



## Salmon River Watershed (0415030703)

### Water Index Number

SL(C)-29  
 SL(C)-29- 2- 1  
 SL(C)-29- 2- 2  
 SL(C)-29- 6  
 SL(C)-29- 6-P28  
 SL(C)-31

### Waterbody

Salmon River, Lower, and minor tribs (0902-0040)  
 East Branch Deer River and tribs (0902-0075)  
 West Branch Deer River and tribs (0902-0076)  
 Branch Brook/Titus Stream and tribs (0902-0001)  
 Lake Titus (0902-0036)  
 Pike Creek and tribs (0902-0037)

### Category

Threatened  
 MinorImpacts  
 NoKnownImpct  
 MinorImpacts  
 Need Verific  
 MinorImpacts

# Salmon River, Lower, and minor tribs ( 0902-0040)

**Threatened**

## Waterbody Location Information

Revised: 02/18/2009

**Water Index No:** SL(C)-29  
**Hydro Unit Code:** 04150307/030      **Str Class:** C(T)  
**Waterbody Type:** River  
**Waterbody Size:** 88.0 Miles  
**Seg Description:** stream and selected tribs, from mouth to Malone

**Drain Basin:** Saint Lawrence River  
English/Salmon River  
**Reg/County:** 5/Franklin Co. (17)  
**Quad Map:** FORT COVINGTON (B-23-1)

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Habitat/Hydrology	Threatened	Known

### Type of Pollutant(s)

Known:      - - -  
Suspected:      - - -  
Possible:      SILT/SEDIMENT

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

Known:      - - -  
Suspected:      - - -  
Possible:      HYDRO MODIFICATION

## Resolution/Management Information

**Issue Resolvability:** 1 (Needs Verification/Study (see STATUS))  
**Verification Status:** 4 (Source Identified, Strategy Needed)  
**Lead Agency/Office:** DEC/Reg5  
**TMDL/303d Status:** n/a

**Resolution Potential:** Medium

## Further Details

### Overview

Habitat/hydrology in this portion of the Salmon River is known to be threatened by the potential releases of sediment from behind hydropower dams.

### Habitat/Hydrology Issues

Free-flowing trout habitat is threatened by potential releases of sediments (sand) from dams at the head of this reach in Malone. Releases of sediments have occurred in the past and a substantial quantity of sediments are believed to have accumulated behind the Macomb Dam. Downstream of the dam the Salmon River supports a productive trout fishery. In such free-flowing habitats, high levels of embeddedness can impact natural reproduction by trout, overwinter survival of trout and invertebrates, and production of invertebrates. Moderate level of embeddedness were documented in 1995 (a mean of 27% based on two transects in the segment). The quality of the habitat and fishery downstream of the dam combined with past sediment release events and the apparent accumulation of sediments cause a concern regarding future sediment discharges. DEC Region 5 staff have notified Brookview Power, the owner/operator of both the Macomb and Chasm hydropower facilities, about DEC concerns regarding sediment issues and impact on the Salmon River. Further discussions concerning managing the situation to minimize the impact of the downstream habitat are continuing. (DEC/FWMR, Region 5, January 2009)

A Water Quality Certification for the continued operation and maintenance of the existing Macomb Hydroelectric Project located on the Salmon River in the Town of Malone, approximately 2.5 river miles north of the Village of Malone was granted

by Federal Energy Regulatory Commission (FERC) in 2007. The project will be run in accordance with applicable provisions of the Macomb Project Settlement Agreement dated November 2, 2004. provisions of that settlement include the maintenance of a base flow of 125 cfs (or inflow to the Macomb impoundment, whichever is less) from the Project's tailrace, fish protection provisions and downstream fish movement provisions, sediment management, and a requirement to install a fish stocking tube in the Project's tailrace. (Malone Local Waterfront Revitalization Program, Draft, June 2007)

An aquatic habitat restoration project involving the removal of a barrier dam in Fort Covington is expected to commence in 2009. This project, which was first proposed in 2006, will open an additional 15 miles of spawning habitat to Saint Lawrence River fish. (DEC/BWP, NPS Section and Region 5, January 2009)

#### Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Salmon River in Fort Covington, Franklin County, (at Center Street) was conducted in 2005. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated non-impacted water quality conditions. Benthic fauna at this site was diverse and dominated by many clean-water organisms. Water column sampling revealed no parameters of concern. Macroinvertebrates collected at this site and chemically analyzed for selected PAHs, PCBs, and organochlorine pesticides found no substances to be present in concentrations above the established guidance value. Sediment screening for acute toxicity indicated no toxicity to be present, but sediments were found to contain elevated levels of PAHs. Chronic toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site indicates that aquatic life and recreational uses are fully supported in the stream. (DEC/DOW, BWAM/RIBS, January 2009)

A biological (macroinvertebrate) assessment of the Salmon River, at Fort Covington (at Center Street) was also conducted in 2004 during the RIBS Biological Screening effort in the basin. This sample was also assessed as non-impacted. (DEC/DOW, BWAM/SBU, December 2008)

#### Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the Canadian border to Branch Brook/Titus Stream (-6) in Malone. The waters of this portion of the stream are Class C(T),C(TS). Tribs to this reach/segment, including Deer Creek (-2) and Plum Brook (-4), are Class C,C(T). Little Salmon River (-1), East Branch Deer Creek (-2-1), West Branch Deer Creek (-2-2) and Upper Salmon River are listed separately.

