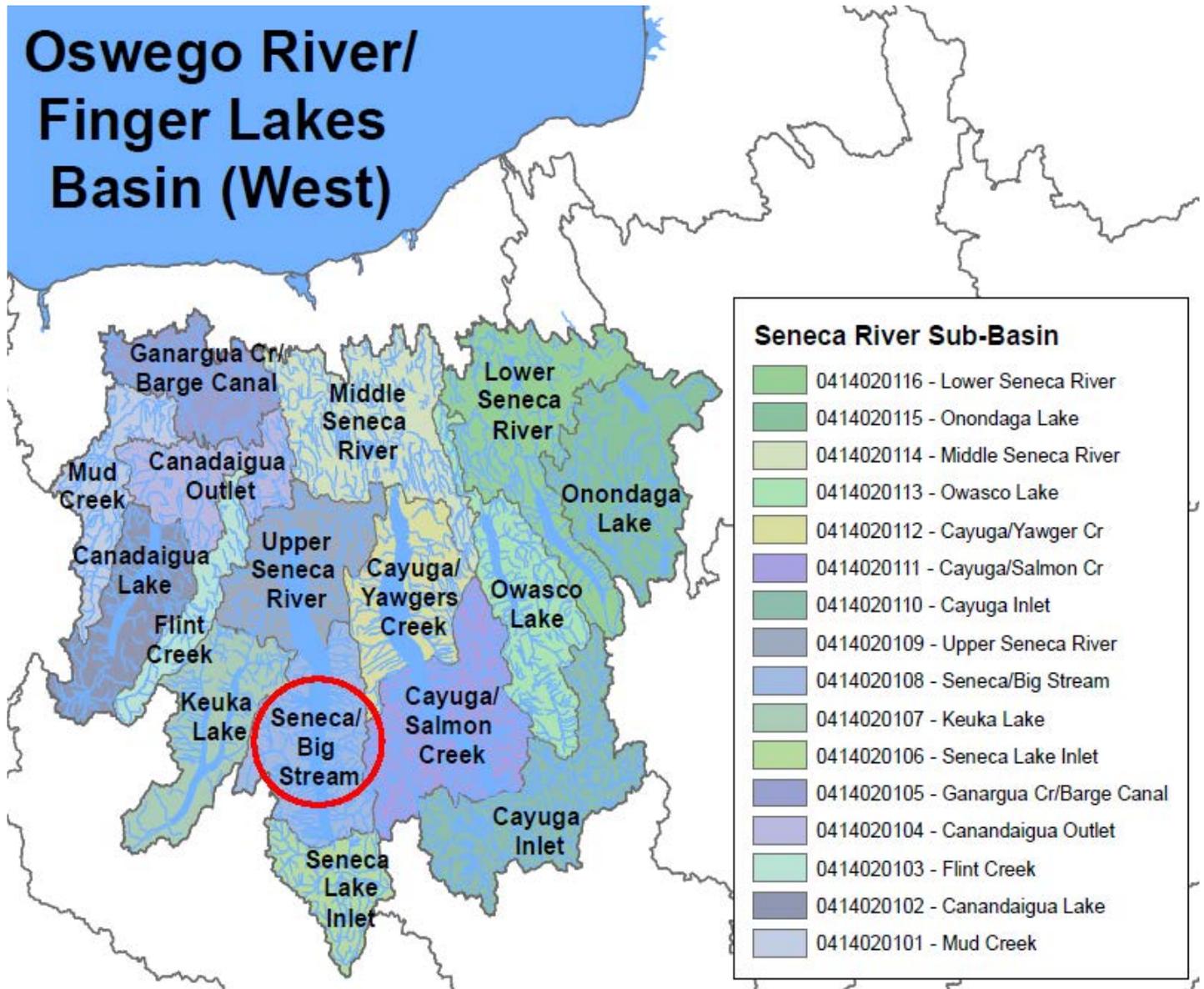


Oswego River/ Finger Lakes Basin (West)



Seneca Lake-Big Stream (0414020108)

Water Index Number

Ont 66-12-P369 (portion 2)
 Ont 66-12-P369 (portion 3)
 Ont 66-12-P369- 14
 Ont 66-12-P369- 28
 Ont 66-12-P369- 44
 Ont 66-12-P369- 56
 Ont 66-12-P369- 61 thru 114
 Ont 66-12-P369- 91
 Ont 66-12-P369- 93
 Ont 66-12-P369- 93
 Ont 66-12-P369-104

