a result, untreated sewage is discharged to storm sewers, streams and the ground surface. The village has been pursuing funding for construction of a proposed collection and treatment system to address the discharges to storm sewers and the creek. WQIP funding was awarded to the village during Round 6 (in 2003) to address failing on-site systems with a municipal system. However, after consideration, the Village chose not to pursue the award in part because it covered only 10% of the \$6 million needed. (DEC/DOW, Region 6, July 2009)

Water Quality Sampling

A biological (macroinvertebrate) assessment of North Winfield Creek in West Winfield (at Route 20/Town Park) was

conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. Note that this sampling was conducted on the upstream side of the village. (DEC/DOW, BWAM/SBU, January 2009)

Section 303(d) Listing

North Winfield Creek is not currently included on the NYS 2008 Section 303(d) List of Impaired/TMDL Waters. However the 2008 List does include a listing for a portion of the Unadilla River that lies downstream of this stream and reflects the water quality problems and impairment outlined for this segment. The updated assessments for both of these segments suggest it is more appropriate to include this waterbody on the List rather than the Unadilla River segment (0601-0037). It is recommended that this waterbody segment be included on Part 1 of the 2010 List due to impairment from pathogens. (DEC/DOW, BWAM/WQAS, September 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are Class C,C(T).

Carrs Creek, Lower and tribs (0601-0005)

NoKnownImpct

Waterbody Location Information

Revised: 09/10/2009

Water Index No: SR-153
Hydro Unit Code: 02050101/110 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Delaware Co. (13)
Waterbody Size: 11.3 Miles **Quad Map:** UNADILLA (L-19-3)
Seg Description: stream and tribs from mouth to Sidney Center

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Carrs Creek in Youngs (at Poplar Hill Road) indicated non-impacted water quality conditions. The sample was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Previous Assessment

NYSDEC regional staff had reported during a previous assessment effort that impacts from septic systems and the resulting contamination of private wells were noted in a 1990 nonpoint sources evaluation. More recent discussion with the NYS DOH office in the county indicate that these were isolated problems had been addressed by local code enforcement officials. There were no known direct impacts to the stream. (DEC/DOW, BWAM and NYS DOH, September 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including unnamed trib (-6) in Sidney Center. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are primarily Class C,C(T), with a small subtrib (-6-1-1) designated Class AA. Upper Carrs Creek listed separately.

Handsome Br/West Branch and minor tribs (0601-0055)NoKnownImpet

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-155- 3
Hydro Unit Code: 02050101/090 **Str Class:** C(TS)
Waterbody Type: River
Waterbody Size: 32.9 Miles
Seg Description: entire stream (incl West Branch) and smaller tribs

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Delaware Co. (13)
Quad Map: FRANKLIN (L-20-4) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Handsome Brook in Bartlett Hollow (at Route 357) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling conducted at this site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS). Tribs to this reach/segment, including East Branch (-2) and West Branch (-3), are Class C,C(T),C(TS).

Treadwell Creek and tribs (0601-0058)

NoKnownImpct

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-155- 7
Hydro Unit Code: 02050101/090 **Str Class:** C(TS)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Delaware Co. (13)
Waterbody Size: 42.7 Miles **Quad Map:** TREADWELL (L-20-3) ...
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Treadwell Creek near Franklin (at Route 357) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling conducted on the stream in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS). Tribs to this reach/segment, including Roaring Brook (-5) and Poverty Hollow Creek (-7), are Class C,C(T),C(TS).

East Sidney Reservoir (0601-0001)

Need Verific

Waterbody Location Information

Revised: 09/15/2009

Water Index No:	SR-155-P262	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/090	Str Class:	B(T)
Waterbody Type:	Lake (Eutrophic)	Reg/County:	4/Delaware Co. (13)
Waterbody Size:	115.8 Acres	Quad Map:	FRANKLIN (L-20-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: ALGAL/WEED GROWTH (algal blooms, clarity), NUTRIENTS, D.O./Oxygen Demand
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: On-Site/Septic Syst

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Recreational uses (swimming, boating, fishing) in East Sidney Reservoir may experience minor impacts and threats due to elevated nutrient loads that lead to occasional algal blooms and reduced water clarity. Agricultural and other nonpoint sources are likely contributing to the impacts; inadequate on-site septic systems are also a possible source.

Previous Assessment

Occasional algal blooms, reduced clarity and high nutrient loads were noted during a 1984 Lake Classification and Inventory study by NYSDEC. The Army Corps of Engineers had also conducted a watershed study in late 1980s that reported high nutrient loads, algal blooms and low dissolved oxygen in the lake. The Corps installed a bubbler system during the summer of 1989 to try to relieve hypolimnetic anoxia. At that time agricultural runoff was thought to be the primary source of impact. However more recently Delaware County farm management program has helped reduce nonpoint effects from farms. Inadequate on-site septic systems in upstream hamlets were also thought at that time to contribute to water quality issues in the reservoir. Current conditions in the reservoir need to be verified. (DEC/DOW, BWAM/WQAS, August 2009)

Otsdawa Creek and minor tribs (0601-0059)

NoKnownImpct

Waterbody Location Information

Revised: 07/19/2000

Water Index No:	SR-165	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/080	Str Class:	C(TS)
Waterbody Type:	River (Low Flow)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	2.6 Miles	Quad Map:	OTEGO (L-20-1)
Seg Description:	stream and selected tribs fr mouth to East/West Branch		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Source(s) of Pollutant(s)

Known: ---
 Suspected: ---
 Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Otsdawa Creek in Otego (at Main Street) indicated non-impacted water quality conditions. The sample was dominated by midges and was diverse, well-balanced and all indices were indicative of excellent water quality. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(TS). Tribs to this reach/segment, including West Branch Otsdawa Creek (-3) and East Branch Otsdawa Creek (-4), are Class C,C(T),C(TS).

Otego Creek, Lower, and minor tribs (0601-0046)

NoKnownImpct

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR-172
Hydro Unit Code: 02050101/070 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 36.7 Miles **Quad Map:** ONEONTA (L-20-2) ...
Seg Description: stream and tribs from mouth to near Laurens

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Otego Creek in Oneonta was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Wharton Creek (-13) near Laurens. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Harrison Creek (-8) and Wharton Creek (-13), are Class C,C(T),C(TS). Middle/Upper Otego Creek is listed separately.

Oneonta Creek, Upper, and tribs (0601-0166)

Need Verific

Waterbody Location Information

Revised: 06/12/2009

Water Index No: SR-179
Hydro Unit Code: 02050101/120 **Str Class:** A
Waterbody Type: River
Waterbody Size: 8.5 Miles
Seg Description: stream and tribs above Oneonta

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: PATHOGENS

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DEC/DOW
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Water supply uses of the Oneonta Lower Reservoir and Upper Oneonta Creek are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Source (Drinking) Water Assessment

A source water assessment of the Upper Oneonta Creek watershed found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Oneonta. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the portion of the stream and all tribs above Lower Reservoir (P295) near Oneonta. The waters of this portion of the stream are Class A. Tribs to this reach/segment are also Class A. Lower Oneonta Creek is listed with Minor Tribs to Susquehanna River.

Oneonta Lower Reservoir (0601-0097)

Need Verific

Waterbody Location Information

Revised: 06/12/2009

Water Index No:	SR-179-P295	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/120	Str Class:	A
Waterbody Type:	Lake(R)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	5.3 Acres	Quad Map:	ONEONTA (L-20-2)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Suspected

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: PATHOGENS

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DEC/DOW	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Water supply uses of the Oneonta Lower Reservoir and Upper Oneonta Creek are thought to experience threats from pathogens due to the level of agricultural pasturelands in the watershed. Current information does not indicate any impacts to water supply or other uses, but the use of the resources as a water supply and the activities in the watershed suggest additional protection efforts are appropriate.

Source (Drinking) Water Assessment

A source water assessment of the Upper Oneonta Creek watershed found an elevated susceptibility to pathogen contamination due to the high amount of pastureland in the watershed. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Oneonta. (NYSDOH, Source Water Assessment Program, 2005)

Wilber Lake (0601-0098)

NoKnownImpct

Waterbody Location Information

Revised: 06/12/2009

Water Index No:	SR-179-P297	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/120	Str Class:	A
Waterbody Type:	Lake	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	88.7 Acres	Quad Map:	MOUNT VISION (K-20-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Wilber Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) screening effort in 2008. Nutrient, chlorophyll a and clarity measurements taken at that time revealed no significant eutrophication of the lake and algal growth did not appear to impact recreational uses. Measurement of dissolved oxygen did not indicate any D.O. depletion that would affect the fishery or other aquatic resources. (DEC/DOW, BWAM/LCI, September 2009)

Source (Drinking) Water Assessment

A source water assessment of Wilber Lake found no elevated susceptibility to contaminants. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Oneonta. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the total area of the entire lake.

Charlotte Creek, Lower, and tribs (0601-0014)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR-183
Hydro Unit Code: 02050101/060 **Str Class:** C(T)
Waterbody Type: River (Med. Flow) **Reg/County:** 4/Delaware Co. (13)
Waterbody Size: 33.6 Miles **Quad Map:** CHARLOTTEVILLE (K-22-4)
Seg Description: stream and tribs, from mouth to Davenport Center

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Charlotte Creek in West Davenport (at Hollow Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions, but close to the range of non-impacted. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. These results are somewhat lower yet fairly consistent with field assessment results from sampling conducted at this site in 1997. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Kortright Creek (-8) in Davenport Center. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment, including Presser Hollow Creek (-2) and Pumpkin Hollow Creek (-6), are Class C,C(T),C(TS). Kortright Creek (-8) and Middle/Upper Charlotte Creek are listed separately.

Charlotte Creek, Middle, and minor tribs (0601-0167) NoKnownImpet

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR-183
Hydro Unit Code: 02050101/060 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 76.1 Miles
Seg Description: stream and selected tribs, Davenport Ctr to S.Worcester
Drain Basin: Susquehanna River
Reg/County: 4/Delaware Co. (13) ...
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Charlotte Creek below this reach in West Davenport (at Hollow Road) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions, but close to the range of non-impacted. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. These results are somewhat lower yet fairly consistent with field assessment results from sampling conducted at this site in 1997. Though this sampling point is just below the described segment, it is considered representative of water quality in the upper reach. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Kortright Creek (-8) in Davenport Center to/including Center Valley Creek (-26) near South Worcester. The waters of this portion of the stream are Class

C(T),C(TS). Tribs to this reach/segment, including Crawford Brook (-10), Dona Brook (-12), Negro Brook (-16) and Center Valley Creek (-26), are Class C,C(T),C(TS). Kortright Creek (-8), Middle Brook (-19) and Lower/Upper Charlotte Creek are listed separately.

Kortright Creek and tribs (0601-0060)

NoKnownImpct

Waterbody Location Information

Revised: 07/19/2000

Water Index No:	SR-183- 8	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/060	Str Class:	C(TS)
Waterbody Type:	River	Reg/County:	4/Delaware Co. (13)
Waterbody Size:	40.7 Miles	Quad Map:	WEST DAVENPORT (L-21-1) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Kortright Creek in East Meredith (at Route 10) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. These results are consistent with sampling conducted at the same site in 1998. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(TS). Tribs to this reach/segment, including Mine Brook (-4), are Class C,C(T),C(TS).

Sexsmith Lake (0601-0101)

NoKnownImpct

Waterbody Location Information

Revised: 09/15/2009

Water Index No:	SR-183-17-P311	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/060	Str Class:	B
Waterbody Type:	Lake	Reg/County:	4/Delaware Co. (13)
Waterbody Size:	31.6 Acres	Quad Map:	DAVENPORT (L-21-2)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Sexsmith Lake was sampled as part of the NYSDEC Lake Classification and Inventory (LCI) screening effort in 2008. Nutrient, chlorophyll a and clarity measurements taken at that time revealed no significant eutrophication of the lake and algal growth did not appear to impact recreational uses. Measurement of dissolved oxygen did not indicate any D.O. depletion that would affect the fishery or other aquatic resources. (DEC/DOW, BWAM/LCI, September 2009)

Middle Brook and minor tribs (0601-0061)

NoKnownImpet

Waterbody Location Information

Revised: 07/19/2000

Water Index No: SR-183-19
Hydro Unit Code: 02050101/060 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 43.1 Miles **Reg/County:** 4/Delaware Co. (13) ...
Seg Description: entire stream and selected tribs **Quad Map:** DAVENPORT (L-21-2) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Biological (macroinvertebrate) sampling of Middle Brook near Butts Corners (at Route 23) indicated non-impacted water quality conditions. The sample was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Tedle Brook (-6), are Class C,C(T),C(TS). Center Brook (-8) is listed separately.

Schenevus Creek, Lower and tribs (0601-0062)

NoKnownImpct

Waterbody Location Information

Revised: 09/16/2009

Water Index No: SR-187
Hydro Unit Code: 02050101/050 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 47.2 Miles **Quad Map:** WEST DAVENPORT (L-21-1) ...
Seg Description: stream and tribs, from mouth to near Schenevus

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Schenevus Creek in Colliersville, Otsego County, (at Route 28) was conducted in 2003 and 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-to slightly impacted, indicating good to very good water quality. Water column sampling revealed iron to be a parameter of concern, but iron is considered to be naturally occurring and not a source of water quality impacts. Sediment screening for acute toxicity indicated slight sediment toxicity and no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAR/RIBS, August 2009)

Previous biological sampling of Schenevus Creek in Colliersville in 1998 indicated non-impacted water quality conditions. The sample was diverse, well-balanced and satisfied screening criteria. (DEC/DOW, BWAR/SBU, January 1999)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Elk Creek (-14) near Schenevus. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Potato Creek (-7), Morehouse Brook (-8) and Whitney Brook (-10), are Class C,C(T),C(TS). Elk Creek (-14) and Upper Schenevus Creek are listed separately.

Elk Creek, Lower and tribs (0601-0019)

NoKnownImpct

Waterbody Location Information

Revised: 06/22/2009

Water Index No: SR-187-14
Hydro Unit Code: 02050101/040 **Str Class:** C(TS)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 31.2 Miles **Quad Map:** SCHENEVUS (K-21-3)
Seg Description: stream and tribs, from mouth to Elk Creek

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Elk Creek in Schenevus (at Route 34) was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and conditions that reflect a natural community with minimal, if any, human impacts. Aquatic life community is clearly fully supported. (DEC/DOW, BWAM/SBU, January 2009)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Little Elk Creek (-4) near Elk Creek. The waters of this portion of the stream are Class C(TS). Tribs to this reach/segment, including Sperry Hollow Brook (-1) and Little Elk Creek (-4), are Class C(T),C(TS). Upper Elk Creek is listed separately.

Susquehanna River, Upper, Main Stem (0601-0041)

Impaired Seg

Waterbody Location Information

Revised: 09/17/2009

Water Index No:	SR (portion 9)	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	B
Waterbody Type:	River (Low Flow)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	20.8 Miles	Quad Map:	MILFORD (K-21-4) ...
Seg Description:	above Portlandville to Cooperstown		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
FISH CONSUMPTION	Impaired	Suspected
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: METALS (mercury), Unknown Toxicity
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ATMOSPHERIC DEPOSITION
Possible: Agriculture, Unknown Source

Resolution/Management Information

Issue Resolvability:	3 (Strategy Being Implemented)	
Verification Status:	5 (Management Strategy has been Developed)	
Lead Agency/Office:	ext/EPA	Resolution Potential: Medium
TMDL/303d Status:	4a (TMDL Complete, Being Implemented, Not Listed)	

Further Details

Overview

Fish consumption in this portion of the Susquehanna River is thought to be impaired due to a health advisory that recommends restricting the consumption of fish from the river because of elevated mercury levels. Atmospheric deposition is the likely source of the mercury contamination.

Fish Consumption Advisories

Fish consumption in this portion of the Susquehanna is impaired by a health advisory for the entire river due to mercury contamination. The advisory recommends eating no more than one meal per month of larger walleye (over 22 inches). NYS DOH indicates elevated mercury levels have been documented in the river in the vicinity of Owego, Johnson City, Kirkwood and Bainbridge. Although monitoring data above that point is not available, this reach is included in the advisory as a precaution. Atmospheric deposition is considered a likely source of the mercury contamination. Other sources have not been identified. (2009-10 NYS DOH Health Advisories).

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Susquehanna River in Hyde Park,

Otsego County, (at Route 11C) was conducted in 2004. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted water quality conditions, indicating good water quality. Water column sampling revealed no parameters of concern to be present. Sediment screening for acute toxicity indicated slight sediment toxicity but no porewater toxicity was indicated. While sediment sampling revealed some contaminants at low levels, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Macroinvertebrates collected at this site and chemically analyzed for selected metals showed elevated levels of metals that should continue to be monitored. Toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows some minor impacts but aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAR/RIBS, August 2009)

The biological assessment of the Susquehanna River in Hyde Park noted above was collected above confluence with Oaks Creek. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be (relatively) insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, January 2009)

Previous RIBS Intensive Network monitoring of the river was conducted at Hartwick in 1998. The overall water quality at the site was assessed as good. No significant chemical parameters of concern were found at the sites and a fishery assessment indicated an abundant, diverse and healthy fishery. (DEC/DOW, BWAR/RIBS, 1999)

Section 303(d) Listing

Due to the fish consumption advisory this portion of Susquehanna River was included in the 2006 Section 303(d) List of Impaired Waters, but it is not included on the 2008 List. Though the waterbody remains impaired, it was delisted in 2008 due to the completion of the Northeast Regional Mercury TMDL which was approved in 2007 and provides coverage for this specific waterbody. (DEC/DOW, BWAM, January 2009)

Segment Description

This segment includes the main stem portion of the river from Goodyear Lake in Portlandville to Ostego Lake in Cooperstown. This reach of the river is Class B.

Arnold Lake (0601-0109)

NoKnownImpct

Waterbody Location Information

Revised: 08/18/2000

Water Index No:	SR-190-P362	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	B(T)
Waterbody Type:	Lake (Oligotrophic)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	63.8 Acres	Quad Map:	MOUNT VISION (K-20-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Arnold Lake was included in the 1991 CSLAP volunteer monitoring effort; results of this study found no evidence of water quality impairment. (DEC/DOW, BWM/Lake Services, August 2000)

Cherry Valley Creek, Lower and tribs (0601-0022)

NoKnownImpct

Waterbody Location Information

Revised: 06/26/2009

Water Index No: SR-195
Hydro Unit Code: 02050101/020 **Str Class:** C
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 5.7 Miles **Quad Map:** WESTFORD (K-21-2)
Seg Description: stream and tribs from mouth to near Roseboom

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) survey of Cherry Valley Creek at five sites between the mouth at the Susquehanna River and Cherry Valley was conducted in 2007. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most sites showing some influences from nonpoint sources and nutrient loadings. This survey included three sampling sites within this reach; these sites were located above Milford (at Route 35), in Westville (at Route 43) and in Middlefield (at Route 35). Macroinvertebrate sampling results at the sites indicated non-impacted conditions at the most upstream of these sites, and slightly impacted conditions at the two sites farther downstream, though conditions at these two sites were close to the range of non-impacted. However when concurrent fish community assessments are factored in, all three sites were determined to be non-impacted. The improvement in water quality from upstream to downstream can be attributed to increasing distance from the Village of Cherry Valley (where inadequate on-site septic systems are thought to be the cause of impacts), increasing forest cover and additional flow from adjoining tributaries. (Cherry Valley Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, July 2008)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Pleasant Valley Brook (-21) near Roseboom. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including O'Connell

Creek (-12) and Shellrock Creek (-17), are also/primarily Class C,C(T). Pleasant Valley Brook (-21) and Upper Cherry Valley Creek are listed separately.

Cherry Valley Creek, Upper and tribs (0601-0174)

MinorImpacts

Waterbody Location Information

Revised: 09/11/2009

Water Index No: SR-195
Hydro Unit Code: 02050101/020 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 53.0 Miles
Seg Description: stream and tribs above Roseboom

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39)
Quad Map: ()

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: PATHOGENS, Nutrients (phosphorus)
Possible: ---

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (Cherry Valley (v))
Suspected: Agriculture
Possible: ---

Resolution/Management Information

Issue Resolvability: 2 (Strategy Exists, Needs Funding/Resources)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg4
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life support and recreational uses in this portion of Cherry Valley Creek are known to experience minor impacts believed to be from inadequate on-site wastewater (septic) systems in the Village of Cherry Valley. Other nonpoint sources contributing to nutrient enrichment in the stream are also a concern.

Water Quality Sampling

A biological (macroinvertebrate) survey of Cherry Valley Creek at five sites between the mouth at the Susquehanna River and Cherry Valley was conducted in 2007. Sampling results indicated non-impacted to slightly impacted water quality conditions, with most sites showing some influences from nonpoint sources and nutrient loadings. This survey included two sampling sites within this reach; these sites were located above Roseboom (at Route 166) and below Cherry Valley (at Route 166). Macroinvertebrate sampling results at the Cherry Valley site indicated slightly impacted conditions; farther downstream at the Roseboom site conditions were assessed as non-impacted. When concurrent fish community assessments are factored in, both sites were determined to be slightly impacted. Influences from nonpoint sources were in evidence at both sites as well. Without sampling results from a location above the village (no suitable site was found during this survey), it is difficult to determine if the impacts noted are wholly attributable to development in the village. The rebound in water quality as one moves downstream and lack of other obvious sources suggest the village is a

significant source, but additional sampling is recommended to confirm the source of impacts. (Cherry Valley Creek Biological Assessment Report, DEC/DOW, BWAM/SBU, July 2008)

A biological assessment of Cherry Valley Creek at the site above Roseboom was conducted as part of the RIBS biological screening effort in 2003. Sampling results indicated slightly impacted conditions. In such samples the community is slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be limited and water quality is considered to be satisfactory. The nutrient biotic index and impact source determination indicate some enrichment in the stream and fauna that is most similar to communities influenced by nonpoint sources. In spite of these minor impacts, aquatic life support is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, January 2009)

Watershed Management

In the unsewered community of Cherry Valley inadequate residential and commercial on-site wastewater treatment systems result in the discharge of untreated or poorly treated wastewater. Some of the discharge is thought to be conveyed to the stream via storm sewers. Discussions regarding the construction of a municipal wastewater treatment plant are ongoing, but adequate funding to address the problems with a collection system or treatment plant has not been identified. Individual discharges are currently being addressed on a case-by-case basis by NYSDEC and health department staff. (DEC/DOW, Region 4, September 2009)

Segment Description

This segment includes the portion of the stream and all tribs above Pleasant Valley Brook (-21) near Roseboom. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment are also/primarily Class C,C(T). Pleasant Valley Creek (-21) and Lower Cherry Valley Brook are listed separately.

Oaks Creek and minor tribs (0601-0047)

NoKnownImpct

Waterbody Location Information

Revised: 07/09/2009

Water Index No:	SR-204	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/010	Str Class:	C(T)
Waterbody Type:	River (Low Flow)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	33.1 Miles	Quad Map:	COOPERSTOWN (K-21-1) ...
Seg Description:	entire stream and selected tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Oaks Creek in Index (at Route 28) was conducted as part of the RIBS biological screening effort in 2008. Sampling results indicated slightly impacted conditions, but near the range of non-impacted. In such samples the community is only slightly altered from natural conditions. Some sensitive species are not present and the overall abundance of macroinvertebrates is lower. However, the effects on the fauna appear to be relatively insignificant and water quality is considered to be good. The nutrient biotic index and impact source determination indicate low enrichment in the stream and fauna that is most similar to natural communities. These results are consistent with sampling conducted at the site in 1997. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, July 2009)

Previous Assessment

The stream supports an adequate fishery. NYS DEC regularly stocks the stream with brown trout. (DEC/DFWMR, Region 4, December 2000)

Segment Description

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Lidell Creek (-11), are Class C,C(T),C(TS). Fly Creek (-5) is listed separately.

