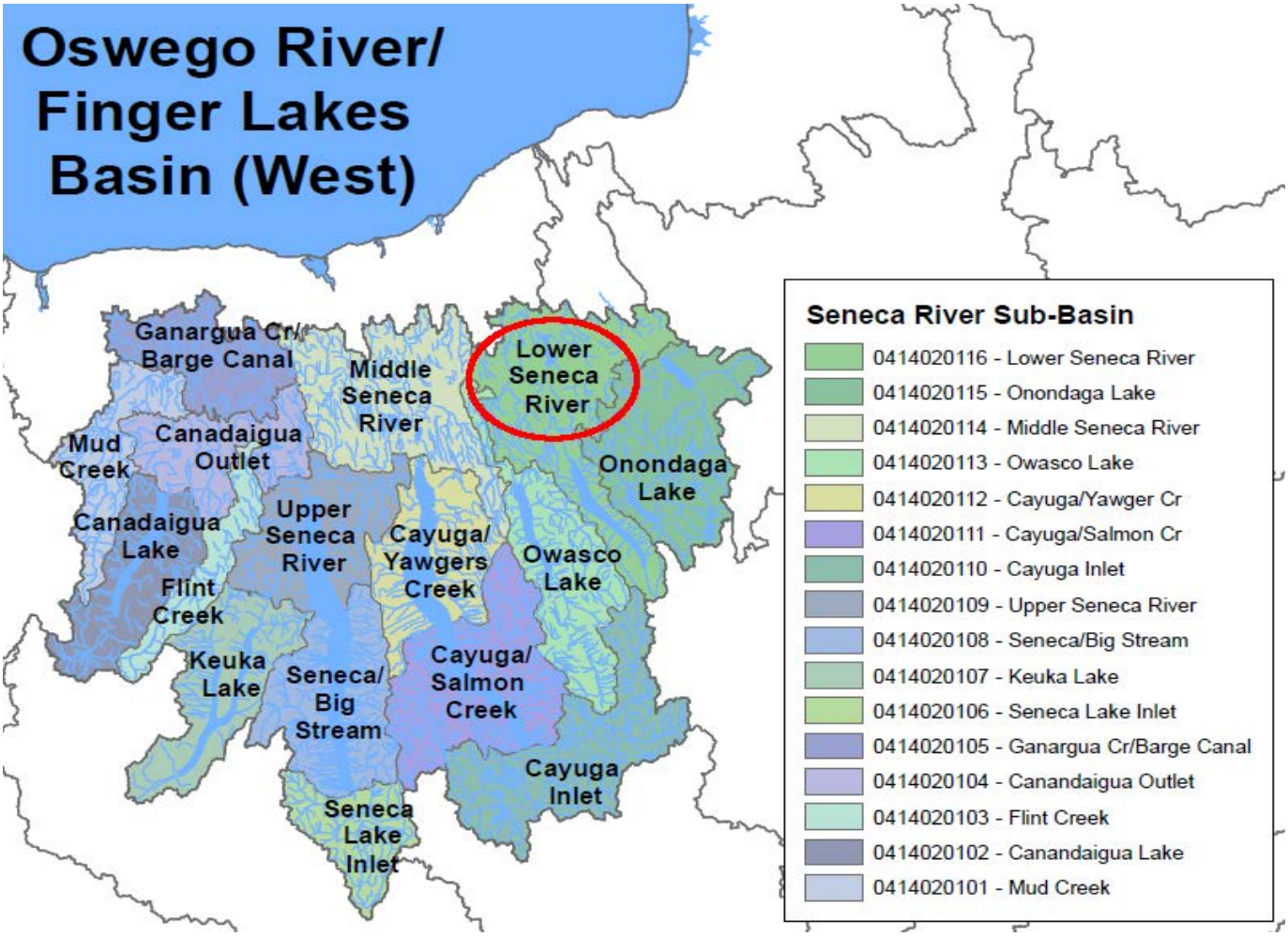

Lower Seneca River Watershed
(0414020116)

