



Walnut Creek – Frontal Lake Erie (0412010101)

Water Index Number

Ont 158..E-24
 Ont 158..E-25
 Ont 158..E-25
 Ont 158..E-25- 1
 Ont 158..E-25- 1
 Ont 158..E-25- 8-P??

Waterbody Segment

Halfway Brook and tribs (0104-0072)
 Silver Creek, Lower, and minor tribs (0105-0007)
 Silver Creek, Upper, and tribs (0105-0012)
 Walnut Creek, Lower, and tribs (0105-0006)
 Walnut Creek, Upper, and tribs (0105-0013)
 Silver Creek Reservoir (0105-0014)

Category

MinorImpacts
 MinorImpacts
 NoKnownImpct
 MinorImpacts
 UnAssessed
 NoKnownImpct

Halfway Brook and tribs (0104-0072)

MinorImpacts

Waterbody Location Information

Revised: 06/01/2010

Water Index No: Ont 158..E-24
Hydro Unit Code: 04120101/140 **Str Class:** C(TS)
Waterbody Type: River
Waterbody Size: 6.1 Miles
Seg Description: entire stream and tribs

Drain Basin: Lake Erie-Niagara River
Lake Erie-Chautauqua
Reg/County: 9/Chautauqua Co. (7)
Quad Map: SILVER CREEK (K-04-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: D.O./Oxygen Demand
Possible: - - -

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life and recreational uses Halfway Brook are considered to experience minor impacts due to elevated nutrient loadings from primarily agricultural nonpoint sources.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Halfway Brook in Silver Creek (at Route 5/20) 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 index suggests conditions and levels of nutrient enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by organic loads and low dissolved oxygen from sewage or animal wastes. (DEC/DOW, BWAM/SBU, June 2010)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are primarily Class C(TS), with lower 500

feet designated Class B(T). Tribs to this reach/segment are also Class C(TS).

Silver Creek, Lower, and minor tribs (0105-0007)

MinorImpacts

Waterbody Location Information

Revised: 08/02/2012

Water Index No: Ont 158..E-25
Hydro Unit Code: 04120101/140 **Str Class:** C(T)
Waterbody Type: River
Waterbody Size: 21.7 Miles
Seg Description: stream and selected tribs, from mouth to Smith Mills

Drain Basin: Lake Erie-Niagara River
Reg/County: Lake Erie-Chautauqua
9/Chautauqua Co. (7)
Quad Map: SILVER CREEK (K-04-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Recreation	Stressed	Known
Aquatic Life	Stressed	Suspected
Habitat/Hydrology	Stressed	Suspected

Type of Pollutant(s)

Known: AESTHETICS (turbidity, odors)
Suspected: D.O./OXYGEN DEMAND, SILT/SEDIMENT, Nutrients
Possible: - - -

Source(s) of Pollutant(s)

Known: MUNICIPAL (Silver Creek WWTP)
Suspected: STREAMBANK EROSION, Silviculture
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: n/a

Resolution Potential: High

Further Details

Overview

Recreational use, aquatic life and natural resources (fishery) habitat in Silver Creek are thought to experience impacts due to oxygen demanding substances, silt/sediment and other pollutants from a local municipal discharge and other nonpoint inputs. The WWTP does not meet discharge permit limits and is in need of upgrade. Streambank erosion and logging activities are an additional suspected source of silt and sediment loads to the stream. Elevated silt and sediment loads in the creek are common and can impact aquatic habitat and recreational uses to some degree. However, much of the sediment loading is considered to be natural, a result of highly erodible soils throughout the basin.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Silver Creek in Silver Creek (at Route 5) was conducted in 2000. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was the likely source of impact. This site was similarly assessed as slightly impacted in 1993 and 1994. Despite these minor impacts, aquatic life is considered to be fully supported in the stream, and there are no other apparent impacts to water

quality. Note that this sampling was conducted upstream of the WWTP discharge discussed below. (DEC/DOW, BWAR/SBU, April 2003)

Source Assessment

Concerns have been raised regarding water quality impacts of ongoing SPDES permit effluent limit violation and other known problems at the Silver Creek WWTP. Regional staff observed contravention of the narrative water quality standards for excessive turbidity and odors, reporting that the WWTP discharge plume looked and smelled like raw sewage. The WWTP is a package plant with an activated sludge treatment system and an existing permitted flow of 0.75 MGD. The plant was constructed in the 1960s and is in need of significant maintenance on the steel tanks, structures and support equipment. The plant does not include primary clarifiers but instead uses the secondary clarifiers for all settling. In addition the sewer collection system has severe inflow and infiltration problems resulting in high flows that force the plant into "primary mode" which bypasses the aeration basins and uses the secondary clarifiers for primary treatment. The DEC Regional Office and Office of General Counsel have initiated legal action to address these deficiencies and resulting water quality impacts. (DEC/DOW, Region 9, July 2012)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to the outlet of the Lower Silver Creek Reservoir in Smith Mills. The waters of this portion of the stream are Class C(T). Tribs to this reach/segment are Class C. Walnut Creek (-1) is listed separately.