Canadarago Lake (0601-0016)

NoKnownImpct

Waterbody Location Information

Revised: 09/11/2009

Water Index No:	SR-204-P392	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/010	Str Class:	A(T)
Waterbody Type:	Lake (Mesotrophic)	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	1881.7 Acres	Quad Map:	SCHUYLER LAKE (J-20-3)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Threatened	Possible
Habitat/Hydrology	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ALGAL/WEED GROWTH (vegetation, algal blooms), PROBLEM SPECIES

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: HABITAT MODIFICATION, Agriculture

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: High
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Canadarago Lake is the focus of a monitoring effort by SUNY Oneonta Biological Field Station. This work began in 2009 and is to conclude in 2010 with a State of the Lake Report. Initial data collected in 2009 found water quality to be mostly favorable and fully supportive of uses. Phosphorus levels in the lake are well below the state guidance values indicating impacted/stressed recreational uses, except for elevated concentrations near the lake bottom that reflect in-lake nutrient recycling. Corresponding transparency measurements significantly exceed the recommended minimum for swimming beaches. Clarity has increased in recent years, corresponding to the appearance of zebra mussels in the lake. Measurements of pH are somewhat high but typically fall within the state water quality range of 6.5 to 8.5 and do not appear to have any impact on aquatic life support. Limited bacteriological sampling shows coliform levels to be well below the state standard for safe swimming or any other full-body contact activities. (SUNY Oneonta Biological Field Station, August 2009)

The NYSDEC collected a number of fish species from the lake to be analyzed for mercury in 2003-06. Results from this effort found some detectable levels of mercury, but at concentrations well below FDA criteria and no health advisories for the lake were issued. (DEC/DFWMR, September 2009)

The most recent NYSDEC sampling of Canadarago Lake was conducted in 1994 through the Citizens Statewide Lake Assessment Program (CSLAP). This sampling identified only minor threats to the lake. Regional Fisheries staff indicated at the time that the lake supported a very productive fishery and is a popular recreational fishery. The threats of greatest concern include the potential future impacts of invasives (zebra mussels and invasive plants), and nonpoint sources of nutrients and sediments in the surrounding lake watershed. (DEC/DOW, BWAM/RIBS and WQAS, August 2009).

Recreational Assessment

Though water quality measurements indicate full support of recreational uses, local residents have raised concerns regarding aquatic weed growth. Given the increased clarity of the water such complaints may increase in the future. Aquatic plant surveys find that the lake is dominated by primarily native species; two non-native species (Eurasian milfoil and Curly pondweed) have been noted but they do not dominant. (SUNY Oneonta Biological Field Station, August 2009)

Lake Uses

This lake waterbody is designated class A(T), suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring currently available focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake are limited and sampling to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Ocquionis Creek and tribs (0601-0034)

MinorImpacts

Waterbody Location Information

Revised: 07/10/2009

Water Index No: SR-204-P392- 5
Hydro Unit Code: 02050101/010 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 2.3 Miles **Quad Map:** RICHFIELD SPRINGS (J-21-4)
Seg Description: entire stream and tribs

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE, Urban/Storm Runoff
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support and recreational uses in Ocquionis Creek are known to experience minor impacts due to nutrient enrichment from agricultural and other nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Ocquionis Creek in Richfield Springs was conducted as part of the RIBS biological screening effort in 1997. Sampling results indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna is most similar to communities influenced by nonpoint sources and toxicity. Considerable urban debris was also noted at the site. (DEC/DOW, BWAR/SBU, June 2009)

Previous Assessment

Impacts from ammonia, residual chlorine and other pollutants attributed to the Richfield Springs WWTP discharge noted in earlier assessments have been addressed by the upgrading of the plant in 1995. (DEC/DOW, Region 4, January 2001)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are also/primarily Class C,C(T),C(TS).

Otsego Lake (0601-0033)

NoKnownImpct

Waterbody Location Information

Revised: 09/14/2009

Water Index No: SR-P404
Hydro Unit Code: 00300501/ **Str Class:** A
Waterbody Type: Lake (Mesotrophic) **Reg/County:** 4/Otsego Co. (39)
Waterbody Size: 4099.9 Acres **Quad Map:** COOPERSTOWN (K-21-1) ...
Seg Description: entire lake

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Water Supply	Threatened	Possible
Recreation	Threatened	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: NUTRIENTS (Phosphorus), PROBLEM SPECIES

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: AGRICULTURE, HABITAT MODIFICATION, On-Site/Septic Syst, Urban/Storm Runoff

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** High
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

Otsego Lake is the focus of an extensive monitoring effort by SUNY Oneonta Biological Field Station. This sampling finds water quality to be mostly favorable and fully supportive of uses. Nutrient levels in the lake are well below the state guidance values that correspond to impacted/stressed recreational uses. Transparency measurements exceed the recommended minimum for swimming beaches. Clarity has increased in recent years, corresponding to the appearance of zebra mussels in the lake. (SUNY Oneonta Biological Field Station, August 2009)

The NYSDEC collected a number of fish species from the lake to be analyzed for mercury in 2003-06. Results from this effort found some detectable levels of mercury, but at concentrations well below FDA criteria and no health advisories for the lake were issued. (DEC/DFWMR, September 2009)

Fishery Assessment

Warmwater game fish including largemouth and smallmouth bass and chain pickerel inhabit the lake's shoreline areas. Otsego Lake also supports a diverse cold water fishery, the only lake trout fishery in the immediate area. The cold hypolimnetic waters support a high level lake trout population, with mostly wild fish being caught. Most assessments

indicate a fishery resource of outstanding quality. Standard gill netting indicates lake trout populations and growth rates are currently at their highest levels in this century. Recent improvement in trout growth rates is due to the unauthorized introduction of the alewife, which is now abundant and provides a readily accessible forage base. Although the alewife introduction has improved lake trout growth, it negatively affect the walleye fishery. Walleye fingerlings have been stocked annually since 2000 and an abundant population is now present. However, establishment of a self sustaining walleye fishery is unlikely due to the abundant alewife population. Since young of year walleye remain suspended in the water column for about 6-8 weeks after hatching, these fish are preyed upon extensively by alewife and it is believed that the entire year class is wiped out. The walleye fishery in the lake will be dependent upon continued stocking. The impact of the alewife and zebra mussel on the ecology of the lake will continue to be monitored. (DEC/DFWMR, Region 4, September 2009)

Lake Uses

This lake waterbody is designated class A, suitable for use as a water supply, public bathing beach, general recreation and aquatic life support. Water quality monitoring currently available focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake are limited and sampling to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments.

Source (Drinking) Water Assessment

A source water assessment of Otsego Lake found a moderately elevated susceptibility to contaminants. This level of susceptibility is typical of many water supplies that experience no impacts to water supply use and reflects the need to protect the resource. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the City of Oneonta. (NYSDOH, Source Water Assessment Program, 2005)

Watershed Management

While there are no current impairments to its use as a water supply, there are concerns for future and continuing support of various recreational activities (swimming, boating). The threats of greatest concern include the potential future impacts of invasives (zebra mussels and invasive plants), and nonpoint sources of nutrients and sediments in the surrounding lake watershed. Phosphorus loadings to the lake may come from a variety of sources including agricultural runoff, small direct dischargers, individual household systems, and some urban runoff. The SUNY Oneonta Biological Field Station has done a phosphorus budget for Otsego Lake. Annual loading ranges from 6,444-13,119 kg/yr. Tributaries are the major source of total loading, contributing 75-88 percent of the total phosphorus entering the lake (Shadow Brook contributes the highest phosphorus loading of all the tributaries with Hayden Brook being the next highest). Remaining phosphorus loadings come from atmospheric deposition (8-15 percent) and on-site septic systems (4-10 percent). There is evidence of some internal recycling of phosphorus from the lake's bottom muds. Phosphorus loadings to the lake must continue to be monitored and regulated to ensure that levels do not reach the point of causing water quality impairments. (SUNY Oneonta Biologic Field Station, 1998)

Segment Description

This segment includes the total area of the entire lake.

Allen Lake (0601-0117)

NoKnownImpet

Waterbody Location Information

Revised: 06/12/2009

Water Index No:	SR-P404- 9-P405	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	A
Waterbody Type:	Lake	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	52.6 Acres	Quad Map:	RICHFIELD SPRINGS (J-21-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Source (Drinking) Water Assessment

A source water assessment of Allen Lake found no elevated susceptibility to contaminants. This assessment was conducted through the NYSDOH Source Waters Assessment Program (SWAP) which compiles, organizes, and evaluates information regarding possible and actual threats to the quality of public water supply (PWS) sources. The information contained in SWAP assessment reports assists in the oversight and protection of public water systems. It is important to note that SWAP reports estimate the potential for untreated drinking water sources to be impacted by contamination and do not address the quality of treated finished potable tap water. This water supply source provides water to the Village of Richfield Springs. (NYSDOH, Source Water Assessment Program, 2005)

Segment Description

This segment includes the total area of the entire lake.

Cripple Creek and tribs (0601-0027)

Need Verific

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR-P404-10
Hydro Unit Code: 02050101/030 **Str Class:** C(T)
Waterbody Type: River (Low Flow) **Reg/County:** 6/Herkimer Co. (22) ...
Waterbody Size: 2.1 Miles **Quad Map:** RICHFIELD SPRINGS (J-21-4)
Seg Description: stream and tribs from mouth/Otsego Lake to Weaver Lake

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: NUTRIENTS, SILT/SEDIMENT
Suspected: ---
Possible: D.O./Oxygen Demand, Salts

Source(s) of Pollutant(s)

Known: AGRICULTURE, STREAMBANK EROSION
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in Cripple Creek and its tributaries may experience minor impacts due to nutrient enrichment and excessive sedimentation; agricultural activities and streambank erosion are the suspected sources. Sampling to verify impacts to the stream is recommended.

Previous Assessment

Agricultural activities (barnyard runoff, manure spreading, livestock access to streams) and streambank erosion in the tributary watersheds have been cited as significant sources of impacts. Increases in nutrient loads and chlorides have been documented by the SUNY Oneonta Biological Field Station. Although impacts to the stream itself need to be verified, the trib has been identified as a significant contributor of nutrients and sediments to Otsego Lake. (The State of Otsego Lake, Harmon etal, SUNY Oneonta Biologic Field Station, 1997)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

Young Lake (0601-0026)

Need Verific

Waterbody Location Information

Revised: 09/14/2009

Water Index No:	SR-P404-10-P408	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	B
Waterbody Type:	Lake	Reg/County:	6/Herkimer Co. (22)
Waterbody Size:	66.7 Acres	Quad Map:	RICHFIELD SPRINGS (J-21-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: NUTRIENTS

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a->B->n/a	

Further Details

Overview

Aquatic life support and recreational uses in Young Lake may experience minor impacts/threats due to nutrient and sediment loadings from agricultural and other nonpoint sources.

Previous Assessment

Concerns were raised during previous assessments in 1998 that aquatic life support and recreational uses may be threatened by increasing nutrient and sediment loads from agricultural runoff in the watershed. Aerial observations of drainage basin suggests that much of the agricultural land in the upper basin is not being farmed in accordance with Best Management Practices. The lake flows into Otsego Lake which has documented increases in nutrients and chlorides. However conditions in Young Lake itself need to be verified. (DEC/DOW, BWAM/WQAS, August 2009)

Section 303(d) Listing

Young Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low

dissolved oxygen and whether any incidences of low dissolved oxygen, if they occur, are naturally occurring. Due to the lack of data indicating the occurrence or impact of low dissolved oxygen, it is recommended that this waterbody be considered for delisting during the development of the next Section 303(d) List in 2010. (DEC/DOW, BWAM/WQAS, June 2009)

Weaver Lake (Maumee Swamp) (0601-0025)

Need Verific

Waterbody Location Information

Revised: 09/14/2009

Water Index No:	SR-P404-10-P409	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	C
Waterbody Type:	Lake	Reg/County:	6/Herkimer Co. (22)
Waterbody Size:	85.0 Acres	Quad Map:	RICHFIELD SPRINGS (J-21-4)
Seg Description:	entire lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: D.O./OXYGEN DEMAND, NUTRIENTS

Source(s) of Pollutant(s)

Known: ---
Suspected: AGRICULTURE
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a->B	

Further Details

Overview

Aquatic life support and recreational uses in Weaver Lake (Maumee Swamp) may experience minor impacts/threats due to nutrient and sediment loadings from agricultural and other nonpoint sources. Low dissolved oxygen may also contribute to the threats, though this could be naturally occurring.

Previous Assessment

Concerns were raised by local agencies and organizations during previous assessments in 1998 that aquatic life support and recreational uses may be threatened by increasing nutrient and sediment loads from agricultural runoff in the watershed. Some elevated phosphorus concentrations were noted. Aerial observations of the drainage basin suggests that much of the agricultural land in the upper basin is not being farmed in accordance with Best Management Practices. Improperly applied manure, stream and field erosion, barnyard runoff and direct livestock access to the stream were noted. (DEC/DOW, BWAM/WQAS, August 2009)

Natural Resources Assessment

Weaver Lake and a portion of Maumee Swamp that surrounds the lake have been acquired by New York State. Weaver

Lake is considered a Marl Pond, an ecological designation that the Natural Heritage Program considers to be rare and vulnerable. The lake could be listed on the PWL due to natural resources concerns and value. (DEC/BEP, Region 6, 1998)

Section 303(d) Listing

Weaver Lake is included on the NYS 2008 Section 303(d) List of Impaired Waters. The lake is included among the waters listed in Appendix B - Waters Not Meeting Dissolved Oxygen Standards. This part of the List recognizes waterbodies where low dissolved oxygen in lake bottom waters may be the result of morphology and other natural conditions in thermally stratified lakes. This updated assessment is inconclusive regarding the level of fishery impact due to low dissolved oxygen and whether any incidences of low dissolved oxygen are naturally occurring. However because NYS water quality standards for dissolved oxygen do not include an explicit exception for natural conditions or averaging of dissolved oxygen over lake depth, USEPA requires that the Section 303(d) List recognize such waters. (DEC/DOW, BWAM/WQAS, June 2009)

Minor Tribs to Weaver Lake (0601-0039)

MinorImpacts

Waterbody Location Information

Revised: 09/10/2009

Water Index No:	SR-P404-10-P409-	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	6/Herkimer Co. (22)
Waterbody Size:	13.2 Miles	Quad Map:	RICHFIELD SPRINGS (J-21-4) ...
Seg Description:	selected/minor tribs to lake		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: NUTRIENTS (Phosphorus)
Suspected: Silt/Sediment
Possible: ---

Source(s) of Pollutant(s)

Known: AGRICULTURE
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	4 (Source Identified, Strategy Needed)	
Lead Agency/Office:	ext/WQCC	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Aquatic life support in various Weaver Lake tribs is thought to experience minor impacts from elevated nutrient and sediment loads from agricultural runoff in the watershed. These tribs contribute significant loadings to the lake, which is also listed (0601-0025).

Source Assessment

Local/county agencies have raised concerns regarding management practices at several dairy and other farms near the streams as potential problems. Considerable work with area farm owners through the CAFO program has been conducted to help prevent nutrient loadings and other nonpoint impacts. The Herkimer County Resources Strategy identifies streambanks and field erosion, sedimentation, direct livestock access to streams and barnyard runoff as sources of water quality impacts. (Herkimer County SWCD/WQCC, July 2009).

The Bureau of Environment Protection has also raised concerns with nutrient loading to small streams that flows into the Weaver Lake watershed. The wetlands and its drainage area have been identified as a significant ecosystem. (DEC/BEP, Region 6, 6/26/96)

Segment Description

This segment includes the total length of selected/smaller tribs to Weaver Lake. Tribs within this segment are Class C.

Hayden Creek and tribs (0601-0180)

Need Verific

Waterbody Location Information

Revised: 07/09/2009

Water Index No:	SR-P404-12	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050101/030	Str Class:	C(T)
Waterbody Type:	River	Reg/County:	4/Otsego Co. (39)
Waterbody Size:	16.0 Miles	Quad Map:	RICHFIELD SPRINGS (J-21-4) ...
Seg Description:	entire stream and tribs		

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: NUTRIENTS, SILT/SEDIMENT
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: AGRICULTURE, STREAMBANK EROSION
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))	
Verification Status:	1 (Waterbody Nominated, Problem Not Verified)	
Lead Agency/Office:	DOW/BWAM	Resolution Potential: Medium
TMDL/303d Status:	n/a	

Further Details

Overview

Aquatic life support in Hayden Creek and its tributaries may experience minor impacts due to nutrient enrichment and excessive sedimentation; agricultural activities and streambank erosion are the suspected sources. Sampling to verify impacts to the stream is recommended.

Previous Assessment

Agricultural activities (barnyard runoff, manure spreading, livestock access to streams) and streambank erosion in the tributary watersheds have been cited as significant sources of impacts. Increases in nutrient loads and chlorides have been documented by the SUNY Oneonta Biological Field Station. Although impacts to the stream itself need to be verified, the trib has been identified as a significant contributor of nutrients and sediments to Otsego Lake. (The State of Otsego Lake, Harmon etal, SUNY Oneonta Biologic Field Station, 1997)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T). Tribs to this reach/segment are also Class C,C(T).

Shadow Brook and tribs (0601-0181)

Need Verific

Waterbody Location Information

Revised: 07/09/2009

Water Index No: SR-P404-14
Hydro Unit Code: 02050101/030 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 33.3 Miles
Seg Description: entire stream and tribs

Drain Basin: Susquehanna River
Upper Susquehanna
Reg/County: 4/Otsego Co. (39)
Quad Map: EAST SPRINGFIELD (J-21-3) ...

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Possible

Type of Pollutant(s)

Known: NUTRIENTS, SILT/SEDIMENT
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: AGRICULTURE, STREAMBANK EROSION
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 1 (Waterbody Nominated, Problem Not Verified)
Lead Agency/Office: DOW/BWAM **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Overview

Aquatic life support in Shadow Brook and its tributaries may experience minor impacts due to nutrient enrichment and excessive sedimentation; agricultural activities and streambank erosion are the suspected sources. Sampling to verify impacts to the stream is recommended.

Previous Assessment

Agricultural activities (barnyard runoff, manure spreading, livestock access to streams) and streambank erosion in the tributary watersheds have been cited as significant sources of impacts. Increases in nutrient loads and chlorides have been documented by the SUNY Oneonta Biological Field Station. Although impacts to the stream itself need to be verified, the trib has been identified as a significant contributor of nutrients and sediments to Otsego Lake. (The State of Otsego Lake, Harmon etal, SUNY Oneonta Biologic Field Station, 1997)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are also Class C,C(T).

Summary Listing of Priority Waters

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Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR (Pa)-1-P8	Cayuta Lake (0603-0005) Recreation SUSPECTED of being STRESSED Aesthetics SUSPECTED of being STRESSED Public Bathing POSSIBLY STRESSED	Schuyler	376.5 Acre	Lake	B	MinorImpacts
SR (portion 1)	Susquehanna River, Lower, Main Stem (0603-0016) Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be THREATENED	Tioga	15.4 Mile	River	B	Impaired Seg
SR (portion 2)	Susquehanna River, Lower, Main Stem (0603-0015) Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be THREATENED	Tioga	6.6 Mile	River	C	Impaired Seg
SR (portion 3)	Susquehanna River, Lower, Main Stem (0603-0013) Fish Consumption KNOWN to be IMPAIRED Aquatic Life SUSPECTED of being STRESSED	Tioga	10.3 Mile	River	B	Impaired Seg
SR (portion 4)	Susquehanna River, Lower, Main Stem (0603-0002) Fish Consumption KNOWN to be IMPAIRED Aquatic Life SUSPECTED of being STRESSED Water Supply SUSPECTED of being THREATENED Water Supply SUSPECTED of being THREATENED	Broome	15.8 Mile	River	A	Impaired Seg
SR (portion 5)	Susquehanna River, Main Stem (0601-0182) Fish Consumption KNOWN to be IMPAIRED Water Supply POSSIBLY THREATENED	Broome	16.7 Mile	River	A	Impaired Seg
SR (portion 6)	Susquehanna River, Main Stem (0601-0040) Fish Consumption KNOWN to be IMPAIRED	Broome	53.3 Mile	River	B	Impaired Seg
SR (portion 7)	Susquehanna River, Main Stem (0601-0020) Fish Consumption KNOWN to be IMPAIRED Recreation SUSPECTED of being STRESSED	Otsego	9.2 Mile	River	B	Impaired Seg

Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR (portion 8)/P360	Goodyear Lake (0601-0015) Fish Consumption SUSPECTED of being IMPAIRED Recreation KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED	Otsego	352.2 Acre	Lake	B	Impaired Seg
SR (portion 9)	Susquehanna River, Upper, Main Stem (0601-0041) Fish Consumption SUSPECTED of being IMPAIRED Aquatic Life POSSIBLY STRESSED	Otsego	20.8 Mile	River	B	Impaired Seg
SR- 16	Owego Creek and minor tribs (0603-0031) Habitat/Hydrology SUSPECTED of being STRESSED	Tioga	21.7 Mile	River	C(T)	MinorImpacts
SR- 24	Apalachin Creek and tribs (0603-0014) Aquatic Life KNOWN to be STRESSED	Tioga	38.5 Mile	River	C	MinorImpacts
SR- 31 thru 37 (selected)	Minor Tribs to Lower Susquehanna (north) (0603-0044) Aquatic Life KNOWN to be IMPAIRED Recreation KNOWN to be IMPAIRED	Broome	22.5 Mile	River	C	Impaired Seg
SR- 44 (portion 1)	Chenango River, Lower, Main Stem (0602-0033) Fish Consumption KNOWN to be IMPAIRED Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED	Broome	21.4 Mile	River	B	Impaired Seg
SR- 44 (portion 2)	Chenango River, Middle, Main Stem (0602-0009) Fish Consumption KNOWN to be IMPAIRED	Chenango	42.2 Mile	River	B	Impaired Seg
SR- 44 (portion 3)	Chenango River, Middle, Main Stem (0602-0164) Fish Consumption KNOWN to be IMPAIRED	Chenango	16.1 Mile	River	C	Impaired Seg

Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR- 44 (portion 4)	Chenango River, Upper, and minor tribs (0602-0069) Fish Consumption KNOWN to be IMPAIRED	Chenango	43.4 Mile	River	B(T)	Impaired Seg
		Causes: Metals				
		Sources: Atmosph. Deposition				
SR- 44 (portion 5)	Chenango River, Upper, and minor tribs (0602-0165) Fish Consumption SUSPECTED of being IMPAIRED Aquatic Life KNOWN to be STRESSED	Madison	86.4 Mile	River	C(T)	Impaired Seg
		Causes: Metals				
		Sources: Atmosph. Deposition				
SR- 44- 5	Castle Creek, Lower, and minor tribs (0602-0065) Habitat/Hydrology KNOWN to be STRESSED	Broome	28.7 Mile	River	C	MinorImpacts
		Causes: Silt/Sediment				
		Sources: Streambank Erosion				
SR- 44-14-27 (portion 1)/P35a 2008 Section 303(d) Listed Water	Whitney Point Lake/Reservoir (0602-0004) Recreation KNOWN to be IMPAIRED Habitat/Hydrology KNOWN to be STRESSED Aquatic Life POSSIBLY STRESSED	Broome	1235.4 Acre	Lake	C	Impaired Seg
		Causes: Algal/Weed Growth, Nutrients				
		Sources: Agriculture				
SR- 44-14-27 (portion 4)	Otselic River, Upper and minor tribs (0602-0043) Aquatic Life KNOWN to be STRESSED Recreation SUSPECTED of being STRESSED	Madison	55.4 Mile	River	C(T)	MinorImpacts
		Causes: Nutrients, Silt/Sediment				
		Sources: Agriculture				
SR- 44-14-27-23-P39	Ellis/Melody Lake (0602-0053) Recreation SUSPECTED of being STRESSED	Cortland	40.8 Acre	Lake	C	MinorImpacts
		Causes: Algal/Weed Growth				
		Sources: Agriculture				
SR- 44-14-30	Dudley Creek and tribs (0602-0037) Habitat/Hydrology SUSPECTED of being STRESSED	Broome	66.7 Mile	River	C	MinorImpacts
		Causes: Silt/Sediment				
		Sources: Habitat Modification, Streambank Erosion				
SR- 44-14-59	Tioughnioga Creek and tribs (0602-0133) Aquatic Life SUSPECTED of being STRESSED	Madison	89.7 Mile	River	C(T)	MinorImpacts
		Causes: Algal/Weed Growth, Nutrients				
		Sources: Agriculture				
SR- 44-14-59-34-P56	DeRuyter Reservoir (0602-0086) Recreation SUSPECTED of being STRESSED	Onondaga	554.2 Acre	Lake(R)	B	MinorImpacts
		Causes: Algal/Weed Growth, Nutrients				
		Sources: Agriculture				

Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR- 44-14-60- 4	Factory Brook and tribs (0602-0025) Aquatic Life SUSPECTED of being STRESSED	Cortland	26.6 Mile	River	C(TS)	MinorImpacts
			Causes: Silt/Sediment Sources: Agriculture, Streambank Erosion			
SR- 44-14-60-P68-P72	Song Lake (0602-0019) Public Bathing SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Cortland	105.4 Acre	Lake	B	MinorImpacts
			Causes: Algal/Weed Growth, Nutrients Sources: Agriculture			
SR- 44-54	Canasawacta Creek, Lower and minor tribs (0602-0013) Habitat/Hydrology KNOWN to be STRESSED	Chenango	11.6 Mile	River	B	MinorImpacts
			Causes: Silt/Sediment Sources: Hydro Modification			
SR- 44-54- 8-P107	Plymouth Reservoir (0602-0014) Recreation SUSPECTED of being STRESSED Public Bathing POSSIBLY STRESSED	Chenango	79.0 Acre	Lake	B	MinorImpacts
			Causes: Algal/Weed Growth Sources: Habitat Modification			
SR- 44-72-24-P136	Gorton Lake (0602-0040) Recreation SUSPECTED of being STRESSED	Madison	16.4 Acre	Lake	B	MinorImpacts
			Causes: Algal/Weed Growth, Problem Species, Nutrients Sources: Habitat Modification, On-Site/Septic Syst			
SR- 44-78	Payne Brook and tribs (0602-0003) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED	Madison	35.7 Mile	River	C	MinorImpacts
			Causes: Nutrients Sources: Agriculture, Municipal			
SR- 44-78-P152	Lake Moraine (0602-0007) Recreation KNOWN to be STRESSED Public Bathing SUSPECTED of being STRESSED Aquatic Life SUSPECTED of being THREATENED	Madison	242.7 Acre	Lake	B	MinorImpacts
			Causes: Algal/Weed Growth Sources: On-Site/Septic Syst			
SR- 44-79-P153	Lebanon Reservoir (0602-0109) Recreation SUSPECTED of being STRESSED Aquatic Life SUSPECTED of being THREATENED	Madison	92.4 Acre	Lake(R)	B(T)	MinorImpacts
			Causes: Algal/Weed Growth, Problem Species, D.O./Oxygen Demand, Nutr... Sources: Habitat Modification, Agriculture			

Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR- 44-P94	Lake Warn (0602-0116) Recreation SUSPECTED of being STRESSED	Chenango	30.4 Acre	Lake	C	MinorImpacts
SR- 45 thru 78 (selected)	Minor Tribs to Susquehanna River (0601-0028) Aquatic Life SUSPECTED of being STRESSED Habitat/Hydrology POSSIBLY STRESSED	Broome	3.0 Mile	River	C	MinorImpacts
SR- 53 2008 Section 303(d) Listed Water	Park Creek and tribs (0601-0031) Recreation KNOWN to be IMPAIRED Aquatic Life KNOWN to be STRESSED Aesthetics KNOWN to be STRESSED Habitat/Hydrology POSSIBLY STRESSED	Broome	0.5 Mile	River	C	Impaired Seg
SR- 99- 1-P174 2008 Section 303(d) Listed Water	Beaver Lake (0601-0066) Recreation SUSPECTED of being STRESSED	Broome	35.9 Acre	Lake	C	MinorImpacts
SR-100-P174a(?) 2008 Section 303(d) Listed Water	White Birch Lake (0601-0068) Recreation SUSPECTED of being STRESSED	Broome	30.7 Acre	Lake	C	MinorImpacts
SR-123	Wylie Brook and tribs (0601-0044) Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Chenango	47.5 Mile	River	C	MinorImpacts
SR-139	Big Brook/Bennettsville Creek and tribs (0601-0048) Habitat/Hydrology KNOWN to be STRESSED	Chenango	28.9 Mile	River	C	MinorImpacts
SR-146 (portion 1)	Unadilla River, Lower, Main Stem (0601-0003) Fish Consumption KNOWN to be IMPAIRED	Chenango	1.3 Mile	River	B	Impaired Seg

Susquehanna River Basin

Priority Waterbodies List

Table 1

Water Index Number	Waterbody/Segment Name (ID) Use Impairment(s)	County	Seg Size	Type	Class	W.B.Category
SR-146 (portion 2)	Unadilla River, Middle, and minor tribs (0601-0037) Fish Consumption SUSPECTED of being IMPAIRED	Otsego	3.2 Mile	River	B	Impaired Seg
		Causes: Metals Sources: Atmosph. Deposition				
SR-146 (portion 3)	Unadilla River, Upper, and minor tribs (0601-0188) Fish Consumption SUSPECTED of being IMPAIRED	Herkimer	107.5 Mile	River	C(T)	Impaired Seg
		Causes: Metals Sources: Atmosph. Deposition				
SR-146-69 2008 Section 303(d) Listed Water*	North Winfield Creek and tribs (0601-0035) Recreation KNOWN to be IMPAIRED Aquatic Life POSSIBLY STRESSED	Herkimer	8.0 Mile	River	C(T)	Impaired Seg
		Causes: Pathogens Sources: On-Site/Septic Syst				
SR-195	Cherry Valley Creek, Upper and tribs (0601-0174) Recreation KNOWN to be STRESSED	Otsego	53.0 Mile	River	C(T)	MinorImpacts
		Causes: Pathogens Sources: On-Site/Septic Syst				
SR-204-P392- 5	Ocuionis Creek and tribs (0601-0034) Aquatic Life KNOWN to be STRESSED Recreation KNOWN to be STRESSED	Otsego	2.3 Mile	River	C(T)	MinorImpacts
		Causes: Nutrients Sources: Agriculture				
SR-P404-10-P409-	Minor Tribs to Weaver Lake (0601-0039) Aquatic Life SUSPECTED of being STRESSED Recreation SUSPECTED of being STRESSED	Herkimer	13.2 Mile	River	C	MinorImpacts
		Causes: Nutrients Sources: Agriculture				

* The actual 2008 Section 303(d) Listing was for Unadilla, Upper, Main Stem (0601-0037). During the most recent water quality assessment effort it was determined that the water quality problems cited in the previous listing are largely limited to North Winfield Creek; consequently, this impairment appears for North Winfield Creek rather than Unadilla River. This change is expected to be reflected in the 2010 Section 202(d) List.

The Waterbody Inventory

Priority Waterbodies List

Assessment Methodology

Assessment Methodology refers to what monitoring tools are used and how resulting data and information are interpreted to determine the level of support of designated uses and to arrive at an overall assessment of water quality. In some cases a lack of use support is apparent (e.g., beaches closed to public bathing or acid rain lakes devoid of fish). However, in most cases, designated use support is evaluated using established water quality criteria or surrogate indicators of water quality. The assessment methodology presented here outlines various water quality monitoring tools and considers other aspects of the resulting data and information, such as the type of data and information generated (numerical, observational/narrative or anecdotal), the source of the data/information, and the level of confidence in the data/information. The methodology also outlines specific criteria that relates water quality monitoring data and information to the degree of use support. Such criteria are critical to providing a balanced and consistent assessment of the quality of waters throughout New York State.

Types of Assessment Criteria

The methodology outlined here relies on a combination of three categories of assessment criteria:

- Use Restriction Orders,
- Numerical and Narrative Standards and Criteria, and
- Surrogate Water Quality Indicators

Use Restriction Orders are administrative restrictions or closures of waters to specific uses. These orders are issued by regulatory agencies charged with protecting particular aspects of public health and are based on data collected through monitoring activities directed by those agencies. While the restriction orders are based on monitoring data, the raw data itself is not usually re-interpreted by NYSDEC in making the use support decisions; rather the level of restricted use already in place drives the use support determination. Examples of use restriction orders include fish consumption advisories, closed shellfishing areas, seasonal or conditional shellfishing areas, public bathing beach closures, etc.

Numerical (and narrative) Water Quality Standards and Criteria represent parameter-specific thresholds for establishing limits regarding the discharge of substances to the waters of the state such that various water uses are protected. In New York State, such standards are adopted in the state Code of Rules and Regulations while criteria are established through development of formal DEC guidance. For many substances the standard or criterion exists as a numeric value; for other parameters, the standard/criterion is more descriptive (narrative) in nature (e.g., *no increase in turbidity that will cause a substantial visible contrast to natural conditions*). Although the use of standards and criteria (particularly numeric standards/criteria) would seem to be directly applicable to determining use support in ambient waters, an assessment methodology is necessary to address issues such as appropriate sampling methods, location, frequency or sample size, natural or background conditions, mixing zones, and so on.

Surrogate Water Quality Indicators are other measures of water quality conditions that are not established in standards or formal criteria. These are often used when an exact determination of use support is not possible. For example, it is difficult to say exactly when a waterbody moves from supporting to not supporting recreational activities. The use of water quality indicators, such as nutrient levels and Secchi disc measurements, bring added consistency to the evaluation. Biological assessments, sediment toxicity evaluations, Section 319 nonpoint source assessments, source water assessments, dilution calculations and predictive models all reflect levels of water quality condition and use support without reliance on standards. Even where these indicators are more subjective, indicator-specific criteria help to maintain a degree of consistency and allow for the incorporation of additional information/data sets into water quality assessments.

Waterbody Inventory/Priority Waterbodies List

NYSDEC maintains information regarding use support, including impaired waters and lesser water quality impacts, through its *Waterbody Inventory/Priority Waterbodies List (WI/PWL)* database. The *Waterbody Inventory* refers to a listing of all waters, identified as specific individual waterbodies or Assessment Units, within the state. The Waterbody Inventory includes both assessed and currently unassessed waters. The *Priority Waterbodies List* is the subset of waters in the Waterbody Inventory that have documented water quality impairments, minor impacts and/or threats. The WI/PWL assessments provide the foundation for both the compilation of the biennial Section 305(b) Water Quality Report on all waters of the state, and for the development of the state Section 303(d) List, which is comprised of waters that do not meet water quality standards and do not support water uses and require development of a TMDL. More detail regarding the WI/PWL assessment effort can be found at <http://www.dec.ny.gov/chemical/23846.html>.

As well as providing the basis of the New York State Section 305(b)/303(d) integrated assessment, the water quality assessment information in the WI/PWL is also instrumental in directing other water quality efforts. It is used to prioritize monitoring, permitting and compliance activities, to provide a comprehensive inventory of water quality conditions suitable for establishing funding priorities, to enlist participation of other agencies and local partners, and to track progress toward improving the state's water resources. The methodology outlined here goes beyond Section 305(b)/303(d) Integrated Reporting and reflects the use of the WI/PWL in supporting these additional needs. The methodology specific to developing the Section 303(d) List of Impaired/TMDL waters is discussed in more detail in the Section 303(d) *Listing Methodology*.

As well as providing the basis of the New York State Section 305(b)/303(d) integrated assessment, the water quality assessment information in the WI/PWL is also instrumental in directing other water quality efforts. The methodology outlined here goes beyond Section 305(b)/303(d) integrated reporting and reflects the use of the WI/PWL in supporting these additional needs.

To accommodate a thorough evaluation including public participation, the review and updating of the WI/PWL follows a continuing rotating basin schedule in which two or three of the 17 drainage areas in the state are scheduled for reassessment each year. These basin reassessments typically follow the same basin five year rotation schedule employed by the NYSDEC Rotating Integrated Basin Studies (RIBS) monitoring program (<http://www.dec.ny.gov/chemical/30951.html>). This continuous rotating basin schedule allows for comprehensive solicitation of available data and information, meaningful public participation and review, and more thoughtful dialogue and consideration of water quality assessments. In addition, it is easier to manage than a biennial review of all waters of the state.

To incorporate recent well-documented information, particularly for waters that have not undergone a WI/WPL update during the two-year Integrated Reporting cycle, **NYSDEC will establish September 30 of the year prior to the issuing of a Section 305(b)/303(d) Integrated Report as the cut-off date to receive data and information to be considered for inclusion in the Section 305(b)/303(d) assessment.** Establishing a September 30 "cut-off" date (6 months before the Integrated Report is due) allows both an opportunity for consideration of additional data as well as sufficient time for consideration and comment by all parties on any proposed revisions to existing water quality assessments, and time for a public review component comparable to the WI/PWL process.

Segmentation of Waterbodies

The delineation of waterbodies (Assessment Units) must strike a balance between being too specific (resulting in more segments than can be assessed with finite resources) and too general (resulting in segments that are too large and diverse and difficult to assess accurately). Determining specific boundaries for individual waterbody segments is based on a number of considerations. These factors, which correspond to those outlined in *EPA Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act* (July 21, 2003), include:

Waterbody Type Different waterbody types are not combined into single waterbody segments. That is, lakes (including reservoirs and ponds) are not combined with river reaches to form one segment. Similarly, estuary waters, ocean coastline and Great Lakes shoreline are distinct waterbody types that must be tracked as separate Assessment Units.

Stream Classification A change in the stream class (A, B, C) of a waterbody usually necessitates the division of the waterbody into separate segments, since the two different classes of waters will be assessed for the support of different designated uses. However, differences regarding trout support (T, TS waters) do not require designation of a separate segment. In the case of trout/trout spawning and non-trout portions of the same segment, the assessment reflects the support of the appropriate corresponding fish community. Similarly, Class AA, AA-Spcl or A-Spcl may be grouped with Class A waters in one segment, and Class I waters may be combined with Class SC waters which support similar uses. Note however that some small reaches of Class A or B waters might be combined with a Class C waterbody (and vice versa), if these small reaches are unlikely to be assessed separately.

Hydrologic Drainage Waterbodies that cross 8-digit Hydrologic Unit Code (HUC) and 11-digit watershed boundaries are usually broken into separate waterbody segments at the boundaries.

Waterbody Length/Size As a practical matter, waterbodies should not be too large or too small. There should also be some consistency with regard to segment size. Length/size of particular types of waterbody segments are outlined below.

Rivers and Streams - River and stream segments may be limited to main stem waters, or may include tributaries. Typically 5th order streams and above – which are significantly larger than their direct tributaries – are listed as main stem segments and tributary waters are listed as separate segments. Larger tributaries (or portions of tributaries) are considered as separate segments but in most cases include smaller tributary waters. Occasionally, smaller tributary waters to a larger main stem or lake are combined into one segment, where land use, hydrologic boundaries and other commonality indicate this is appropriate. Generally, river segments include between 10 and 25 miles of stream.

Lakes and Reservoirs - Lakes/reservoirs must be greater than 6.4 acres (0.01 square mile) to be included in the Waterbody Inventory. This is consistent with the threshold for inclusion in the New York State Lake Gazetteer. Lakes are generally listed as “entire lake.” However, some very large lakes (e.g., Susquehanna River) may be segmented into separate portions. Conversely, some lake chains and/or smaller lakes in more remote watersheds may be joined together as a single segment, if land use and other commonality indicate this is appropriate.

Estuary Waters - Estuary segments are defined by physical features and stream classification with less consideration to consistency of size. Homogeneity of the waters within a segment is a key consideration.

Great Lakes/Ocean Coastline - Segments are delineated to reflect classification, hydrologic unit boundaries, and political boundaries, with an attempt to be consistent in regard to size.

Land Use and Character In addition, all waters within a single waterbody segment should drain areas of generally similar land use and character. If land use and other character changes, a separate segment is considered.

Waterbody segments are **not** defined solely upon the length/size of area impacted by a water quality problem. Estimates of the extent of water quality impacts are often inexact and may change regularly. Therefore, using this information to establish segment boundaries would make the Waterbody Inventory/Priority Waterbodies List considerably more difficult to manage and update, while providing little added benefit. Flexibility in the segmenting of waterbodies is allowed in order to provide sufficient protection of all designated uses.

Evaluation of Water Use Support

The assessment of New York State water resources is based on the ability of waters to support a range of specific designated uses (see box). The particular uses that a specific waterbody is expected to support are dependent upon the classification of that waterbody. For example, only specifically designated waterbodies are considered to have best uses of *Drinking Water Supply* (Class A, AA), *Shellfishing* (Class SA) and *Public Bathing* (Class A, SA, B, SB). (See Appendix B, *New York State Water Quality Classifications*.)

WI/PWL Water Uses

Drinking Water Supply
Shellfishing
Public Bathing
Recreation
Fish Consumption
Aquatic Life
Habitat/Hydrology
Aesthetics

The determination of use support and degree of water quality impact is drawn from a wide range of available data sources and relies on various criteria. These sources and criteria include use restriction orders (drinking water restrictions, bathing beach closures, fish consumption and shellfishing advisories), comparison of data (from NYSDEC ambient monitoring network as well as other agency, local or public/citizen monitoring program) with parameter-specific criteria that reflect water quality standards, the use of surrogate indicators, and qualitative perception and observational information (stream habitat assessments, recreational use or fishery resource surveys, citizen complaints). Given the growing involvement of local agency and citizen volunteers in water quality monitoring, the WI/PWL updating process has expanded to include a significant public participation and outreach component. This effort relies on a network of local Water Quality Coordinating Committees working in conjunction with the NYSDEC staff to capture additional available water quality information. To help ensure consistency in the assessments, basin update efforts begin with a regional WI/PWL workshop with other agency and local partners to introduce the assessment methodology and solicit water quality information.

After all readily available water quality information is collected, judgments and evaluations are made regarding:

- what specific use(s), if any, is/are affected,
- the severity of the impact on the use(s), and
- the level of documentation that corresponds to the use impact/impairment.

The focus of a water quality assessment is based on whether a specific use is restricted. If this is the case, then the severity of use impact (i.e., the degree to which the use is restricted) is evaluated as either *Precluded*, *Impaired*, *Stressed* or *Threatened* (see box). The water use impact and level of severity are also identified as *Known*, *Suspected* or *Possible* (see box) based upon available documentation. The severity of use impacts and the corresponding levels of documentation are dependent upon a number of factors, including the *magnitude* of the impact, the *frequency* of occurrence or *extent* of affected area, and *confidence* of data.

The *magnitude* of water quality impacts or degrees of use restrictions are reflected in the WI/PWL level of severity; the more significant the impact, the greater the severity. For example, fish consumption advisories may recommend eating no more than one fish per week (*Stressed*), eating no more than one meal per month (*Impaired*), or eating no fish at all (*Precluded*). With regard to water quality monitoring and its evaluation against criteria, in-stream concentrations may be below, near, at, above or well above applicable water quality criteria. Such conditions correspond to varying degrees of impact ranging from *No Known Impact*, *Threatened*, *Stressed*, *Impaired* or *Precluded*.

The *frequency* with which water quality conditions occurs, is also reflected in the WI/PWL level of severity. The more frequently a specific condition occurs, the more significant – or severe – the effect on related water resource uses. Similarly, the spatial *extent* of the water quality condition (i.e., the percent of total waterbody affected) is also reflected in the severity. For example, a bay where shellfishing is restricted in one small cove is less severely impacted than if shellfishing were restricted in the entire bay.

WI/PWL Level of Documentation

Known - Water quality monitoring data and/or studies have been completed and conclude that the use of the waterbody is restricted to the degree indicated by the listed severity.

Suspected - Reasonably strong evidence, supported by best professional judgment of DEC staff, suggests the use of the waterbody is impacted. However, water quality data/studies that establish an impact have not been completed or there is conflicting information.

Possible - Anecdotal evidence, public perception and/or specific citizen complaints indicate that the use of the waterbody may be restricted. However, there is currently very little, if any, documentation of an actual water quality problem.

WI/PWL Severity of Use Impact

PRECLUDED

Frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation prevents all aspects of a specific waterbody use.

IMPAIRED

Occasional water quality, or quantity, conditions and/or habitat characteristics periodically prevent specific uses of the waterbody, or;

Waterbody uses are not precluded, but some aspects of the use are *limited or restricted*, or;

Waterbody uses are not precluded, but *frequent/persistent* water quality, or quantity, conditions and/or associated habitat degradation discourage the use of the waterbody, or;

Support of the waterbody use requires *additional/advanced* measures or treatment.

STRESSED

Waterbody uses are not significantly limited or restricted (i.e. uses are *Fully Supported*), but *occasional* water quality, or quantity, conditions and/or associated habitat degradation periodically discourage specific uses of the waterbody.

THREATENED

Water quality supports waterbody uses and ecosystem exhibits no obvious signs of stress, however *existing or changing land use patterns* may result in restricted use or ecosystem disruption, or;

Data reveals decreases in water quality or presence of toxics below the level of concern, or;

Frequency of occurrence and spatial extent also influence the WI/PWL level of documentation. For example, if a specific condition occurs less than 10% of the time (or in less than 10% of the waterbody), the overall water quality impacts for the total waterbody are less certain than if the frequency/extent of the condition is greater than 50%. As general guidelines, if frequency/extent of conditions are less than 10%, the level of documentation for impacts to uses corresponding to that condition is considered *Possible*. If the frequency or extent is between 10 and 25%, the level of documentation should be considered *Suspected*. If greater than 25%, the impact should be considered *Known*.

However, the use of the 10% and 25% thresholds outlined above assumes that the frequency/extent of a condition is well-established. For some measures of impact, this is not very difficult (e.g., fish consumption advisories are in effect 100% of the time, for beaches that are closed 14 days out of a 100 day season the frequency is 14%, for estuary segments where shellfishing is restricted in 40 of 200 acres the extent is 20%). However, for other water quality monitoring the determination of frequency/extent depends upon a number of factors, including the level of data confidence.

Data confidence refers to statistical measures that help determine the degree of certainty that a condition exists. Such statistical confidence depends upon a number of factors (monitoring design, number of samples collected, variability of analysis) and is an important factor in determining the WI/PWL level of documentation. Other considerations, such as quality and age of data, also influence the level of documentation.

Though they are related, it is important not to confuse data confidence with the frequency/extent of a condition. For example a single data point might show exceedence of a standard. While this represents high frequency of a condition (100%), the level of data confidence based on just one sample is usually quite low.

WI/PWL Assessment Categories

Based on the degree of use support, severity of impact/impairment and level of documentation, all waterbodies in the WI/PWL are assigned to one of five possible *Water Quality Assessment Categories*. These categories are outlined below and in Table 1.

Impaired Waters are waterbodies with well documented water quality problems that result in *Precluded*, or *Impaired* uses and, in most cases, a level of documentation of *Known* (occasionally *Suspected*). Waters with *Stressed*, *Threatened* uses are not included in this category.

Waters with Minor Impacts are waterbodies where less severe water quality impacts are apparent, but uses are considered fully supported. These waters correspond to waters listed as having *Stressed* uses and a level of documentation of *Known* or *Suspected*.

Threatened Waters are waterbodies for which uses are not restricted and no water quality problems currently exist, but where data suggests declining water quality trends or specific land use or other changes in the surrounding watershed are *Known* to be threatening water quality. Also included in this category are waterbodies where the support of a specific and/or distinctive use make the waterbody more susceptible to *Possible* water quality threats.

Waters with Impacts Needing Verification are waterbodies that are thought to have water quality problems or impact, but for which there is not sufficient or definitive documentation. These segments include waters with *Stressed* uses and a level of documentation of *Possible* and waters with *Threatened* uses and a *Suspected* level of documentation. Such waterbodies require additional monitoring to determine whether uses are restricted or threatened.

Waters Having No Known Impacts are waterbodies where monitoring data and information indicate that there are no use restrictions or other water quality impacts, threats or issues.

UnAssessed Waters are waterbodies where there is no available water quality information to assess the support of designated uses.

Table 1 Relationships Between WI/PWL Severity/Documentation and Water Quality Assessment Categories			
Severity of Problem	Level of Problem Documentation		
	Known	Suspected	Possible
Precluded	Impaired Water	N/A*	N/A*
Impaired		Impaired Water	N/A*
Stressed	Minor Impacts but Fully Supporting	Minor Impacts but Fully Supporting	Needs Verification (Considered Minor Impacts But Fully Supporting)
Threatened	Threatened, but Fully Supporting	Needs Verification (Considered Threatened)	Threatened (Poss) (But Fully Supporting)
None	No Known Impairment - Fully Supporting Uses		
Unknown	UnAssessed Water		

* For more severe impacts (*Precluded, Impaired*) a greater level of documentation is needed.

The WI/PWL Water Quality Assessment Categories differ somewhat from the national Use Attainment Categories suggested by USEPA in their Integrated Reporting guidance for reporting on water quality. Whereas the Integrated Reporting Use Attainment Categories are more narrowly tailored to focus on questions concerning the attainment of water quality standards and the appropriateness of TMDLs to address water quality impairments, the WI/PWL categories are crafted to better provide support for a myriad of NYSDEC water quality management programs.