Water Index Number	Waterbody Segment	Category
Ont 66-12 (portion 1)	Seneca River, Lower, Main Stem (0701-0001)	Impaired Seg
Ont 66-12- 2 thru 11	Minor Tribs to Lower Seneca River(0701-0030)	UnAssessed
Ont 66-12 (portion 2)	Seneca River, Lower, Main Stem (0701-0008)	Impaired Seg
Ont 66-12 (portion 3)/P185	Cross Lake (0701-0002)	MinorImpacts
Ont 66-12 (portion 4)	Seneca River, Lower, Main Stem (0701-0003)	UnAssessed
Ont 66-12-13 thru 28	Minor Tribs to Lower Seneca River(0701-0031)	UnAssessed
Ont 66-12-19	Dead Creek and tribs (0701-0032)	MinorImpacts
Ont 66-12-28	Carpenters Brook and tribs (0701-0033)	MinorImpacts
Ont 66-12 ..P185-	Tribs to Cross Lake (0701-0029)	UnAssessed
Ont 66-12-29	Skaneateles Creek and tribs (0707-0003)	Impaired Seg
Ont 66-12-29-P193	Skaneateles Lake (0707-0004)	Threat(Poss)
Ont 66-12-29-P193-	Minor Tribs to Skaneateles Lake (0707-0005)	UnAssessed
Ont 66-12-29-P193-55	Grout Brook and tribs (0707-0001)	NoKnownImpct
Ont 66-12-30 thru 42 (selected)	Minor Tribs to Lower Seneca River (0701-0034)	UnAssessed
Ont 66-12-35	Muskrat Creek and tribs (0701-0035)	UnAssessed
Ont 66-12-35-P197	Parker Pond (0701-0036)	Need Verific
Ont 66-12-35-P197-	Tribs to Parker Pond (0701-0037)	UnAssessed
Ont 66-12-35-P197- 3-P198	Otter Lake (0701-0004)	MinorImpacts
Ont 66-12-36	Cold Spring/North Brook and minor tribs (0701-0038)	MinorImpacts
Ont 66-12-36- 1	Putnam Brook and tribs (0701-0039)	NoKnownImpct
Ont 66-12-36-10- 1	Trib to North Brook, Upper (0701-0040)	UnAssessed
Ont 66-12-37-P206	Stark Pond (0701-0041)	UnAssessed
Ont 66-12-40- 3-P207	Slayton Pond (0701-0042)	UnAssessed

Seneca River, Lower, Main Stem (0701-0001) Impaired Seg

Waterbody Location Information

Revised: 11/01/2007

Water Index No:	Ont 66-12 (portion 1)			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/350	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	6.9 Miles			**Quad Map:**	BALDWINSVILLE (I-15-2)
Seg Description:	portion from Three Rivers to Onondaga Lake Outlet				

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:	D.O./OXYGEN DEMAND, Nutrients
Suspected:	Ammonia, Priority Organics (phenol)
Possible:	Pathogens

Source(s) of Pollutant(s)

Known:	HABITAT MODIFICATION (zebra mussels), HYDRO MODIFICATION, Agriculture, Other Source (Onondaga Lake inflow)
Suspected:	Municipal, Urban/Storm Runoff
Possible:	- - -

Resolution/Management Information

Issue Resolvability:	1 (Needs Verification/Study (see STATUS))		
Verification Status:	4 (Source Identified, Strategy Needed)		
Lead Agency/Office:	DOW/Reg7	**Resolution Potential:**	Medium
TMDL/303d Status:	1->3b		

Further Details

Aquatic life support and recreational uses in this portion of the Seneca River are impaired due to low dissolved oxygen. Extensive zebra mussel infestation of the river is the primary cause of the dissolved oxygen depletion. Hydrology influences (stratification) caused by Onondaga Lake exacerbate these problems.

The Seneca River is a large river that drains much of central New York. The Seneca River joins with the Oneida River to form the Oswego River, creating what is referred to as the Three Rivers System. These rivers have multiple uses including navigation, hydroelectric power generation, fishing, contact recreation, and waste disposal. The natural flow and other characteristics of the river system have been greatly altered by dams and locks to support navigation and hydroelectric power generation. This has reduced the river's capacity to compensate for oxygen

depletion through natural aeration with the atmosphere and has contributed to the unusual bi-directional stratified flow that occurs between the Seneca River and Onondaga Lake. The lake both receives inflow from the river as well as discharges to the river. Due to the lack of hydrologic gradient, during periods of low flow, more dense higher salinity lake water exits along the bottom of the outlet while less dense river water flows into the lake in the top of the outlet. The salinity stratification also exacerbates dissolved oxygen depletion that occurs at lower depths of the river by preventing mixing and natural aeration. The extension of other water quality issues common to the lake, such as ammonia toxicity, into the lower river layer has also been documented. (DEC/DOW, BWAM, June 2007)