# East Branch Deer River and tribs ( 0902-0075)

# MinorImpacts

## Waterbody Location Information

Revised: 12/29/2008

<b>Water Index No:</b>	SL(C)-29- 2- 1	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150307/030	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	5/Franklin Co. (17)
<b>Waterbody Size:</b>	68.8 Miles	<b>Quad Map:</b>	FORT COVINGTON (B-23-1)
<b>Seg Description:</b>	entire stream and tribs		

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

<b>Use(s) Impacted</b>	<b>Severity</b>	<b>Problem Documentation</b>
Aquatic Life	Stressed	Suspected

### Type of Pollutant(s)

Known: ---  
Suspected: NUTRIENTS (phosphorus)  
Possible: ---

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

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

## Resolution/Management Information

<b>Issue Resolvability:</b>	1 (Needs Verification/Study (see STATUS))	
<b>Verification Status:</b>	4 (Source Identified, Strategy Needed)	
<b>Lead Agency/Office:</b>	ext/WQCC	<b>Resolution Potential:</b> Medium
<b>TMDL/303d Status:</b>	n/a	

## Further Details

### Overview

Aquatic life support in East Branch Deer Creek is thought to experience minor impacts/threats due to nutrient loadings from agricultural and other nonpoint sources.

### Water Quality Sampling

A biological (macroinvertebrate) assessment of the East Branch of Deer Creek at Fort Covington (at Cushman Road) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated slightly impacted water quality conditions. The nutrient biotic index indicated eutrophic conditions due to phosphorus and Impact Source Determination suggested the community was typical of one impacted by non-point source nutrient enrichment. The macroinvertebrate fauna was dominated by facultative riffle beetles and filter feeding caddisflies. Slow, sandy habitat characterized the stream upstream of sampling location and may play a role in the water quality assessment of this site. This type of habitat is not conducive for colonization of more pollution intolerant organisms like stoneflies and mayflies. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, December 2004)

### 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 Cold Spring Brook (-1), are Class C and D.

# West Branch Deer River and tribs ( 0902-0076)

NoKnownImpct

## Waterbody Location Information

Revised: 01/15/2009

<b>Water Index No:</b>	SL(C)-29- 2- 2	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150307/030	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	5/Franklin Co. (17)
<b>Waterbody Size:</b>	80.2 Miles	<b>Quad Map:</b>	FORT COVINGTON (B-23-1)
<b>Seg Description:</b>	entire stream and tribs		

## 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

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

## Further Details

### Water Quality Sampling

A biological (macroinvertebrate) assessment of the West Branch Deer Creek at Fort Covington (at CR 42) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The site was host to a diversity of macroinvertebrate fauna, including many mayflies, stoneflies and caddisflies. (DEC/DOW, BWAM/SBU, December 2008)

### Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C,C(T). Tribs to this reach/segment are Class C.

# Branch Brook/Titus Stream and tribs ( 0902-0001)

# MinorImpacts

## Waterbody Location Information

Revised: 01/21/2009

**Water Index No:** SL(C)-29- 6  
**Hydro Unit Code:** 04150307/030      **Str Class:** C(T)\*  
**Waterbody Type:** River  
**Waterbody Size:** 32.9 Miles  
**Seg Description:** entire stream and tribs

**Drain Basin:** Saint Lawrence River  
English/Salmon River  
**Reg/County:** 5/Franklin Co. (17)  
**Quad Map:** MALONE (B-23-3)

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Suspected
Aquatic Life	Stressed	Possible
Aesthetics	Stressed	Suspected

### Type of Pollutant(s)

Known: PATHOGENS, Chlorine  
Suspected: Water Level/Flow, Nutrients, Silt/Sediment  
Possible: - - -

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

Known: - - -  
Suspected: AGRICULTURE, URBAN/STORM RUNOFF, Other Source (waterfowl)  
Possible: Hydro Modification

## Resolution/Management Information

**Issue Resolvability:** 1 (Needs Verification/Study (see STATUS))  
**Verification Status:** 4 (Source Identified, Strategy Needed)  
**Lead Agency/Office:** DOW/Reg5  
**TMDL/303d Status:** n/a

**Resolution Potential:** Medium

## Further Details

### Overview

Recreational use in Branch Brook (formerly known as Lake Titus Stream) is thought to experience minor impacts due to pathogens from agricultural activity, urban runoff and other nonpoint sources. These impacts are have the most significant impact on recreational use in a small ponded Class B(T) reach of the stream in the Village of Malone that is used as a public swimming area.