Perhaps the most significant difference between the two frameworks involves the WI/PWL’s inclusion of *Waters with Minor Impacts (Stressed waters)*. This category allows the WI/PWL to track waters that fully support uses but with less than ideal water quality. Conditions in these waters are considered stable, have been well documented and additional protection activities are not necessarily needed to maintain use support into the future.

The tracking of waters with minor impacts – while not readily accommodated in the national Use Attainment Category scheme – supports the NYSDEC water quality management programs and is an integral component of its overall watershed restoration and protection efforts. The emphasis at the federal government level regarding water quality efforts continues to be focused on the restoration of waters that do not support uses (*Precluded, Impaired*).

The tracking of waters with minor impacts – while not readily accommodated in the national Use Attainment Category scheme – supports the NYSDEC water quality management programs and is an integral component of its overall watershed restoration and protection efforts.

However in New York – at both the state and local levels – there is growing interest and support for directing

resources to protection efforts as well. Maintaining non-impacted waters and improving waters with lesser impacts is often a more effective use of limited resources for the advancing of water quality goals and progress. The more comprehensive framework of WI/PWL assessment categories better supports efforts to benefit these waters.

Although the current national Integrated Reporting Use Attainment Categories differ from the WI/PWL Assessment Categories, the two schemes share significant similarities. As a result waters assigned to WI/PWL Assessment Categories translate easily to corresponding USEPA designations. A more detailed discussion of the linkage between the WI/PWL Assessment Categories and the national Integrated Reporting Categories is presented in the Listing Methodology.

Monitored and Evaluated Waters

In compiling water quality information for 305(b) Reporting, states are to distinguish between water quality assessments based on monitoring data, and assessments based on other information. The distinctions between *Monitored* and *Evaluated* Waters in New York State are outlined below.

Monitored Waters are those waterbodies for which the use support assessment is based primarily on current (i.e., less than 5 years old) site-specific ambient monitoring data. Such data includes biological monitoring (macroinvertebrate assessment, toxicity testing) and/or chemical/physical monitoring results. Because fixed-station chemical/physical monitoring represents only a “snapshot” in time, such monitoring should be conducted quarterly or more frequently if it is to accurately portray water quality conditions at the site.

Evaluated Waters are those waterbodies for which the use support assessment is based on information other than current site-specific ambient monitoring data. Such assessments may rely on land use data, identification of sources, predictive modeling and/or surveys of water quality and natural resource staff. Also, assessments based on older ambient monitoring data are generally considered to be “evaluated.”

Use-Specific Assessment Criteria

Detailed guidelines regarding the relationships between the results of various monitoring and assessment indicators and corresponding levels of support for specific water uses are discussed on the following pages. Assessment criteria tables for specific designated water uses, which are intended to provide guidance to insure consistent evaluation of water quality, are included in these guidelines. The criteria in the tables are intended to define general boundaries between levels of impact (severity) and degrees of confidence (documentation). Individual waterbody assessments are evaluated on a case-by-case basis. These assessments may take into account additional or alternative indicators not captured in the assessment criteria tables and may require the application of best professional judgment. Multiple water quality indicators that may suggest conflicting levels of impacts also require careful consideration (see also *Independent Applicability and Weight of Evidence*).

In establishing assessment criteria to determine what uses are supported in a waterbody, New York State takes into consideration a number of factors. The starting point for the criteria is often based on established NYS water quality standards and/or guidance values. These standards and guidance values are integral to many water quality activities, including – and perhaps most prominently – the derivation of water quality-based effluent limitations for SPDES discharge permits. The NYS water quality standards and accompanying guidance recognize that the application of standards to the derivation of permit limits and the determination of compliance or noncompliance of discharges with the standards require additional interpretation and instruction, as approved by the department. This additional guidance is necessary to address issues such as appropriate sampling methods, sampling location, flow variability, averaging periods, frequency of sampling or sample size, natural or background conditions, mixing zones, and so on.

Similarly, the application of water quality standards and guidance values to determine use support and levels of impact/impairment also requires some interpretation and additional guidance. The most recent USEPA Integrated Reporting Guidance notes specifically the need for states to address issues of data quality, data quantity and data representativeness in making assessment decisions. The guidance speaks at some length on the issue of data representativeness, and recognizes that the "...spatial and temporal representativeness of data and information should be considered by states as they attempt to characterize conditions..." The guidance continues to note that:

"...state methodologies should describe, in general terms, the decision logic used to determine the temporal and spatial extent a grab sample can be construed to represent. In order to make credible assessment determinations, states should employ approaches that strike a balance between the extremes of: (1) considering every grab sample to be representative of merely the instant in which, and the drop of water from which, each was taken, or (2) assuming that each such sample is representative of conditions over several years, and covering hundreds of stream miles of hundreds of lake acres."

This New York State Assessment Methodology, and the associated Listing Methodology attempts to strike the balance called for in the USEPA guidance through the use of established water quality standards and guidance values, other criteria and indicators and the application of best professional judgment. However, NYDEC recognizes that achieving this balance is a work in progress and is continuing to work together with USEPA to improve the transparency of decision-making based on different types of data collected from numerous monitoring programs.

Drinking Water Supply Use

Only those waters where *Drinking Water Supply* is designated as the best usage (i.e., Class A, AA, A/AA-Special surface and Class GA groundwaters) are evaluated for support of this use. The evaluation of *Drinking Water Supply* use support is driven largely by water quality information and monitoring data generated by the New York State Department of Health (NYSDOH) or local health departments, which are primarily responsible for the protection of public health in the state.

A comprehensive evaluation of *Drinking Water Supply* use must consider the use on a number of levels. The first of these considerations focuses on administrative closures or restrictions on a *Drinking Water Supply* use. However, while this criterion is most directly related to the use, it is not sensitive to impacts.

Consequently, a secondary level of assessment uses the degree of treatment necessary for a water supply to be used for drinking water. The intent of this assessment criterion is to categorize as *Impaired* any water supply that requires "extra-ordinary" treatment measures. Given national filtration rules and other considerations, defining "extra-ordinary" is somewhat difficult. The criteria language – "*additional treatment beyond conventional processes (coagulation, sedimentation, filtration, disinfection) is required to remove any impurities that are not naturally present*" – reflects similar language used in the New York State Water Quality Regulations for classification of waters.

Because of the human health implications, threats to and protection of the *Drinking Water Supply* use take on added significance. Therefore, it is also appropriate to evaluate these waters prior to and without consideration of final treatment. This level of assessment evaluates contaminant concentrations relative to standards for the protection of Health (Water Source). In addition, other information regarding nutrient levels, precursors to Trihalomethane (THM) formation and other contaminants that may affect *Drinking Water Supply* use and quality is reflected in measures of natural sensitivity and susceptibility as determined through the NYSDOH Source Water Assessment Program (SWAP).

Table 2 Drinking Water Supply Use Assessment Criteria				
Use Assessment Criteria		WI/PWL Use Impact		
		Severity	Documentation	
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department water supply closures lasting >30 days.		Precluded	Known	
Occasional Conditions Prevent Use • NYS/local Health Department water supply closures lasting up to 30 days.		Impaired	Known	
Frequent/Persistent Conditions Discourage Use • Impacts do not require closure or advisories but adversely affect the quality of the finished water and/or treatment costs (e.g., taste/odors, color, turbidity, activated charcoal filtration, etc.), or • Monitoring data show exceedence of <i>Impaired</i> criteria* for cryptosporidium, coliform, or • Monitoring data show exceedence of <i>Impaired</i> parameter-specific criteria* for other substances more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.		Impaired	Known or Suspected	
Occasional Conditions Discourage Use • SWAP determination of <i>very high susceptibility</i> ¹ • Monitoring data show exceedence of <i>Stressed</i> criteria* for cryptosporidium, coliform, or • Monitoring data show exceedence of <i>Stressed</i> parameter-specific criteria* for other substances more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.		Stressed	Known or Suspected ¹	
Conditions Support Use, but Threats Noted • SWAP determination of <i>high susceptibility</i> ¹ • Monitoring data show exceedence of <i>Threatened</i> parameter-specific criteria* more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.		Threatened	Known or Suspected ¹	
No Known Impairment or Imminent Threat • No drinking water restrictions, and • No additional treatment required, and • No significant contaminants/threats present.		No Known Impact	Assessment Level <i>Monitored or Evaluated</i>	
*Parameter-Specific Criteria	<i>Impaired</i>	<i>Stressed</i>	<i>Threatened</i>	
Cryptosporidium (average)	7.5	3.0	–	oocysts/100 L
Cryptosporidium (individual)	–	7.5	3.0	oocysts/100 L
Coliform, Total (median) ²	50/2,400	–	–	per 100 ml
Coliform, Fecal (geometric mean)	200	–	–	per 100 ml
Ammonia/Ammonium	20	10	5	mg/l
Nitrate, as N	10	5	2	mg/l
other substances (source water) ³	Standard	50% of Std.	20% of Std.	
other substances (finished water) ⁴	MCL	50% of MCL	20% of MCL.	
¹ Impacts/impairments based on SWAP susceptibility determinations should be listed as <i>Suspected</i> .				
² Refers to Class AA and A respectively.				
³ Refers to substances for which there are NYS water quality standards for protection of <i>Health (Water Source)</i> .				
⁴ Refers to substances for which there are Maximum Contaminant Levels (MCL) for finished drinking water.				

The relationship between drinking water supply advisories, monitoring data, SWAP determinations and other information and the level of *Drinking Water Supply* use support is outlined in Table 2.

Shellfishing Use

Support of *Shellfishing* use is assessed for Class SA marine waters only. These assessments reflect the level of certification of the waters for the taking of shellfish as determined by DEC Division of Fish, Wildlife and Marine Resources and based on NYSDEC regulations (6NYCRR, Part 47, *Certification of Shellfish Lands*) and National Shellfish Sanitation Program requirements. Shellfishing waters that are not certified may be closed year-round, seasonally, or conditionally (after rainfalls events of a specific magnitude). Other restrictions on the use include requirements to transplant the shellfish to certified waters for cleansing prior to harvesting for human consumption. More information regarding the NYSDEC Shellfishing program can be found at <http://www.dec.ny.gov/outdoor/345.html>.

Table 3 Shellfishing Use Assessment Criteria		
Use Assessment Criteria	WI/PWL Use Impact	
	Severity	Documentation
<p>Frequent/Persistent Conditions Prevent Use</p> <ul style="list-style-type: none"> • NYSDEC Division of Fish, Wildlife and Marine Resources (DFWMR) has designated more than 25% of the waterbody area as uncertified year-round for shellfishing based on water quality conditions and contaminants, or • DFWMR has designated more than 10% of the area as uncertified year-round AND shellfishing in remaining area is restricted (i.e., only <i>seasonally</i> or <i>conditionally</i> certified) based on water quality conditions.. 	Precluded	Known
<p>Occasional Conditions Prevent Use</p> <ul style="list-style-type: none"> • DFWMR has designated 10 to 25% of the waterbody area as uncertified year-round based on water quality conditions, or • DFWMR has designated more than 25% of the waterbody area as restricted (i.e., only <i>seasonally</i> or <i>conditionally</i> certified) based on water quality conditions. 	Impaired	Known
<p>Occasional Conditions Discourage Use</p> <ul style="list-style-type: none"> • DFWMR has designated up to 25% of the waterbody area as restricted (i.e., only <i>seasonally</i> or <i>conditionally</i> certified) based on water quality conditions, or • DFWMR has designated more than 10% of the waterbody area as uncertified based on administrative guidelines (nearby outfall, marina). 	Stressed	Known
<p>Conditions Support Use, but Threats Noted</p> <ul style="list-style-type: none"> • DFWMR has designated < 10% of the waterbody area as uncertified, or • DFWMR has designated the entire waterbody as certified, but significant trib waters are uncertified due to water quality conditions. 	Threatened	Known or Suspected
<p>No Known Impairment or Imminent Threat</p> <ul style="list-style-type: none"> • DFWMR has designated the entire waterbody as certified for the taking of shellfish and all significant trib waters are also certified. 	No Known Impact	Assessment Level: <i>Monitored</i>
<p>* For large estuary segments where 10-25% of the waterbody area represents a significant closure or restriction, a greater severity of use impact may be assigned to the waterbody.</p>		

Shellfishing restrictions may be driven by either water quality or by administrative requirements. Water quality-based closures are the result of actual bacteriological monitoring and subsequent findings that the waters do not support safe consumption of shellfish. Administrative closures are precautionary; they are not necessarily reflective of water quality conditions but are issued for areas where the *potential* for contamination of shellfish exists. Administrative closures are generally issued for areas in close proximity to WWTP discharges and for waters around marinas. Generally closures based on actual water quality monitoring correspond to *Precluded/Impaired* uses, depending on the type of restriction (year-round, seasonal, conditional) and the percent of waterbody area affected. If the area affected by a water quality-based closure is relatively small, the severity of impact may be listed as *Stressed*. Administrative closures – because they are more precautionary in nature – correspond to *Shellfishing* that is *Stressed* or *Threatened*. The relationship between certification and level of *Shellfishing* use support is reflected in Table 3.

Generally, closures based on actual water quality monitoring correspond to *Precluded/Impaired* uses. Administrative closures – because they are more precautionary in nature – correspond to a *Shellfishing* use that is *Stressed* or *Threatened*.

Waters that are designated Class SB or SC are not assessed for *Shellfishing* use support, even if they have been evaluated by the National Shellfish Sanitation Program. However, because shellfishing is arguably the most sensitive of the uses assessed, if any Class SB, SC waters are certified for shellfishing they will be assessed as having *No Known Impairment* to other uses (unless additional/other water quality data indicates an impairment). If these waters are uncertified (due to water quality) then *Public Bathing/Recreation* are considered to be *Stressed*. A more severe level of impact to *Public Bathing/Recreation* requires monitoring data corresponding to those uses.

Public Bathing and Recreation Uses

Swimming and other recreational activities are important and popular uses for the waters of the state. The assessment of these activities involves two separate use categories: *Public Bathing* and *Recreation*. While the assessment of both *Public Bathing* and *Recreation* uses rely on similar water quality indicators, these two distinct uses are evaluated separately.

Evaluation of *Public Bathing* use is limited to those waters classified by New York State for primary contact recreation (i.e., Class B, SB, A, AA, A/AA-Special and SA). This classification applies to waters specifically designated as suitable for public beaches and bathing areas, which see an increased level of swimming use and are more regularly monitored by public health agencies.

As a practical matter, not all waters of the state are regularly monitored to assess swimming use support to the degree that designated public bathing areas are. Therefore, general precautions should be taken regarding recreation in these other waters.

State and local/county health departments conduct regular bacteriological sampling programs and perform sanitary surveys at designated public bathing areas. Based on the findings of these surveys, bathing use may be restricted either permanently or periodically. Localized closings may also occur due to contamination by spills, waterfowl, or runoff from wet-weather events. It should be noted although Class C, D and SC waters also include primary contact recreation as a specified designated use, because of their natural physical characteristics, these waters are generally not suitable as public beaches and bathing areas.

Evaluation of the *Public Bathing* use focuses primarily on public health concerns, particularly bacteriological contamination and water clarity. Consequently the Public Bathing Use Assessment Criteria are linked primarily to these parameters as well as beach closures.

The relationship between bathing restrictions, water quality monitoring and other indicators (including the closely-related *Recreation* use assessment) and the level of *Public Bathing* use support is reflected in 4.

Table 4 Public Bathing Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	Documentation
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department has closed the waterbody to swimming for the entire season, based on water quality (bacteriological) monitoring data.	Precluded	Known
Periodic/Occasional Conditions Prevent Use • NYS/local Health Department has issued temporary closures of the waterbody to swimming, based on water quality (bacteriological) monitoring data, or • Sufficient stream flow/water level necessary to support swimming uses are artificially restricted.	Impaired	Known
Frequent/Persistent Conditions Discourage Use • Swimming use requires additional measures (e.g., aquatic weed harvesting/control). • Monitoring data show exceedence of <i>Impaired</i> criteria* (bacteriological, clarity) more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.	Impaired	Known or Suspected
Occasional (Other) Conditions Discourage Use • <i>Recreation</i> uses are assessed as <i>Impaired/Precluded</i> ¹ , or • Monitoring data show exceedence of <i>Stressed</i> criteria* (clarity) more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.	Stressed	Known or Suspected ¹
Conditions Support Use, but Threats Noted • Monitoring data show exceedence of <i>Threatened</i> criteria* (clarity, phosphorus) more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time.	Threatened	Known or Suspected
No Known Impairment or Imminent Threat • NYS/local Health Department has not restricted swimming, and • Swimming use does not require any additional measures, and • Monitoring data does not exceed criteria* (>10% of time), and • <i>Recreation</i> uses are not <i>Impaired/Precluded</i> .	No Known Impact	Assessment Level: <i>Monitored</i>

* Monitoring Data Criteria	<i>Impaired</i>	<i>Stressed</i>	<i>Threatened</i>
Coliform, Total (geometric mean)	2,400	–	– per 100 ml
Coliform, Fecal (geometric mean)	200	–	– per 100 ml
Enterococci (geometric mean)	See below ²	–	–
Clarity (Secchi Disc)	1.2	1.5	2.0 meters
Total Phosphorus ^{3,4}	–	–	20 µg/l

¹ *Public Bathing* assessments based on *Recreation* use support should be listed as *suspected*.

² For marine waters (excluding tributaries), the enterococci criteria is 35/100 ml. For Great Lakes waters (excluding tributaries), the enterococci criteria is 126/100 ml.

³ Application of the Total Phosphorus criteria is limited to lakes and ponded waters.

⁴ Based on current New York State criteria indicative of elevated nuisance conditions and slight impacts to recreation; other state/national nutrient criteria currently being developed will be incorporated into the Assessment Methodology once adopted.

Table 5 Recreation Use Assessment Criteria

Use Assessment Criteria	WI/PWL Use Impact	
	Severity	Documentation
Frequent/Persistent Conditions Prevent Use • NYS/local Health Department has closed the waterbody to swimming, boating or other recreational use for the entire season, due to water quality concerns.	Precluded	Known
Periodic/Occasional Conditions Prevent Use • NYS/local Health Department has issued temporary closures of the waterbody or portions of the waterbody to swimming, boating or other recreational use due to water quality concerns, or • Sufficient stream flow/water level necessary to support recreational uses are artificially restricted.	Impaired	Known
Frequent/Persistent Conditions Discourage Use • Recreational uses of water require additional measures (e.g., weed harvesting/control), or • <i>Public Bathing</i> uses are assessed as <i>Impaired/Precluded</i> , or • Monitoring data show exceedence of <i>Impaired</i> criteria* more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time, or • Observational criteria* indicating restricted recreational uses are noted more than 50% of the time.	Impaired	Known or Suspected ⁴
Occasional (Other) Conditions Discourage Use • <i>Public Bathing</i> uses are assessed as <i>Stressed</i> , or • Monitoring data shows exceedence of <i>Stressed</i> criteria* more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time, or • Observational criteria** indicating restricted recreational uses are noted more than 25% of the time.	Stressed	Known or Suspected ⁴
Conditions Support Use, but Threats Noted • Monitoring data shows exceedence of <i>Threatened</i> criteria* more than 10% (<i>suspected</i>) or 25% (<i>known</i>) of time. • Observational criteria** indicating restricted recreational uses are noted more than 10% of the time.	Threatened	Known or Suspected ⁴
No Known Impairment or Imminent Threat • <i>Public Bathing</i> uses are not <i>Stressed, Impaired, Precluded</i> , and • Recreation uses not restricted, nor require additional measures, and • Monitoring data does not exceed criteria* (>10% of time), and • Observational criteria** for restricted use not noted (>10% of time).	No Known Impact	Assessment Level: <i>Monitored</i>

* Monitoring Data Criteria	<i>Impaired</i>	<i>Stressed</i>	<i>Threatened</i>		
Total Phosphorus ^{1,2}	—	20	—	µg/l	
Chlorophyl a ¹	15	12	8	µg/l	
Clarity (Secchi Disc) ¹	1.2	1.5		2.0	meters

**** Observational Data Criteria ^{3, 4}**

Swimming/recreation slightly (or more) restricted by specifically identified causes (algae, clarity, etc).

¹ Application of the Total Phosphorus criteria is limited to lakes and ponded waters.

² State/national nutrient criteria to be developed and incorporated into the Assessment Methodology.

³ *Observational Criteria* refers to responses on **CSLAP Field Observation Forms**. Specifically, *Condition of Lake* notes presence of algae, *Suitability for Recreation* notes some impacts/impairment, and *Opinion of Recreational Use* notes weeds and/or clarity problems.

⁴ Impacts/impairments based on observational criteria should be listed as *suspected*.

The category of *Recreation* tracks impacts and impairments to a more expansive list of recreational activities, such as fishing, boating, water skiing, rafting, wading and other primary/secondary contact activities, including swimming. The requirement of all waters to support *Recreation* uses addresses the federal Clean Water Act goal that all waters be *swimmable*.⁶ However, while all waters of the state are to be swimmable, as a practical matter not all waters of the state are regularly monitored to assess swimming use support to the same degree that designated public bathing areas are. As a result of differing criteria and the varying levels of monitoring, *Public Bathing* (Class B, SB, A, AA, A/AA-Special and SA) waters are evaluated more rigorously than other *Recreation* use waters.

Whereas the *Public Bathing* use assessment has a greater focus on public health concerns, *Recreation* uses are assessed more broadly. The evaluation of *Recreation* use support places emphasis on excessive weed growth, silty/muddy lake bottoms, color, odors and other conditions that discourage recreational activity. In those cases where certain Class C, D, and SC waters have been assessed for bacteria, these results will be incorporated into the overall assessment of the *Recreation* use for these waters.

Excessive nutrient levels – which may increase turbidity, lower dissolved oxygen, and promote aquatic plant and algal growth – may also discourage the use of lakes, ponds and reservoirs for recreation activities. Recognizing this, NYSDEC derived a total phosphorus criterion of 20 µg/l for the protection of recreational uses in lakes. However the criterion is based on lake user surveys and was developed to be indicative of *elevated nuisance conditions and slight impacts to recreation*. Such impacts are more closely aligned with Stressed/Threatened uses than with Impaired uses. Because of its basis, the criterion is more appropriate in assessing more general *Recreation* use support than *Public Bathing* use. However, since conditions resulting from elevated nutrients and weed/algal growth also may threaten swimming, this indicator is included in the *Public Bathing* use assessment as indicating *Threatened* uses.

The relationship between water quality monitoring and other indicators and the severity and documentation of an impact to *Recreation* use is reflected in Table 5. For various nutrient parameters, Table 5 refers to “*state/national criteria to be developed and incorporated into the Assessment Methodology*.” This flexibility of language reflects a need to accommodate the ongoing efforts by NYSDEC (and USEPA) to develop and implement nutrient criteria, including the use of different ecoregion-specific criteria for various regions of the state. Once these criteria are established, the Assessment Methodology will be revised to reflect them. Until then the surrogate indicators outlined in Table 5 will be used to assess recreational use support.

Fish Consumption Use

The assessment of *Fish Consumption* use is based on NYSDOH advisories regarding the catching and eating of sportfish, and contaminant monitoring in fish tissue, other biological tissue and surficial bottom sediments. The advisories reflect federal government standards for chemicals in food that is sold commercially, including fish. The NYSDEC Division of Fish Wildlife and Marine Resources routinely monitors contaminant levels in fish and game. Based on this monitoring data, NYSDOH issues advisories for specific waterbodies and species when contaminant levels in sportfish exceed the federal standards.

These advisories are updated and published annually. In addition to the waterbody-specific advisories, a general advisory recommends eating no more than one meal (one-half pound) per week of fish taken from New York

⁶ In order to meet the federal Clean Water Act goal that all waters be “swimmable,” water quality of New York State waters Class C, SC (and above) “shall be suitable for primary and secondary contact recreation.” However, other factors (such as flow/depth, access, conflicting use) may limit this use. (See NYS Classifications for Surface Waters, Part 701.1 thru 701.14.)

State freshwaters and some marine water at the mouth of the Hudson River. These general advisories are to protect against eating large amounts of fish that have not been tested or that may contain unidentified contaminants. Because the general statewide and marine waters advisories are precautionary and not based on any actual contaminant monitoring data, it does not represent any documented impairment of *Fish Consumption* use. Consequently, the general statewide advisories are not reflected in the assessment of *Fish Consumption* use. Current statewide advisories regarding snapping turtles and wild waterfowl are not reflected in the methodology for similar reasons.

