



Lake Ontario/Twelvemile Creek Watershed (0413000109)

Water Index Number	Waterbody Segment	Category
Ont (portion 22)	Lake Ontario Shoreline, Western (0301-0053)	Impaired Seg
Ont 152a	Twelvemile Creek, Lower, and tribs (0301-0011)	UnAssessed
Ont 152a	Twelvemile Creek, Upper, and tribs (0301-0063)	UnAssessed
Ont 152a..P190b	Bond Lake (0301-0012)	UnAssessed
Ont 152b thru 157	Minor Tribs to Lake Ontario (0301-0064)	UnAssessed
Ont 154	Sixmile Creek and tribs (0301-0065)	UnAssessed
Ont 156	Fourmile Creek, Lower, and tribs (0301-0066)	Impaired Seg
Ont 156	Fourmile Creek, Upper, and tribs (0301-0067)	UnAssessed

Lake Ontario Shoreline, Western (0301-0053)

Impaired

Waterbody Location Information

Revised: 7/30/2015

Water Index No: Ont (portion 22) **Drain Basin:** Lake Ontario
Unit Code: 04130001 **Class:** A Lake Ontario West
Water Type/Size: G Lakes Shore 11.3 Miles **Reg/County:** 9/Niagara (32)
Description: shoreline from Roosevelt Beach to Niagara River

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Pollutants/Sources)

Uses Evaluated	Severity	Confidence
Water Supply	Fully Supported	Known
Public Bathing	Impaired	Known
Recreation	Impaired	Known
Aquatic Life	Fully Supported	Known
Fish Consumption	Impaired	Known
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Fair	

Type of Pollutant(s)

Known: ALGAL/PLANT GROWTH, NATIVE (CLADOPHORA), PESTICIDES (MIREX),
PRIORITY ORGANICS (PCBS), PRIORITY ORGANICS (DIOXIN)
Suspected: NUTRIENTS (PHOSPHORUS), Silt/Sediment
Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Atmospheric Deposition
Suspected: AGRICULTURE, HABITAT ALTERATION, Streambank Erosion, Urban/Storm Runoff
Unconfirmed: - - -

Management Information

Management Status: Restoration/Protection Strategy Needed
Lead Agency/Office: DEC/GLks
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

This portion of the Lake Ontario Shoreline is assessed as an impaired waterbody due to public bathing and other recreational uses, as well as fish consumption that is also considered to be impaired. Recreational uses are impaired by nutrient levels that result in dense algal and plant growth, while fish consumption is impaired by contamination from the past/historic discharge of organics (PCBs, dioxin) and pesticides (mirex).

Use Assessment

This waterbody segment is a Class A waterbody, suitable for water supply, public bathing and general recreation use and support of aquatic life.

Public water supply use of Lake Ontario is fully supported. The waterbody is used as a public supply for numerous municipalities in Niagara, Orleans and Monroe Counties, including Rochester. The most recent annual water quality reports indicate no contaminants in finished (treated) water exceed regulatory limits. A Source Water Assessment by the NYSDOH conducted in the early 2000s found that, in general, public water supplies that use Great Lakes sources are not very susceptible to contaminants because of the size and quality of the Great Lakes. (NYSDOH, Source Water Assessment Program, 2005)

Public bathing and general recreational uses of this waterbody are considered to be impaired due to the well-documented occurrence of algal blooms, particularly *Cladophora*, in the shallower nearshore waters. *Cladophora* is considered a nuisance, rather than harmful (toxic), algal species that creates aesthetic problems for recreational users of the nearshore waters and shoreline. Elevated levels of phosphorus are widely considered to be contributing to algal growth in these waters. These conditions also impact public bathing along the shore, although bacteriological sampling at western Lake Ontario Beaches reveal water quality conditions that are typically fully supporting of this use.

Recreational uses including public bathing of this waterbody are considered to be fully supported based on monitoring at area beaches that indicate bacteriological levels typically meet bathing beach criteria and rarely result in advisories. Beaches within this reach include Wilson-Tuscarora State Park Beach. (NYSDOH and OPRHP, Sanitary Beach Survey, 2010)

Lake Ontario supports a diverse and world-class recreational sporting fishery which includes trophy-sized trout, salmon and walleye in the open lake, as well as superb near-shore angling for smallmouth bass and panfish. However fish consumption in this portion of Lake Ontario (and all tribs to the first impassable barrier) is impaired due to a NYS DOH health advisory that recommends eating no channel catfish or carp, and eating no more than one meal per month of white sucker, larger lake trout (over 25 inches), or larger brown trout (over 20 inches) because of elevated levels of PCBs, dioxin and mirex. The advisory also recommends eating no white perch for portions of the lake west of Point Breeze. Harvest/possession of American eel is also prohibited. Restrictions for some species have been reduced in recent years. The source of organics/pesticides is contaminated lake sediments, the result of past/historic industrial discharges to the lake, the Niagara River and the Upper Great Lakes. The advisory for this lake was first issued prior to 1998-99. (2014-15 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2014)

Habitat concerns include the impact of invasive species, including zebra/quagga mussels, round goby, fishhook and spiny waterflea, on the biologic community, as well as on other uses of the waterbody.