In addition to the hydrologic conditions, the establishment of dense zebra mussel populations in the river has also profoundly changed and complicated water quality concerns. The population density of zebra mussels in The Cut, a rock channel located just downstream of Cross Lake, is perhaps the highest sustained in any river in North America. Conditions are ideal at this location, as large amounts of appropriate food (phytoplankton) are supplied by the lake, and the rock bottom represents suitable substrate for the zebra mussel colonization . As a result of the zebra mussel infestation, the Seneca River downstream of Cross Lake has experienced significant increases in water clarity and decreases in dissolved oxygen. (DEC/DOW, BWAM, June 2007)

The water quality of the Seneca river upstream of Onondaga Lake is also an important concern because a leading remediation alternative for the domestic waste problems of the lake - diversion of an upgraded (Metro) effluent now received by the lake to the river - depends critically on the water quality and assimilative capacity of the river. The loss of assimilative capacity for oxygen demanding waste in the river from the zebra mussel infestation, exacerbated by river stratification, compromises the management alternative of diversion of the Metro effluent to the river to rehabilitate Onondaga Lake. (DEC/DOW, Region 7, June 2007)

Seneca River is currently included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 1 of the List as a waterbody segment requiring the development of a TMDL or other strategy to attain water quality standards for dissolved oxygen. As noted above, the dissolved oxygen depletion in the river is largely due to zebra mussel infestation which may require non-treatment options in addition to a TMDL in order to meet water quality targets. Because this impairment may not be appropriate to be addressed by a TMDL, it is recommended that this listing be moved to Part 3b (Waterbodies for which TMDL Development May be Deferred) of the 2008 Section 303(d) List, pending determination of the appropriateness of a TMDL. (DEC/DOW, BWAM, June 2007)

This segment includes the portion of the river from the confluence of the Oneida and Seneca Rivers at Three Rivers to the confluence of the Onondaga Lake Outlet in Cold Springs. The waters of this portion of the river are Class C. Tribs to this reach/segment are listed separately.

Seneca River, Lower, Main Stem (0701-0008) Impaired Seg

Waterbody Location Information

Revised: 11/01/2007

Water Index No:	Ont 66-12 (portion 2)			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/350	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	23.0 Miles			**Quad Map:**	BALDWINSVILLE (I-15-2)
Seg Description:	portion from Onondaga Lake Outlet to Cross Lake				

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: D.O./OXYGEN DEMAND, Nutrients
Suspected: PATHOGENS, Ammonia, Priority Organics (phenol), Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: HABITAT MODIFICATION (zebra mussels), HYDRO MODIFICATION, Agriculture, Other Source (Onondaga Lake inflow)
Suspected: Municipal, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg7 **Resolution Potential:** Medium
TMDL/303d Status: 3a,3b* (Waterbody Requiring Verification of Impairment, more)

Further Details

Aquatic life support and recreational uses in this portion of the Seneca River are impaired due to low dissolved oxygen. Extensive zebra mussel infestation of the river is the primary cause of the dissolved oxygen depletion. Hydrology influences (stratification) caused by Onondaga Lake exacerbate these problems.

The Seneca River is a large river that drains much of central New York. The Seneca River joins with the Oneida River to form the Oswego River, creating what is referred to as the Three Rivers System. These rivers have multiple uses including navigation, hydroelectric power generation, fishing, contact recreation, and waste disposal. The natural flow and other characteristics of the river system have been greatly altered by dams and locks to support navigation and hydroelectric power generation. This has reduced the river's capacity to compensate for oxygen depletion through natural aeration with the atmosphere and has contributed to the unusual bi-directional stratified flow that occurs between the Seneca River and Onondaga Lake. The lake both receives inflow from the river as well as

discharges to the river. Due to the lack of hydrologic gradient, during periods of low flow, more dense higher salinity lake water exits along the bottom of the outlet while less dense river water flows into the lake in the top of the outlet. The salinity stratification also exacerbates dissolved oxygen depletion that occurs at lower depths of the river by preventing mixing and natural aeration. The extension of other water quality issues common to the lake, such as ammonia toxicity, into the lower river layer has also been documented. (DEC/DOW, BWAM, June 2007)

