



Lower Tonawanda Creek (0412010405)

Water Index Number

Ont 158-12 (portion 1)
 Ont 158-12- 2 thru 5 (selected)
 Ont 158-12- 3
 Ont 158-12- 6
 Ont 158-12- 6

Waterbody Segment

Tonawanda Creek, Lower, Main Stem (0102-0022)
 Minor Tribs to Lower Tonawanda Creek(0102-0025)
 Bull Creek and tribs (0102-0026)
 Ransom Creek, Lower, and tribs (0102-0004)
 Ransom Creek, Upper, and tribs (0102-0027)

Category

Impaired Seg
 UnAssessed
Impaired Seg
Impaired Seg
Impaired Seg

Tonawanda Creek, Lower, Main Stem (0102-0022)

Impaired Seg

Waterbody Location Information

Revised: 05/02/2003

Water Index No: Ont 158-12 (portion 1) **Drain Basin:** Lake Erie-Niagara River
Hydro Unit Code: 04120104/080 **Str Class:** C Niagara River
Waterbody Type: River **Reg/County:** 9/Niagara Co. (32)
Waterbody Size: 11.9 Miles **Quad Map:** TONAWANDA EAST (I-05-3)
Seg Description: from mouth to NYS Barge Canal in Pendleton

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: PRIORITY ORGANICS (PCBs)
Suspected: Nutrients, Silt/Sediment
Possible: - - -

Source(s) of Pollutant(s)

Known: TOX/CONTAM. SEDIMENT, Urban/Storm Runoff
Suspected: Other Sanitary Disch, Streambank Erosion
Possible: Landfill/Land Disp., Municipal

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DEC/FWMR **Resolution Potential:** Medium
TMDL/303d Status: 2b (Multiple Segment/Categorical Water, Fish Consumption)

Further Details

Overview

Fish consumption in this portion of Tonawanda Creek is impaired by toxic organics contamination attributed to historic/past discharges and contaminated sediments. Aquatic life support and recreational uses are thought to experience minor impacts due to silt/sediment loadings and nutrient levels from municipal discharges and various nonpoint sources. However sampling in the specific reach has not been conducted recently and conditions need to be verified.

Fish Consumption Advisories

Fish consumption in the western NYS Barge Canal (from Lockport to the Niagara River, including Lower Tonawanda Creek) is impaired due to a NYS DOH health advisory that recommends eating no more than one meal per month of carp because of elevated PCB levels. The source of this contamination is considered to be contaminated sediments attributed to inactive hazardous waste sites and historical discharges. The advisory for this lake was first issued prior to 1998-99. (2009-10 NYS DOH Health Advisories and DEC/DFWMR, Habitat, January 2010).

Water Quality Sampling

Biological (macroinvertebrate) assessment of the lower reach of Tonawanda Creek have not been conducted since 1981.

At that time water quality was assessed as slightly impacted at both North Tonawanda and at Pendleton. Conditions at both sites represented a significant improvement over conditions in the mid-1970s. In the lower end of the reach the improvement was attributed to water quality improvement in the Niagara River, which feeds the Tonawanda Creek/Barge Canal during the navigation season. Improved water quality in the upper end of the reach was attributed to WWTP upgrades at the Amherst (T) facility. (Twenty Year Trends, DEC/DOW, BWAR/SBU, 1993)

Biological sampling of TonawandaCreek in Millersport (at Route 78) just above the reach was conducted in 2000. Sampling results at this site indicated non-impacted water quality conditions, with a good diversity of clean-water mayflies, stoneflies, and caddisflies. These sampling results represent an improvement at the sampling site, and may suggest possible improvement in the downstream reach. However the character of the creek at this site is different than the canal reach of the lower creek and independent sampling, assessment and verification of conditions is needed. (DEC/DOW, BWAR/SBU, April 2003)

Section 303d Listing

This portion of Tonawanda Creek is included on the NYS 2010 Section 303(d) List of Impaired Waters. The stream is included on Part 2b of the List as a fish consumption water. This waterbody was first listed on the 1998 Section 303(d) List. (DEC/DOW, BWAM/WQAS, May 2010)

Segment Description

This segment includes the portion of the stream from the mouth in Tonawanda to the NYS Barge Canal in Pendleton. The waters of this portion of the stream are Class C. This section of the stream/canal receives flow from the Niagara River during the navigation season, and from Tonawanda Creek during the winter months.