Waterbody Segment

Seneca Lake, Main Lake, Middle (0705-0021)
 Seneca Lake, Main Lake, South (0705-0014)
 Indian Creek and tribs (0705-0075)
 Mill Creek and tribs (0705-0076)
 Saw Mill Creek and tribs (0705-0077)
 Hector Falls Creek and tribs (0705-0007)
 Minor Tribs to Seneca Lake, Southwest(0705-0085)
 Rock Stream and tribs (0705-0086)
 Big Stream, Lower, and tribs (0705-0087)
 Big Stream, Upper, and tribs (0705-0088)
 Plum Point Creek and tribs (0705-0089)

Category

Threat(Poss)
 NoKnownImpct
 UnAssessed
 NoKnownImpct
 NoKnownImpct
 NoKnownImpct
 NoKnownImpct
 UnAssessed
 NoKnownImpct
 NoKnownImpct
 UnAssessed
 UnAssessed

Seneca Lake, Main Lake, Middle (0705-0021)

Threatened

Waterbody Location Information

Revised: 05/18/2016

Water Index No:	Ont 66-12-P369 (portion 2)	Water Class:	AA(TS)
Hydro Unit Code:	Upper Seneca River (0414020109)	Drainage Basin:	Oswego-Seneca-Oneida
Water Type/Size:	Lake/Reservoir 40289.5 Acres	Reg/County:	8/Seneca (50)
Description:	portion of lake, as described below		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

Uses Evaluated	Severity	Confidence
Water Supply	Threatened	Known
Public Bathing	Threatened	Suspected
Recreation	Fully Supported	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Fully Supported	Known

Conditions Evaluated

Habitat/Hydrology	Good
Aesthetics	Good

Type of Pollutant(s)

Known:	- - -
Suspected:	CHLORIDE/SALTS, Harmful Algal Blooms
Unconfirmed:	Pathogens

Source(s) of Pollutant(s)

Known:	- - -
Suspected:	RESOURCE EXTRACTION (mining), Unknown Source
Unconfirmed:	

Management Information

Management Status:	Restoration/Protection Strategy Needed
Lead Agency/Office:	ext/WQCC
IR/305(b) Code:	Water Attaining All Standards (IR Category 1)

Further Details

Overview

This portion of Seneca Lake is assessed as threatened due to water supply uses that are considered to be threatened by elevated salt concentrations from salt mining in the watershed. Public bathing is also evaluated as threatened by occasional growths of aquatic plants and algal blooms that can discourage swimming and other recreational uses. Although all uses are supported in the lake, these threats should continue to be monitored.

Use Assessment

This portion of Seneca Lake is a Class AA(TS) waterbody, suitable for public bathing, general recreation use and support of aquatic life, but not as a water supply. The waterbody is also designated as a cold water (trout) fishery.

Regarding water supply use, note that the evaluation of this use focuses on the source water prior to treatment, and does not necessarily reflect the quality of water distributed for use after treatment. Monitoring of water quality at the tap is conducted by local water suppliers and public health agencies. That being said, elevated levels of salt in the lake create a threat to water supply use. Current sodium concentrations exceed EPA advisory levels for specific groups of people (e.g., persons on salt-free diets). Water supply use of Seneca Lake is also considered to be threatened due to an

elevated potential for phosphorus, DBP precursors, and pesticides contamination. This assessment is based on land use and activities in the watershed.

The NYSDOH Source Waters Assessment Program (SWAP) 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. These reports do not address the safety or quality of treated finished potable tap water. Drinking water supplies in this waterbody include the City of Geneva, the Village of Waterloo and Village of Ovid water supplies. This assessment found an elevated susceptibility to contamination for this source of drinking water. Specifically the amount of agricultural lands in the assessment area results in elevated potential for phosphorus, DBP precursors, and pesticides contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to raise the potential for contamination. Some susceptibility associated with other sources, such as landfills, was also noted. (NYSDOH, Source Water Assessment Program, 2004)

Although there are no significant known water quality impacts in this portion of Seneca Lake, the segment is considered a highly valued water resource due to its designation of a Class AA(TS) drinking water supply, which is to maintain such that the water can be used as a potable source with limited treatment. The inclusion of this waterbody on the DEC/DOW Priority Waterbodies List as a Threatened water is a reflection of the particular resource value reflected in this designation and the need to provide additional protection, rather than any specifically identified threats.

