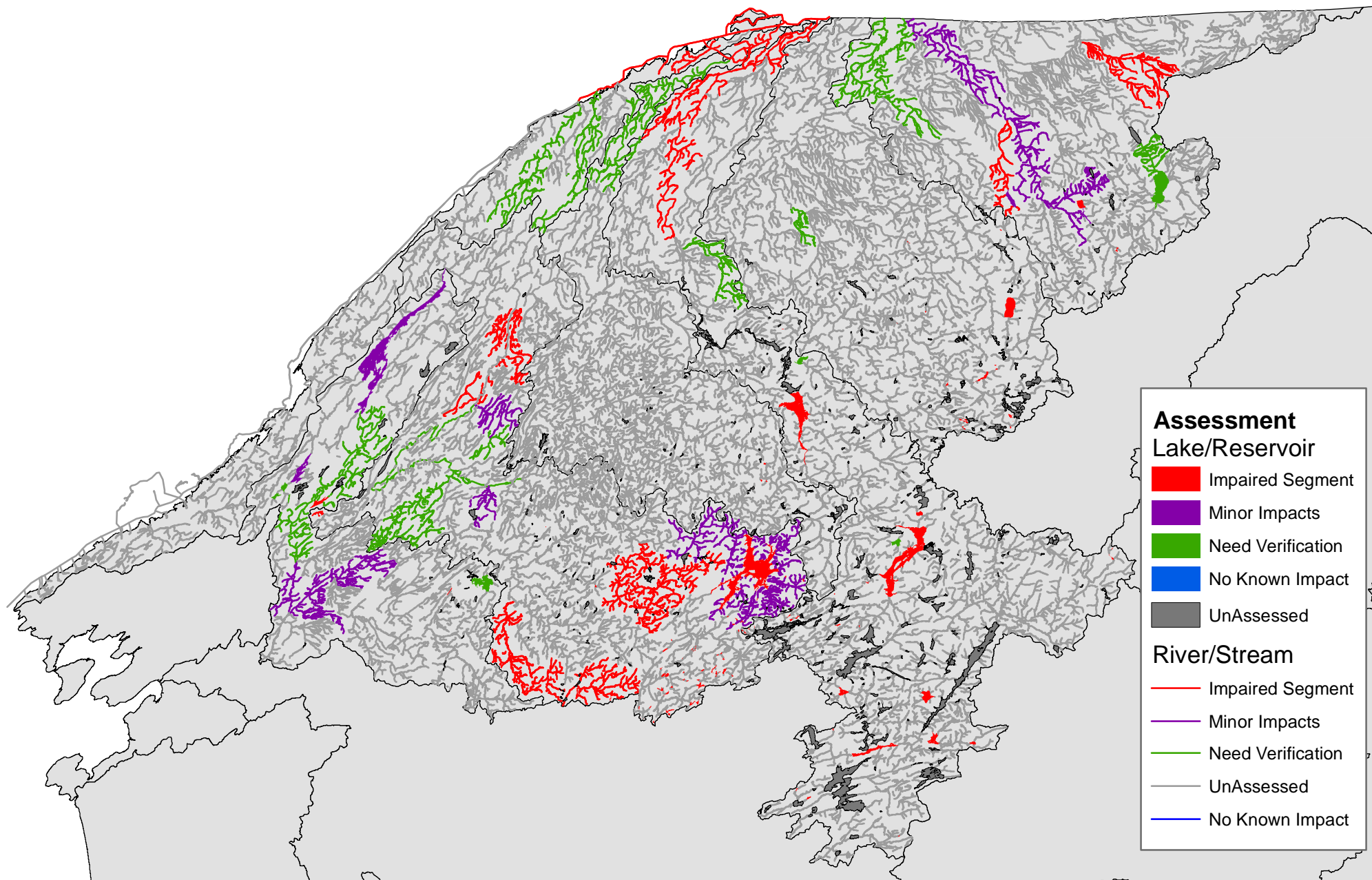


St. Lawrence River Basin

1999 WI/PWL Water Quality Assessment



Summary of Saint Lawrence River Basin

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 more agricultural region along the Saint Lawrence Valley lowlands 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 seventeen major drainage basins in the state, the Saint Lawrence Basin ranks thirteenth in population with just over 192,000 (1996) residents. The population is mostly rural with small population centers located along the Saint Lawrence River (Massena, Ogdensburg) and its larger tributaries (Potsdam, Canton, Malone, Gouverneur). Nearly 60% of the population is rural/residential (town), 35% is urban/residential (village), and only 7% is urban (city).

The waters of the Saint Lawrence Drainage Basin originate high in the Adirondack Mountains. The tributary headwaters feature numerous lakes and ponds – some quite large – and falls. As these tributaries flow north to the Saint Lawrence, they slow and meander across the wide river valley. The more significant of these tributaries include the Salmon, Saint Regis, Raquette, Grass, Oswegatchie, and Indian Rivers. All together, approximately 6,940 miles of rivers and streams drain the New York State portion of the Saint Lawrence Drainage Basin. The basin also includes an estimated 650 lakes and ponds covering 115,553 acres.³

Water Quality Issues/Problems

Water quality problems in the Saint Lawrence River Basin are dominated by two primary issues: fish consumption advisories (particularly advisories for the Saint Lawrence River) and atmospheric deposition/acid precipitation. These two problems account for more than 95% of the most severe (Precluded, Impaired) water use impairments in the basin. Interestingly, the ultimate source of both of these problems lies, in large part, outside the basin .

Low pH (frequently < 5) attributed to atmospheric deposition/acid precipitation has been documented in over 150 lakes and pond in the basin. And it is assumed that the problem affects additional lakes that have not been monitored due to access and/or limited resources. Such conditions are known to impair and often preclude the propagation and survival of fish in these basin lakes and ponds.

