

Town of Belmont Planning Committee

Background information on local water quality issues that can have an impact on The Town of Belmont's fresh water supply.

This data is not intended to be all inclusive but is offered so the reader has general information about this large watershed and the possible impact on our water systems.

The data has been gleaned from various reports presented by the Franklin County Soil & Water District Office and is presented here with permission.

St. Lawrence River Watershed-Water Quality Issues



St. Lawrence River Background

As the gateway between the North Atlantic and the Great Lakes, the Saint Lawrence River is one of the most significant waterways in North America. At its most downstream point in the United States (near Massena) the Saint Lawrence drains an area of nearly 300,000 square miles. About 5,600 square miles in New York State are drained by tributaries that enter the Saint Lawrence between Lake Ontario and Montreal (excluding the area of the Lake Champlain Basin). This area includes all of Saint Lawrence County, most of Franklin County, large portions of northern Jefferson, Lewis, Herkimer and Hamilton Counties, and small parts of Essex and Clinton Counties.

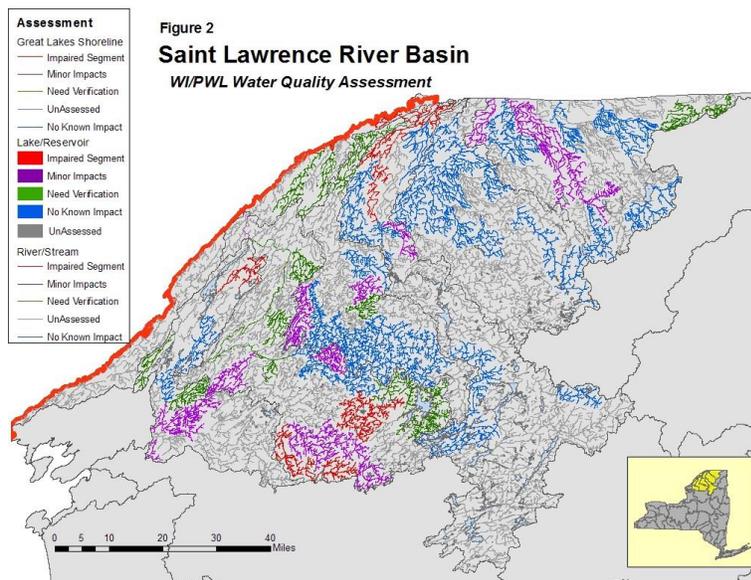
The overall land use/character of the Saint Lawrence Basin in New York State is split between the densely forested woodlands covering the northern and western slopes of the Adirondack Mountains in the southern headwaters portion of the basin; and the flat, more agricultural lake plain region along the Saint Lawrence in the northern basin. The primary economic activities in

the region include agriculture, logging, mining and recreation/tourism. A heavy industrial complex centering around aluminum production is located in Massena.

Although it is the largest of the major drainage basins in the state, the Saint Lawrence Basin ranks eleventh out of seventeen in population with 194,869 (2000) residents. Nearly 60% of the population is rural/residential (town), 35% is urban/residential (village), and only 7% is urban (city). The largest urban center is Massena (11,931). The remainder of the basin population is mostly rural with small population centers such as Potsdam (15,957), Malone (14,981), Ogdensburg (12,364), Canton (10,334) and Gouverneur (7,418) located along the Saint Lawrence River and its larger tributaries.

There are about 11,371 miles of rivers and streams in the basin – more than in any other basin in the state –and nearly 1,100 lakes and ponds. Many of the ponds are too small to be individually assessed, but 376 significant lake, pond and reservoir waterbody segments (covering 85,723 acres) are included in the Saint Lawrence River Basin Waterbody Inventory. In addition the Saint Lawrence River accounts for 185 miles of Great Lakes shoreline. The largest tributary to the Saint Lawrence is the Oswegatchie with 3,590 miles of stream, almost one-third of the basin total. This watershed includes 1,222 miles of stream in the Indian River drainage. Other large tributary watersheds in the basin include the Raquette River Watershed (2,016 miles of stream, 18%), the Saint Regis Watershed (1,734 miles, 15%), the Grass River Watershed (1,607 miles, 14%) and the Salmon River Watershed (857 miles, 8%). Of the lakes/reservoirs, the largest are Black Lake (7,754 acres, or 9% of the basin lake acres), Cranberry Lake (6,795 acres, 8%), Raquette Lake (5,194 acres, 6%), Tupper Lake (4,858 acres, 6%) and Long Lake (4,094 acres, 5%).

Water Quality Issues in the St. Lawrence River



Water quality issues in the St. Lawrence watershed reduce environmental, social and economic values of the basin. Water quality is important to protect public health and water provides ecosystem habitats, is used for farming, fishing, drinking water and contributes to recreation and tourism. By addressing water quality issues through collaborative planning and action, these

values can be restored. Water quality issues in the St. Lawrence River watershed include atmospheric deposition of mercury, acid rain, agricultural non point source pollution, failing or inadequate on-site septic systems, protection of groundwater resources, and industrial/hazardous waste contamination.

<http://www.dec.ny.gov/chemical/36735.html>

Atmospheric Deposition/Acid Rain

Of the priority waterbodies listed on NYSDEC's Priority Waterbodies list, 62 are impaired due to atmospheric deposition. Atmospheric deposition occurs most frequently at higher elevations, and is mainly a result of coal burning energy production that may occur from a far distance of where deposition occurs. Atmospheric deposition is responsible for many fish consumption advisories due to mercury. In addition, acid rain increases the pH levels, which impacts fish and wildlife populations. A northeast regional mercury TMDL (Total Maximum Daily Load) is in effect for the northeast, and many waterbodies located within the upper St. Lawrence River watershed are listed as section 303(b), or state impaired waterways, as a result of atmospheric deposition. Federal and state policies are addressing this issue, with initiatives and regulations to promote clean energy production. Ongoing water quality monitoring and fish assessments will determine the effectiveness of efforts to reduce atmospheric deposition.