In addition to the hydrologic conditions, the establishment of dense zebra mussel populations in the river has also profoundly changed and complicated water quality concerns. The population density of zebra mussels in The Cut, a rock channel located just downstream of Cross Lake, is perhaps the highest sustained in any river in North America. Conditions are ideal at this location, as large amounts of appropriate food (phytoplankton) are supplied by the lake, and the rock bottom represents suitable substrate for the zebra mussel colonization . As a result of the zebra mussel infestation, the Seneca River downstream of Cross Lake has experienced significant increases in water clarity and decreases in dissolved oxygen. (DEC/DOW, BWAM, June 2007)

The water quality of the Seneca river upstream of Onondaga Lake is also an important concern because a leading remediation alternative for the domestic waste problems of the lake - diversion of an upgraded (Metro) effluent now received by the lake to the river - depends critically on the water quality and assimilative capacity of the river. The loss of assimilative capacity for oxygen demanding waste in the river from the zebra mussel infestation, exacerbated by river stratification, compromises the management alternative of diversion of the Metro effluent to the river to rehabilitate Onondaga Lake. (DEC/DOW, Region 7, June 2007)

NYSDEC Rotating Intensive Basin Studies (RIBS) Routine Network monitoring (water chemistry) of the Seneca River in Jack Reef, Onondaga County, is conducted annually at the Route 32 bridge. 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 2001 (multiplates) and 2002. Biological (macroinvertebrate) sampling revealed moderately impacted water quality. Species richness was low and mayflies and caddisflies were rare. These results are similar to 1995 sampling and represent a decline from conditions in 1989-90 and are thought to be a result of heavy zebra mussel infestation. Water column chemistry indicates phenol to be present in concentrations that constitute a parameter of concern. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism.

This portion of the Seneca River is currently included on the NYS 2006 Section 303(d) List of Impaired Waters due to pathogens. This segment is included on Part 3a as a waterbody for which TMDL development may be deferred pending verification of impairment. A reach of the Seneca River downstream of this segment is also included on the 2006 Section 303(d) List due to low dissolved oxygen, thought to be largely the result of zebra mussel infestation. This updated assessment indicates the same impairments occur in this segment and the includsion of this segment as well on the 2008 Section 303(d) List due to low dissolved oxygen is recommended. As noted above, the dissolved oxygen depletion in the river is largely due to zebra mussel infestation which may require non-treatment options in addition to a TMDL in order to meet water quality targets. Because this impairment may not be appropriate to be addressed by a TMDL, it is recommended that this segment of the Seneca River be included on Part 3b (Waterbodies for which TMDL Development May be Deferred) of the 2008 Section 303(d) List for low dissolved oxygen, pending determination of the appropriateness of a TMDL. (DEC/DOW, BWAM, February 2008)

This segment includes the portion of the river from the confluence of the Onondaga Lake Outlet in Cold Springs to Cross Lake at Jones Point. The waters of this portion of the river are Class C. Tribs to this reach/segment are listed separately.

Cross Lake (0701-0002) MinorImpacts

Waterbody Location Information

Revised: 11/01/2007

Water Index No:	Ont 66-12 (portion 3)/P185			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/390	**Str Class:**	B		Seneca/Clyde Rivers
Waterbody Type:	Lake			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	2086.3 Acres			**Quad Map:**	JORDAN (I-15-4)
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	Known
Aquatic Life	Stressed	Possible
Recreation	Stressed	Suspected

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: NUTRIENTS, PATHOGENS
Possible: D.O./Oxygen Demand

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, ON-SITE/SEPTIC SYST, OTHER SOURCE (waterfowl), Hydro Modification (periodic flooding), Streambank Erosion
Possible: - - -

Resolution/Management Information

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

Further Details

Public bathing and recreational uses in Cross Lake may experience impacts due to nutrient and sediment loads from various nonpoint sources in the watershed. On-site septic systems around the lake have also been identified as a source of nutrients. Pathogen levels are also a concern.