Other general advisories recommend limiting the consumption of striped bass, bluefish and eels taken from marine waters due to specific habits or characteristics that make these species more likely to accumulate contaminants (particularly PCBs). Because these marine water advisories (outside of New York Harbor and Western Long Island Sound) are also more precautionary in nature and no more significant than the statewide advisory for freshwaters, they correspond to *Stressed* rather than *Impaired* use.

The relationship between the waterbody-specific fish consumption advisories and the severity and documentation of an impact/impairment to *Fish Consumption* use is reflected in Table 6.

Table 6 Fish Consumption Use Assessment Criteria		
Use Assessment Criteria	WI/PWL Use Impact	
	Severity	Documentation
Frequent/Persistent Conditions Prevent Use <ul style="list-style-type: none"> • NYSDOH advisory recommends eating no fish (or none of sub-species) from a specific waterbody. 	Precluded	Known
Periodic/Occasional Conditions Prevent Use <ul style="list-style-type: none"> • NYSDOH advisory recommends limiting consumption of fish (no more than one meal per month) from a specific waterbody. 	Impaired	Known
Occasional (Other) Conditions Discourage Use <ul style="list-style-type: none"> • Monitoring of fish tissue shows contaminant levels that exceed levels of concern, but NYSDOH advisory has not been issued. • NYSDOH general advisory recommends limiting consumption of fish (no more than one meal per week) from certain marine waters. • Monitoring of macroinvertebrate tissue or surficial bottom sediment shows contaminant levels that exceed levels of concern. 	Stressed	Known or Suspected
Conditions Support Use, Threats Noted <ul style="list-style-type: none"> • Monitoring of fish (known) or macroinvertebrate tissue/bottom sediment (suspected) shows contaminant levels present but not exceeding levels of concern. 	Threatened	Known or Suspected
No Known Impairment or Imminent Threat <ul style="list-style-type: none"> • No fish consumption advisory beyond the NYSDOH <i>General Advisory for Eating Gamefish</i>, and • Monitoring data revealing no contaminants in fish, macroinvertebrate tissue or surficial bottom sediment above background levels. 	No Known Impact	Assessment Level: <i>Monitored</i>

Aquatic Life Use Support

A primary focus of the Statewide Waters Monitoring Program (SWMP) involves determining the degree to which waters support aquatic life. There are a number of reasons for this emphasis:

- *Aquatic Life* use support must be maintained in all waters, regardless of classification, and
- *Aquatic Life* use support is one of the most sensitive of national use support categories, and
- *Aquatic Life* use support can be assessed easily and economically using biological sampling techniques.

The evaluation of *Aquatic Life* use support represents a recent change to the WI/PWL. Prior to 1999, the WI/PWL tracked waterbody support of *Fish Propagation* and *Fish Survival* rather than *Aquatic Life* use support. This was a reflection of the designated uses outlined in New York State standards. However, the change to the broader category of *Aquatic Life* use support better represents the results of the macroinvertebrate sampling used to assess water quality. The change from *Fish Propagation/Survival* to *Aquatic Life* use support also provides greater flexibility in reporting water quality and allows tracking of aquatic impacts that are not sufficiently severe as to be apparent in the fishery. The revised category also corresponds more closely to the USEPA national use support category.

Different types of monitoring data may be used to determine *Aquatic Life* use support use. The SWMP relies on biological sampling. The assemblage most frequently used is macroinvertebrates, however the program has recently incorporated some periphyton and, to a lesser degree, fish community assessments. The relationship between biological (macroinvertebrate) assessment, as described in the *Quality Assurance Work Plan for Biological Stream Monitoring in New York State* (Bode, et.al., 2002) and the impact/impairment to *Aquatic Life* use support is shown in Table 7.

Table 7 Aquatic Life Use Support Assessment Criteria			
Biological (Macroinvertebrate) Assessment		WI/PWL Use Impact	
		Severity	Documentation
<i>Severely Impacted</i> (Very Poor)		Precluded	Known
<i>Moderately Impacted</i> (Poor)		Impaired	Known
<i>Slightly Impacted*</i> (Good)	Other indications of impact present	Stressed	Suspected or Known
	No other indications of impact	No Known Impact	Assessment Level: <i>Evaluated</i>
<i>Non-Impacted</i> (Very Good)		No Known Impact	Assessment Level: <i>Monitored</i>

* *Slightly Impacted* represents a broad category ranging from generally good water quality to conditions causing minor impacts, but still providing adequate support of aquatic life.

Independent Applicability and Weight of Evidence

A comprehensive evaluation of *Aquatic Life* use support must consider all available biological, physical/chemical and toxicity monitoring data. Biological assessment of the macroinvertebrate community is a good integrator of these monitoring components. Consequently, when biological macroinvertebrate community assessment data is available and considered definitive, *Aquatic Life* use support is generally determined as outlined in Table 7. For instances in which assessment of the macroinvertebrate community is inconclusive and/or other indicators suggest different levels of use support, aquatic life use support determination is made by further consideration of all available monitoring data and comparison of monitoring data results against the applicable water quality standards and criteria for the protection of aquatic life.

To address the possibility of conflicting results, USEPA developed a policy of *Independent Applicability*. This policy states that where there are conflicting and equally valid data sets no one type of assessment (biological, physical/chemical, toxicity) can be used to override a finding of water quality impact/impairment that is based on another type of assessment. However, while no one assessment type routinely takes precedence over others, the evaluation of conflicting assessments must take into account levels of documentation, quality and overall confidence in the data, other artifacts of monitoring data (e.g., analytic methods, sampling techniques, etc.), how representative the sampling is of conditions in the larger waterbody segment and the relationship of the indicator to the actual use being assessed. These considerations (or *weight of evidence*) may, in fact, lead to favoring one assessment over others in arriving at an assessment for a specific waterbody. Because biological sampling is a good integrator of water quality conditions and it is a direct measurement of aquatic life use support, it is often the deciding factor in assessment decisions for this use.

Assessment of Naturally Occurring Low Dissolved Oxygen Waters

NYS water quality standards for dissolved oxygen for the protection of aquatic life specify that dissolved oxygen in waters should not be less than the standard “at any time.” In some instances this “never less than” condition is qualified to except waters where low dissolved oxygen is the result of natural conditions (Class AA-Special, AA, A, B and C trout spawning waters); for other waters, the natural conditions exception is not explicit. However, whether explicitly stated or not, assessments of use support based on dissolved oxygen should recognize that low dissolved oxygen at lower depths of non-flowing waters (i.e., lakes and impoundments) or in areas of poor aeration, circulation or natural organic loadings are likely to occur.

A review of the assessment methodologies of other northeastern states finds that most recognize and allow for natural conditions of low dissolved oxygen that do not result in designation of the water as not supporting uses.⁷ These states allow for the application of “best professional judgment” in determining whether low dissolved oxygen values are naturally occurring, whether they are representative of the waterbody as a whole, and how they should be considered in light of biological sampling results and other available information. In fact, USEPA in earlier *Guidelines for the Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates* (USEPA, 1997) includes low dissolved oxygen (and low pH) caused by poor aeration or natural organic materials among its examples of what might be considered naturally occurring conditions.

Water quality assessment for the determination of *Aquatic Life* use support applies an approach to the evaluation of dissolved oxygen results that recognizes that morphology and other natural conditions may contribute to the occurrence of low dissolved oxygen in some waters. Specifically, data will be evaluated on a case-by-case basis to determine whether impacts result in impairments to aquatic life and/or other uses, and the degree to which natural conditions contribute to the impacts. This evaluation will be made using best professional judgement, with attention to other available physical/chemical indicators and particular emphasis on biological assessments which are a more direct measurement of aquatic life use support. As the triennial water quality standards rule-making effort moves forward, NYSDEC will evaluate the current dissolved oxygen standards for freshwater in light of available research and adopt a criterion that might better reflect the natural occurrence of low dissolved oxygen in deeper waters and its impact on use support. (See also *Impacts Due to Natural Conditions/Conflicting Uses* in the Listing Methodology.) A general relationship between dissolved oxygen data, water chemistry and aquatic biology and assessed impacts to aquatic life use support is shown in Table 8.

⁷ Both Vermont and Pennsylvania allow for seasonal and periodic variations in hypolimnetic dissolved oxygen (perhaps as low as 0 mg/l) if biological sampling reveals a healthy aquatic (macroinvertebrate, fish) community. Rhode Island also recognizes that D.O. measurements should not exceed the criteria “except as naturally occurs.” And New Hampshire states that “exceedances of most water quality criteria due to naturally occurring conditions are not considered violations of water quality standards.”

Impacts from Low/High pH on Aquatic life Use Support

One important chemical indicator for evaluating *Aquatic Life* use support is pH. Specific criteria regarding the use of pH data to determine *Aquatic Life* use support is applied to waterbodies, particularly lakes and ponds, that are subject to atmospheric deposition/acid rain. Because of the extent and significance of this issue, extensive chemical sampling efforts to monitor the pH of streams, lakes and ponds in the state have long been in place. The *Aquatic Life* use support/pH criteria takes advantage of the considerable amount of study and available chemical (pH) data. These efforts provide strong evidence that pH levels that fall somewhat outside the 6.5 to 8.5 range specified in NYS water quality standards are still supportive of aquatic life. As is the case with low dissolved oxygen (cited above), other states as well as USEPA have recognized the occurrence of natural conditions that may result in low pH levels.

Table 8 Aquatic Life Use Support/D.O. Assessment Criteria		
Lake/River Conditions (Dissolved Oxygen, Water Chemistry, Aquatic Biology)	WI/PWL Use Impact	
	Severity	Documentation
Dissolved Oxygen not meeting standards is consistent over depth, season and/or area.	Impaired	Known
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and other indicators (water chemistry, aquatic biology) suggest impairment.	Impaired	Known
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and no other indicators or use support/impairment are available.	Stressed *	Possible *
Dissolved Oxygen not meeting standards periodically and/or not consistent over depth, season and/or area, and other indicators more representative of conditions suggest no impairment. Possible natural condition	Stressed or No Known Impact	Known Suspected, or Possible
Dissolved Oxygen typically meets standards (> 90%), and other indicators (chemistry, aquatic biology) suggest no impairment.	No Known Impact	Known, or Suspected
Dissolved Oxygen not meeting standards, but limited data (single sampling event or single point not representing whole waterbody)	Stressed *	Possible *
Dissolved Oxygen standards are consistently met.	No Known Impact	Assessment: <i>Monitored</i>
* Waters assessed as Stressed/Possible are listed as <i>Waters Needing Verification of Impact</i> and reported as <i>Integrated Reporting Category 3 - Waters with Insufficient Data</i> .		

Water quality assessment for the determination of *Aquatic Life* use support with regard to pH results also relies on best professional judgment. As with dissolved oxygen data, pH data will be evaluated in light of all other available data (including biological assessments) on a case-by-case basis using best professional judgment. (See also *Natural Conditions* in the Listing Methodology.)

The general relationship between pH monitoring data and the assessed impacts to aquatic life is shown in Table 9. Note that waters having pH between 6.0 and the minimum pH water quality standard of 6.5, but where biological sampling suggests that aquatic life is supported, may be listed as *Waters Needing Verification of Impact*. This is consistent with the *weight of evidence* approach (outlined above) and recognizes that because biological samples represent an integrator of all water quality conditions and are also a direct measurement of aquatic life, biological assessments are often given more weight in evaluating *Aquatic Life* use support.

Table 9 Aquatic Life Use Support/pH Assessment Criteria		
Lake pH/Fishery Assessment	WI/PWL Use Impact	
	Severity	Documentation
pH values less than 5.0 or greater than 10.0	Precluded	Known
pH values between 5.0 and 6.0 or between 9.0 and 10.0	Impaired	Known
pH values between 6.0 and 6.5 or between 8.5 and 9.0, and fish/biological surveys indicate a fishery/aquatic life impact.	Impaired	Known or Suspected
pH values between 6.0 and 6.5 or between 8.5 and 9.0, but fish/biological surveys indicate no fishery/aquatic life impact	Stressed	Known Suspected, or Possible *
pH values greater than 6.5 and less than 8.5	No Known Impact	Assessment: <i>Evaluated</i>

* Waters that have pH above 6.0 and below 6.5 and where biological sampling suggests that aquatic life is supported may be listed as *Waters Needing Verification of Impact*.

Note about *Episodic Acidification*
 Episodic Acidification refers to short-term decreases in acid neutralizing capacity (ANC) that may occur during high streamflow events (i.e., spring runoff, snowmelt). Although these events are periodic, bioassays and other fish studies show that the impact on the fishery can be significant and longer lasting. The severity of the impact may result in precluded—rather than merely *impaired*—aquatic life, even though episodic acidification occurs over a short time period. This situation represents an exception to the strict application of the Priority Waterbodies List (PWL) definitions for a precluded use (frequent/persistent water quality condition) and an impaired use (occasional water quality conditions).

Site Specific Factors

The USEPA policy also recognizes the difficulty and time involved in resolving conflicting results that might be due to site-specific environmental factors. In these cases, site-specific criteria, use attainability analysis or re-evaluation of a standard may be needed to determine use support. Because these efforts may require additional monitoring, USEPA suggests use of an assessment category of *Monitoring Insufficient to Determine Impairment*. This category corresponds to the WI/PWL category of *Segments Needing Verification of Impact/Impairment*, and allows for the deferring of a use support decision until appropriate evaluation is complete.

Natural Resources Habitat/Hydrologic Uses

In an effort to better incorporate wetlands and other natural resources concerns into the water quality assessments, the water use category of *Natural Resources Habitat/Hydrology* uses was recently added to the list of uses to be assessed. This category recognizes that, in some waterbodies, water quality may be appropriate to support uses, but various other conditions, such as habitat, streamflow, invasive species, and so on, result in degradation of natural resources (i.e., fish and wildlife populations). Additionally, hydrologic conditions can have a negative impact on wetland uses such as flood protection, erosion control, nutrient recycling and surface and groundwater recharge. This category may also be used to capture impacts to various water quantity and flooding/flood plain issues including excessively low flows, increased peak flows, alterations to the frequency, duration and timing of floods and loss of flood storage.

For many impacts to *Natural Resources Habitat/Hydrology* use support, the situation is more clearly defined by the cause or source of the problem, than by the use affected. Such causes/sources include dredging, draining, excavation and/or filling of wetlands, stream channels, lakes/ponds; stream widening; stream downcutting; sediment embedded-ness; other losses of wetlands; habitat fragmentation; loss of riparian vegetation or upland buffer zones. Generally, *Natural Resources Habitat/Hydrology* use impacts and impairments are more likely attributed to “*pollution*” (i.e., a condition related to the waterbody) rather than a “*pollutant*” (i.e., a substance/contaminant in the waterbody).

While waterbody assessments include impacts to *Natural Resources Habitat/Hydrology*, specific criteria for *Natural Resources Habitat/Hydrology* use support have not yet been developed.

Aesthetics

An evaluation of waterbody support of *Aesthetics* is much more subjective than those for the other assessed uses. Because of this subjectivity and the difficulty in assigning a level of severity of impacts to aesthetics, available choices for the assessment of aesthetics are limited to *No Known Impact* and *Stressed*. Due to the subjectivity and the limitations on the level of severity, there is no specific assessment criteria to determine support of aesthetics. Instead, the assessment of *Aesthetics* use support should reflect available objective information (CSLAP Lake Perception Surveys, preponderance of citizen complaints, etc).

Presumed Assessments

While the great majority of waters in New York State are thought to support a variety of uses, because of limited monitoring resources and the emphasis on monitoring in priority/problem waters documentation of good quality waters has been generally lacking. This shortcoming was addressed in previous 305(b) assessments by assuming that waterbodies were fully supporting uses, unless there was information to the contrary. However, USEPA has determined such “presumed” assessments to be unacceptable. NYSDEC also recognizes the need to increase efforts to document water quality in the great number of waterbodies that do support uses in order to provide a more balanced picture of water quality in the state.

Recent modifications to the NYSDEC Division of Water Statewide Waters Monitoring Program (SWMP) include an expanded biological screening component. This effort uses a fairly simple but effective set of on-site assessment criteria based on the presence/absence of key macroinvertebrate indicator species. Where the assessment criteria are met, the waterbody is assessed as having *No Known Impacts*. Where the criteria are not met, possible water quality problems are evaluated using more intensive sampling methods to collect more complete data.

A similar effort is being developed and implemented to evaluate all currently unassessed lakes in the state. This effort relies on basic water chemistry sampling in conjunction with visual assessments of aesthetics and recreational use support.

These screening efforts, which greatly increase the number of sites assessed in a basin study area, reflect the incorporation of a “census” approach into the SWMP and are key components in the state’s goal of providing a comprehensive assessment of its waters.

Pollutants (Causes) and Sources of Water Quality Impacts

In addition to providing assessments of designated use support, the WI/PWL assessments also includes information regarding the likely pollutants/causes and sources that are responsible for water use impacts. These pollutant and source identifications are derived from a number of information sources including Impact Source Determinations conducted during biological sampling, water chemistry data collected during Intensive Network Monitoring, or other available monitoring data. In many cases, monitoring focused on the specific pollutants and sources is not available. In the absence of any such data, best professional judgment based on surrounding land use may be used to identify possible causes and sources.

The listing of specific pollutants and sources includes an indication of the degree to which they are thought to contribute to water quality problems. The impact of all listed pollutants and sources are characterized as being *Known, Suspected, or Possible*. Since it is common for multiple pollutants and sources to be indicated as contributing to a water quality impact, each identified pollutant and source is also listed as either a *major* or *minor* contributor to the impact, based on best professional judgment. Note that the designation *major* is assigned to pollutants and sources that significantly contribute to the most severe water quality impacts/impairments affecting the segment; pollutants and sources contributing to lesser impacts are listed as *minor*.

National (USEPA) reporting guidance suggests that state databases specify which uses are affected by which pollutants, and which sources contribute each pollutant. However the New York Statewide Water Monitoring Program does not routinely focus on pollutant identification and source trackdown to a degree that this level of precision is known for most waters. Pollution identification and source trackdown is typically a more resource-intensive effort reserved for special situations. In its national reporting to USEPA, New York State provides data that links sources to pollutants and pollutants to use impacts. But these linkages are usually broadly interpreted and typically reflect that most sources contribute varying degrees of each pollutant and each pollutant has some influence on all impacted uses.

Resolution/Management Information

The WI/PWL database also allows for the tracking of information relating to management and status regarding the resolution of water quality impacts for each waterbody. This information includes:

- Resolvability indicates where a waterbody needs additional study, the development of a strategy, implementation of a strategy, or verification of the effectiveness of an implemented strategy. In some cases a water quality impact may be deemed *Not Resolvable* at this time due to technical and/or economic limitations or if the impact is the result of natural conditions or conflicting uses.
- Status of Verification refers to the specific aspect of the waterbody that needs further study. The verification effort may need to focus on the existence of an impact, the pollutant/cause of a known impact, the source of a known pollutant, or the development of a management strategy to address the problem.
- Lead Agency/Office indicates the specific government agency, office or other group that has primary responsibility for managing/addressing the impact to the waterbody.
- Resolution Potential is used to reflect the degree to which the expenditure of available NYSDEC resources on the waterbody or water quality issue is appropriate. Resolution Potential reflects the level of public interest, the expectation that measurable improvements can be reasonably achieved, and the appropriate role for NYSDEC.
- TMDL Note indicates the status of planned and/or ongoing Total Maximum Daily Load activities, if any.

Such information allows NYSDEC to better prioritize monitoring, restoration and protection activities, target the expenditure of limited resources to those waters where there is greatest public interest and/or the expectation that measurable improvements can be achieved, and track progress toward water quality improvement and problem resolution.

Waterbody Inventory Data Sheet Background Information

Waterbody Location Information

Water Index Number (WIN): The stream identification number used in the Stream Classification Regulations (Title 6 - Conservation, Vols. B-F of the Official Compilation of Codes, Rules and Regulations for the State of New York).

Hydrologic (Watershed) Unit Code: Eleven digit code found on USDA-SCS (NRCS) *Hydrologic Watershed Unit Map - 1980 State of New York*.

Waterbody Type: River, Canal, Lake, Lake(Reservoir), Bay, Great Lake Shoreline, Estuary, or Ocean Coastline.

NOTE: Bays refer to freshwater bays, saltwater bays and tidal waters should be designated as *Estuary*.

Affected Length/Area: The estimated length of segment with the noted impairment in miles (rivers, canals), Shore/coastal miles (great lakes, ocean) or acres (lakes, bays, reservoirs, estuaries).

Describe Waterbody Segment: Narrative description locating the beginning and endpoint (from downstream to upstream) of the segment.

Waterbody Classification: Current classification of the waterbody as specified in the Stream Classification Regulations (Title 6 - Conservation, Vols. B-F of the Official Compilation of Codes, Rules and Regulations for the State of New York).

Flow Category: Minimum Average Seven Consecutive Day Flow-10 year recurrence (MA7CD/10) flow range, from table.

<u>Category</u>	<u>MA7CD/10 Range</u>
H (for high)	Streams/Rivers over 150 cfs
M (for medium)	Stream/Rivers between 20-150 cfs
L (for Low)	Streams/Rivers under 20 cfs
0	Not Applicable (lake, estuary, shore/coastline, etc.)

Drainage Basin and Sub-Basin: One of 17 major hydrologic basins in New York and the associated sub-basin.

Region: NYSDEC Region in which the waterbody is located.

County: Primary county (and county ID number) of waterbody location. NOTE: Waterbody segments which form the border between or cross two or more counties are listed only once. This is done to avoid double counting the number of segments and/or the length/affected area of the segment. PWL segments that are located in more than one county are indicated by “...” after the *primary* county name. (Listings of PWL segments within each county are included as Appendix C.)

Quad Map: The name of the primary topographic quadrangle map on which the segment appears. NOTE: PWL segments that are located in more than one quadrangle are indicated by “...” after the *primary* quad map name.

Water Quality Problem Information

Use Impacts/Impairments:

All specific uses that are restricted by water quality impacts/impairments are listed.

Problem Severity: For each waterbody use impairment, the degree of severity of water quality problem/diminished use (i.e., use precluded, impaired, stressed, or threatened) is listed. The severity is determined using the following criteria.

PRECLUDED (P):

Frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation prevents all aspects of the waterbody use (e.g., the Health Department does not allow swimming at the Onondaga Lake Outlet public park beach - *bathing precluded*; consumption advisory recommends eating no fish from Upper Hudson due to PCB contamination - *fish consumption precluded*; Sacandaga River below the dam is periodically dry and devoid of benthic organisms due to flow extremes from power dam releases - *fish propagation precluded*)

IMPAIRED (I):

Occasional water quality, or quantity, conditions and/or habitat characteristics periodically prevent the use of the waterbody (e.g., beaches in marine waters are closed after storm events due to high coliform levels from CSOs's and stormwater runoff - *bathing impaired*) or;

Waterbody uses are not precluded, but some aspects of the use are limited or restricted (e.g., a fish consumption advisory for lake trout from Canandaigua Lake recommends eating no more than one meal per month - *fish consumption impaired*) or;

Waterbody uses are not precluded, but frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation discourage the use of the waterbody (algal blooms and heavy rooted aquatic vegetation deter swimming in Oneida Lake - *bathing/swimming impaired*) or;

Support of the waterbody use requires additional/advanced measures or treatment (e.g., the City of Rochester is to build a filtration plant due to high turbidity in the Hemlock Lake water supply - *water supply impaired*, aquatic vegetation control--mechanical harvesting, herbicides--are required in Upper Cassadaga Lake to allow swimming and boating - *bathing/ swimming and boating impaired*).

STRESSED (S):

Waterbody uses are not significantly limited or restricted, but occasional water quality, or quantity, conditions and/or associated habitat degradation periodically discourage the use of the waterbody (e.g., high turbidity that occurs after rains reduce clarity and deter swimmers in Babcock Lake - *bathing/ swimming stressed*, ambient water column analyses indicate occasional aquatic standard violations but impaired use not evident - *fish survival/ propagation stressed*; localized areas of debris along the shore - *aesthetic stressed*)

THREATENED (T):

Water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however existing or changing land use patterns may result in restricted use or ecosystem disruption (e.g., numerous proposals for residential development in the Schoharie Creek headwaters create a concern - *fish propagation, aesthetics threatened*) or,

Water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however monitoring data reveals a declining trend in water quality which, if it continues, would result in a use impairment, or

Waterbody uses are not restricted and no water quality problems exists, but the support of a specific and distinctive use or uses make the waterbody more susceptible to water quality threats. Note: Such situations are the only instances where a threatened use can have a documentation level of *possible*, other threatened waterbodies (i.e., those related to changing land use activities) must correspond to *known* or *suspected* (planned) land use changes.

