



Lake Ontario/Johnson Creek Watershed (0413000105)

Water Index Number	Waterbody Segment	Category
Ont 139 (portion 1)	Johnson Creek, Lower, and tribs (0301-0007)	MinorImpacts
Ont 139 (portion 2)/P172	Lyndonville Reservoir (0301-0043)	UnAssessed
Ont 139 (portion 3)	Johnson Creek, Upper, and minor tribs (0301-0044)	UnAssessed
Ont 139- 9	Jeddo Creek and minor tribs (0301-0045)	MinorImpacts
Ont 139- 9- 1-P177a	Middleport Reservoir (0301-0047)	UnAssessed
Ont 139- 9- 1-P177a-	Tribes to Middleport Reservoir (0301-0046)	UnAssessed

Johnson Creek, Lower, and tribs (0301-0007)

MinorImpacts

Waterbody Location Information

Revised: 05/08/2007

Water Index No: Ont 139 (portion 1) **Drain Basin:** Lake Ontario
Hydro Unit Code: 04130001/060 **Str Class:** C Oak Orchard/12 Mile
Waterbody Type: River **Reg/County:** 8/Orleans Co. (37)
Waterbody Size: 46.5 Miles **Quad Map:** ASHWOOD (H-07-3)
Seg Description: stream and tribs from mouth to Lyndonville

Water Quality Problem/Issue Information (CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: NUTRIENTS, PRIORITY ORGANICS (PCBs, dioxin), PESTICIDES (mirex)
Suspected: Silt/Sediment
Possible: Pathogens

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, Other Source (migratory fish species), Streambank Erosion, Tox/Contam. Sediment
Possible: Landfill/Land Disp.

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 this portion of Johnson Creek are known to experience minor impacts due to nutrient loads from agricultural and various other nonpoint sources in the watershed. Fish consumption is also restricted as a result of a health advisory for Lake Ontario that extends to tribs up to the first impassable barrier.

A biological (macroinvertebrate) assessment of Johnson Creek in Lyndonville (at Blood Road) was conducted in 2004 and 2005. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was identified as the primary cause of impacts to the stream. Sampling results at this site have varied between slightly (1995, 2004, 2005) and moderately (1996, 1999) impacted. Although aquatic life is supported in the stream, nutrient biotic evaluation indicates the level of eutrophication is sufficient to stress aquatic life support. (DEC/DOW, BWAM/SBU, June 2005)

A study of the creek by researchers at SUNY Brockport (Analysis of Johnson Creek, Makarewicz and Lewis) found high levels of nutrient and sediment loadings. Contaminated sediments are also documented in the report. An inactive

hazardous waste disposal site is also a concern. (Orleans County WQCC, April 2001)

Fish consumption advisories for Lake Ontario (and all tribs to the first barrier) also applies to this tributary water. A NYSDOH health advisory recommends eating no American eel, channel catfish, carp, chinook salmon, larger lake trout (over 25") or larger brown trout (over 20"). The advisory also recommends that consumption of white sucker, rainbow trout, smaller lake and brown trout, and larger coho salmon (over 25") be limited to no more than one meal per month. White perch is limited to one meal per month East of Point Breeze, and eat none west of the point. The fish consumption advisories are a result of PCB, mirex and dioxin contamination of lake sediments. Priority organics have also been found in sediments behind the Lyndonville Dam and may be impacting uses. (2006-07 NYS-DOH Health Advisories)

This segment includes the portion of the stream and all tribs from the mouth to the Lyndonville Reservoir. The waters of the stream and its tribs are Class C. (May 2001)

quality conditions. However this was a high flow year and may have masked impacts that were apparent during biological screening at this site in 1999. At that time the site was assessed as having moderate impacts. The fauna was dominated by filter-feeding caddisflies and species richness was very low. Water column sampling revealed iron to be the only parameter of concern. Bottom sediment sampling results revealed no parameters to be exceeding the Probable Effects Level - a level at which adverse impacts are expected. Arsenic was found at a level exceeding the Threshold Effects Level - levels at which adverse impacts occasionally occur. Toxicity testing of the water column showed no significant mortality or reproductive impacts. (DEC/DOW, BWAM/RIBS, January 2005)

A number of possible sources of impacts have been previously suggested. These include municipal inputs in Middleport, urban/stormwater runoff, an industrial facility (FMC), an inactive hazardous waste site (also FMC) and nonpoint agricultural impacts. Study of the creek by researchers at SUNY Brockport (Makarewicz and Lewis) found high levels of organic nitrogen and sediment loads. A stone cutter (Carter Stone) pumps clean water into the creek. Though this does not impact water quality, hydrology of the creek may be affected. (Orleans County WQCC, April 2001)

This segment includes the entire stream and selected/smaller tribs. The waters of the stream and its tribs are primarily Class C. Middleport Reservoir (P177a) and tribs to the reservoir are listed separately. (May 2001)