The lake is reported to be eutrophic during the summer. Algal blooms and suspended sediment reduce water clarity, which also impacts recreational uses. The primary source of nutrient and sediment loads to the lake are the Seneca River. A recreational beach on the lake has on occasion been closed by Cayuga County due to elevated coliform levels. Migratory waterfowl are one source of the pathogens. Inadequate and/or failing on-site septic systems serving residences around the lake are also contributing to the coliform as well as the nutrient loads to the lake. The

impact of on-site septic systems is exacerbated by periodic flooding along the lake. (Cayuga County WQMA, January 2004)

The lake functions as a sink and settling basin for upstream loads that enter the lake via the Seneca River. Other natural characteristics of the lake, including stratification, the short-circuiting of the river flow through the southern end of the lake and the resulting limited circulation, and the recycling of nutrients from bottom sediment deposits, are thought to contribute to water quality impacts. Because of the significant loadings from the Seneca River, a multi-county watershed plan is needed to address these problems. (Cayuga County WQMA, January 2004)

Dead Creek and tribs (0701-0032) MinorImpacts

Waterbody Location Information

Revised: 07/03/2007

Water Index No:	Ont 66-12-19			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/350	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	19.7 Miles			**Quad Map:**	LYSANDER (I-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
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Aquatic life support and recreational uses in Dead Creek are known to experience impacts due to nutrients from agricultural and other nonpoint sources.

A biological (macroinvertebrate) assessment of Dead Creek near Baldwinsville (at Hoag Road) was conducted in 2001. Sampling results indicated moderately impacted water quality conditions, however this assessment is thought to be influenced by habitat factors. The stream is small and sluggish and there are many ponded areas above the sampling location. Particularly high conductivity was noted in the stream and Impact Source Determination found nonpoint source nutrient enrichment to be the likely cause of the impacts. Additional sampling is recommended in order to determine the extent and magnitude of the impacts to this stream. (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, including White Bottom Creek (-5) and Gilly Brook (-6), are Class C,C(T).

Carpenters Brook and tribs (0701-0033) MinorImpacts

Waterbody Location Information

Revised: 07/02/2007

Water Index No:	Ont 66-12-28			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/350	**Str Class:**	C(T)		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	30.5 Miles			**Quad Map:**	JORDAN (I-15-4)
Seg Description:	entire stream and tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Aquatic life support in Carpenters Brook is known to experience minor impacts due to nutrient enrichment from various nonpoint sources. .

A biological (macroinvertebrate) assessment of Carpenters Brook in Peru (at Peru Road) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was identified as the primary source of the impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation suggests the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

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

Skaneateles Creek and tribs (0707-0003) Impaired Seg

Waterbody Location Information

Revised: 08/13/2007

Water Index No:	Ont 66-12-29			**Drain Basin:**	Oswego-Seneca-Oneida
Hydro Unit Code:	04140201/340	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	36.5 Miles			**Quad Map:**	JORDAN (I-15-4)
Seg Description:	entire stream and tribs				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: PRIORITY ORGANICS (PCBs), Nutrients
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)

Known: LANDFILL/LAND DISP. (Stauffer Mgmt)
Suspected: Agriculture, Industrial, Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DEC/DER **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Fish consumption in Skaneateles Creek is impaired due to an health advisory due to PCBs. Aquatic life support in the stream is also known to experience minor impacts due to nutrient enrichment from nonpoint sources.

Fish consumption in Skaneateles Creek below the dam in Skaneateles is impaired due to a NYSDOH health advisory that recommends eating no more than one meal per month of larger brown trout (over 10 inches) because of elevated PCB levels. The source of PCBs is a hazardous waste site (Stauffer Management) that is currently being remediated. The advisory for this lake was first issued prior to 1998-99. The stream supports a significant brown and rainbow trout fishery and catch-and-release fishing is practiced. (2006-07 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2006).

A biological (macroinvertebrate) assessment of Skaneateles Creek in Jordan (at Route 31) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was

indicated as the primary source of impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation suggests the level of eutrophication is sufficient to stress aquatic life support. A biological survey of crayfish tissue in 2000 was used to identify the apparent source of the PCB contamination in the stream. (DEC/DOW, BWAM/SBU, June 2005)
Remediation of the Stauffer Management site (7-34-010) is currently underway. The remediation includes the removal on contaminated sediments on the site and the sampling and excavation of contaminated sediments in Skaneateles Creek. In addition to the selective dredging in the creek, the remediation effort includes the permanent relocation of about 400 feet of the stream. (DEC/DOW, Region 7, September 2005)

Skaneateles Creek is included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 2b of the List as a Fish Consumption Water due to PCB contamination.

