



## Middle Tonawanda Creek (0412010403)

**Water Index Number**

Ont 158-12- 8  
 Ont 158-12 (portion 2)  
 Ont 158-12- 7 thru 31 (selected)  
 Ont 158-12- 9

**Waterbody Segment**

Mud Creek and tribs (0102-0029)  
 Tonawanda Creek, Middle, Main Stem(0102-0006)  
 Minor Tribs to Tonawanda Creek (0102-0028)  
 Beeman Creek and tribs (0102-0030)

**Category**

MinorImpacts  
 MinorImpacts  
 UnAssessed  
 Impaired Seg

# Mud Creek and tribs ( 0102-0029)

# MinorImpacts

## Waterbody Location Information

Revised: 05/11/2010

**Water Index No:** Ont 158-12- 8  
**Hydro Unit Code:** 04120104/060      **Str Class:** C  
**Waterbody Type:** River  
**Waterbody Size:** 113.5 Miles  
**Seg Description:** entire stream and tribs

**Drain Basin:** Lake Erie-Niagara River  
Niagara River  
**Reg/County:** 9/Niagara Co. (32)  
**Quad Map:** CLARENCE CENTER (I-06-4)

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Suspected
RECREATION	Impaired	Suspected

### Type of Pollutant(s)

Known: - - -  
Suspected: NUTRIENTS (phosphorus), PATHOGENS  
Possible: Silt/Sediment

### Source(s) of Pollutant(s)

Known: - - -  
Suspected: Agriculture  
Possible: UNKNOWN SOURCE, 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:** DOW/BWAM  
**TMDL/303d Status:** n/a

**Resolution Potential:** Medium

## Further Details

### Overview

Aquatic life in Mud Creek may experience minor impacts/threats, however sampling to date has been somewhat inconclusive.

### Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Mud Creek in Millersport (at Transit Road) was conducted in 2005 and 2006. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, toxicity testing, sediment assessment and macroinvertebrate tissue analysis. Biological (macroinvertebrate) sampling indicated moderate impacts, however that sample appear to be influence by very low flow and other possible influences due to poor sampling habitat. Previous biological sampling results in 2000 indicated satisfactory water quality conditions. At that time no riffle habitat was available to sample, but some caddisflies and mayflies were found to be present; the sample was field-assessed and not further processed in the laboratory. Water column chemistry indicates coliform to be at levels that constitute a parameter of concern. Elevated levels of iron were also noted but iron is considered to be largely naturally occurring and not a source of water quality impacts. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Sediment screening for acute toxicity indicated some possible sediment toxicity and no porewater toxicity was indicated. Bottom

sediments analysis based on sediment quality guidelines developed for freshwater ecosystems revealed overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. (DEC/DOW, BWAM/RIBS, May 2010)

Additional follow-up monitoring at this site is recommended to determine if any of the impacts noted above rise to the level of water quality impairment. (DEC/DOW, BWAM/WQAS, May 2010)

#### Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C. Tribs to this reach/segment are primarily Class C; with two tribs (-1, -2) designated Class B.

# Tonawanda Creek, Middle, Main Stem (0102-0006)

MinorImpacts

## Waterbody Location Information

Revised: 05/11/2010

**Water Index No:** Ont 158-12 (portion 2)      **Drain Basin:** Lake Erie-Niagara River  
**Hydro Unit Code:** 04120104/      **Str Class:** B      Niagara River  
**Waterbody Type:** River      **Reg/County:** 9/Niagara Co. (32)  
**Waterbody Size:** 49.3 Miles      **Quad Map:** CLARENCE CENTER (I-06-4)  
**Seg Description:** from NYS Barge Canal to East Pembroke

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

### Type of Pollutant(s)

Known: SILT/SEDIMENT  
Suspected: PATHOGENS, Nutrients  
Possible: Thermal Changes

### Source(s) of Pollutant(s)

Known: AGRICULTURE, STREAMBANK EROSION  
Suspected: - - -  
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:** DOW/BWAM      **Resolution Potential:** Medium  
**TMDL/303d Status:** 3a (Waterbody Requiring Verification of Impairment)

## Further Details

### Overview

Aquatic life and recreational uses in this portion of Tonawanda Creek are known to experience impacts due to excessive silt/sediment loads, nutrients and pathogens from streambank erosion, agricultural activities and other nonpoint sources. Some of these impacts fall near the threshold indicating impairment of uses. Impacts and threats to natural resources (fishery) support in the stream have also been noted.

### Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Tonawanda Creek in Rapids, Niagara County, (at Rapids Road) was conducted in 2005 and 2006. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, toxicity testing, sediment assessment and macroinvertebrate tissue analysis. Biological (macroinvertebrate) sampling indicated slightly impacted conditions. In such samples some replacement of sensitive ubiquitous species by more tolerant species occurs, although the sample also includes a balanced distribution of all expected species. Aquatic life is considered to be fully supported in the stream, however the community composition and nutrient biotic evaluation suggest conditions and levels of enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to

communities influenced by nonpoint nutrients and agricultural sources, as well as silt and sediment loadings. Water column chemistry indicates iron and total dissolved solids to be present at levels that constitute parameters of concern. Coliform values were also elevated. However, iron is considered to be naturally occurring and not a source of significant water quality impacts. Similarly dissolved solids are largely the result of highly erodible soils and other geologic factors, although nonpoint sources are likely contributing sources. Toxicity testing using water from this location detected no significant mortality or reproductive effects on the test organism. Sediment screening for acute toxicity indicated only slight sediment toxicity and no porewater toxicity was indicated. Bottom sediments analysis based on sediment quality guidelines developed for freshwater ecosystems revealed overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Based on the consensus of these established assessment indicators, overall water quality at this site shows that in spite of some concerns that should continue to be monitored, aquatic life and recreational uses is/are considered to be fully supported in the stream. (DEC/DOW, BWAM/RIBS, May 2010)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Tonawanda Creek at this site was also conducted in 2001. A biological assessment indicated slight impact. Similar results were also indicated in 1993 and 1994. Parameters of concern in the water column include iron, aluminum and dissolved oxygen. Water column toxicity testing results showed no significant mortality or reproductive impacts. Sediment sampling revealed no contaminants exceeding probable effects levels. However cadmium, benzo(a)anthracene, chlordane and DDT and its metabolites were found to be above threshold effects levels and are of possible concern. PCBs were found to be below threshold effects levels and are unlikely to cause adverse biological effects to sediment-dwelling organisms. (DEC/DOW, BWAR/RIBS, April 2005)

#### Fishery Assessment

Sediment from streambank erosion is thought to threaten a productive warm water fishery habitat. The segment contains a high diversity of freshwater mussels including some rare species. A New York State Threatened species, the long eared sunfish has also been identified in the segment. (DEC/DFWMR, 1996)

#### Source Assessment

Nonpoint source impacts, particularly those related to wet-weather events, have been sited as concerns by local agencies. Several small communities along the creek have no central waste collection/treatment facilities, raising concerns about impacts from failing and/or inadequate on-site septic systems. (Genesee County WQCC/SWCD, May 2002)

#### Section 303(d) Listing

This portion of Tonawanda Creek was added to the NYS 2010 Section 303(d) List of Impaired/TMDL Waters. The segment is included on Part 3a of the List as an impaired waterbody for which TMDL development may be deferred due to a need to verify the impairment. Sampling results show elevated coliform levels in the creek, but the exceedence of water quality standards is not clearly demonstrated and needs to be verified. (DEC/DOW, BWAM/WQAS, May 2010)

#### Segment Description

This segment includes the portion of the stream from the NYS Barge Canal in Pendleton to the Dam in East Pembroke. The waters of this portion of the stream are Class B. Tributaries to the stream are assessed separately.

# Beeman Creek and tribs ( 0102-0030)

Impaired Seg

## Waterbody Location Information

Revised: 05/07/2003

**Water Index No:** Ont 158-12- 9  
**Hydro Unit Code:** 04120104/050      **Str Class:** C  
**Waterbody Type:** River  
**Waterbody Size:** 43.7 Miles  
**Seg Description:** entire stream and tribs

**Drain Basin:** Lake Erie-Niagara River  
Niagara River  
**Reg/County:** 9/Erie Co. (15)  
**Quad Map:** WOLCOTTSVILLE (I-06-3)

## 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: D.O./OXYGEN DEMAND, NUTRIENTS (phosphorus), PATHOGENS  
Possible: ---

### Source(s) of Pollutant(s)

Known: ---  
Suspected: ---  
Possible: ON-SITE/SEPTIC SYST

## Resolution/Management Information

**Issue Resolvability:** 1 (Needs Verification/Study (see STATUS))  
**Verification Status:** 3 (Cause Identified, Source Unknown)  
**Lead Agency/Office:** DOW/Reg9  
**TMDL/303d Status:** 3b (Waterbody Requiring Verification of Cause/Pollutant)

**Resolution Potential:** Medium

## Further Details

### Overview

Aquatic life support and recreational uses are impaired in Beeman Creek. Additional sampling is necessary to determine the specific source of the problems. Failing and/or inadequate on-site septic systems are a possible cause. Such problems have been documented in other similar nearby streams (Ransom Creek).

### Water Quality Sampling

A biological (macroinvertebrate) assessment of Beeman Creek in Wolcottsburg (at Rapids Road) was conducted in 2000. Sampling results indicated moderately impacted water quality conditions. Impact Source Determination indicated municipal/industrial inputs to be the likely source. The fauna was dominated by caddisflies and scuds. (DEC/DOW, BWAR/SBU, April 2003)

### Section 303d Listing

Beeman Creek is included on the NYS 2010 Section 303(d) List of Impaired Waters. The stream lake is included on Part 3b of the List as an impaired for which TMDL development may be deferred due to a need to verify the pollutant. This waterbody was first listed on the 2004 Section 303(d) List. (DEC/DOW, BWAM/WQAS, May 2010)

### Segment Description

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.