<http://www.epa.gov/grtlakes/glindicators/air/airb.html>

Agricultural non point source pollution

The St. Lawrence Valley is abundant in rich alluvial soils that provide good farmland. Runoff from agricultural lands containing nutrients and phosphorus that is not prevented from entering waterways can harm aquatic life, reduce recreational opportunities, and harm human health and quality of life. The following waterbodies are listed in the priority waterbodies list as being impacted by agricultural non point source pollution (2008):

St. Lawrence County

- Black Lake -Impaired- 2008 Section 303(d)*
- Stammer Creek - Minor impacts
- Lower Oswegatchie River-Minor impacts
- Tanner Creek- Minor impacts
- Upper Little River and tribs(Class AA)**-Minor impacts
- Parkhurst Brook St. Lawrence County-Minor impacts
- Matoon Creek and minor tribs-Minor impacts

Jefferson County

- Grass Lake-Minor impacts
- Black Creek -Minor Impacts
- West Creek (Class A, T)** -Minor impacts

Franklin County

- Pike Creek-Minor impacts
- Branch Brook/Titus Stream (Class T)-Minor impacts

*Section 303(d)- State list of threatened and impaired waters. Environmental Protection Agency's Clean Water Act requires further action for 303(d) listed waterways.

**Class AA and A Streams support use for drinking water. Class T streams support native trout populations.

County SWCD's, NYSDEC, Cornell Cooperative Extensions, NRCS, Land Trust Organizations, and educational institutions work with landowners to reduce agricultural impacts to water quality by providing outreach, education, and assistance with implementation of Agricultural Best Management Practices and Agricultural Environmental Management Programs.

<http://www.nys-soilandwater.org/>

<http://www.dec.ny.gov/chemical/83993.html>

Failing or inadequate on-site septic systems

Recreational uses and aesthetics of lakes and streams are impacted by failing and/or inadequate on-site septic systems and/or wastewater treatment facilities. Raw sewage discharges have been observed and raise public health concerns by contributing pathogens to waterbodies. Efforts to address these problems are often hindered by fiscal considerations. Correcting individual systems and/or the sewerage of a larger neighborhood or community results in a significant (often insurmountable) financial burden. Since 1990, NYSDEC, and NYSEFC (Environmental Facilities Corporation) has worked with USEPA, state and local health departments, municipalities, local agencies and organizations, and universities to address siting, design, construction and maintenance issues for residential and small community onsite wastewater treatment systems. <http://www.dec.ny.gov/chemical/69653.html>

The following are listed as impaired in the 2008 Priority Waterbodies List due to on-site septic systems or unsanitary discharges:

-Moon lake, Jefferson County

-Fish Creek, St. Lawrence County *2010 Section 303(d)

-Lower Raquette River and tribs, St. Lawrence County *2010 Section 303(d)

St. Lawrence at Massena Area of Concern

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. Regional Action Planning through the Regional Advisory Committee, which includes state, local, federal, and bi-national collaboration, seeks to delist St. Lawrence at Massena as an Area of concern by restoring known beneficial use impairments. 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.

For more information: <http://www.epa.gov/greatlakes/aoc/st-lawrence/index.html>

Groundwater Resources

Class AA and Class A waters support use as drinking water and are important to sustain as a state resource. Management and protection of both the quantity and quality of this resource is critical for protecting public health and is also a key element of surface water quality and

wetland management efforts. In the Saint Lawrence River Basin, the more significant threats to groundwater resources include inactive hazardous waste sites and industrial discharges, pesticide application, chemical spills, animal feeding operations and inadequate on-site wastewater treatment systems. Additionally, effective storm water management can protect groundwater resources by preventing urban runoff from entering water bodies. The impact of increasing groundwater withdrawals in order to support development is an emerging issue that merits additional investigation.

<http://www.dec.ny.gov/lands/36064.html>

Invasive Species

Although not identified in the Priority Water bodies list as an issue, the presence of invasive species such as zebra mussels, purple loosestrife, Eurasian watermilfoil, Japanese knotweed, and Giant hogweed, have been demonstrated to reduce native fish and wildlife habitat, limit recreational opportunities, increase costs of land management, and reduce water quality. There is also growing concern of highly aggressive and harmful invasive species, such as the emerald ash borer, hydrilla, Asian longhorned beetle, and Asian carp, potentially entering the watershed through spread from other locations. Ongoing outreach, education, and control of existing populations by the St. Lawrence-Eastern Lake Ontario Partnership for Regional Invasive Species Management addresses this issue, as well as Watercraft Stewardship programs through NY State Parks, NY Sea Grant, and Paul Smith's. <http://nyis.info/>

Addressing Water Quality Issues in the St. Lawrence River Watershed

County Soil and Water Conservation Districts are vital to addressing water quality issues on a local level through establishing working relationships with landowners and fostering partnerships between counties and stakeholders towards conserving water quality and natural resources. County Water Quality Coordinating Committees (CWQCCs) were formed across New York State to develop and implement County Water Quality Strategies to address non point source pollution issues. Since local governments can address land use issues and work with individuals to improve management practices, localities are able to make a significant contribution to NPS pollution prevention. There are 8 counties within the St. Lawrence River watershed.

<http://www.nys-soilandwater.org/>

See report on Franklin County SWCD