



Oneida River Watershed (0414020209)

Water Index Number	Waterbody Segment	Category
Ont 66-11	Oneida River, Main Stem(0703-0020)	MinorImpacts
Ont 66-11- 1	Six Mile Creek and tribs (0703-0042)	UnAssessed
Ont 66-11- 1 thru 23 (selected)	Minor Tribs to Oneida River (0703-0043)	UnAssessed
Ont 66-11- 2	Fish Creek and tribs (0703-0018)	UnAssessed
Ont 66-11- 2-P17	Lake Temalo (0703-0044)	UnAssessed
Ont 66-11- 2-P18,P18a	Stewarts, Goodfellow Ponds (0703-0045)	UnAssessed
Ont 66-11-11	Mud Creek and tribs (0703-0046)	UnAssessed
Ont 66-11-14a-P19	Pleasant Lake (0703-0047)	NoKnownImpct
Ont 66-11-21	Caughdenoy Creek and tribs(0703-0048)	UnAssessed
Ont 66-11-P26	Oneida Lake (0703-0001)	MinorImpacts

Oneida River, Main Stem (0703-0020)

MinorImpacts

Waterbody Location Information

Revised: 05/21/2007

Water Index No: Ont 66-11
Hydro Unit Code: 04140202/150 **Str Class:** B
Waterbody Type: River
Waterbody Size: 24.2 Miles
Seg Description: portion from mouth to Oneida Lake

Drain Basin: Oswego-Seneca-Oneida
Oneida River
Reg/County: 7/Oswego Co. (38)
Quad Map: BALDWINSVILLE (I-15-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: ---
Suspected: NUTRIENTS, Silt/Sediment
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: OTHER SOURCE, Agriculture, 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: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Aquatic life support and recreational uses in the Oneida River are known to experience minor impacts due to nutrient enrichment and periodic eutrophic conditions. Outflow of nutrients from Oneida Lake and from other nonpoint sources throughout the watershed are the likely source of the nutrients.

A biological (macroinvertebrate) assessment of the Oneida River above Three Rivers (at Bouy 209) was conducted in 2001. Sampling results indicated slightly impacted water quality conditions. The assessment is based on three months of artificial substrate (multiplate) sampling. Several species of mayflies and caddisflies were found at the site, as well as numerous zebra mussels. The assessment represents no significant change from previous results for 1990 and 1995 sampling. Although these effects on the fauna are minor and aquatic life support is considered to be fully supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to threaten aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

Rotating Integrated Basin Studies (RIBS) sampling of the Oneida River in Brewerton was conducted in 1989-1990. Water quality at this site was rated as good based on chemical and biological sampling. Tissue analysis of amphipods (scuds) from the site found chromium, iron and aluminum at levels exceeding background, although background levels for this organism are not well established. Iron levels in the water column were at the border of being considered a parameter of concern. Copper, lead and zinc were present at levels greater than their assessment criteria values in bottom sediments. PCBs were also found in the bottom sediment at a value just above its reporting limit.

This segment includes the entire river from the mouth to Oneida Lake, including Big Ben Cut and Anthony Cut. The river is Class B.

Pleasant Lake (0703-0047)

NoKnownImpct

Waterbody Location Information

Revised: 05/24/2007

Water Index No: Ont 66-11-14a-P19	Drain Basin: Oswego-Seneca-Oneida	
Hydro Unit Code: 04140202/150	Str Class: B	Oneida River
Waterbody Type: Lake	Reg/County: 7/Oswego Co. (38)	
Waterbody Size: 38.3 Acres	Quad Map: BREWERTON (I-16-1)	
Seg Description: entire lake		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

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

Source(s) of Pollutant(s)

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

Resolution/Management Information

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

Further Details

Pleasant Lake has been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 2000 and continuing through the present. An Interpretive Summary report of the findings of this sampling was published in 2006. These data indicate that the lake continues to be best characterized as mesoligotrophic, or moderately to highly unproductive. The lake was slightly less productive in 2005 than most CSLAP sampling seasons, based on slightly higher water clarity and lower algae levels. However, phosphorus readings were essentially unchanged, and these small changes in each of these indicators were probably within the normal variability for this lake. Lake productivity does not change much over the course of a typical sampling season, indicating that deepwater nutrient levels that are not significantly higher than those at the lake surface (and thus do not "enrich" the surface waters during destratification). Phosphorus levels in the lake fall well below the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements consistently meet what is recommended for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5; occasionally low pH is noted. The lake water is moderately colored, but color is not assumed to impact transparency in the lake. (DEC/DOW, BWAM/CSLAP, April 2006)

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be favorable 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" to "excellent." The lake itself is most often described as "not quite 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 typically grow to the lake surface. Aquatic plants are dominated by native species typical of lakes in the region and have not been cited as impacting recreational uses. (DEC/DOW, BWAM/CSLAP, April 2006)

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

Oneida Lake (0703-0001)

MinorImpacts

Waterbody Location Information

Revised: 09/24/2007

Water Index No:	Ont 66-11-P26	Drain Basin:	Oswego-Seneca-Oneida
Hydro Unit Code:	04140202/	Str Class:	B
Waterbody Type:	Lake	Reg/County:	7/Oswego Co. (38) ...
Waterbody Size:	51090.9 Acres	Quad Map:	CICERO (I-16-2) ...
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
Aquatic Life	Stressed	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: ALGAL/WEED GROWTH, SILT/SEDIMENT, PROBLEM SPECIES, Species Alteration
Suspected: NUTRIENTS (phosphorus), Pathogens
Possible: Water Level/Flow

Source(s) of Pollutant(s)

Known: AGRICULTURE, HABITAT MODIFICATION, URBAN/STORM RUNOFF, On-Site/Septic Syst
Suspected: Deicing (stor/appl), Streambank Erosion
Possible: Municipal

Resolution/Management Information

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

Further Details

Aquatic life support and recreational uses in Oneida Lake are known to experience impacts and threats due to a range of pollutants. Sources of these impacts include invasive aquatic weeds and other species (zebra mussels), silt/sedimentation and nutrient loads from nonpoint sources, municipal and household septic waste discharges. Flooding and water level regulation are also a concern.