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

Skaneateles Lake (0707-0004) Threat(Poss)

Waterbody Location Information

Revised: 07/11/2007

Water Index No:	Ont 66-12-29-P193			**Drain Basin:**	Oswego-Seneca-Oneida
Hydro Unit Code:	04140201/340	**Str Class:**	AA		Seneca/Clyde Rivers
Waterbody Type:	Lake			**Reg/County:**	7/Onondaga Co. (34)
Waterbody Size:	8703.9 Acres			**Quad Map:**	SKANEATELES (J-15-1)
Seg Description:	entire lake				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: - - -
Suspected: - - -
Possible: OTHER POLLUTANTS

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Water supply uses in Skaneateles Lake may experience minor threats due to various activities in the watershed. The designation of this waterbody as a threatened water is reflective of a need to protect its particular resource value, rather than specifically identified threats.

Although there are no known water quality impacts in Skaneateles Lake, the segment is considered a highly valued water resource due to its drinking water supply classification. The lake is a multi-use waterbody, but is also the primary source of water for the City of Syracuse. There are significant watershed protection measures in place to protect this water supply. 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.

Skaneateles Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1997 and continuing through 2001. An Interpretive Summary report of the findings of this sampling

was published in 2002. These data indicate that the lake continues to be best characterized as oligotrophic, or highly unproductive. The very high water clarity of the lake are the result of very low nutrient and algae levels. Phosphorus levels in the lake are consistently below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements easily exceed what is recommended for swimming beaches. In fact a September 2001 clarity readings of 15 meters was among the highest ever recorded in a NYS lake. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is weakly colored, which is as expected given the character of the watershed. Oxygen levels do not appear to be significantly reduced at lower lake depths and internal nutrient cycling is not significant. (DEC/DOW, BWAM/CSLAP, October 2002)

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be highly favorable since the lake was first evaluated and continuing through the most recent assessment. The recreational suitability of the lake is described most frequently as "could not be nicer." The lake itself is most often described as "crystal clear," an assessment that is consistent with the perceived water quality conditions in the lake and its measured water quality characteristics. Assessments have noted that aquatic plants rarely grows to the lake surface. Aquatic plants are dominated by a mix of native and non-native species and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, October 2002)

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

Grout Brook and tribs (0707-0001) NoKnownImpct

Waterbody Location Information

Revised: 07/02/2007

Water Index No:	Ont 66-12-29-P193-55	**Drain Basin:**	Oswego-Seneca-Oneida
Hydro Unit Code:	04140201/340 **Str Class:** AA(T)		Seneca/Clyde Rivers
Waterbody Type:	River	**Reg/County:**	7/Cortland Co. (12)
Waterbody Size:	17.2 Miles	**Quad Map:**	SPAFFORD (J-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

A biological (macroinvertebrate) assessment of Grout Brook in Grout Mill (at Route 101) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was identified as the primary contributor to the conditions resulting in this assessment. 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. (DEC/DOW, BWAM/SBU, June 2005)

Previous assessments (1996) suggested CSO discharges caused some impacts to water quality, however more recent sampling found no evidence of such problems. (DEC/DOW, BWAM, January 2005)

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

Parker Pond (0701-0036) Need Verific

Waterbody Location Information

Revised: 08/13/2007

Water Index No:	Ont 66-12-35-P197			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/390	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	Lake			**Reg/County:**	7/Cayuga Co. (6)
Waterbody Size:	185.6 Acres			**Quad Map:**	CATO (I-14-2)
Seg Description:	entire pond				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Possible

Type of Pollutant(s)

Known:	ALGAL/WEED GROWTH
Suspected:	Nutrients
Possible:	- - -

Source(s) of Pollutant(s)

Known:	HABITAT MODIFICATION
Suspected:	Agriculture
Possible:	On-Site/Septic Syst

Resolution/Management Information

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

Further Details

Recreational uses in Parker Pond may experience minor impacts due to aquatic weed growth.