Problem Documentation: Each diminished/impacted use is listed according to the level of documentation for the problem/impairment. The level of problem documentation is determined using the following criteria.

Known (K): Water quality monitoring data and/or studies (biologic macro-invertebrate surveys, fishery studies, water column chemistry, beach closures, fish consumption advisories, shellfishing restrictions) have been completed and conclude that the use of the waterbody is restricted to the degree indicated by the listed *severity*.

Suspected (S): Anecdotal evidence, public perception and/or specific citizen complaints indicate that the use of the waterbody may be restricted. However, water quality data/studies that establish an impairment have not been completed or there is conflicting information.

Possible (P): Land use or other activities in the watershed are such that the use of the waterbody could be affected. However, there is currently very little, if any, documentation of an actual water quality problem.

Type of Pollutant: Each pollutant contributing to the water quality problem is listed according to the level of documentation for the pollutant. The criteria for *known*, *suspected*, or *possible* pollutants the same as outlined above. Those pollutants that contribute to the most significant impact/impairment are “major” pollutants and are listed in CAPITAL LETTERS.

Source(s) of Pollutant: Each source of pollution contributing to the water quality problem is listed according to the level of documentation for the source. The criteria for *known*, *suspected*, or *possible* pollutants the same as outlined above. Those sources that contribute to the most significant impact/impairment are “major” sources and are listed in CAPITAL LETTERS.

Waterbody Problem Description/Documentation/History/Notes: This narrative description contains more detailed information about the waterbody segment and its water quality problem/impairment. This section may include:

- 1) a detailed description of the waterbody and surrounding area,
- 2) specific examples/instances of water use impairments, e.g., what water supply is affected? how often are beaches closed? what species of fish are restricted for consumption?
- 3) details regarding the specific pollutant and source of the impairment, and
- 4) references for specific reports, studies, monitoring data and/or other documentation that supports the impairment, pollutant and source information.

For some segments, an expected date of completion for a sampling effort, report, facility or other activity that will affect the segment or provide additional segment information may be noted in the **Next Update** field. The **Next Update** information will help ensure the segment information is kept up-to-date.

Resolution/Management Information

(to be completed by NYSDEC staff)

18. Resolvability: Note with an “X” the one most appropriate *resolvability* class for the segment from the list below.
1. Needs Verification/Study (see Status): The confirmation of a use impairment, the evaluation of possible solutions and/or the development of management action (tailored specifically to the segment) need to be completed. See also *Status of Problem Verification/Study*.)
 2. Strategy Exists, Funding/Resources Needed: Study of the problem is complete, but funding or other resources are needed to implement the management strategy.
 3. Strategy Being Implemented: The recommended strategy for the remediation of the segment is currently underway.
 4. Problem Not Resolvable (technical/economic limitations): Technical, legal, social, political concerns preclude resolution of the impairment for the foreseeable future (e.g., low pH in lakes due to acid rain).
 5. Problem Not Resolvable (natural condition): Limitations to use of a waterbody is attributed to naturally occurring characteristics of the water/watershed (e.g., high sediment load in the Genesee River).
 6. Problem Thought to be Abated, Needs Verification: The prime cause of the use impairment to the waterbody has been brought under control but the expected improvement to the waterbody needs to be confirmed.
 7. Problem Abated, Waterbody Deleted: The waterbody use has been restored and the segment has been marked as *deleted*. Although deleted and not included in the list, the segment and information will remain in the Waterbody Inventory.
19. Status of Problem Verification/Study: Note with an “X” the one most appropriate *status* class for the segment from the list below.
1. Waterbody Nominated, but Problem Not Verified: It has been suggested that a waterbody use impairment exists for the segment, however there is insufficient (or no) available information to confirm that the use is being affected to the degree indicated.
 2. Problem Verified/Documented, Cause Unknown: The waterbody use impairment (and severity) is sufficiently documented, however identification of the cause (pollutant) requires more study.
 3. Cause of Problem Identified, Source Unknown: The specific pollutant(s) causing the use impairment have been sufficiently documented, however the source of the pollutant requires more study.
 4. Source of Problem Identified, Management Strategy Needed: Most details about the problem (use impairment, cause, source) are known/sufficiently documented. A management strategy to address the situation and restore the designated use of the waterbody needs to be developed.
 5. Management Strategy has been Developed: Necessary study of the situation is complete.

20. Lead Agency/Office: Indicate the primary party, either within DEC (division and bureau or office) or outside/external to DEC, responsible for the next steps in the study/strategy implementation concerning the segment. (e.g., DOW/BWAR, DOW/Reg6, DEC/F&W, DOH/PWS, ext/WQCC, ext/SWCD, etc)

21. Resolution Potential: Indicate as *High*, *Medium*, or *Low*, using the following criteria.

High: The waterbody or water quality issue has been deemed to be worthy of the expenditure of available resources (time and dollar) because of the level of public interest and the expectation that the commitment of these resources will result in either a measurable improvement in the situation or additional information necessary for the management of the water resource.

Medium: The resources necessary to address the problem are beyond what are *currently* available. With additional resources, these segments could become *High resolution potential* segments.

Low: Segments with water quality problems so persistent/intractable that improvements are expected to require an unrealistically high commitment of resources, not likely to become available (e.g., acid rain lakes).

NOTE: This field may be left blank if further verification/study of the impairment, pollutant and/or source is necessary to determine the *Resolution Potential* of the segment.

22. Total Maximum Daily Load (TMDL)/303d Status: Note with an “X” the most appropriate *TMDL* note (or notes) for the segment from the list below.

Impaired Water, TMDL Development Needed

Part 1 - High Priority for TMDL

Part 2 - Multiple Segment/Categorical TMDL Waters

- o Acid Rain Waters
- o Fish Consumption Waters
- o Restricted Shellfishing Waters

Part 3 - Water Requiring Re-Evaluation

Impaired Water, TMDL Development NOT Needed

Part 4a - TMDL Complete, being Implemented

Part 4b - *Pollution* Impairment, Not *Pollutants*

Part 4c - Other Controls More Suitable.

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Waterbody Inventory Data Sheets By County, Segment Name

Waterbody/Segment (ID)	Water Index Number	Category
Broome County		
Agfa Lake (0601-0069)	SR-105-3-2-Pxx	UnAssessed
Beaver Lake (0601-0066)	SR- 99- 1-P174	MinorImpacts
Beaver/Marsh Pond (0601-0070)	SR-118-P175	UnAssessed
Belden Brook and tribs (0601-0129)	SR-122	UnAssessed
Bosket Lake (0603-0050)	SR- 28- 2-P21	UnAssessed
Castle Creek, Lower, and minor tribs (0602-0065)	SR- 44- 5	MinorImpacts
Castle Creek, Upper, and tribs (0602-0166)	SR- 44- 5	UnAssessed
Chenango Lake (0602-0075)	SR- 44-12-P32	UnAssessed
Chenango River, Lower, Main Stem (0602-0033)	SR- 44 (portion 1)	Impaired Seg
Choconut Creek and tribs (0603-0019)	SR- 29	Need Verific
Clines Pond (0601-0063)	SR- 64-5-Pxx	UnAssessed
Dudley Creek and tribs (0602-0037)	SR- 44-14-30	MinorImpacts
Glen Castle Creek and tribs (0602-0118)	SR- 44- 5- 3	UnAssessed
Halfway/Ticknor Brook and tribs (0602-0124)	SR- 44-14-10	NoKnownImpct
Hawkins Pond (0601-0064)	SR- 78-P173	UnAssessed
Hotchkiss Creek, Upper, and tribs (0601-0185)	SR-103	UnAssessed
Jennings Creek/Big Brook and tribs (0602-0131)	SR- 44-14-33	NoKnownImpct
Lily Lake (0602-0076)	SR- 44-12-P32-P34	UnAssessed
Little Choconut Creek and tribs (0603-0017)	SR- 39	Need Verific
Little Snake Creek and tribs (0601-0042)	SR- 64	NoKnownImpct
Merrill Creek and tribs (0602-0052)	SR- 44-14-27-13	NoKnownImpct
Minor Tribs to Lower Chenango River (0602-0117)	SR- 44- 1 thru 13 (selected)	NoKnownImpct
Minor Tribs to Lower Susquehanna (north) (0603-0044)	SR- 31 thru 37 (selected)	Impaired Seg
Minor Tribs to Lower Susquehanna (south) (0603-0047)	SR- 2 thru 7 (selected)	UnAssessed
Minor Tribs to Lower Susquehanna (south) (0603-0073)	SR- 30 thru 43 (selected)	UnAssessed
Minor Tribs to Lower Tioughnioga River (0602-0123)	SR- 44-14- 1 thru 26 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0123)	SR- 94 thru 121 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0028)	SR- 45 thru 78 (selected)	MinorImpacts
Minor Tribs to Whitney Point Reservoir (0602-0029)	SR- 44-14-27- 1 thru 12	NoKnownImpct
Mud Pond (0601-0065)	SR- 94-1-2-Pxx	UnAssessed
Nanticoke Creek, Lower, and tribs (0603-0045)	SR- 28	NoKnownImpct
Nanticoke Creek, Middle, and tribs (0603-0004)	SR- 28	Need Verific
Nanticoke Creek, Upper, and tribs (0603-0046)	SR- 28	UnAssessed
Occanum Creek and tribs (0601-0126)	SR-105	UnAssessed
Osborne Creek and minor tribs (0602-0030)	SR- 44-10	NoKnownImpct
Page Brook, Lower and tribs (0602-0036)	SR- 44-11	NoKnownImpct
Park Creek and tribs (0601-0031)	SR- 53	Impaired Seg
Perch Pond (0601-0072)	SR-132- 3-P178	UnAssessed
Pickrel Pond (0601-0071)	SR-124-P177	UnAssessed
Rogers/Sweet Lake (0601-0090)	SR-105-3-2-Pxx	UnAssessed
Snake Creek and tribs (0601-0043)	SR- 66	NoKnownImpct
St Johns Pond (0602-0073)	SR- 44- 5- 3-P26a	UnAssessed
Susquehanna River, Lower, Main Stem (0603-0002)	SR (portion 4)	Impaired Seg
Susquehanna River, Main Stem (0601-0040)	SR (portion 6)	Impaired Seg
Susquehanna River, Main Stem (0601-0182)	SR (portion 5)	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Broome County (con't)		
Thomas Creek and minor tribs (0602-0120)	SR- 44- 6	NoKnownImpct
Tioughnioga River, Lower, Main Stem (0602-0066)	SR- 44-14 (portion 1)	NoKnownImpct
Tioughnioga River, Middle, and mnr tribs (0602-0067)	SR- 44-14 (portion 2)	NoKnownImpct
Tracey Creek and tribs (0603-0039)	SR- 26	NoKnownImpct
White Birch Lake (0601-0068)	SR-100-P174a(?)	MinorImpacts
Whitney Point Lake/Reservoir (0602-0004)	SR- 44-14-27 (portion 1)/P35a	Impaired Seg
Wylie Brook and tribs (0601-0044)	SR-123	MinorImpacts
Chemung County		
Cayuta Creek, Lower, and tribs (0603-0022)	SR (Pa)-1 (portion 1)	NoKnownImpct
Cayuta Creek, Lower, and tribs (0603-0022)	SR (Pa)-1 (portion 1)	NoKnownImpct
Cayuta Creek, Middle, and minor tribs (0603-0065)	SR (Pa)-1 (portion 3)	UnAssessed
Cayuta Creek, Middle, and tribs (0603-0064)	SR (Pa)-1 (portion 2)	UnAssessed
Cayuta Creek, Upper, and minor tribs (0603-0066)	SR (Pa)-1 (portion 4)	UnAssessed
Dry Brook, Upper, and tribs (Waverly R) (0603-0074)	SR (Pa)-2	NoKnownImpct
Jackson Creek and tribs (0603-0068)	SR (Pa)-1-41	UnAssessed
Langford Creek and tribs (0603-0067)	SR (Pa)-1-26	UnAssessed
Pony Hollow Creek and tribs (0603-0069)	SR (Pa)-1-52	UnAssessed
Chenango County		
Afton Lake (0601-0010)	SR-135-P180	Need Verific
Ashbell Brook and tribs (0602-0168)	SR- 44-14-27-47	UnAssessed
Bear/Padget Brook and tribs (0602-0143)	SR- 44-38	NoKnownImpct
Beaver Creek, Lower, and tribs (0601-0053)	SR-146-44	NoKnownImpct
Big Brook/Bennettsville Creek and tribs (0601-0048)	SR-139	MinorImpacts
Bowman Creek and tribs (0602-0144)	SR- 44-39	NoKnownImpct
Brackett Lake (0601-0075)	SR-134-P179	UnAssessed
Brakel Creek and tribs (0602-0046)	SR- 44-14-27-34	NoKnownImpct
Canasawacta Creek, Lower and minor tribs (0602-0013)	SR- 44-54	MinorImpacts
Canasawacta Creek, Upper and tribs (0602-0149)	SR- 44-54	UnAssessed
Center Brook and minor tribs (0601-0147)	SR-146-38	NoKnownImpct
Chenango Lake (0601-0013)	SR-146-19- 6-1-P213	NoKnownImpct
Chenango River, Middle, Main Stem (0602-0009)	SR- 44 (portion 2)	Impaired Seg
Chenango River, Middle, Main Stem (0602-0164)	SR- 44 (portion 3)	Impaired Seg
Chenango River, Upper, and minor tribs (0602-0069)	SR- 44 (portion 4)	Impaired Seg
Cincinnatus Lake (0602-0064)	SR- 44-23-14-P83-2-P84	UnAssessed
Cold Brook and tribs (0602-0011)	SR- 44-14-60- 6	Need Verific
Cold Spring Brook and minor tribs (0602-0155)	SR- 44-71- 1	UnAssessed
Cornell Creek and tribs (0601-0130)	SR-132	UnAssessed
East Branch and tribs (0602-0150)	SR- 44-54- 5	UnAssessed
Echo Lake (0601-0074)	SR-134- 8-4-Pxx	UnAssessed
Echo Lake (0602-0093)	SR- 44-23-11-P81	NoKnownImpct
Fly Meadow Creek and tribs (0602-0147)	SR- 44-44	UnAssessed
Geneganselet Creek, Lower, and tribs (0602-0063)	SR- 44-23	NoKnownImpct
Geneganselet Creek, Middle, and tribs (0602-0137)	SR- 44-23	UnAssessed
Geneganselet Creek, Upper, and tribs (0602-0138)	SR- 44-23	UnAssessed
Genegantslet Lake (0602-0096)	SR- 44-23-35-P88	NoKnownImpct
Glen Brook and tribs (0602-0167)	SR- 44-14-27-44	UnAssessed
Great Brook and tribs (0601-0051)	SR-146-19	NoKnownImpct
Guilford Creek and tribs (0601-0049)	SR-146- 1	NoKnownImpct
Guilford Lake (0601-0012)	SR-146- 1-P188	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Chenango County (con't)		
Handsome Brook and minor tribs (0602-0070)	SR- 44-68	NoKnownImpct
Jackson Pond (0601-0085)	SR-146-19- 6-P214	UnAssessed
Kelsey Brook, Lower and minor tribs (0601-0045)	SR-134	NoKnownImpct
Kelsey Brook, Upper and tribs (0601-0131)	SR-134	UnAssessed
Lake Gerry (0602-0098)	SR- 44-38- 1-P95-1-P97	NoKnownImpct
Lake Ludlow (0602-0100)	SR- 44-39- 5-P99	UnAssessed
Lake Petonia (0602-0092)	SR- 44-23- 3-P78	NoKnownImpct
Lake Warn (0602-0116)	SR- 44-P94	MinorImpacts
Long Pond (0602-0095)	SR- 44-23-14-P83	UnAssessed
Lyon Brook and tribs (0602-0148)	SR- 44-45	UnAssessed
Mann Brook and tribs (0602-0129)	SR- 44-14-27-53	UnAssessed
McCall Pond (0602-0102)	SR- 44-44- 2-P103	UnAssessed
Mead Pond (0602-0115)	SR- 44-P110	UnAssessed
Mill Brook and tribs (0602-0146)	SR- 44-41	UnAssessed
Minor Tribs to Lower Unadilla River (0601-0136)	SR-146- 3 thru 35 (selected)	UnAssessed
Minor Tribs to Middle Chenango River (0602-0136)	SR- 44-15 thru 41 (selected)	UnAssessed
Minor Tribs to Middle Chenango River (0602-0151)	SR- 44-42 thru 57 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0123)	SR- 94 thru 121 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0186)	SR-124 thru 145 (selected)	UnAssessed
Minor Tribs to Upper Otselic River (0602-0162)	SR- 44-14-27-33 thru 55	UnAssessed
Mud Creek and tribs (0602-0068)	SR- 44-14-27-38	NoKnownImpct
North Pond (0602-0103)	SR- 44-45- 2-2-P106	UnAssessed
Norwich Reservoirs (0602-0010)	SR- 44-56-P108/P109	Need Verific
Otselic River, Middle, Main Stem (0602-0015)	SR- 44-14-27 (portion 3)	NoKnownImpct
Page Brook, Upper and tribs (0602-0122)	SR- 44-11	UnAssessed
Pleasant Brook and minor tribs (0602-0071)	SR- 44-71	Need Verific
Plymouth Reservoir (0602-0014)	SR- 44-54- 8-P107	MinorImpacts
Rogers Game Farm Pond (0602-0106)	SR- 44-69a-P123 a	UnAssessed
Round Pond (0602-0094)	SR- 44-23-14-1-P82	UnAssessed
Round Pond (0602-0104)	SR- 44-54- 7-P107a	UnAssessed
Sangerfield River and minor tribs (0602-0072)	SR- 44-72	NoKnownImpct
Sears Pond (0602-0105)	SR- 44-68- 7-P124	UnAssessed
Shawler Brook and tribs (0601-0148)	SR-146-38- 1	UnAssessed
Sidney Reservoir (0601-0137)	SR-146- 1- 1-P186	UnAssessed
Smith Pond (0601-0073)	SR-134- 1-P344	UnAssessed
South Lebanon Brook and tribs (0602-0156)	SR- 44-71- 1-5	UnAssessed
Spring Brook and tribs (0602-0140)	SR- 44-30	UnAssessed
Steer Pond (0602-0101)	SR- 44-41-P101	UnAssessed
Susquehanna River, Main Stem (0601-0040)	SR (portion 6)	Impaired Seg
Tallete Creek and tribs (0601-0150)	SR-146-43	UnAssessed
Tank Pond (0602-0099)	SR- 44-38- 9-P98	UnAssessed
Tillotson Creek and tribs (0602-0141)	SR- 44-31	UnAssessed
Trestle Lake (0602-0097)	SR- 44-38- 1-P95	UnAssessed
Truitt Pond (0602-0074)	SR- 44-11- 8-1...Pxx	UnAssessed
Unadilla River, Lower, Main Stem (0601-0003)	SR-146 (portion 1)	Impaired Seg
Unadilla River, Middle, and minor tribs (0601-0037)	SR-146 (portion 2)	Impaired Seg
Upper Peckam Brook and tribs (0601-0189)	SR-146- 1- 1	UnAssessed
Upper Perkins Pond Outlet and tribs (0602-0169)	SR- 44-14-27-48	UnAssessed
Wheeler Brook and tribs (0602-0142)	SR- 44-32	UnAssessed
Whites Pond (0601-0084)	SR-146-17- 1-P212	UnAssessed
Wilkins Brook and tribs (0601-0133)	SR-134- 8	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Chenango County (con't)		
Wylie Brook and tribs (0601-0044)	SR-123	MinorImpacts
Yaleville Brook, Upper, and tribs (0601-0187)	SR-142	UnAssessed
Cortland County		
Bloody Pond (0602-0078)	SR- 44-14-27-19-P38	UnAssessed
Brakel Creek and tribs (0602-0046)	SR- 44-14-27-34	NoKnownImpct
Chenango Creek and tribs (0602-0058)	SR- 44-14-59- 9	UnAssessed
Cincinnatus Lake (0602-0064)	SR- 44-23-14-P83-2-P84	UnAssessed
Dean Pond (0602-0077)	SR- 44-14-27-13-10-P36	UnAssessed
Dry Creek and tribs (0602-0062)	SR- 44-14-60- 2	UnAssessed
East Branch Owego Cr, Upper, and tribs (0603-0034)	SR- 16- 8	NoKnownImpct
East Branch Tioughnioga, Low, and tribs (0602-0020)	SR- 44-14-59	NoKnownImpct
East Branch Tioughnioga, Upp, and tribs (0602-0132)	SR- 44-14-59	NoKnownImpct
Ellis/Melody Lake (0602-0053)	SR- 44-14-27-23-P39	MinorImpacts
Factory Brook and tribs (0602-0025)	SR- 44-14-60- 4	MinorImpacts
Gee Brook and tribs (0602-0125)	SR- 44-14-27-32	NoKnownImpct
Glover Pond/High Lake (0602-0080)	SR- 44-14-27-26-P40	UnAssessed
Goodale Lake (0602-0089)	SR- 44-14-60-P67b	NoKnownImpct
Green Lake (0602-0088)	SR- 44-14-60-P67a	UnAssessed
Gridley Creek and tribs (0602-0055)	SR- 44-14-43	NoKnownImpct
Hunts Creek and tribs (0602-0054)	SR- 44-14-38	NoKnownImpct
Labrador Pond (0602-0084)	SR- 44-14-59-11-P51	UnAssessed
Lower/Upper Little York Lakes (0602-0017)	SR- 44-14-60-P67	Need Verific
Mead Brook and tribs (0602-0126)	SR- 44-14-27-35	NoKnownImpct
Merrill Creek and tribs (0602-0052)	SR- 44-14-27-13	NoKnownImpct
Minor Tribs to Lower Otselic River (0602-0161)	SR- 44-14-27-14 thru 31	UnAssessed
Mud Creek and tribs (0602-0068)	SR- 44-14-27-38	NoKnownImpct
Otselic River, Lower, Main Stem (0602-0024)	SR- 44-14-27 (portion 2)	NoKnownImpct
Otter Creek and tribs (0602-0061)	SR- 44-14-60- 1	UnAssessed
Pond Creek and tribs (0602-0128)	SR- 44-14-27-37	NoKnownImpct
Solon Pond (0602-0081)	SR- 44-14-27-37-P42	UnAssessed
Song Lake (0602-0019)	SR- 44-14-60-P68-P72	MinorImpacts
Stump Pond (0602-0079)	SR- 44-14-27-23- 4-P38a	UnAssessed
Tioughnioga Cr West Br and minor tribs (0602-0059)	SR- 44-14-59-25	Need Verific
Tioughnioga River, Middle, and mnr tribs (0602-0067)	SR- 44-14 (portion 2)	NoKnownImpct
Tioughnioga River, Upper, and mnr tribs (0602-0002)	SR- 44-14 (portion 3)	NoKnownImpct
Trout Brook, Lower, and tribs (0602-0056)	SR- 44-14-58	NoKnownImpct
Trout Brook, Upper, and tribs (0602-0057)	SR- 44-14-58	NoKnownImpct
Tully Lake (0602-0018)	SR- 44-14-60-P68	Need Verific
West Branch Tiohgh River and minor tribs (0602-0060)	SR- 44-14-60	NoKnownImpct
Delaware County		
Beaver Spring Pond (0601-0100)	SR-183-15-P310	UnAssessed
Bourn Pond (0601-0092)	SR-155- 3-2-P268	UnAssessed
Carrs Creek, Lower and tribs (0601-0005)	SR-153	NoKnownImpct
Carrs Creek, Upper and tribs (0601-0155)	SR-154	UnAssessed
Center Brook and tribs (0601-0168)	SR-183-19- 8	UnAssessed
Charlotte Creek, Lower, and tribs (0601-0014)	SR-183	NoKnownImpct
Charlotte Creek, Middle, and minor tribs (0601-0167)	SR-183	NoKnownImpct
Charlotte Creek, Upper, and tribs (0601-0193)	SR-183	UnAssessed
Chisholm Pond (0601-0091)	SR-155- 3-2-3-P265	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Delaware County (con't)		
Clapper Lake (0601-0103)	SR-183-23-P327	UnAssessed
East Sidney Reservoir (0601-0001)	SR-155-P262	Need Verific
Handsome Br/West Branch and minor tribs (0601-0055)	SR-155- 3	NoKnownImpct
Kortright Creek and tribs (0601-0060)	SR-183- 8	NoKnownImpct
Middle Brook and minor tribs (0601-0061)	SR-183-19	NoKnownImpct
Minor Tribs to Susquehanna River (0601-0154)	SR-147 thru 171 (selected)	UnAssessed
Ouleout Creek, Lower, and tribs (0601-0054)	SR-155	UnAssessed
Ouleout Creek, Upper, and minor tribs (0601-0057)	SR-155	UnAssessed
Pine Lake (0601-0099)	SR-183- 7-P303	UnAssessed
Sexsmith Lake (0601-0101)	SR-183-17-P311	NoKnownImpct
Susquehanna River, Main Stem (0601-0020)	SR (portion 7)	Impaired Seg
Titus Lake (0601-0102)	SR-183-19-11-P320	UnAssessed
Treadwell Creek and tribs (0601-0058)	SR-155- 7	NoKnownImpct
Youngs Pond (0601-0076)	SR-139-10-3-1-P182a	UnAssessed
Herkimer County		
Cedar Lake (0601-0088)	SR-146-69- 5-P241	UnAssessed
Cripple Creek and tribs (0601-0027)	SR-P404-10	Need Verific
Minor Tribs to Weaver Lake (0601-0039)	SR-P404-10-P409-	MinorImpacts
Mud Lake (0601-0115)	SR-204-P399	UnAssessed
North Winfield Creek and tribs (0601-0035)	SR-146-69	Impaired Seg
Unadilla Lake (0601-0089)	SR-146-P244	UnAssessed
Unadilla River, Upper, and minor tribs (0601-0188)	SR-146 (portion 3)	Impaired Seg
Weaver Lake (Maumee Swamp) (0601-0025)	SR-P404-10-P409	Need Verific
Young Lake (0601-0026)	SR-P404-10-P408	Need Verific
Madison County		
Beaver Creek, Lower, and tribs (0601-0053)	SR-146-44	NoKnownImpct
Beaver Creek, Upper and tribs (0601-0151)	SR-146-44	UnAssessed
Bradley Brook Reservoir (0602-0111)	SR- 44-80-P154	NoKnownImpct
Chenango River, Upper, and minor tribs (0602-0069)	SR- 44 (portion 4)	Impaired Seg
Chenango River, Upper, and minor tribs (0602-0165)	SR- 44 (portion 5)	Impaired Seg
Earlville/Craime Lake (0602-0108)	SR- 44-76-P146	NoKnownImpct
Eaton Brook Reservoir (0602-0041)	SR- 44-82-P163	NoKnownImpct
Eaton Brook and tribs (0602-0159)	SR- 44-82	UnAssessed
Electric Light Pond (0602-0114)	SR- 44-83-P163a	UnAssessed
Fisk Marsh Pond (0602-0082)	SR- 44-14-27-64-P48	UnAssessed
Gorton Lake (0602-0040)	SR- 44-72-24-P136	MinorImpacts
Handsome Brook and minor tribs (0602-0070)	SR- 44-68	NoKnownImpct
Hatch Lake (0602-0112)	SR- 44-80-P154-1-P155	NoKnownImpct
Hunt Creek and tribs (0602-0051)	SR- 44-72-17	NoKnownImpct
Lake Moraine (0602-0007)	SR- 44-78-P152	MinorImpacts
Lebanon Reservoir (0602-0109)	SR- 44-79-P153	MinorImpacts
Otselic Creek and tribs (0602-0130)	SR- 44-14-27-61	NoKnownImpct
Otselic River, Upper and minor tribs (0602-0043)	SR- 44-14-27 (portion 4)	MinorImpacts
Payne Brook and tribs (0602-0003)	SR- 44-78	MinorImpacts
Pleasant Brook and tribs (0602-0154)	SR- 44-68- 5	UnAssessed
Poolville Pond (0602-0107)	SR- 44-72- 8-P129	UnAssessed
Sangerfield River and minor tribs (0602-0072)	SR- 44-72	NoKnownImpct
Seymour Pond (0602-0110)	SR- 44-79-P153-1a-P153a	UnAssessed
Stone Mill/Lebanon Brook and tribs (0602-0157)	SR- 44-74	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Madison County (con't)		
Tioughnioga Creek and tribs (0602-0133)	SR- 44-14-59	MinorImpacts
Torpy Pond (0602-0083)	SR- 44-14-27-P49	UnAssessed
Unadilla River, Middle, and minor tribs (0601-0037)	SR-146 (portion 2)	Impaired Seg
Woodman Pond (0602-0048)	SR- 44-78- 3-P148	UnAssessed
Oneida County		
Chittning Lake (0601-0087)	SR-146-44-P243a	UnAssessed
Sangerfield River and minor tribs (0602-0072)	SR- 44-72	NoKnownImpct
West Branch Unadilla River and tribs (0601-0153)	SR-146-64	UnAssessed
Onondaga County		
Carpenter Pond (0602-0085)	SR- 44-14-59-25-P55	UnAssessed
Cold Brook and tribs (0602-0011)	SR- 44-14-60- 6	Need Verific
Crooked Lake (0602-0090)	SR- 44-14-60-P68-P73	NoKnownImpct
DeRuyter Reservoir (0602-0086)	SR- 44-14-59-34-P56	MinorImpacts
Fabius Brook and tribs (0602-0026)	SR- 44-14-59-25-2	NoKnownImpct
Gatehouse Pond (0602-0091)	SR- 44-14-60-P68-P73-3-P74-1-P75	UnAssessed
Green Lake (0602-0087)	SR- 44-14-60-P67-2-P71	UnAssessed
Tioughnioga Cr West Br and minor tribs (0602-0059)	SR- 44-14-59-25	Need Verific
Tully Lake (0602-0018)	SR- 44-14-60-P68	Need Verific
Otsego County		
Allen Lake (0601-0117)	SR-P404- 9-P405	NoKnownImpct
Allen Pond (0601-0077)	SR-146- 9-11-P194	UnAssessed
Arnold Lake (0601-0109)	SR-190-P362	NoKnownImpct
Bailey Pond (0601-0114)	SR-204-P393- 7-P400	UnAssessed
Bear Swamp Pond (0601-0108)	SR-187-28-P359	UnAssessed
Belvedere Lake (0601-0111)	SR-195-23-P376	UnAssessed
Buckhorn Lake (0601-0093)	SR-156-P279a	UnAssessed
Butternut Creek, Lower, and minor tribs (0601-0050)	SR-146- 9 (portion 1)	NoKnownImpct
Butternut Creek, Middle, and tribs (0601-0140)	SR-146- 9 (portion 2)	NoKnownImpct
Butternut Creek, Middle, and tribs (0601-0190)	SR-146- 9 (portion 3)	NoKnownImpct
Butternut Creek, Upper, and tribs (0601-0141)	SR-146- 9 (portion 4)	NoKnownImpct
Canadarago Lake (0601-0016)	SR-204-P392	NoKnownImpct
Card Pond (0601-0080)	SR-146- 9-34-P207	UnAssessed
Caryl Lake (0601-0106)	SR-187-20-1-P346	UnAssessed
Cherry Valley Creek, Lower and tribs (0601-0022)	SR-195	NoKnownImpct
Cherry Valley Creek, Upper and tribs (0601-0174)	SR-195	MinorImpacts
Clarke Pond (0601-0118)	SR-P404-11-P406	UnAssessed
Cripple Creek and tribs (0601-0027)	SR-P404-10	Need Verific
Crumhorn Lake (0601-0110)	SR-193-P366	UnAssessed
Crystal Lake (0601-0081)	SR-146- 9-36-P208	UnAssessed
Decatur Creek and tribs (0601-0173)	SR-187-21	UnAssessed
Duck Pond (0601-0079)	SR-146- 9-29-2-P205a	UnAssessed
Dunderberg Creek , Upper, and tribs (0601-0191)	SR-146- 9- 7	Need Verific
Elk Creek, Lower and tribs (0601-0019)	SR-187-14	NoKnownImpct
Elk Creek, Upper and tribs (0601-0170)	SR-187-14	UnAssessed
Fly Creek and tribs (0601-0176)	SR-204- 5	UnAssessed
Gardners Pond (0601-0082)	SR-146- 9-40-P210	UnAssessed
Gilbert Lake (0601-0095)	SR-172-18-P287	UnAssessed
Goodyear Lake (0601-0015)	SR (portion 8)/P360	Impaired Seg