In 2004 a Watershed Management Strategy for Oneida Lake was prepared by the Central New York Regional Planning and Development Board in cooperation with the Oneida Lake Watershed Advisory Council and with participation and input from a wide range of local municipalities, agencies and organizations. The report provided an opportunity for local stakeholders to identify important issues of concern for the lake and its watershed. Given the size of the watershed, the specific issues identified varied among the 6 regions around the lake. However a number of issues were identified in multiple regions. These include: the decline of fish populations, the presence and threat

of exotic non-native species such as water chestnut and zebra mussels, the need for cormorant (predatory bird) control, and various boating and recreational use issues. Regarding issues within the watershed that impact the lake, common concerns included erosion and sedimentation from urban and agricultural sources, surface and groundwater contamination (from road salt application and storage), and impacts from inadequate and/or poorly maintained onsite septic systems.

Oneida Lake has long supported an excellent warmwater fishery. However a recent decline in walleye and yellow perch has been a concern and the focus of current study. The decline is believed to be associated with increased predation by cormorants and fish predators that may be the result of greater water clarity caused by zebra mussels. Cormorants consume about one pound of fish per day per bird. The peak cormorant population on the lake was estimated at 1,750 birds in 1998. Efforts to reduce the impact of cormorants are the focus of a Cormorant Task Force and a US Fish and Wildlife Service cormorant control program is currently underway. In the past few years, fish populations have improved, but study of the issue is continuing.

Exotic Species also impact the lake. Zebra mussels first appeared in the lake in 1991. Since then they have dramatically changed water clarity of the lake and have crowded out other native clams. The greater water clarity allows greater penetration of sunlight which has resulted in aquatic plant growth extending into deeper water and increase algal growth. These changes also impact the native fishery of the lake. Water chestnut, first detected in 1999, is another invasive species of concern. Dense growths of this plant on the lake surface crowds out native plants, reduces fish habitat and restrict boating and other recreational uses of the lake.

In the upland watershed of the lake, erosion/sedimentation is a concern. Activities associated with agriculture, forestry, highway maintenance and construction all contribute to loss of soil into Oneida Lake. This sediment loading introduces nutrients and other pollutants to the lake and negatively impacts aquatic biota, fish and fish habitat. Increased sedimentation to and erosion into the lake can also impact boating and other recreational activities. Increased sedimentation also reduces hydrologic capacity of tributaries and exacerbates flooding in the watershed.

Phosphorus levels and nutrient enrichment have declined in Oneida Lake over the past 20 years. However monitoring data collected by the Cornell University Oneida Lake Biological Field Station over the past five years have shown total phosphorus levels in the lake to be consistently between 20 and 30 ug/l, at or slightly above state guidance value of 20 ug/l indicating impacted/stressed recreational use. The most recent chlorophyll and water clarity data suggest a mesotrophic lake. (Cornell University Biological Field Station, unpublished data). Nutrients, pathogens and other pollutants from agricultural and urban runoff and inadequate and/or poorly maintained septic systems remain a concern. In particular, on-site septic systems that serve homes in close proximity to the lake and its tributaries pose water quality threats. Many of these systems were installed to serve seasonal residences and camps that have since been converted to year-round use. Inadequate residential wastewater treatment has been identified as a concern in most regions of the watershed. Runoff associated with the considerable agricultural activity in southern and eastern watersheds is also a source of pollutants to the lake and its tributaries. Improper storage and application of salt for maintaining roads in the winter was also identified as a concern in much of the watershed. (DEC/DOW, BWAM, January 2007)

Oneida Lake is currently included on the NYS 2006 Section 303(d) List of Impaired Waters. The lake is included on Part 3a of the List as a Water Requiring Verification of Impairment. However the assessment on which this decision to list is based goes back to the early 1990s, prior to the more recent improvements to lake water quality noted above and prior to the development of the NYS Consolidated Assessment and Listing Methodology (CALM) which more specifically defines thresholds for impaired waters. This updated assessment suggests that previous impacts due to phosphorus concentrations have been greatly reduced and the current impacts to water quality are a result of invasive species and other considerations that are not amenable to a TMDL approach. Because the phosphorus concentrations and other water quality indicators in the lake do not reach the threshold of impaired uses as outlined in the CALM continued listing is not warranted.

The Oneida Lake Watershed Management Plan coordinated by CNYRPDB and the Oneida Lake Watershed Advisory Council can be found at: <http://www.cnyrpdb.org/oneidalake/>

Though the WI/PWL database lists Oswego County as the primary county location of this waterbody, this large lake also lies in other multiple counties including Oneida, Madison and Onondaga Counties.