Bull Creek and tribs (0102-0026)

Impaired Seg

Waterbody Location Information

Revised: 05/07/2010

Water Index No: Ont 158-12- 3
Hydro Unit Code: 04120104/090 **Str Class:** C
Waterbody Type: River
Waterbody Size: 48.6 Miles
Seg Description: entire stream and tribs

Drain Basin: Lake Erie-Niagara River
Niagara River
Reg/County: 9/Niagara Co. (32)
Quad Map: TONAWANDA EAST (I-05-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
AQUATIC LIFE	Impaired	Known

Type of Pollutant(s)

Known: ---
Suspected: UNKNOWN TOXICITY, D.O./Oxygen Demand, Nutrients
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: UNKNOWN SOURCE, Municipal, Urban/Storm Runoff
Possible: Industrial

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 (Waterbody Requiring Verification of Cause/Pollutant)

Resolution Potential: Medium

Further Details

Overview

Aquatic life in Bull Creek is impaired. Specific pollutants have not been definitively identified, but elevated nutrient loadings in the stream are indicated while other pollutants may also be contributing to the impairments. Municipal/industrial sources and/or organic sewage wastes were identified as possible sources. Urban runoff likely contributes to the impacts as well.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Bull Creek in North Tonawanda (at Townline Road) was conducted as part of the RIBS biological screening effort in 2005. Sampling results indicated moderately impacted conditions. In such samples sensitive species are markedly reduced or missing and the distribution of major groups is significantly unbalanced relative to what would be expected. Samples are dominated by more tolerant species. The nutrient biotic index indicates elevated enrichment and impact source determination reveals a community that reflects impacts from sewage inputs and municipal/industrial discharges. Water quality is considered to be poor and aquatic life is not fully supported in the stream. This segment is considered to be impaired. (DEC/DOW, BWAM/SBU, November 2009)

Section 303d Listing

Bull Creek was added to the NYS Section 303(d) List of Impaired Waters in 2010. A listing for the stream for a pollutant

of aquatic toxicity was added to Part 3b of the 2010 List , indicating a waterbody for which TMDL development is deferred pending the verification of the cause/pollutant. (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, including Sawyer Creek (-1), are Class C.

Ransom Creek, Lower, and tribs (0102-0004)

Impaired Seg

Waterbody Location Information

Revised: 05/05/2003

Water Index No: Ont 158-12- 6
Hydro Unit Code: 04120104/070 **Str Class:** C
Waterbody Type: River
Waterbody Size: 49.5 Miles
Seg Description: stream and tribs, from mouth to Got Creek

Drain Basin: Lake Erie-Niagara River
Niagara River
Reg/County: 9/Erie Co. (15)
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
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, PATHOGENS, Aesthetics (odors)
Suspected: Nutrients, Silt/Sediment
Possible: Ammonia

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (Clarence Hollow), PRIVATE/COMM/INST (various residential)
Suspected: Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg9
TMDL/303d Status: 1->n/a?

Resolution Potential: High

Further Details

Overview

Aquatic life support, recreational uses and aesthetics of this portion of Ransom Creek are impaired by residential sewage discharges from failing and/or inadequate on-site septic systems in the watershed. Much of the area has since been sewerred and monitoring to evaluate current conditions is recommended.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Ransom Creek in Swormville (at Miles Road) was conducted as part of the RIBS biological screening effort in 2005. Sampling results indicated the lower range of 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 municipal point and nonpoint sources. These results are consistent with results found at the site in 2000. At that time, moderate impacts were attributed to organic and toxic inputs. (DEC/DOW, BWAM/SBU, May 2010)

A site on Got Creek (-4) in Swormville (at North French Road) was also sampled in 2000 and assessed as moderately impacted, likely by organic wastes. The fauna was heavily dominated by sewage-tolerant worms, and scuds. The substrate at this site was predominantly mud, and the data were analyzed using criteria for sandy streams and for soft sediments. Although these assessments are based on limited sampling, it appears that the previously documented impacts due to sewage inputs have not been entirely remediated. (DEC/DOW, BWAR/SBU, April 2003)

Though these sampling points are just above the bounds of this segment, they are considered representative of water quality in the lower reach of the stream. This segment is listed as being evaluated rather than monitored.

Source Assessment

This stream has a long history of impacts due to septic discharges. The Erie County Dept. of Environmental Quality identified sewage discharges in the Hamlets of Clarence Hollow, Clarence Center and Swormville. Since then sewage systems have been built to resolve on-site septic system problems in all but the Hamlet of Clarence Hollow. Water quality impacts were still found to occur in the creek and investigations found a majority of the 500 homes and businesses in Clarence Hollow had unsatisfactory septic systems. The Town has since been awarded \$1.5 million in CW/CA Bond Act funding as well as additional federal funding to construct sanitary sewers to address the problem. Most of these communities are in the Upper Ransom Creek, but impacts are considered to be affecting downstream waters as well. (DEC/DOW, Region 9, August 2010)

Section 303d Listing

This portion of Ransom Creek is included on the NYS 2010 Section 303(d) List of Impaired Waters. The stream is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards due to pathogens and low dissolved oxygen, the result of inadequate onsite septic systems. However much of the area has since been sewered and monitoring to evaluate current conditions is recommended. This waterbody was first listed on the 2004 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to Got Creek (-4). The waters of the stream are Class C. Tribs to this reach/segment, including Black Creek (-3), are Class C. Got Creek is listed with the Upper Ransom Creek segment.

