



## Lower Raquette River Watershed (0415030507)

### Water Index Number

SL- 1 (portion 1)  
 SL- 1 (portion 2)  
 SL- 1- 2  
 SL- 1- 6  
 SL- 1- 9

### Waterbody

Raquette River, Lower, and minor tribs (0903-0059)  
 Raquette River, Middle, and tribs (0903-0064)  
 Squeak Creek and tribs (0903-0082)  
 Plum Brook and tribs (0903-0083)  
 Trout Brook and tribs (0903-0084)

### Category

Impaired Seg  
 NoKnownImpct  
 NoKnownImpct  
 UnAssessed  
 NoKnownImpct

# Raquette River, Lower, and minor tribs ( 0903-0059)

Impaired Seg

## Waterbody Location Information

Revised: 06/30/2009

**Water Index No:** SL- 1 (portion 1)      **Drain Basin:** Saint Lawrence River  
**Hydro Unit Code:** 04150305/      **Str Class:** B      Raquette River  
**Waterbody Type:** River      **Reg/County:** 6/St.Lawrence Co. (45)  
**Waterbody Size:** 142.3 Miles      **Quad Map:** RAQUETTE RIVER (B-21-2)  
**Seg Description:** stream and select tribs, from mouth to Potsdam

## Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Impaired	Known
Fish Consumption	Stressed	Known
RECREATION	Impaired	Known
Aesthetics	Stressed	Suspected

### Type of Pollutant(s)

Known: PATHOGENS, Aesthetics, Nutrients, Priority Organics (PCBs, dioxin), Pesticides (mirex)  
Suspected: D.O./Oxygen Demand  
Possible: - - -

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

Known: MUNICIPAL (Town of Norfolk WWTP), ON-SITE/SEPTIC SYST (in Raymondville)  
Suspected: Agriculture, Landfill/Land Disp., Tox/Contam. Sediment, Other Sanitary Disch  
Possible: - - -

## Resolution/Management Information

**Issue Resolvability:** 2 (Strategy Exists, Needs Funding/Resources)  
**Verification Status:** 5 (Management Strategy has been Developed)  
**Lead Agency/Office:** DOW/Reg6  
**TMDL/303d Status:** 1\*

**Resolution Potential:** Medium

## Further Details

### Overview

Public bathing and recreational uses in this portion of the Raquette River are known to be impaired by pathogens and other pollutants from failing and/or inadequate residential on-site septic systems as well as discharges from a poorly operating municipal wastewater treatment plant. The lower mile of the river falls within the Saint Lawrence/Massena Great Lakes Area of Concern and experiences impacts from associated past legacy discharges and waste disposal. These impacts include fish consumption restrictions, a result of a health advisory for the Saint Lawrence River that extends to tribs up to the first impassable barrier.

### Source Assessment

Dye testing of homes in the Hamlet of Raymondville (population of about 500) has revealed that approximately 80% of the existing on-site septic systems have failed, are inadequate, or are discharging directly to the Raquette River. The discharge of raw and/or inadequately treated sewage impairs swimming/bathing in the river. NYSDEC staff continue to work with community officials in Raymondville in an effort to provide appropriate treatment facilities to address the problem. An updated preliminary Engineering Report for the wastewater collection & treatment system was submitted in 2000. However, no further

action has been taken, or progress made, since then. This is thought to be the largest community in St. Lawrence County without a sewer system. (DEC/DOW, Region 6, January 2009)

The Town of Norfolk WWTP and sewer collection system experiences significant hydraulic overloading which results in numerous discharges/bypasses of raw sewage, treatment unit (oxidation ditch) failures and other SPDES permit violations over the years. The SPDES permit for the facility regulates the discharge of municipal wastewater effluent from its main outfall and an emergency overflow (at the Route 56 pump station) to the Raquette River. The facility has a long history (since the 1980s) of flows that exceed the design capacity of the plant. This chronic overloading of the plant has resulted in repeated violations of its effluent permit limits and the discharge of untreated or partially treated sewage into the Raquette River. In August 2008 the Town of Norfolk signed a Consent Order with the NYSDEC to address the numerous and ongoing violations of its SPDES permit (NY 002 3604) and 6 NYCRR Part 750. (DEC/DOW, Region 6, May 2009)