There is no evidence of significant public bathing or other recreation use impacts in this portion of Seneca Lake, consistent with relatively low lake productivity and high water clarity. Recent concerns have been raised regarding algal blooms, including blue-green algae, but these suggest potential threats to uses, rather than impacts.

Aquatic life is considered to be fully supported based on DFWMR assessments that indicate a healthy fishery. Traditionally, lake trout, smallmouth bass and yellow perch have been the mainstay of Seneca Lake's fishery. The Lake's excellent fishery has benefitted greatly in recent years for steady annual stocking of hatchery-reared lake trout, brown trout and landlocked salmon. The lake's rainbow trout fishery is sustained entirely by natural reproduction – mostly in Catherine Creek and its tributaries. An important factor in recent resurgence of the Seneca salmonid fishery is DEC's ongoing control of the parasitic sea lamprey. The control program involves applications of the highly selective chemical lampricide, TFM, to known sea lamprey nursery areas in Catherine Creek and Keuka Lake Outlet at the three year intervals. The continued quality of Seneca's excellent trout and salmon fishing depends heavily on DEC's ability to apply this management tool at critical times in the future. (DEC/DFWMR, Region 7 Fisheries, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information

The most current water quality sampling of Seneca Lake is conducted by the Finger Lakes Institute of Hobart & William Smith College. FLI collects monthly data every summer on eight Finger Lakes. Results of this sampling indicate the lake is best characterized as oligo/mesotrophic, or moderately unproductive. Chlorophyll/algal levels are well below criteria corresponding to impacted recreational uses, while phosphorus concentrations are consistently below levels of concern. (Finger Lakes Institute, Hobart & William Smith College, May 2016)

The FLI results are consistent with sampling of Seneca Lake conducted as part of the NYSDEC Finger Lakes Water Quality Study. An Interpretive Summary report of the findings of this sampling was published in 2001. These data indicate that the lake is best characterized as oligomesotrophic, or between unproductive and moderately productive. Trophic indicators (phosphorus, chlorophyll a and water clarity) are well below the state guidance values indicating

impacted/stressed recreational uses. Hypolimnetic waters of the lake remain well oxygenated throughout the growing season. (Water Quality Study of the Finger Lakes, DEC/DOW, BWAM, July 2001)

Source Assessment

The higher levels of salt in Seneca Lake (relative to the other Finger Lakes) are generally attributable to salt mining activity in the watershed. The history of salt concentrations in the lake generally parallel levels of salt mining activity, with a rise in concentration from around 1900 to a mid-century peak, and subsequent decline. Since the late 1800s, solution mining operations at the southern end of the lake have discharge chloride-rich brines into Seneca Lake, with peak loads believed to have occurred in 1960s-70s. The post-1970s decline in concentrations (attributed to natural flushing) is slowed by stream input and continuing mine waste discharges. The use of road de-icing salts also contributes loading, but relative to mining sources this is thought to be much less significant. (Finger Lakes Institute, 2014)

Concerns have been raised regarding nonpoint runoff of nutrients into the lake, although in-lake concentrations of phosphorus and other productivity indicators remain low. Continued practices to minimize runoff are recommended, however there are no apparent sources of significant pollutant loading to the waterbody.

Management Actions

No specific management actions have been identified for the waterbody.

The Seneca Lake Pure Water Association is locally-led volunteer organization that advocates for the lake. Ongoing efforts of the Association include monitoring and protection of the quality of Seneca Lake as a source for drinking water and resource for tourism and recreation.

Section 303(d) Listing

This portion of Seneca Lake is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description

This segment includes the portion of the lake south of an east-west line extending from Pasttime Park on the east shore to a point 0.2 mile south of the Geneva City line on the west shore and north of an east-west line from the mouth of unnamed trib (-58) on the eastern shore to the mouth of Quarter Mile Creek (-61) on the western shore. This portion of the lake is primarily Class AA(TS); the portion of the lake within a one mile radius of the mouth of Keuka Lake Outlet is Class B(T).