Silver Creek, Upper, and tribs (0105-0012)

NoKnownImpct

Waterbody Location Information

Revised: 05/05/2010

Water Index No: Ont 158..E-25
Hydro Unit Code: 04120101/140 **Str Class:** A
Waterbody Type: River
Waterbody Size: 32.7 Miles
Seg Description: stream and tribs, above Smith Mills

Drain Basin: Lake Erie-Niagara River
Lake Erie-Chautauqua
Reg/County: 9/Chautauqua Co. (7)
Quad Map: PERRYSBURG (L-04-2)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability: 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

Water Quality Sampling

A biological (macroinvertebrate) assessment of Silver Creek in Smith Mills (at Allegany Road) was conducted as part of the RIBS biological screening effort in 2005. Sampling results indicated non-impacted conditions. Such samples are dominated by clean-water species and are most similar to a natural community with minimal human impacts. Some additional species, including sensitive non-native species, and additional biomass may be present; the samples reveal no, or only incidental, anomalies. Aquatic life community is fully supported. (DEC/DOW, BWAM/SBU, May 2010)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs above the outlet of the Lower Silver Creek Reservoir in Smith Mills. The waters of this portion of the stream are Class A. Tribs to this reach/segment are also Class A.

Walnut Creek, Lower, and tribs (0105-0006)

MinorImpacts

Waterbody Location Information

Revised: 06/01/2010

Water Index No: Ont 158..E-25- 1
Hydro Unit Code: 04120101/140 **Str Class:** C
Waterbody Type: River
Waterbody Size: 25.1 Miles
Seg Description: stream and tribs, from the mouth to Forestville

Drain Basin: Lake Erie-Niagara River
Lake Erie-Chautauqua
Reg/County: 9/Chautauqua Co. (7)
Quad Map: SILVER CREEK (K-04-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known
Recreation	Stressed	Suspected
Habitat/Hydrology	Stressed	Suspected

Type of Pollutant(s)

Known: NUTRIENTS (phosphorus)
Suspected: D.O./Oxygen Demand, Silt/Sediment
Possible: Thermal Changes

Source(s) of Pollutant(s)

Known: - - -
Suspected: AGRICULTURE, Streambank Erosion, Silviculture
Possible: - - -

Resolution/Management Information

Issue Resolvability: 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: ext/WQCC
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Overview

Aquatic life, recreational uses and natural resources (fishery) habitat in this portion of Walnut Creek are considered to experience minor impacts due to elevated nutrient loadings from primarily agricultural nonpoint sources and streambank erosion and logging activities. Elevated silt and sediment loads in the creek are common and can impact aquatic habitat and recreational uses to some degree. However, much of the sediment loading is considered to be natural, a result of highly erodible soils throughout the basin.

Water Quality Sampling

A biological (macroinvertebrate) assessment of Walnut Creek in Silver Creek (at Route 5) 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 index suggests conditions and levels of nutrient enrichment are sufficient to cause some stress to aquatic life. Impact source determination found the fauna to be most similar to communities influenced by nutrient additions from agricultural nonpoint sources. (DEC/DOW, BWAM/SBU, June 2010)

These results are consistent with results found during sampling of the site conducted in 2000. Sampling results indicated slightly impacted water quality conditions. Nonpoint source nutrient enrichment was the primary cause of impact. Walnut Creek had also been assessed as slightly impacted in 1993, and non-impacted in 1994. The 1994 sample is considered non-representative, and caused by a high-flow year. Despite some minor impacts, aquatic life is considered to be fully supported in the stream, and there are no other apparent impacts to water quality. (DEC/DOW, BWAR/SBU, April 2003)

Segment Description

This segment includes the portion of the stream and all tribs from the mouth to/including Tupper Creek (-5) in Forestville. The waters of this portion of the stream are Class C,C(T). Tribs to this reach/segment, including Tupper Creek (-5), are Class C,C(T).

Silver Creek Reservoir (0105-0014)

NoKnownImpct

Waterbody Location Information

Revised: 05/14/2003

Water Index No:	Ont 158..E-25- 8-P??	Drain Basin:	Lake Erie-Niagara River
Hydro Unit Code:	04120101/140	Str Class:	A
Waterbody Type:	Lake(R)	Reg/County:	Lake Erie-Chautauqua
Waterbody Size:	43.7 Acres	Quad Map:	9/Chautauqua Co. (7)
Seg Description:	entire lake		SILVER CREEK (K-04-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Possible: ---

Resolution/Management Information

Issue Resolvability:	8 (No Known Use Impairment)	
Verification Status:	(Not Applicable for Selected RESOLVABILITY)	
Lead Agency/Office:	n/a	Resolution Potential: n/a
TMDL/303d Status:	n/a	

Further Details

Water Quality Sampling

Silver Creek Reservoir was included in the 2001 Lake Classification and Inventory study effort. Results of this study with regard to surface phosphorus levels, water clarity, and aquatic vegetation densities found no evidence of significant water quality problems and conditions appear to be adequate to support recreational uses of the lake. There was insufficient data to fully evaluate the impact of these conditions on water supply use in the lake. (DEC/DOW, BWM/Lake Services, April 2003)