Ransom Creek, Upper, and tribs (0102-0027)

Impaired Seg

Waterbody Location Information

Revised: 01/27/2005

Water Index No: Ont 158-12- 6
Hydro Unit Code: 04120104/070 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 44.2 Miles
Seg Description: stream and tribs, above/including Got Creek

Drain Basin: Lake Erie-Niagara River
Niagara River
Reg/County: 9/Erie Co. (15)
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
Aesthetics	Stressed	Known

Type of Pollutant(s)

Known: D.O./OXYGEN DEMAND, PATHOGENS, Aesthetics (odors)
Suspected: Nutrients, Silt/Sediment
Possible: Ammonia

Source(s) of Pollutant(s)

Known: ON-SITE/SEPTIC SYST (Clarence Hollow), PRIVATE/COMM/INST (various residential)
Suspected: Urban/Storm Runoff
Possible: - - -

Resolution/Management Information

Issue Resolvability: 3 (Strategy Being Implemented)
Verification Status: 5 (Management Strategy has been Developed)
Lead Agency/Office: DOW/Reg9
TMDL/303d Status: 1->n/a?

Resolution Potential: High

Further Details

Overview

Aquatic life support, recreational uses and aesthetics of this portion of Ransom Creek are known to be impaired by residential sewage discharges from failing and/or inadequate on-site septic systems in the hamlet of Clarence Hollow. Much of the area has since been sewered and monitoring to evaluate current conditions is recommended.

Water Quality Sampling

NYSDEC Rotating Integrated Basin Studies (RIBS) Intensive Network monitoring of Ransom Creek in Clarence, Erie County, (at Connor 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 municipal point and nonpoint sources. Water column chemistry indicates coliform to be

present at levels that constitute a parameter of concern. Iron and total dissolved solids were also identified as parameters of concerns, however these substances are 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)

A biological (macroinvertebrate) assessment of Ransom Creek in Swormville (at Miles Road) was conducted as part of the RIBS biological screening effort in 2005. Sampling results indicated the lower range of 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 municipal point and nonpoint sources. These results are consistent with results found at the site in 2000. At that time, moderate impacts were attributed to organic and toxic inputs. (DEC/DOW, BWAM/SBU, May 2010)

A site on Got Creek (-4) in Swormville (at North French Road) was also sampled in 2000 and assessed as moderately impacted, likely by organic wastes. The fauna was heavily dominated by sewage-tolerant worms, and scuds. The substrate at this site was predominantly mud, and the data were analyzed using criteria for sandy streams and for soft sediments. Although these assessments are based on limited sampling, it appears that the previously documented impacts due to sewage inputs have not been entirely remediated. (DEC/DOW, BWAR/SBU, April 2003)

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Ransom Creek in Clarence, Erie County, (at Connor Road) was conducted in 1987-88. Sampling of the water column, sediments, and invertebrate tissues was conducted, as well as macroinvertebrate community analysis (see below). Water column sampling revealed total and fecal coliform, as well as dissolved oxygen and iron to be parameter(s) of concern. Macroinvertebrate sampling revealed moderately impacted conditions indicative of sewage discharges. Toxicity testing of the water column showed no significant mortality or reproductive impacts. (DEC/DOW, BWAR/RIBS, 1989)

Source Assessment

This stream has a long history of impacts due to septic discharges. The Erie County Dept. of Environmental Quality identified sewage discharges in the Hamlets of Clarence Hollow, Clarence Center and Swormville. Since then sewage systems have been built to resolve on-site septic system problems in all but the Hamlet of Clarence Hollow. Water quality impacts were still found to occur in the creek and investigations found a majority of the 500 homes and businesses in Clarence Hollow had unsatisfactory septic systems. The Town has since been awarded \$1.5 million in CW/CA Bond Act funding as well as additional federal funding to construct sanitary sewers to address the problem. Most of these communities are in the Upper Ransom Creek, but impacts are considered to be affecting downstream waters as well. (DEC/DOW, Region 9, August 2010)

Section 303d Listing

This portion of Ransom Creek is included on the NYS 2010 Section 303(d) List of Impaired Waters. The stream is included on Part 1 of the List as an impaired waterbody requiring development of a TMDL to attain water quality standards due to pathogens and low dissolved oxygen, the result of inadequate onsite septic systems. However much of the area has since been sewered and monitoring to evaluate current conditions is recommended. This waterbody was first listed on the 2004 Section 303(d) List. (DEC/DOW, BWAM/WQAS, January 2010)

Segment Description

This segment includes the portion of the stream and all tribs above and including Got Creek (-4). The waters of the stream are Class C(T). Tribs to this reach/segment, including Got Creek (-4), are Class C(T).