Seneca Lake, Main Lake, South (0705-0014) Threatened

Waterbody Location Information

Revised: 05/18/2016

Water Index No:	Ont 66-12-P369 (portion 3)	**Water Class:**	B(T)
Hydro Unit Code:	Big Stream-Seneca Lake (0414020108)	**Drainage Basin:**	Oswego-Seneca-Oneida
Water Type/Size:	Lake/Reservoir 237.7 Acres	**Reg/County:**	8/Schuyler (49)
Description:	portion of lake, as described below		

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
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:	PATHOGENS, HARMFUL ALGAL BLOOMS
Unconfirmed:	Low D.O./Oxygen Demand, Silt/Sediment

Source(s) of Pollutant(s)

Known:	MUNICIPAL DISCHARGES (Watkins Glen WWTP)
Suspected:	UNKNOWN SOURCE
Unconfirmed:	- - -

Management Information

Management Status:	Strategy Implementation Scheduled or Underway
Lead Agency/Office:	DOW/Reg8
IR/305(b) Code:	Water Attaining Some Standards (IR Category 2)

Further Details

Overview

This portion of Seneca Lake is assessed as having no known impacts; all evaluated uses are considered to be fully supported. However public bathing and water supply use in this portion of Seneca Lake is thought to be threatened by pathogens and other pollutants from inadequate wastewater treatment facilities. There are currently no exceedences of water quality standards or use impacts, but the exceedence of permit limits and resulting enforcement actions against a municipal wastewater treatment facility raise some concerns. Public bathing is also evaluated as threatened by occasional growths of aquatic plants and algal blooms that can discourage swimming and other recreational uses.

Use Assessment

This portion of Seneca Lake is a Class B(T) 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.

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 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 runoffclado 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.