### Recreational Assessment

A village swimming area and beach in a shallow ponded reach of the stream has experienced closings due to elevated coliform levels. The swimming area and beach is located behind a dam in the village park, less than a mile from its confluence with the Salmon River. The Village of Malone uses a chlorine diffusion pipe located at the head of swimming area and beach to protect swimming use of the water to some degree. However, the chlorine bleaches the stream bottom and is could potentially have an adverse impact on aquatic life downstream. The management of this water resource to protect these two competing uses may be difficult to achieve. (DEC/DOW, Region 5, 1998)

### Source Assessment

Color, clarity and odor problems from algae blooms and silt/sediment also reduce the aesthetics of the waterbody and discourage swimming. Copper sulfate, used to control the algae, could also be affecting aquatic life. Excessive aquatic weed growth is controlled by drawdown, which may impact the fishery as well. Branch Brook flows through a significant agricultural area before entering the village. Heavy fertilizer usage and high wind and water erosion of vegetable cropland as well as stream bank erosion further upstream in the watershed have been suggested as sources of nutrients and sediment which cause algae and weed problems. Increased construction of single-family homes in the area may also be a possible source of sediment. Significant water use for agricultural irrigation has also been cited as affecting the flow into the swimming area. (DEC/DOW, Region 5 and Region 5 Fisheries, Franklin Co WQCC, 1998)

#### Water Quality Sampling

A biological (macroinvertebrate) assessment of Branch Brook in Malone upstream of the bathing area (at Duane Road/CR 25) was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The nutrient biotic index indicated mesotrophic conditions due to phosphorus. The macroinvertebrate community was dominated by filter feeding caddisflies, likely a result of the slightly enriched conditions. Many clean water stoneflies and mayflies were noted in the field. However, they did not dominate the processed subsample. Impact source determination indicated a community with some non-point source nutrient enrichment. In spite of some/these minor impacts, aquatic life is considered to be fully supported in the stream. (DEC/DOW, BWAM/SBU, November 2008)

#### Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class C(T) from the mouth to the Malone Municipal Bathing Beach, Class B(T) from there to unnamed trib (-1), and Class C(T) for the remainder of the reach. Tribs to this reach/segment are Class C,C(T).

# Lake Titus ( 0902-0036)

**Need Verific**

## Waterbody Location Information

Revised: 11/13/2008

<b>Water Index No:</b>	SL(C)-29- 6-P28	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150307/030	<b>Str Class:</b>	B(T)
<b>Waterbody Type:</b>	Lake	<b>Reg/County:</b>	5/Franklin Co. (17)
<b>Waterbody Size:</b>	431.4 Acres	<b>Quad Map:</b>	LAKE TITUS (C-23-2)
<b>Seg Description:</b>	entire lake		

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Public Bathing	Stressed	Possible
Recreation	Stressed	Possible

### Type of Pollutant(s)

Known: - - -  
Suspected: ALGAL/WEED GROWTH  
Possible: Nutrients, Pathogens

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

Known: - - -  
Suspected: HABITAT MODIFICATION  
Possible: On-Site/Septic Syst

## Resolution/Management Information

<b>Issue Resolvability:</b>	1 (Needs Verification/Study (see STATUS))	
<b>Verification Status:</b>	1 (Waterbody Nominated, Problem Not Verified)	
<b>Lead Agency/Office:</b>	DOW/BWAM	<b>Resolution Potential:</b> Medium
<b>TMDL/303d Status:</b>	n/a	

## Further Details

### Overview

Public Bathing and other recreational uses in Lake Titus may experience minor impacts/threats due to excessive aquatic weed growth of invasive species.

### Water Quality Sampling

Lake Titus was been sampled as part of the NYSDEC Citizen Statewide Lake Assessment Program (CSLAP) beginning in 1985 and 1999. An Interpretive Summary report of the findings of this sampling was published in 2000. These data indicate that the lake continues to be best characterized as mesotrophic, or moderately unproductive. Phosphorus levels in the lake occasionally exceed the state guidance values indicating impacted/stressed recreational uses. Corresponding transparency measurements typically meet the recommended minimum for swimming beaches. Measurements of pH typically fall within the state water quality range of 6.5 to 8.5. The lake water is moderately colored, and may at times impact water transparency. However lake color is thought to be reflective of natural soil and vegetation characteristics in the watershed. (DEC/DOW, BWAM/CSLAP, 2000)

