

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)

Susquehanna River, Lower, Main Stem (0603-0016)

Impaired Seg

Waterbody Location Information

Revised: 06/30/2009

Water Index No: SR (portion 1) **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: 15.4 Miles **Quad Map:** BARTON (M-15-4) ...
Seg Description: from NY-Pa line to near Lounsberry (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	Threatened	Known

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

Known: - - -
Suspected: ATMOSPHERIC DEPOSITION, Agriculture, Municipal, 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. 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) **Drain Basin:** Susquehanna River
Waterbody Size: 2.7 Miles **Reg/County:** 7/Tioga Co. (54)
Seg Description: entire stream and tribs (within NYS) **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
Hydro Unit Code: 02050103/100 **Str Class:** C
Waterbody Type: River (Low Flow) **Drain Basin:** Susquehanna River
Waterbody Size: 42.9 Miles **Reg/County:** 7/Tioga Co. (54)
Seg Description: entire stream and minor tribs **Quad Map:** APALACHIN (M-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

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)
Waterbody Size: 38.5 Miles
Seg Description: entire stream and tribs (within NYS)

Drain Basin: Susquehanna River
Reg/County: 7/Tioga Co. (54)
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
TMDL/303d Status: n/a

Resolution Potential: Medium

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)

NoKnownImpct

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:** LowSusquehanna-Owego
Seg Description: stream and tribs, from Union Center to Mainer **Quad Map:** 7/Broome Co. (4) ...
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	Drain Basin:	Susquehanna River
Hydro Unit Code:	02050103/050	Str Class:	C
Waterbody Type:	River (Low Flow)	Reg/County:	7/Broome Co. (4)
Waterbody Size:	46.9 Miles	Quad Map:	ENDICOTT (M-16-3) ...
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
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	Resolution Potential: Medium
TMDL/303d Status:	n/a	

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
LowSusquehanna-Owego
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 **Resolution Potential:** Medium
TMDL/303d Status: n/a

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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