Aquatic life is considered to be fully supported based on DFWMR assessments that indicate a healthy fishery. Traditionally, lake trout, smallmouth bass and yellow perch have been the mainstay of Seneca Lake's fishery. The Lake's excellent fishery has benefitted greatly in recent years for steady annual stocking of hatchery-reared lake trout, brown trout and landlocked salmon. The lake's rainbow trout fishery is sustained entirely by natural reproduction – mostly in Catherine Creek and its tributaries. An important factor in recent resurgence of the Seneca salmonid fishery is DEC's ongoing control of the parasitic sea lamprey. The control program involves applications of the highly selective chemical lampricide, TFM, to known sea lamprey nursery areas in Catherine Creek and Keuka Lake Outlet at the three year intervals. The continued quality of Seneca's excellent trout and salmon fishing depends heavily on DEC's ability to apply this management tool at critical times in the future. (DEC/DFWMR, Region 7 Fisheries, December 2014)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health Advisories and DEC/DOW, BWAM, January 2014)

Water Quality Information

The most current water quality sampling of Seneca Lake is conducted by the Finger Lakes Institute of Hobart & William Smith College. FLI collects monthly data every summer on eight Finger Lakes. Results of this sampling indicate the lake is best characterized as oligo/mesotrophic, or moderately unproductive. Chlorophyll/algal levels are well below criteria corresponding to impacted recreational uses, while phosphorus concentrations are consistently below levels of concern. (Finger Lakes Institute, Hobart & William Smith College, May 2016)

The FLI results are consistent with sampling of Seneca Lake conducted as part of the NYSDEC Finger Lakes Water Quality Study. An Interpretive Summary report of the findings of this sampling was published in 2001. These data indicate that the lake is best characterized as oligomesotrophic, or between unproductive and moderately productive. Trophic indicators (phosphorus, chlorophyll a and water clarity) are well below the state guidance values indicating impacted/stressed recreational uses. Hypolimnetic waters of the lake remain well oxygenated throughout the growing season. (Water Quality Study of the Finger Lakes, DEC/DOW, BWAM, July 2001)

Source Assessment

The Watkins Glen WWTP has a history of SPDES permit violations dating back to 2007 for various parameters including settleable solids, fecal and total coliform, and total residual chlorine. The WWTP outfall is currently located between a public access beach and a drinking water intake. In 2012, the WWTP has reported discharge of settleable solids of more than 20ml/l (limit is 0.3) coliform in the thousands and fecal coliform in the several thousands. These periodic exceedences appear to be related to significant infiltration/inflow (I/I) issues in the collection system and outdated disinfection equipment that is currently being upgraded. A consent order is being issued to address primarily the I/I issues, as it appears the village has corrected other items that were thought to be contributing to permit violations. The village is considering building a new plant, but funding for the project has not yet been identified. (DEC/DOW, Region 8, July 2012)

Concerns have been raised regarding nonpoint runoff of nutrients into the lake, although in-lake concentrations of phosphorus and other productivity indicators remain low. Continued practices to minimize runoff/clado are recommended, however there are no apparent sources of significant pollutant loading to the waterbody.

Management Actions

No specific management actions have been identified for the waterbody.

The Seneca Lake Pure Water Association is locally-led volunteer organization that advocates for the lake. Ongoing efforts of the Association include monitoring and protection of the quality of Seneca Lake as a source for drinking water and resource for tourism and recreation.

Section 303(d) Listing

This portion of Seneca Lake is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters.

There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, January 2016)

Segment Description

This segment includes the portion of the lake south of an east-west line from the mouth of unnamed trib (-58) on the eastern shore to the mouth of Quarter Mile Creek (-61) on the western shore.

Mill Creek and tribs (0705-0076)

NoKnownImpct

Waterbody Location Information

Revised: 08/15/2007

Water Index No: Ont 66-12-P369- 28
Hydro Unit Code: 04140201/060 **Str Class:** C
Waterbody Type: River
Waterbody Size: 18.1 Miles
Seg Description: entire stream and tribs

Drain Basin: Oswego-Seneca-Oneida
Seneca/Clyde Rivers
Reg/County: 8/Seneca Co. (50)
Quad Map: LODI (K-13-3)

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

A biological (macroinvertebrate) assessment of Mill Creek in Lodi (at Neal Road) was conducted in 2001. Sampling results indicated non-impacted water quality conditions. The sample was dominated by clean-water mayflies and caddisflies, with stoneflies, riffle beetles, dragonflies and hellgrammites also present. (DEC/DOW, BWAM/SBU, June 2005)

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.