### Recreational Assessment

Public perception of the lake and its uses is also evaluated as part of the CSLAP program. This assessment indicates recreational suitability of the lake to be generally favorable. The recreational suitability of the lake ranges between "excellent" and "slightly" impacted. The lake itself is most often described as "not quite crystal clear." Assessments have noted that aquatic plants grow to the lake surface, but are not typically cited as having an impact on recreational uses. Aquatic plants are dominated by a mix of native and non-native (Eurasian milfoil) species. (DEC/DOW, BWAM/CSLAP, 2000)

### Lake Uses

This lake waterbody is designated class B(T), suitable for use as a public bathing beach, general recreation and aquatic life support, but not as a drinking water supply. Water quality monitoring by NYSDEC focuses primarily on support of general recreation and aquatic life. Samples to evaluate the bacteriological condition and bathing use of the lake or to evaluate contamination from organic compounds, metals or other inorganic pollutants have not been collected as part of the CSLAP monitoring program. Monitoring to assess potable water supply and public bathing use is generally the responsibility of state and/or local health departments. Previous Assessments

Presence and proliferation of Eurasian milfoil restrict bathing and boating uses of the Lake Titus. Failing and/or inadequate on-site septic systems have been cited as a source of nutrients and pathogens. Septic problems including grey water inputs have been documented and some improvements have begun. (Franklin County WQCC, 1993).

The lake has been the subject of study by NYS DEC CSLAP Program and Adirondack Ecologists since the mid 1980s. The problems outlined above have been noted in these studies. There is a state owned access to the lake that has never been developed due, in part, to concerns of residents/private land owners.

# Pike Creek and tribs ( 0902-0037)

# MinorImpacts

## Waterbody Location Information

Revised: 02/17/2009

<b>Water Index No:</b>	SL(C)-31	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150307/010	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	5/Franklin Co. (17)
<b>Waterbody Size:</b>	52.7 Miles	<b>Quad Map:</b>	BOMBAY (B-22-2)
<b>Seg Description:</b>	entire stream and tribs		

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

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

### Type of Pollutant(s)

Known: ---  
Suspected: NUTRIENTS, Silt/Sediment  
Possible: Thermal Changes

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

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

## Resolution/Management Information

**Issue Resolvability:** 1 (Needs Verification/Study (see STATUS))  
**Verification Status:** 4 (Source Identified, Strategy Needed)  
**Lead Agency/Office:** ext/WQCC  
**TMDL/303d Status:** n/a

**Resolution Potential:** Medium

## Further Details

### Overview

Aquatic life support in Pike Creek is thought to experience minor impacts due to nutrient and silt/sediment loadings from agricultural and other nonpoint sources.

### Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Pike Creek in Fort Covington, Franklin County, (at Route 43) was conducted in 2005. Intensive Network sampling typically includes macroinvertebrate community analysis, water column chemistry, sediment and invertebrate tissues analysis and toxicity evaluation. During this sampling the biological (macroinvertebrate) sampling results indicated slightly impacted quality conditions. Water column chemistry found iron and water temperature to be the only substances that constituted parameters of concern. Macroinvertebrates collected at this site and chemically analyzed for selected metals, PAHs, PCBs, and organochlorine pesticides found no contaminants present in concentrations above established assessment criteria. Sediment screening for acute toxicity indicated toxicity could be present, but sediments were not found to contain any contaminants at levels of concern and, based on sediment quality guidelines developed for freshwater ecosystems, overall sediment quality is not likely to cause chronic toxicity to sediment-dwelling organisms. Chronic toxicity testing using water from this location showed no significant mortality or reproductive effects on the test organism. Based on the consensus of these established assessment methods, overall water quality at this site shows that in spite of some concerns that should continue to be monitored (eutrophication), aquatic life is considered to be fully supported in

the stream. (DEC/DOW, BWAM/SWMS, December 2008).

A biological (macroinvertebrate) assessment of Pike Creek, at Fort Covington, (at Route 43) was also conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results also revealed slightly impacted conditions. (DEC/DOW, BWAM/SBU, December 2008)

#### Previous Assessment

The Franklin County SWCD reported water quality issues in the creek. Sediment and nutrient inputs from considerable agricultural activity in the area (cropland erosion, daily manure spreading, livestock in stream and removal of riparian vegetation) are listed as possible causes/sources. In some instances, some farmers have been known to stockpile manure along stream during winter and then dispose of it by bulldozing it into the stream during spring runoff. The creek is generally slow-moving through clay soils and there is some degree of bank erosion exacerbated by livestock in stream. High turbidity and thermal changes from the loss of riparian vegetation are likely stressing the survival of resident warmwater fish populations. (Franklin County WQCC, 1993)

#### 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 also Class C.