#### Saint Regis Mohawk Tribe

The lower few miles of this reach lie within the boundary of the Saint Regis Mohawk Tribe. SRMT is a federally recognized tribe with Treatment-as-State (TAS) status under the Clean Water Act. The Tribe's Environmental Division includes a Water Resource Program (WRP) that is charged with the protection, preservation and enhancement of water resources for future enjoyment and use by tribal members. In 2007 USEPA approved the Tribe's water quality standards and the Tribe has the sovereign responsibility to make water quality determinations under Section 401 of the Clean Water Act. Primary funding for WRP comes from the Clean Water Act sections 104, 106 and 319. Other projects are funded by competitive grants.

Sampling conducted by the SRMT in 2008 found elevated levels of E.coli in the river. The origin of these indicator bacteria was not identified, but upstream agricultural operations which allow cattle unrestricted access to the river were noted as a concern. (SRMT, Environmental Division/WRP, June 2009)

#### Saint Lawrence/Massena Remedial Action Plan

The St. Lawrence River at Massena Remedial Action Plan (RAP) Area of Concern (AoC) begins above the power dam facilities and seaway locks at the Massena Village drinking water intake and follows the river downstream for about fifteen miles to the international border. For New York State, the AoC includes portions of the Grass, Raquette and St. Regis Rivers. There are three governmental agency groupings that share jurisdictional responsibilities for the AoC. These are the United States, Canada, and the St. Regis Mohawk Tribe at Akwesasne.

Pollution from past local area industrial production and waste disposal practices created contaminated sediments and hazardous waste sites that to a large degree are being or have been remediated. The sources and causes include PCBs, mercury, DDE, Mirex, nutrients, metals and physical disturbance. Large area remedial projects at Alcoa and General Motors sites have contributed significantly to the restoration and protection of beneficial uses in the AoC. After the Grass River and limited land-based remedial measures are completed, a reassessment of the status of the beneficial use indicators is to be conducted. When including the installation of water and air pollution discharge equipment, the total costs of the Massena area cleanup will likely exceed one billion dollars.

#### Fish Consumption

Fish consumption advisories for the Saint Lawrence River (and all tribs to the first barrier) also apply to this tributary waters. A NYSDOH health advisory recommends eating no American eel, channel catfish, carp, larger lake trout (over 25 inches) or larger brown trout (over 20 inches). The advisory also recommends that consumption of chinook salmon, white perch, white sucker, rainbow trout, smaller lake and brown trout, and coho salmon (over 25") be limited to no more than one meal per month. The fish consumption advisories, which apply to the entire length of the St. Lawrence (including tribs up to the first impassible barrier) are a result of PCB, mirex and dioxin contamination. An additional advisory prohibits consumption of any fish species from the bay at the St. Lawrence-Franklin County line due to PCB contamination. Advisories for the Saint Lawrence River were first issued prior to 1998-99. (2008-09 NYSDOH Health Advisories and DEC/DFWMR, Habitat, December 2008)

### Section 303d Listing

This portion of the Raquette River is not currently included on the NYS 2008 Section 303(d) List of Impaired Waters. However this updated assessment suggests it is appropriate to consider this waterbody for inclusion on the 2010 List. It is recommended that a listing for pathogens be added to Part 1 of the List, as a waterbody for which TMDL development or other restoration measures are required. (DEC/DOW, BWAM/WQAS, January 2009)

### Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to dam at Potsdam. The waters of this portion of the stream are Class B. Tribs to this reach/segment, including Hutchins Brook (-4) and Hall Creek (-8), are Class C and D. Squeak Creek (-2), Plum Brook (-6), Trout Creek (-9) and other portions of Raquette River are listed separately. The lower few miles of this reach lie within the jurisdiction of the Saint Regis Mohawk Tribe.

