

## WATER QUALITY

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**Bathing Prohibition - Water Consumption Notice - Impact on Human health - Overaccumulation of aquatic plants that interfere with nautical activities and emanate foul odors. The consequences of poor water quality are numerous, varied and significant.**

What about the water quality of Lake Saint-François as a whole and near the mouth of Rivière La Guerre? Even though the quality of the water coming from the Great Lakes is good, most human activities take place near the shore, where the contribution of the tributaries is important: our children swim there and some of us still draw their residential water from the Lake.<sup>1</sup>



Of all tributaries on the south shore, the Rivière La Guerre has the most impact on water quality near the shore. The pumped effluent from Rivière La Guerre directly affects water quality and the residents of three municipalities: Saint-Anicet, Sainte-Barbe and Saint-Stanislas-de-Kostka.

When it rained significantly, or when the snow melts, the pumping station of the Rivière La Guerre in Saint-Anicet is activated and discharges on the shore of the lake up to 9.5 m<sup>3</sup>/sec. of cafe latte colored water.



This turbid water, loaded with fine particles, suspended soil and agricultural contaminants, is worthy of the worst quality rating given by the MDDELCC: “very bad” quality water. It flows slowly along the shoreline to the Beauharnois Canal by depositing a large amount of sediments in sharp contrast to the clear waters of the Great Lakes and wetlands upstream of the lake.

The pumped water comes from the basin of Rivière La Guerre covering 88 square kilometres, and almost entirely in the municipality of Saint-Anicet.

Highly agricultural, the basin of Rivière La Guerre is similar to many other watersheds in Quebec. It suffers from soil erosion problems and leaching of some nutrients. It suffers from soil erosion problems and leaching of some nutrients.



In addition, when there is less rain during the summer months, the water of the river stagnates, which favors the concentration of pollutants and a rise in the temperature of the water, leading to excessive growth of aquatic plants and in certain circumstances, to an outbreak of toxic blue-green algae. When heavy rain occurs, the pumps start and discharge all along the shore of the lake, causing risks to the health of residents which may lead, for example, to bathing bans.

### **Concentration of diffuse pollution**

Along the bank of the river, the currents are slower and pollution from small effluents and non-compliant or deficient septic systems accumulates and thus contributes to decreasing the quality of the water. Faecal coliform levels increase and can reach potentially dangerous levels.

In canals dug perpendicular to the shore, there is no current, which favors the concentration of pollutants, the stagnation of water and the dispersal of aquatic plants.

## Across the Lake

With the exception of areas near the shoreline, Lake Saint-François contains a very homogeneous body of water that passes quickly from one end of the lake to the other: the green waters from the Great Lakes.<sup>2</sup>

This water is of good physico-chemical and bacteriological quality, according to the latest report on the state of the St. Lawrence River published in 2014.<sup>3,4</sup> According to the same report, the chemical and toxic indicators attest "a situation of no concern" (i.e. the indicators meet the quality criteria).

## Pollution by pesticides and metals

According to the 2014 Overview of the State of the St. Lawrence, the concentrations of metals and pesticides in Lake Saint-François do not exceed the water quality criteria for the protection of aquatic life.

With respect to heavy metals, we must consider contaminated sediments dating back to the industrial age. Accumulated sediments should not be disturbed to prevent them from being remobilized. The emerging contamination of new substances (anthropogenic releases and some plastics, etc.) entering the ecosystem is also to consider and is not negligible.

## To learn more...

The latest Overview of the State of the St. Lawrence is available at:

[www.planstlaurent.qc.ca](http://www.planstlaurent.qc.ca)

The quality of the water of the Rivière La Guerre has been measured monthly by the MDDELCC since March 2003. Detailed results are available on the website of the rivers network in the Department, under the tabs Water, and Rivers and lakes:

[www.mddelcc.gouv.qc.ca](http://www.mddelcc.gouv.qc.ca)

<sup>1</sup> ASLSF is primarily concerned with the south shore, an area of special interest to its members.

<sup>2</sup> Knowledge synthesis on the physical and chemical aspects of water and sediments of Lake Saint-François (1994). Environment Canada.

<sup>3</sup> Overview of the State of the St. Lawrence 2014. St. Lawrence Plan.

<sup>4</sup> Data from the Larocque bridge station, into the green waters of the river, indicate a "good" quality of water (the highest rating of the MDDELCC).