Waterbody/Segment (ID)	Water Index Number	Category
Otsego County (con't)		
Hartwick Reservoir (0601-0096)	SR-172-34b-P290a	UnAssessed
Hayden Creek and tribs (0601-0180)	SR-P404-12	Need Verific
Herkimer Creek and tribs (0601-0177)	SR-204-P392- 1	UnAssessed
Hudson Lake (0601-0107)	SR-187-26-P352	UnAssessed
Hunts Pond (0601-0086)	SR-146-26-P215	UnAssessed
Hyder Creek and tribs (0601-0178)	SR-204-P392- 3	UnAssessed
Little (Goey) Pond (0601-0112)	SR-196-2-P378	UnAssessed
Mill Creek and tribs (0601-0149)	SR-146-36- 9	UnAssessed
Minor Tribs to Canadarago Lake (0601-0171)	SR-204-P392-	UnAssessed
Minor Tribs to Lower Unadilla River (0601-0136)	SR-146- 3 thru 35 (selected)	UnAssessed
Minor Tribs to Otsego Lake (0601-0179)	SR-P404-	UnAssessed
Minor Tribs to Susquehanna River (0601-0154)	SR-147 thru 171 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0192)	SR-173 thru 185	UnAssessed
Minor Tribs to Susquehanna River (0601-0194)	SR-188 thru 207 (selected)	UnAssessed
Muskkrat Pond (0601-0113)	SR-204- 5- 8-P385a	UnAssessed
Oaks Creek and minor tribs (0601-0047)	SR-204	NoKnownImpct
Ocuionis Creek and tribs (0601-0034)	SR-204-P392- 5	MinorImpacts
Oneonta Creek, Upper, and tribs (0601-0166)	SR-179	Need Verific
Oneonta Lower Reservoir (0601-0097)	SR-179-P295	Need Verific
Otego Creek, Lower, and minor tribs (0601-0046)	SR-172	NoKnownImpct
Otego Creek, Middle and tribs (0601-0161)	SR-172	UnAssessed
Otego Creek, Upper/Clark Brook and tribs (0601-0162)	SR-172	UnAssessed
Otsdawa Creek and minor tribs (0601-0059)	SR-165	NoKnownImpct
Otsego Lake (0601-0033)	SR-P404	NoKnownImpct
Pickens Pond (0601-0078)	SR-146- 9-14-P195	UnAssessed
Pleasant Brook and tribs (0601-0175)	SR-195-21	UnAssessed
Rogers Hollow Creek and tribs (0601-0138)	SR-146- 2	UnAssessed
Saddlebag Lake (0601-0116)	SR-191a-P363	UnAssessed
Sand Hill Creek and tribs (0601-0156)	SR-158	UnAssessed
Schenevus Creek, Lower and tribs (0601-0062)	SR-187	NoKnownImpct
Schenevus Creek, Upper and minor tribs (0601-0169)	SR-187	UnAssessed
Seward Lake (0601-0105)	SR-187-12a-1-P341	UnAssessed
Shadow Brook and tribs (0601-0181)	SR-P404-14	Need Verific
Silver Lake (0601-0023)	SR-146-33-P216	UnAssessed
Summit Lake (0601-0119)	SR-P404-12-P411	UnAssessed
Summit Lake (0601-0024)	SR-146-36-23-P228	NoKnownImpct
Susquehanna River, Main Stem (0601-0020)	SR (portion 7)	Impaired Seg
Susquehanna River, Upper, Main Stem (0601-0041)	SR (portion 9)	Impaired Seg
Unadilla River, Lower, Main Stem (0601-0003)	SR-146 (portion 1)	Impaired Seg
Unadilla River, Middle, and minor tribs (0601-0037)	SR-146 (portion 2)	Impaired Seg
Unadilla River, Middle, and minor tribs (0601-0037)	SR-146 (portion 2)	Impaired Seg
West Branch Otego Creek and tribs (0601-0165)	SR-172-29	UnAssessed
Wharton Creek, Lower, and minor tribs (0601-0052)	SR-146-36	NoKnownImpct
Wharton Creek, Middle, and tribs (0601-0145)	SR-146-36	UnAssessed
Wharton Creek, Upper, and tribs (0601-0146)	SR-146-36	UnAssessed
Wilber Lake (0601-0098)	SR-179-P297	NoKnownImpct
YMCA Pond (0601-0094)	SR-172- 8-15-P282a	UnAssessed
Zimmermans Pond (0601-0083)	SR-146- 9-45-P211	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Schoharie County		
Charlotte Creek, Middle, and minor tribs (0601-0167)	SR-183	NoKnownImpct
Fox Vly (0601-0104)	SR-183-P335	UnAssessed
Middle Brook and minor tribs (0601-0061)	SR-183-19	NoKnownImpct
Schuyler County		
Cayuta Creek, Lower, and tribs (0603-0022)	SR (Pa)-1 (portion 1)	NoKnownImpct
Cayuta Lake (0603-0005)	SR (Pa)-1-P8	MinorImpacts
Tribs to Cayuta Lake (0603-0056)	SR (Pa)-1-P1-	UnAssessed
Tioga County		
Apalachin Creek and tribs (0603-0014)	SR- 24	MinorImpacts
Barnes Creek, Upper, and tribs (0603-0072)	SR- 20-1	UnAssessed
Catatonk Creek, Lower and tribs (0603-0007)	SR- 16- 4	NoKnownImpct
Catatonk Creek, Upper and minor tribs (0603-0008)	SR- 16- 4-	NoKnownImpct
Dean Creek and minor tribs (0603-0036)	SR- 16- 4-24	NoKnownImpct
Dodge Pond (0603-0051)	SR (Pa)-P1	UnAssessed
Dudley Creek and tribs (0602-0037)	SR- 44-14-30	MinorImpacts
East Branch Owego Cr, Lower, and tribs (0603-0012)	SR- 16- 8	NoKnownImpct
East Branch Owego Cr, Upper, and tribs (0603-0034)	SR- 16- 8	NoKnownImpct
Ellis Creek and tribs (0603-0023)	SR- 1	NoKnownImpct
Empire Lake (0603-0052)	SR- 12- 9-Pxx	UnAssessed
Hunts Creek and tribs (0603-0028)	SR- 13	UnAssessed
Little Nanticoke/Barnes Creeks and tribs (0603-0038)	SR- 20	NoKnownImpct
Michigan Creek and tribs (0603-0055)	SR- 16- 4-P13-1	NoKnownImpct
Minor Tribs to Lower Susquehanna (north) (0603-0071)	SR- 19 thru 27 (selected)	UnAssessed
Minor Tribs to Lower Susquehanna (north) (0603-0024)	SR- 4 thru 9 (selected)	NoKnownImpct
Minor Tribs to Lower Susquehanna (south) (0603-0047)	SR- 2 thru 7 (selected)	UnAssessed
Minor Tribs to Lower Susquehanna (south) (0603-0029)	SR- 15 thru 22 (selected)	NoKnownImpct
Mutton Hill Pond (0603-0049)	SR- 22-P20	UnAssessed
Nanticoke Creek, Lower, and tribs (0603-0045)	SR- 28	NoKnownImpct
Nanticoke Creek, Middle, and tribs (0603-0004)	SR- 28	Need Verific
Owego Creek and minor tribs (0603-0031)	SR- 16	MinorImpacts
Pipe Creek, Lower, and tribs (0603-0027)	SR- 12	NoKnownImpct
Pipe Creek, Upper, and tribs (0603-0070)	SR- 12	UnAssessed
Sackett Creek and tribs (0603-0025)	SR- 10	UnAssessed
Spencer Lake (0603-0048)	SR- 16- 4-P13	UnAssessed
Susquehanna River, Lower, Main Stem (0603-0016)	SR (portion 1)	Impaired Seg
Susquehanna River, Lower, Main Stem (0603-0015)	SR (portion 2)	Impaired Seg
Susquehanna River, Lower, Main Stem (0603-0013)	SR (portion 3)	Impaired Seg
Thorn Hollow Creek and tribs (0603-0030)	SR- 14	UnAssessed
Wappasening Creek and tribs (0603-0026)	SR- 11	NoKnownImpct
West Branch Owego Cr, Lower, and tribs (0603-0011)	SR- 16- 7	NoKnownImpct
West Branch Owego Cr, Upper, and tribs (0603-0035)	SR- 16- 7	NoKnownImpct
Willseyville Creek and minor tribs (0603-0032)	SR- 16- 4-16	NoKnownImpct
Tompkins County		
Cayuta Creek, Lower, and tribs (0603-0022)	SR (Pa)-1 (portion 1)	NoKnownImpct
Tribs to Cayuta Lake (0603-0056)	SR (Pa)-1-P1-	UnAssessed
West Branch Owego Cr, Upper, and tribs (0603-0035)	SR- 16- 7	NoKnownImpct
Willseyville Creek and minor tribs (0603-0032)	SR- 16- 4-16	NoKnownImpct