Saw Mill Creek and tribs (0705-0077)

NoKnownImpct

Waterbody Location Information

Revised: 08/15/2007

Water Index No: Ont 66-12-P369- 44
Hydro Unit Code: 04140201/060 **Str Class:** C
Waterbody Type: River
Waterbody Size: 15.2 Miles
Seg Description: entire stream and tribs

Drain Basin: Oswego-Seneca-Oneida
Seneca/Clyde Rivers
Reg/County: 8/Seneca Co. (50)
Quad Map: BURDETT (L-13-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

A biological (macroinvertebrate) assessment of Sawmill Creek in Hector (at Peach Point Road) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions, however this assessment of impact may be an anomaly as the fauna consisted almost entirely of clean-water species. The low species richness found at the site may be related to habitat considerations; the substrate consisted of loose slate and rubble. (DEC/DOW, BWAM/SBU, June 2005)

Based on these sample results and caveats, uses at this site are assessed as having no known impact. However follow-up sampling to verify conditions in the stream are recommended.

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

Hector Falls Creek and tribs (0705-0007)

NoKnownImpct

Waterbody Location Information

Revised: 08/15/2007

Water Index No: Ont 66-12-P369- 56
Hydro Unit Code: 04140201/060 **Str Class:** C(TS)
Waterbody Type: River
Waterbody Size: 26.9 Miles
Seg Description: entire stream and tribs

Drain Basin: Oswego-Seneca-Oneida
Seneca/Clyde Rivers
Reg/County: 8/Schuyler Co. (49)
Quad Map: BURDETT (L-13-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

A biological (macroinvertebrate) assessment of Hector Falls/Logan Creek in Burdett (at Route 5) was conducted in 2001. Sampling results indicated non-impacted water quality conditions. The habitat was largely made up of bedrock but harbored a diversity of clean-water mayflies, stoneflies and caddisflies. (DEC/DOW, BWAM/SBU, June 2005)

A previous assessment had raised some concerns regarding leachate impacts from the former Hector Landfill. However the more recent sampling found no evidence of impacts from this or any other source.

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

Rock Stream and tribs (0705-0086)

NoKnownImpct

Waterbody Location Information

Revised: 08/15/2007

Water Index No: Ont 66-12-P369- 91	Drain Basin: Oswego-Seneca-Oneida
Hydro Unit Code: 04140201/060	Str Class: C
Waterbody Type: River	Reg/County: 8/Yates Co. (62)
Waterbody Size: 17.9 Miles	Quad Map: READING CENTER (L-13-1)
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

A biological (macroinvertebrate) assessment of Rock Creek in Rock Stream (at Old Lake Road) was conducted in 2001. Sampling results indicated non-impacted water quality conditions. This is a small bedrock stream in a gorge. Although productivity was low, the fauna was diverse and well-balanced. (DEC/DOW, BWAM/SBU, June 2005)

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.

Big Stream, Lower, and tribs (0705-0087)

NoKnownImpct

Waterbody Location Information

Revised: 05/21/2007

Water Index No: Ont 66-12-P369- 93
Hydro Unit Code: 04140201/030 **Str Class:** B
Waterbody Type: River
Waterbody Size: 33.8 Miles
Seg Description: stream and tribs, from mouth to Dundee

Drain Basin: Oswego-Seneca-Oneida
Seneca/Clyde Rivers
Reg/County: 8/Yates Co. (62)
Quad Map: READING CENTER (L-13-1)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

A biological (macroinvertebrate) assessment of Black Creek near Dundee (at Pre-Emption Road) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was identified as the primary cause of the impacts in the stream. However, nutrient biotic evaluation determined these effects on the fauna to be minor. Aquatic life support is considered to be fully supported in the stream, and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, June 2005)

This segment includes the portion of the stream and all tribs from the mouth to Preemption Road in Dundee. The waters of this portion of the stream are Class D from the mouth to Route 14A in Dundee and Class B for the remainder of the reach. Tribs to this reach/segment are Class C. Upper Big Stream is listed separately.