Health advisories restricting the consumption of fish are in effect for a number of river miles and lake acres in the basin. Most significant are the advisories for a number of fish species from the entire Saint Lawrence River and the portion of the Grass River in and below Massena. The source of the contamination for much of the Saint Lawrence is attributed to priority organics (primarily PCBs) from Lake Ontario sediments. A combination of present industrial operations and contaminated sediments from past activities, contributes to the impact on the Saint Lawrence below Massena and the Grass.

There are also fish consumption advisories in effect for a number of larger lakes in the basin because of mercury

³ The river mile and lake acre statistics are taken from the USEPA Total State Waters database. This information is based on the Digital Line Graph (DLG) database and the River Reach File 3 (RF3) which are, in turn, based on US Geological Survey (USGS) 1:100,000 scale hydrologic maps.

contamination from unknown sources, possibly from atmospheric deposition. These waterbodies are Indian Lake, Carry Falls Reservoir, Cranberry Lake, Long Pond and Meacham Lake.

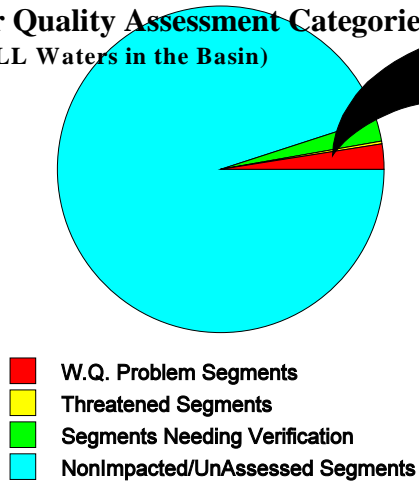
Various recreational uses (swimming, boating) of some waters in the basin have been listed as stressed as well. The most frequently cited sources include agricultural activities and failing on-site septic systems serving lake shore residences.

Water Quality Assessment

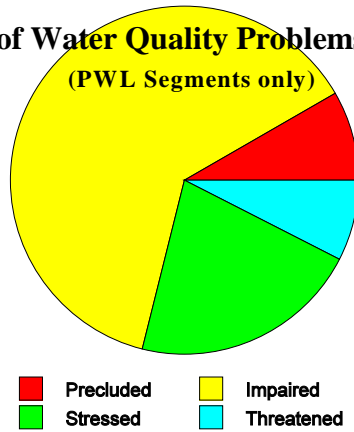
NOTE: Two freshwater bay segments are also listed in Table 1. Because these waters are bays of the Saint Lawrence River, and because the Saint Lawrence is reported as a river segment with a length rather than an area, these two segments are not reflected on the charts on the opposite page.

River Segments

Water Quality Assessment Categories
(for ALL Waters in the Basin)

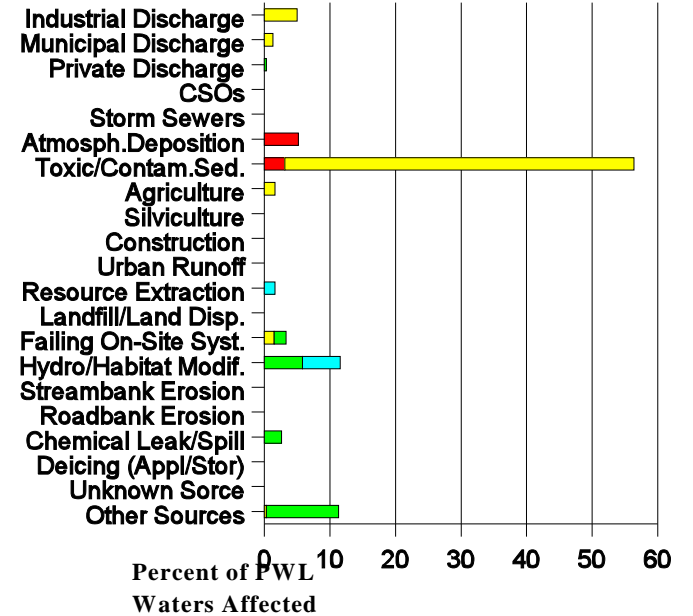


Severity of Water Quality Problems
(PWL Segments only)



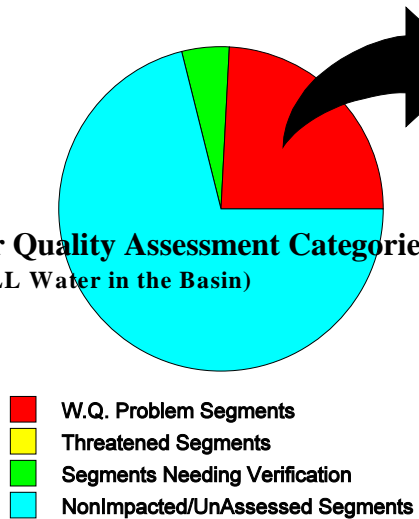
Saint Lawrence Drainage Basin

Primary Sources - Priority Waterbodies List

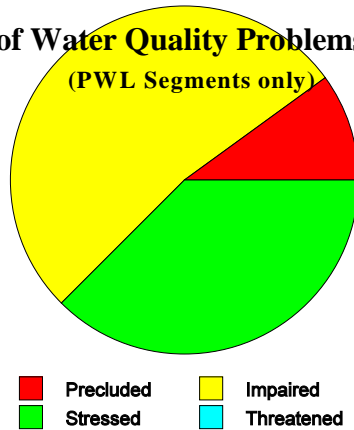


Lakes/Reservoirs

Water Quality Assessment Categories
(for ALL Water in the Basin)



Severity of Water Quality Problems
(PWL Segments only)



Saint Lawrence Drainage Basin

Primary Sources - Priority Waterbodies List