Waterbody Inventory Data Sheets By Segment Name

Waterbody/Segment (ID)	Water Index Number	Category
Afton Lake (0601-0010)	SR-135-P180	Need Verific
Agfa Lake (0601-0069)	SR-105-3-2-Pxx	UnAssessed
Allen Lake (0601-0117)	SR-P404- 9-P405	NoKnownImpct
Allen Pond (0601-0077)	SR-146- 9-11-P194	UnAssessed
Apalachin Creek and tribs (0603-0014)	SR- 24	MinorImpacts
Arnold Lake (0601-0109)	SR-190-P362	NoKnownImpct
Ashbell Brook and tribs (0602-0168)	SR- 44-14-27-47	UnAssessed
Bailey Pond (0601-0114)	SR-204-P393- 7-P400	UnAssessed
Barnes Creek, Upper, and tribs (0603-0072)	SR- 20-1	UnAssessed
Bear Swamp Pond (0601-0108)	SR-187-28-P359	UnAssessed
Bear/Padget Brook and tribs (0602-0143)	SR- 44-38	NoKnownImpct
Beaver Creek, Lower, and tribs (0601-0053)	SR-146-44	NoKnownImpct
Beaver Creek, Upper and tribs (0601-0151)	SR-146-44	UnAssessed
Beaver Lake (0601-0066)	SR- 99- 1-P174	MinorImpacts
Beaver Spring Pond (0601-0100)	SR-183-15-P310	UnAssessed
Beaver/Marsh Pond (0601-0070)	SR-118-P175	UnAssessed
Belden Brook and tribs (0601-0129)	SR-122	UnAssessed
Belvedere Lake (0601-0111)	SR-195-23-P376	UnAssessed
Big Brook/Bennettsville Creek and tribs (0601-0048)	SR-139	MinorImpacts
Bloody Pond (0602-0078)	SR- 44-14-27-19-P38	UnAssessed
Bosket Lake (0603-0050)	SR- 28- 2-P21	UnAssessed
Bourn Pond (0601-0092)	SR-155- 3-2-P268	UnAssessed
Bowman Creek and tribs (0602-0144)	SR- 44-39	NoKnownImpct
Brackett Lake (0601-0075)	SR-134-P179	UnAssessed
Bradley Brook Reservoir (0602-0111)	SR- 44-80-P154	NoKnownImpct
Brakel Creek and tribs (0602-0046)	SR- 44-14-27-34	NoKnownImpct
Buckhorn Lake (0601-0093)	SR-156-P279a	UnAssessed
Butternut Creek, Lower, and minor tribs (0601-0050)	SR-146- 9 (portion 1)	NoKnownImpct
Butternut Creek, Middle, and tribs (0601-0140)	SR-146- 9 (portion 2)	NoKnownImpct
Butternut Creek, Middle, and tribs (0601-0190)	SR-146- 9 (portion 3)	NoKnownImpct
Butternut Creek, Upper, and tribs (0601-0141)	SR-146- 9 (portion 4)	NoKnownImpct
Canadarago Lake (0601-0016)	SR-204-P392	NoKnownImpct
Canasawacta Creek, Lower and minor tribs (0602-0013)	SR- 44-54	MinorImpacts
Canasawacta Creek, Upper and tribs (0602-0149)	SR- 44-54	UnAssessed
Card Pond (0601-0080)	SR-146- 9-34-P207	UnAssessed
Carpenter Pond (0602-0085)	SR- 44-14-59-25-P55	UnAssessed
Carrs Creek, Lower and tribs (0601-0005)	SR-153	NoKnownImpct
Carrs Creek, Upper and tribs (0601-0155)	SR-154	UnAssessed
Caryl Lake (0601-0106)	SR-187-20-1-P346	UnAssessed
Castle Creek, Lower, and minor tribs (0602-0065)	SR- 44- 5	MinorImpacts
Castle Creek, Upper, and tribs (0602-0166)	SR- 44- 5	UnAssessed
Catatonk Creek, Lower and tribs (0603-0007)	SR- 16- 4	NoKnownImpct
Catatonk Creek, Upper and minor tribs (0603-0008)	SR- 16- 4-	NoKnownImpct
Cayuta Creek, Lower, and tribs (0603-0022)	SR (Pa)-1 (portion 1)	NoKnownImpct
Cayuta Creek, Middle, and minor tribs (0603-0065)	SR (Pa)-1 (portion 3)	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Cayuta Creek, Middle, and tribs (0603-0064)	SR (Pa)-1 (portion 2)	UnAssessed
Cayuta Creek, Upper, and minor tribs (0603-0066)	SR (Pa)-1 (portion 4)	UnAssessed
Cayuta Lake (0603-0005)	SR (Pa)-1-P8	MinorImpacts
Cedar Lake (0601-0088)	SR-146-69- 5-P241	UnAssessed
Center Brook and minor tribs (0601-0147)	SR-146-38	NoKnownImpct
Center Brook and tribs (0601-0168)	SR-183-19- 8	UnAssessed
Charlotte Creek, Lower, and tribs (0601-0014)	SR-183	NoKnownImpct
Charlotte Creek, Middle, and minor tribs (0601-0167)	SR-183	NoKnownImpct
Charlotte Creek, Upper, and tribs (0601-0193)	SR-183	UnAssessed
Chenango Lake (0602-0075)	SR- 44-12-P32	UnAssessed
Chenango Lake (0601-0013)	SR-146-19- 6-1-P213	NoKnownImpct
Chenango River, Lower, Main Stem (0602-0033)	SR- 44 (portion 1)	Impaired Seg
Chenango River, Middle, Main Stem (0602-0009)	SR- 44 (portion 2)	Impaired Seg
Chenango River, Middle, Main Stem (0602-0164)	SR- 44 (portion 3)	Impaired Seg
Chenango River, Upper, and minor tribs (0602-0069)	SR- 44 (portion 4)	Impaired Seg
Chenango River, Upper, and minor tribs (0602-0165)	SR- 44 (portion 5)	Impaired Seg
Chenango Creek and tribs (0602-0058)	SR- 44-14-59- 9	UnAssessed
Cherry Valley Creek, Lower and tribs (0601-0022)	SR-195	NoKnownImpct
Cherry Valley Creek, Upper and tribs (0601-0174)	SR-195	MinorImpacts
Chisholm Pond (0601-0091)	SR-155- 3-2-3-P265	UnAssessed
Chittning Lake (0601-0087)	SR-146-44-P243a	UnAssessed
Choconut Creek and tribs (0603-0019)	SR- 29	Need Verific
Cincinnati Lake (0602-0064)	SR- 44-23-14-P83-2-P84	UnAssessed
Clapper Lake (0601-0103)	SR-183-23-P327	UnAssessed
Clarke Pond (0601-0118)	SR-P404-11-P406	UnAssessed
Clines Pond (0601-0063)	SR- 64-5-Pxx	UnAssessed
Cold Brook and tribs (0602-0011)	SR- 44-14-60- 6	Need Verific
Cold Spring Brook and minor tribs (0602-0155)	SR- 44-71- 1	UnAssessed
Cornell Creek and tribs (0601-0130)	SR-132	UnAssessed
Cripple Creek and tribs (0601-0027)	SR-P404-10	Need Verific
Crooked Lake (0602-0090)	SR- 44-14-60-P68-P73	NoKnownImpct
Crumhorn Lake (0601-0110)	SR-193-P366	UnAssessed
Crystal Lake (0601-0081)	SR-146- 9-36-P208	UnAssessed
DeRuyter Reservoir (0602-0086)	SR- 44-14-59-34-P56	MinorImpacts
Dean Creek and minor tribs (0603-0036)	SR- 16- 4-24	NoKnownImpct
Dean Pond (0602-0077)	SR- 44-14-27-13-10-P36	UnAssessed
Decatur Creek and tribs (0601-0173)	SR-187-21	UnAssessed
Dodge Pond (0603-0051)	SR (Pa)-P1	UnAssessed
Dry Brook, Upper, and tribs (Waverly R) (0603-0074)	SR (Pa)-2	NoKnownImpct
Dry Creek and tribs (0602-0062)	SR- 44-14-60- 2	UnAssessed
Duck Pond (0601-0079)	SR-146- 9-29-2-P205a	UnAssessed
Dudley Creek and tribs (0602-0037)	SR- 44-14-30	MinorImpacts
Dunderberg Creek , Upper, and tribs (0601-0191)	SR-146- 9- 7	Need Verific
Earlville/Craigne Lake (0602-0108)	SR- 44-76-P146	NoKnownImpct
East Branch Owego Cr, Lower, and tribs (0603-0012)	SR- 16- 8	NoKnownImpct
East Branch Owego Cr, Upper, and tribs (0603-0034)	SR- 16- 8	NoKnownImpct
East Branch Tioughnioga, Low, and tribs (0602-0020)	SR- 44-14-59	NoKnownImpct
East Branch Tioughnioga, Upp, and tribs (0602-0132)	SR- 44-14-59	NoKnownImpct
East Branch and tribs (0602-0150)	SR- 44-54- 5	UnAssessed
East Sidney Reservoir (0601-0001)	SR-155-P262	Need Verific
Eaton Brook Reservoir (0602-0041)	SR- 44-82-P163	NoKnownImpct
Eaton Brook and tribs (0602-0159)	SR- 44-82	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Echo Lake (0602-0093)	SR- 44-23-11-P81	NoKnownImpct
Echo Lake (0601-0074)	SR-134- 8-4-Pxx	UnAssessed
Electric Light Pond (0602-0114)	SR- 44-83-P163a	UnAssessed
Elk Creek, Lower and tribs (0601-0019)	SR-187-14	NoKnownImpct
Elk Creek, Upper and tribs (0601-0170)	SR-187-14	UnAssessed
Ellis Creek and tribs (0603-0023)	SR- 1	NoKnownImpct
Ellis/Melody Lake (0602-0053)	SR- 44-14-27-23-P39	MinorImpacts
Empire Lake (0603-0052)	SR- 12- 9-Pxx	UnAssessed
Fabius Brook and tribs (0602-0026)	SR- 44-14-59-25-2	NoKnownImpct
Factory Brook and tribs (0602-0025)	SR- 44-14-60- 4	MinorImpacts
Fisk Marsh Pond (0602-0082)	SR- 44-14-27-64-P48	UnAssessed
Fly Creek and tribs (0601-0176)	SR-204- 5	UnAssessed
Fly Meadow Creek and tribs (0602-0147)	SR- 44-44	UnAssessed
Fox Vly (0601-0104)	SR-183-P335	UnAssessed
Gardners Pond (0601-0082)	SR-146- 9-40-P210	UnAssessed
Gatehouse Pond (0602-0091)	SR- 44-14-60-P68-P73-3-P74-1-P75	UnAssessed
Gee Brook and tribs (0602-0125)	SR- 44-14-27-32	NoKnownImpct
Geneganselet Creek, Lower, and tribs (0602-0063)	SR- 44-23	NoKnownImpct
Geneganselet Creek, Middle, and tribs (0602-0137)	SR- 44-23	UnAssessed
Geneganselet Creek, Upper, and tribs (0602-0138)	SR- 44-23	UnAssessed
Genegantslet Lake (0602-0096)	SR- 44-23-35-P88	NoKnownImpct
Gilbert Lake (0601-0095)	SR-172-18-P287	UnAssessed
Glen Brook and tribs (0602-0167)	SR- 44-14-27-44	UnAssessed
Glen Castle Creek and tribs (0602-0118)	SR- 44- 5- 3	UnAssessed
Glover Pond/High Lake (0602-0080)	SR- 44-14-27-26-P40	UnAssessed
Goodale Lake (0602-0089)	SR- 44-14-60-P67b	NoKnownImpct
Goodyear Lake (0601-0015)	SR (portion 8)/P360	Impaired Seg
Gorton Lake (0602-0040)	SR- 44-72-24-P136	MinorImpacts
Great Brook and tribs (0601-0051)	SR-146-19	NoKnownImpct
Green Lake (0602-0087)	SR- 44-14-60-P67-2-P71	UnAssessed
Green Lake (0602-0088)	SR- 44-14-60-P67a	UnAssessed
Gridley Creek and tribs (0602-0055)	SR- 44-14-43	NoKnownImpct
Guilford Creek and tribs (0601-0049)	SR-146- 1	NoKnownImpct
Guilford Lake (0601-0012)	SR-146- 1-P188	NoKnownImpct
Halfway/Ticknor Brook and tribs (0602-0124)	SR- 44-14-10	NoKnownImpct
Handsome Br/West Branch and minor tribs (0601-0055)	SR-155- 3	NoKnownImpct
Handsome Brook and minor tribs (0602-0070)	SR- 44-68	NoKnownImpct
Hartwick Reservoir (0601-0096)	SR-172-34b-P290a	UnAssessed
Hatch Lake (0602-0112)	SR- 44-80-P154-1-P155	NoKnownImpct
Hawkins Pond (0601-0064)	SR- 78-P173	UnAssessed
Hayden Creek and tribs (0601-0180)	SR-P404-12	Need Verific
Herkimer Creek and tribs (0601-0177)	SR-204-P392- 1	UnAssessed
Hotchkiss Creek, Upper, and tribs (0601-0185)	SR-103	UnAssessed
Hudson Lake (0601-0107)	SR-187-26-P352	UnAssessed
Hunt Creek and tribs (0602-0051)	SR- 44-72-17	NoKnownImpct
Hunts Creek and tribs (0603-0028)	SR- 13	UnAssessed
Hunts Creek and tribs (0602-0054)	SR- 44-14-38	NoKnownImpct
Hunts Pond (0601-0086)	SR-146-26-P215	UnAssessed
Hyder Creek and tribs (0601-0178)	SR-204-P392- 3	UnAssessed
Jackson Creek and tribs (0603-0068)	SR (Pa)-1-41	UnAssessed
Jackson Pond (0601-0085)	SR-146-19- 6-P214	UnAssessed
Jennings Creek/Big Brook and tribs (0602-0131)	SR- 44-14-33	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Kelsey Brook, Lower and minor tribs (0601-0045)	SR-134	NoKnownImpct
Kelsey Brook, Upper and tribs (0601-0131)	SR-134	UnAssessed
Kortright Creek and tribs (0601-0060)	SR-183- 8	NoKnownImpct
Labrador Pond (0602-0084)	SR- 44-14-59-11-P51	UnAssessed
Lake Gerry (0602-0098)	SR- 44-38- 1-P95-1-P97	NoKnownImpct
Lake Ludlow (0602-0100)	SR- 44-39- 5-P99	UnAssessed
Lake Moraine (0602-0007)	SR- 44-78-P152	MinorImpacts
Lake Petonia (0602-0092)	SR- 44-23- 3-P78	NoKnownImpct
Lake Warn (0602-0116)	SR- 44-P94	MinorImpacts
Langford Creek and tribs (0603-0067)	SR (Pa)-1-26	UnAssessed
Lebanon Reservoir (0602-0109)	SR- 44-79-P153	MinorImpacts
Lily Lake (0602-0076)	SR- 44-12-P32-P34	UnAssessed
Little (Goey) Pond (0601-0112)	SR-196-2-P378	UnAssessed
Little Choconut Creek and tribs (0603-0017)	SR- 39	Need Verific
Little Nanticoke/Barnes Creeks and tribs (0603-0038)	SR- 20	NoKnownImpct
Little Snake Creek and tribs (0601-0042)	SR- 64	NoKnownImpct
Long Pond (0602-0095)	SR- 44-23-14-P83	UnAssessed
Lower/Upper Little York Lakes (0602-0017)	SR- 44-14-60-P67	Need Verific
Lyon Brook and tribs (0602-0148)	SR- 44-45	UnAssessed
Mann Brook and tribs (0602-0129)	SR- 44-14-27-53	UnAssessed
McCall Pond (0602-0102)	SR- 44-44- 2-P103	UnAssessed
Mead Brook and tribs (0602-0126)	SR- 44-14-27-35	NoKnownImpct
Mead Pond (0602-0115)	SR- 44-P110	UnAssessed
Merrill Creek and tribs (0602-0052)	SR- 44-14-27-13	NoKnownImpct
Michigan Creek and tribs (0603-0055)	SR- 16- 4-P13-1	NoKnownImpct
Middle Brook and minor tribs (0601-0061)	SR-183-19	NoKnownImpct
Mill Brook and tribs (0602-0146)	SR- 44-41	UnAssessed
Mill Creek and tribs (0601-0149)	SR-146-36- 9	UnAssessed
Minor Tribs to Canadarago Lake (0601-0171)	SR-204-P392-	UnAssessed
Minor Tribs to Lower Chenango River (0602-0117)	SR- 44- 1 thru 13 (selected)	NoKnownImpct
Minor Tribs to Lower Otselic River (0602-0161)	SR- 44-14-27-14 thru 31	UnAssessed
Minor Tribs to Lower Susquehanna (north) (0603-0024)	SR- 4 thru 9 (selected)	NoKnownImpct
Minor Tribs to Lower Susquehanna (north) (0603-0071)	SR- 19 thru 27 (selected)	UnAssessed
Minor Tribs to Lower Susquehanna (north) (0603-0044)	SR- 31 thru 37 (selected)	Impaired Seg
Minor Tribs to Lower Susquehanna (south) (0603-0047)	SR- 2 thru 7 (selected)	UnAssessed
Minor Tribs to Lower Susquehanna (south) (0603-0029)	SR- 15 thru 22 (selected)	NoKnownImpct
Minor Tribs to Lower Susquehanna (south) (0603-0073)	SR- 30 thru 43 (selected)	UnAssessed
Minor Tribs to Lower Tioughnioga River (0602-0123)	SR- 44-14- 1 thru 26 (selected)	UnAssessed
Minor Tribs to Lower Unadilla River (0601-0136)	SR-146- 3 thru 35 (selected)	UnAssessed
Minor Tribs to Middle Chenango River (0602-0136)	SR- 44-15 thru 41 (selected)	UnAssessed
Minor Tribs to Middle Chenango River (0602-0151)	SR- 44-42 thru 57 (selected)	UnAssessed
Minor Tribs to Otsego Lake (0601-0179)	SR-P404-	UnAssessed
Minor Tribs to Susquehanna River (0601-0028)	SR- 45 thru 78 (selected)	MinorImpacts
Minor Tribs to Susquehanna River (0601-0123)	SR- 94 thru 121 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0186)	SR-124 thru 145 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0154)	SR-147 thru 171 (selected)	UnAssessed
Minor Tribs to Susquehanna River (0601-0192)	SR-173 thru 185	UnAssessed
Minor Tribs to Susquehanna River (0601-0194)	SR-188 thru 207 (selected)	UnAssessed
Minor Tribs to Upper Otselic River (0602-0162)	SR- 44-14-27-33 thru 55	UnAssessed
Minor Tribs to Weaver Lake (0601-0039)	SR-P404-10-P409-	MinorImpacts
Minor Tribs to Whitney Point Reservoir (0602-0029)	SR- 44-14-27- 1 thru 12	NoKnownImpct
Mud Creek and tribs (0602-0068)	SR- 44-14-27-38	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Mud Lake (0601-0115)	SR-204-P399	UnAssessed
Mud Pond (0601-0065)	SR- 94-1-2-Pxx	UnAssessed
Muskrat Pond (0601-0113)	SR-204- 5- 8-P385a	UnAssessed
Mutton Hill Pond (0603-0049)	SR- 22-P20	UnAssessed
Nanticoke Creek, Lower, and tribs (0603-0045)	SR- 28	NoKnownImpct
Nanticoke Creek, Middle, and tribs (0603-0004)	SR- 28	Need Verific
Nanticoke Creek, Upper, and tribs (0603-0046)	SR- 28	UnAssessed
North Pond (0602-0103)	SR- 44-45- 2-2-P106	UnAssessed
North Winfield Creek and tribs (0601-0035)	SR-146-69	Impaired Seg
Norwich Reservoirs (0602-0010)	SR- 44-56-P108/P109	Need Verific
Oaks Creek and minor tribs (0601-0047)	SR-204	NoKnownImpct
Occanum Creek and tribs (0601-0126)	SR-105	UnAssessed
Ocquionis Creek and tribs (0601-0034)	SR-204-P392- 5	MinorImpacts
Oneonta Creek, Upper, and tribs (0601-0166)	SR-179	Need Verific
Oneonta Lower Reservoir (0601-0097)	SR-179-P295	Need Verific
Osborne Creek and minor tribs (0602-0030)	SR- 44-10	NoKnownImpct
Otego Creek, Lower, and minor tribs (0601-0046)	SR-172	NoKnownImpct
Otego Creek, Middle and tribs (0601-0161)	SR-172	UnAssessed
Otego Creek, Upper/Clark Brook and tribs (0601-0162)	SR-172	UnAssessed
Otsdawa Creek and minor tribs (0601-0059)	SR-165	NoKnownImpct
Otsego Lake (0601-0033)	SR-P404	NoKnownImpct
Otselc Creek and tribs (0602-0130)	SR- 44-14-27-61	NoKnownImpct
Otselc River, Lower, Main Stem (0602-0024)	SR- 44-14-27 (portion 2)	NoKnownImpct
Otselc River, Middle, Main Stem (0602-0015)	SR- 44-14-27 (portion 3)	NoKnownImpct
Otselc River, Upper and minor tribs (0602-0043)	SR- 44-14-27 (portion 4)	MinorImpacts
Otter Creek and tribs (0602-0061)	SR- 44-14-60- 1	UnAssessed
Ouleout Creek, Lower, and tribs (0601-0054)	SR-155	UnAssessed
Ouleout Creek, Upper, and minor tribs (0601-0057)	SR-155	UnAssessed
Owego Creek and minor tribs (0603-0031)	SR- 16	MinorImpacts
Page Brook, Lower and tribs (0602-0036)	SR- 44-11	NoKnownImpct
Page Brook, Upper and tribs (0602-0122)	SR- 44-11	UnAssessed
Park Creek and tribs (0601-0031)	SR- 53	Impaired Seg
Payne Brook and tribs (0602-0003)	SR- 44-78	MinorImpacts
Perch Pond (0601-0072)	SR-132- 3-P178	UnAssessed
Pickens Pond (0601-0078)	SR-146- 9-14-P195	UnAssessed
Pickrel Pond (0601-0071)	SR-124-P177	UnAssessed
Pine Lake (0601-0099)	SR-183- 7-P303	UnAssessed
Pipe Creek, Lower, and tribs (0603-0027)	SR- 12	NoKnownImpct
Pipe Creek, Upper, and tribs (0603-0070)	SR- 12	UnAssessed
Pleasant Brook and minor tribs (0602-0071)	SR- 44-71	Need Verific
Pleasant Brook and tribs (0602-0154)	SR- 44-68- 5	UnAssessed
Pleasant Brook and tribs (0601-0175)	SR-195-21	UnAssessed
Plymouth Reservoir (0602-0014)	SR- 44-54- 8-P107	MinorImpacts
Pond Creek and tribs (0602-0128)	SR- 44-14-27-37	NoKnownImpct
Pony Hollow Creek and tribs (0603-0069)	SR (Pa)-1-52	UnAssessed
Poolville Pond (0602-0107)	SR- 44-72- 8-P129	UnAssessed
Rogers Game Farm Pond (0602-0106)	SR- 44-69a-P123 a	UnAssessed
Rogers Hollow Creek and tribs (0601-0138)	SR-146- 2	UnAssessed
Rogers/Sweet Lake (0601-0090)	SR-105-3-2-Pxx	UnAssessed
Round Pond (0602-0094)	SR- 44-23-14-1-P82	UnAssessed
Round Pond (0602-0104)	SR- 44-54- 7-P107a	UnAssessed
Sackett Creek and tribs (0603-0025)	SR- 10	UnAssessed

Waterbody/Segment (ID)	Water Index Number	Category
Saddlebag Lake (0601-0116)	SR-191a-P363	UnAssessed
Sand Hill Creek and tribs (0601-0156)	SR-158	UnAssessed
Sangerfield River and minor tribs (0602-0072)	SR- 44-72	NoKnownImpct
Schenevus Creek, Lower and tribs (0601-0062)	SR-187	NoKnownImpct
Schenevus Creek, Upper and minor tribs (0601-0169)	SR-187	UnAssessed
Sears Pond (0602-0105)	SR- 44-68- 7-P124	UnAssessed
Seward Lake (0601-0105)	SR-187-12a-1-P341	UnAssessed
Sexsmith Lake (0601-0101)	SR-183-17-P311	NoKnownImpct
Seymour Pond (0602-0110)	SR- 44-79-P153-1a-P153a	UnAssessed
Shadow Brook and tribs (0601-0181)	SR-P404-14	Need Verific
Shawler Brook and tribs (0601-0148)	SR-146-38- 1	UnAssessed
Sidney Reservoir (0601-0137)	SR-146- 1- 1-P186	UnAssessed
Silver Lake (0601-0023)	SR-146-33-P216	UnAssessed
Smith Pond (0601-0073)	SR-134- 1-P344	UnAssessed
Snake Creek and tribs (0601-0043)	SR- 66	NoKnownImpct
Solon Pond (0602-0081)	SR- 44-14-27-37-P42	UnAssessed
Song Lake (0602-0019)	SR- 44-14-60-P68-P72	MinorImpacts
South Lebanon Brook and tribs (0602-0156)	SR- 44-71- 1-5	UnAssessed
Spencer Lake (0603-0048)	SR- 16- 4-P13	UnAssessed
Spring Brook and tribs (0602-0140)	SR- 44-30	UnAssessed
St Johns Pond (0602-0073)	SR- 44- 5- 3-P26a	UnAssessed
Steer Pond (0602-0101)	SR- 44-41-P101	UnAssessed
Stone Mill/Lebanon Brook and tribs (0602-0157)	SR- 44-74	UnAssessed
Stump Pond (0602-0079)	SR- 44-14-27-23- 4-P38a	UnAssessed
Summit Lake (0601-0024)	SR-146-36-23-P228	NoKnownImpct
Summit Lake (0601-0119)	SR-P404-12-P411	UnAssessed
Susquehanna River, Lower, Main Stem (0603-0016)	SR (portion 1)	Impaired Seg
Susquehanna River, Lower, Main Stem (0603-0015)	SR (portion 2)	Impaired Seg
Susquehanna River, Lower, Main Stem (0603-0013)	SR (portion 3)	Impaired Seg
Susquehanna River, Lower, Main Stem (0603-0002)	SR (portion 4)	Impaired Seg
Susquehanna River, Main Stem (0601-0182)	SR (portion 5)	Impaired Seg
Susquehanna River, Main Stem (0601-0040)	SR (portion 6)	Impaired Seg
Susquehanna River, Main Stem (0601-0020)	SR (portion 7)	Impaired Seg
Susquehanna River, Upper, Main Stem (0601-0041)	SR (portion 9)	Impaired Seg
Tallete Creek and tribs (0601-0150)	SR-146-43	UnAssessed
Tank Pond (0602-0099)	SR- 44-38- 9-P98	UnAssessed
Thomas Creek and minor tribs (0602-0120)	SR- 44- 6	NoKnownImpct
Thorn Hollow Creek and tribs (0603-0030)	SR- 14	UnAssessed
Tillotson Creek and tribs (0602-0141)	SR- 44-31	UnAssessed
Tioughnioga Cr West Br and minor tribs (0602-0059)	SR- 44-14-59-25	Need Verific
Tioughnioga Creek and tribs (0602-0133)	SR- 44-14-59	MinorImpacts
Tioughnioga River, Lower, Main Stem (0602-0066)	SR- 44-14 (portion 1)	NoKnownImpct
Tioughnioga River, Middle, and mnr tribs (0602-0067)	SR- 44-14 (portion 2)	NoKnownImpct
Tioughnioga River, Upper, and mnr tribs (0602-0002)	SR- 44-14 (portion 3)	NoKnownImpct
Titus Lake (0601-0102)	SR-183-19-11-P320	UnAssessed
Torpy Pond (0602-0083)	SR- 44-14-27-P49	UnAssessed
Tracey Creek and tribs (0603-0039)	SR- 26	NoKnownImpct
Treadwell Creek and tribs (0601-0058)	SR-155- 7	NoKnownImpct
Trestle Lake (0602-0097)	SR- 44-38- 1-P95	UnAssessed
Tribes to Cayuta Lake (0603-0056)	SR (Pa)-1-P1-	UnAssessed
Trout Brook, Lower, and tribs (0602-0056)	SR- 44-14-58	NoKnownImpct
Trout Brook, Upper, and tribs (0602-0057)	SR- 44-14-58	NoKnownImpct

Waterbody/Segment (ID)	Water Index Number	Category
Truitt Pond (0602-0074)	SR- 44-11- 8-1...Pxx	UnAssessed
Tully Lake (0602-0018)	SR- 44-14-60-P68	Need Verific
Unadilla Lake (0601-0089)	SR-146-P244	UnAssessed
Unadilla River, Lower, Main Stem (0601-0003)	SR-146 (portion 1)	Impaired Seg
Unadilla River, Middle, and minor tribs (0601-0037)	SR-146 (portion 2)	Impaired Seg
Unadilla River, Upper, and minor tribs (0601-0188)	SR-146 (portion 3)	Impaired Seg
Upper Peckam Brook and tribs (0601-0189)	SR-146- 1- 1	UnAssessed
Upper Perkins Pond Outlet and tribs (0602-0169)	SR- 44-14-27-48	UnAssessed
Wappasening Creek and tribs (0603-0026)	SR- 11	NoKnownImpct
Weaver Lake (Maumee Swamp) (0601-0025)	SR-P404-10-P409	Need Verific
West Branch Otego Creek and tribs (0601-0165)	SR-172-29	UnAssessed
West Branch Owego Cr, Lower, and tribs (0603-0011)	SR- 16- 7	NoKnownImpct
West Branch Owego Cr, Upper, and tribs (0603-0035)	SR- 16- 7	NoKnownImpct
West Branch Tiohgh River and minor tribs (0602-0060)	SR- 44-14-60	NoKnownImpct
West Branch Unadilla River and tribs (0601-0153)	SR-146-64	UnAssessed
Wharton Creek, Lower, and minor tribs (0601-0052)	SR-146-36	NoKnownImpct
Wharton Creek, Middle, and tribs (0601-0145)	SR-146-36	UnAssessed
Wharton Creek, Upper, and tribs (0601-0146)	SR-146-36	UnAssessed
Wheeler Brook and tribs (0602-0142)	SR- 44-32	UnAssessed
White Birch Lake (0601-0068)	SR-100-P174a(?)	MinorImpacts
Whites Pond (0601-0084)	SR-146-17- 1-P212	UnAssessed
Whitney Point Lake/Reservoir (0602-0004)	SR- 44-14-27 (portion 1)/P35a	Impaired Seg
Wilber Lake (0601-0098)	SR-179-P297	NoKnownImpct
Wilkins Brook and tribs (0601-0133)	SR-134- 8	UnAssessed
Willseyville Creek and minor tribs (0603-0032)	SR- 16- 4-16	NoKnownImpct
Woodman Pond (0602-0048)	SR- 44-78- 3-P148	UnAssessed
Wylie Brook and tribs (0601-0044)	SR-123	MinorImpacts
YMCA Pond (0601-0094)	SR-172- 8-15-P282a	UnAssessed
Yaleville Brook, Upper, and tribs (0601-0187)	SR-142	UnAssessed
Young Lake (0601-0026)	SR-P404-10-P408	Need Verific
Youngs Pond (0601-0076)	SR-139-10-3-1-P182a	UnAssessed
Zimmermans Pond (0601-0083)	SR-146- 9-45-P211	UnAssessed