# Raquette River, Middle, and tribs ( 0903-0064)

NoKnownImpct

## Waterbody Location Information

Revised: 02/13/2009

**Water Index No:** SL- 1 (portion 2)      **Drain Basin:** Saint Lawrence River  
**Hydro Unit Code:** 04150305/120      **Str Class:** A      Raquette River  
**Waterbody Type:** River      **Reg/County:** 6/St.Lawrence Co. (45)  
**Waterbody Size:** 40.3 Miles      **Quad Map:** POTSDAM (C-21-1)  
**Seg Description:** stream and select tribs, from Potsdam to Hannawa Falls

## 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  
**TMDL/303d Status:** n/a

**Resolution Potential:** n/a

## Further Details

### Water Quality Sampling

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of the Raquette River just above this reach in Browns Bridge, Saint Lawrence County, (at Route 24/Russell Turnpike Road) 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. Impact Source Determination indicated natural conditions. Water column sampling revealed no parameters of concern. 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. Macroinvertebrates collected at this site and chemically analyzed for selected PAHs, PCBs, and organochlorine pesticides show no contaminants present in concentrations above established guidance values. 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. Though this sampling point is just above the described segment, it is considered representative of water quality in the lower reach. This segment is listed as being evaluated rather than monitored. (DEC/DOW, BWAM/RIBS, January 2009)

A biological (macroinvertebrate) assessment of the Raquette River just above the reservoir at Browns Bridge (at Lenny Road)

was conducted in 2004 during the RIBS Biological Screening effort in the basin. Sampling results indicated non-impacted water quality conditions. The macroinvertebrate fauna was dominated by mayflies. Impact source determination suggested a natural community structure. Though this sampling point is just above the reservoir, it is considered representative of water quality in the reservoir. This segment is listed as being evaluated rather than monitored.

#### Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the dam at Potsdam to Route 56 bridge in Hannawa Falls. The waters of this portion of the stream are Class A. Tribs to this reach/segment, including Garfield Brook (-22), are Class C. Parkhurst Brook (-20) Stafford Brook (-24) and other portions of Raquette River are listed separately.

# Squeak Creek and tribs ( 0903-0082)

NoKnownImpct

## Waterbody Location Information

Revised: 01/15/2009

<b>Water Index No:</b>	SL- 1- 2	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150305/160	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River	<b>Reg/County:</b>	6/St.Lawrence Co. (45)
<b>Waterbody Size:</b>	69.2 Miles	<b>Quad Map:</b>	RAQUETTE RIVER (B-21-2)
<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
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 Squeak Creek, at Massena (at South Raquette River Rd.) was conducted in 2004 during the RIBS Biological Screening effort in the basin. The sample was collected, retained, subsampled and sorted to major groups of organisms but detailed identification was not performed. The sample was field assessed as meeting screening criteria and water quality was evaluated to be very good. The sorted sample was dominated by caddisflies, midges, aquatic beetles and mollusks. (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. Tribs to this reach/segment, including Earls Brook (-1) and West Branch (-3), are also Class C.

# Trout Brook and tribs ( 0903-0084)

NoKnownImpct

## Waterbody Location Information

Revised: 02/13/2009

<b>Water Index No:</b>	SL- 1- 9	<b>Drain Basin:</b>	Saint Lawrence River
<b>Hydro Unit Code:</b>	04150305/130	<b>Str Class:</b>	C
<b>Waterbody Type:</b>	River		Raquette River
<b>Waterbody Size:</b>	134.5 Miles	<b>Reg/County:</b>	6/St.Lawrence Co. (45)
<b>Seg Description:</b>	entire stream and tribs	<b>Quad Map:</b>	CHASE MILLS (B-20-3)

## 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

NYSDEC Rotating Intensive Basin Studies (RIBS) Intensive Network monitoring of Trout Brook in Raymondville, Saint Lawrence County, (at River Road) 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. The benthic fauna at this site was diverse. The Nutrient Biotic Index indicated oligotrophic conditions for phosphorus but eutrophic conditions for nitrogen. In addition to suggesting natural conditions Impact Source Determination identified several possible stressor including nonpoint source nutrient enrichment and toxic/industrial inputs. Water column sampling revealed pH to be a parameter of concern. No sediment sample could be collected at this location. Macroinvertebrates collected at this site and chemically analyzed for selected metals, PAHs, PCBs, and organochlorine pesticides show an elevated level of chromium. The source of chromium is likely to be anthropogenic, but it has not been identified. 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 (pH, chromium), aquatic life is considered to be fully supported in the stream, and there are no other apparent water quality impacts to recreational uses. (DEC/DOW, BWAM/RIBS, January 2009)

### 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 Stony Brook (-7) and Sugar Creek (-12), are also Class C.