Water Quality Information

The Great Lakes are the focus of considerable national and international study. This assessment relies on monitoring data and information from the USEPA Great Lakes Program, the NYSDEC Great Lakes Program, and other participants in the Binational Great Lakes Water Quality Agreement, as well the work of numerous academic researchers. Monitoring of public bathing beaches along the Lake Ontario shore is conducted by NYS and local health departments.

Source Assessment

The primary sources of chemical pollutants that have the greatest impact on the waterbody include contaminated sediments and atmospheric deposition that result in health advisories for fish consumption. Habitat alteration, specifically the presence of ecosystem-altering invasive species, is also a source of impacts.

Management Actions

Efforts to restore and protect the waters of Lake Ontario are coordinated by the NYSDEC Great Lakes Program. Working with stakeholders throughout the basin, the Program has developed a new, fully integrated action plan that guides restoration and conservation activities in New York's Great Lakes region. This action plan, or interim Great

Lakes Action Agenda, is a multi-agency, multi-program, and cross-region strategic plan to support innovative programs and build new partnerships at multiple levels of local, state, and federal government across the state's Great Lakes basin. The plan identifies high priority actions and focuses federal and state funding opportunities to address the most critical challenges unique to this region, including contamination clean-up, restoration of fish and wildlife, waterfront and economic development, climate change resiliency strategies, and recreation and tourism development. (DEC, Great Lakes Program, July 2015)

The NYSDEC Great Lakes Program supports the commitments made by the governments of the United States and Canada, as part of the 1987 Great Lakes Water Quality Agreement (GLWQA) as amended in 2013, to develop a Lakewide Action and Management Plan (LAMP) for each of the five Great Lakes. The Lake Ontario LAaMP is a binational, cooperative effort that also involves a large number of local, statewide and federal partners. The goals of the LAMP are to restore and protect the health of Lake Ontario's water and aquatic ecosystem by reducing chemical pollutants entering the lake and addressing the biological and physical factors impacting the lake. The LAMP is being revised to reflect new Lake Ecosystem Objectives that will assess and address specific environmental stressors that adversely affect water quality and ecosystem health. (DEC, Great Lakes Program, July 2015)

Section 303(d) Listing

This portion of Lake Ontario shoreline is included on the current (2015) NYS Section 303(d) List of Impaired/TMDL Waters. The waterbody is included on Part 2b of the List as a waterbody impaired for fish consumption due to elevated PCBs, dioxin and mirex, and on Part 3b as a water for which TMDL development may be deferred pending verification of the cause/pollutant (phosphorus). In this case, verification relates to completion of the nutrient standards development effort as well as ongoing studies to identify the multiple factors contributing to the algal blooms. Based on the results of this verification, it may be appropriate to move the listings to another part of the list, or – if restoration measures other than a TMDL are found to be more appropriate – the waterbody listings could be modified or delisted as Category 4b waters. This waterbody was first listed for organics in 2010 and for phosphorus in 2010. (DEC/DOW, BWAM/WQAS, January 2015)

Segment Description

This segment includes the portion of the Lake Ontario shoreline from Roosevelt Beach at the mouth of Twelvemile Creek near Wilson to the mouth of the Niagara River. The waters of this portion of the shoreline are Class A. Tribes to this reach/segment are listed separately.

Fourmile Creek, Lower, and tribs (0301-0066)

Impaired Seg

Waterbody Location Information

Revised: 06/25/2007

Water Index No: Ont 156
Hydro Unit Code: 04130001/010 **Str Class:** B
Waterbody Type: River
Waterbody Size: 1.5 Miles
Seg Description: stream and tribs, from mouth to Towers Corners

Drain Basin: Lake Ontario
Reg/County: 9/Niagara Co. (32)
Quad Map: SIXMILE CREEK (H-05-4)

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: UNKNOWN TOXICITY, Nutrients, Pathogens
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: Other Sanitary Disch
Possible: UNKNOWN SOURCE, Municipal, On-Site/Septic Syst, Private/Comm/Inst

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 2 (Problem Verified, Cause Unknown)
Lead Agency/Office: DOW/Reg9
TMDL/303d Status: 3b*

Resolution Potential: Medium

Further Details

Aquatic life support and corresponding recreational uses (fishing) in Fourmile Creek are impaired by as yet unidentified pollutants. Biological sampling revealed significant water quality impacts.

A biological (macroinvertebrate) assessment of Fourmile Creek near Towers Corners Smithville (at Route 18) was conducted in 2000. Sampling results indicated severely impacted water quality conditions. The fauna was dominated by pollution-tolerant flatworms and scuds. Impact Source Determination indicated the municipal/industrial wastes were the primary cause of the impacts. Such impacts suggest domestic sewage, ammonia toxicity or other pollutants frequently associated with a direct discharge of wastewater. There are known stormwater discharges to the creek. The sample was collected at a golf course where related runoff may also influence water quality. (DEC/DOW, BWAM/SBU, June 2005)

This segment includes the portion of the stream and all tribs from the mouth to unnamed trib (-1) near Towers Corners. The waters of this portion of the stream are Class B. Tribs to this reach/segment are Class C.