Local agencies have expressed concerns regarding the impact of aquatic weeds that restrict recreational uses. The lake is reported to be eutrophic and nutrient loadings from the surrounding watershed are thought to contribute to these impacts. Agricultural activities and possibly impacts from on-site septic systems are suspected sources. (Cayuga County WQMA, 2003)

Otter Lake (0701-0004) MinorImpacts

Waterbody Location Information

Revised: 07/11/2007

Water Index No:	Ont 66-12-35-P197- 3-P198			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/390	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	Lake			**Reg/County:**	7/Cayuga Co. (6)
Waterbody Size:	281.7 Acres			**Quad Map:**	CATO (I-14-2)
Seg Description:	entire pond				

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH
Suspected: Nutrients, Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: OTHER SOURCE (naturally eutrophic)
Suspected: Agriculture
Possible: On-Site/Septic Syst, Streambank Erosion

Resolution/Management Information

Issue Resolvability: 5 (Not Resolvable, natural/conflicting use)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: ext/WQCC
Resolution Potential: Low
TMDL/303d Status: n/a

Further Details

Recreational uses of Otter Lake are known to experience minor impacts due to algal and aquatic weed growth. The shallow lake is situated in a low-lying, marshy area and is largely considered to be naturally eutrophic. However, elevated nutrient loadings from various nonpoint sources likely contribute to these impacts.

Rooted aquatic vegetation is reported to be heavy and a mechanical harvesting program is in place. While agriculture and on-site systems are suspected of contributing sediment and nutrients to the lake, it is unlikely that even significant reductions would alter the trophic state of the lake. NYSDEC stocks the lake with walleye. (DEC/DFWMR, Region 7, 2000)

Cold Spring/North Brook and minor tribs (0701-0038) MinorImpacts

Waterbody Location Information

Revised: 08/13/2007

Water Index No:	Ont 66-12-36			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/330	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Cayuga Co. (6)
Waterbody Size:	41.2 Miles			**Quad Map:**	WEEDSPORT (I-14-3)
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
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: D.O./Oxygen Demand
Possible: - - -

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Aquatic life support and recreational uses in Cold Spring/North Brook are known to experience minor impacts due to nutrient enrichment from nonpoint sources.

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Cold Spring/North Brook in Weedsport, Cayuga County, (at Route 13B) was conducted in 2006. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted water quality conditions. Nonpoint sources of nutrient enrichment were indicated as the primary contributor to the impacts. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates/suggests the level of eutrophication is sufficient to stress/threaten aquatic life support. Pervious sampling in 2001 suggested municipal/industrial impacts, but these influences were not present in the 2006 sample. Poor habitat conditions also may have affected the sample. Water column sampling revealed dissolved solids to be a parameters

of concern. However, these results likely reflect high stream conductivities that are characteristic on the entire basin. Some occasional high coliform values were also noted. Toxicity testing of the water column showed no significant mortality or reproductive impacts. (DEC/DOW, BWAM/RIBS, January 2005)
Local agencies have expressed concerns regarding impacts from golf course runoff, cattle access to the stream and streambank erosion. (Cayuga County WQMA, 2003)

This segment includes the entire stream and selected/smaller tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment, including Upper Cold Spring Brook (-5a), are also Class C,C(T). Putnam Brook (-1) and upper unnamed trib (-10-1) are listed separately. The portion of the stream from the Seneca River to Cold Spring Brook is referred to a both Cold Spring and North Brook.

Putnam Brook and tribs (0701-0039) NoKnownImpct

Waterbody Location Information

Revised: 07/02/2007

Water Index No:	Ont 66-12-36- 1			**Drain Basin:**	Owsego-Seneca-Oneida
Hydro Unit Code:	04140201/330	**Str Class:**	C		Seneca/Clyde Rivers
Waterbody Type:	River			**Reg/County:**	7/Cayuga Co. (6)
Waterbody Size:	42.1 Miles			**Quad Map:**	WEEDSPORT (I-14-3)
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

A biological (macroinvertebrate) assessment of Putnam Brook in North Weedsport (at Route 31) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was identified as the primary contributor to the conditions resulting in this assessment. 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 indications of impacts to uses. (DEC/DOW, BWAM/SBU, June 2005)

Local agencies have expressed concerns regarding impacts from agricultural activities and streambank erosion, as well as discharges from a mobile home park and a county residential center. (Cayuga County WQMA, 2003)

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