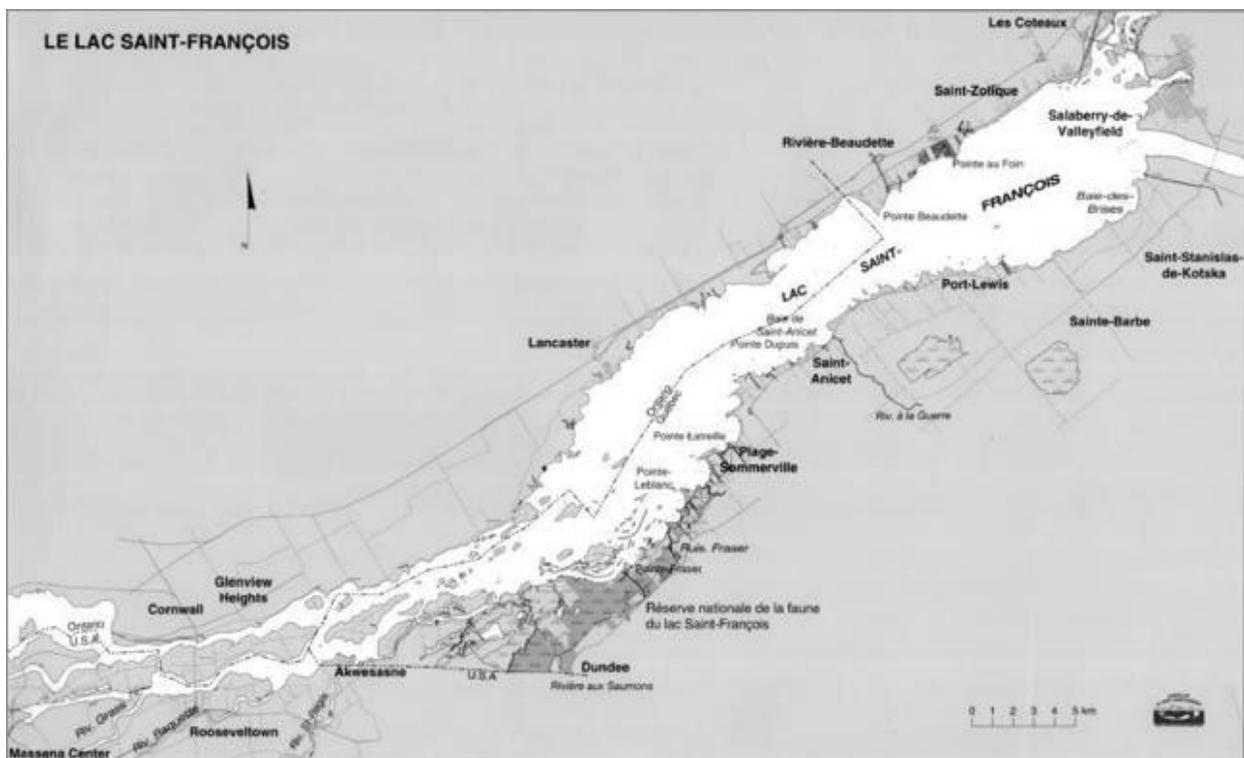


## DESCRIPTION

Home > Lac Saint-François > Description

Lac Saint-François is part of the physiographic formation of the St. Lawrence Lowlands. This is the first natural widening of the St. Lawrence river. It has an area of 233 km<sup>2</sup>, extends over 50 km, has a maximum width of 7.5 km, and a volume of 2.8 km<sup>3</sup> of water. Of this area, 160 km<sup>2</sup> are in Quebec territory, the rest being divided between Ontario (74 km<sup>2</sup>) and the United States (7 km<sup>2</sup>).

It extends from the Moses-Saunders Power Dam in Cornwall/Massena in the West, to the Beauharnois Canal and Hydro-Québec's Coteau 1-2-3 dams in the East. It comprises two parts: upstream, a small delta where several canals border many islands and, downstream, a more fluvial part formed by the widening of the river (see map below).



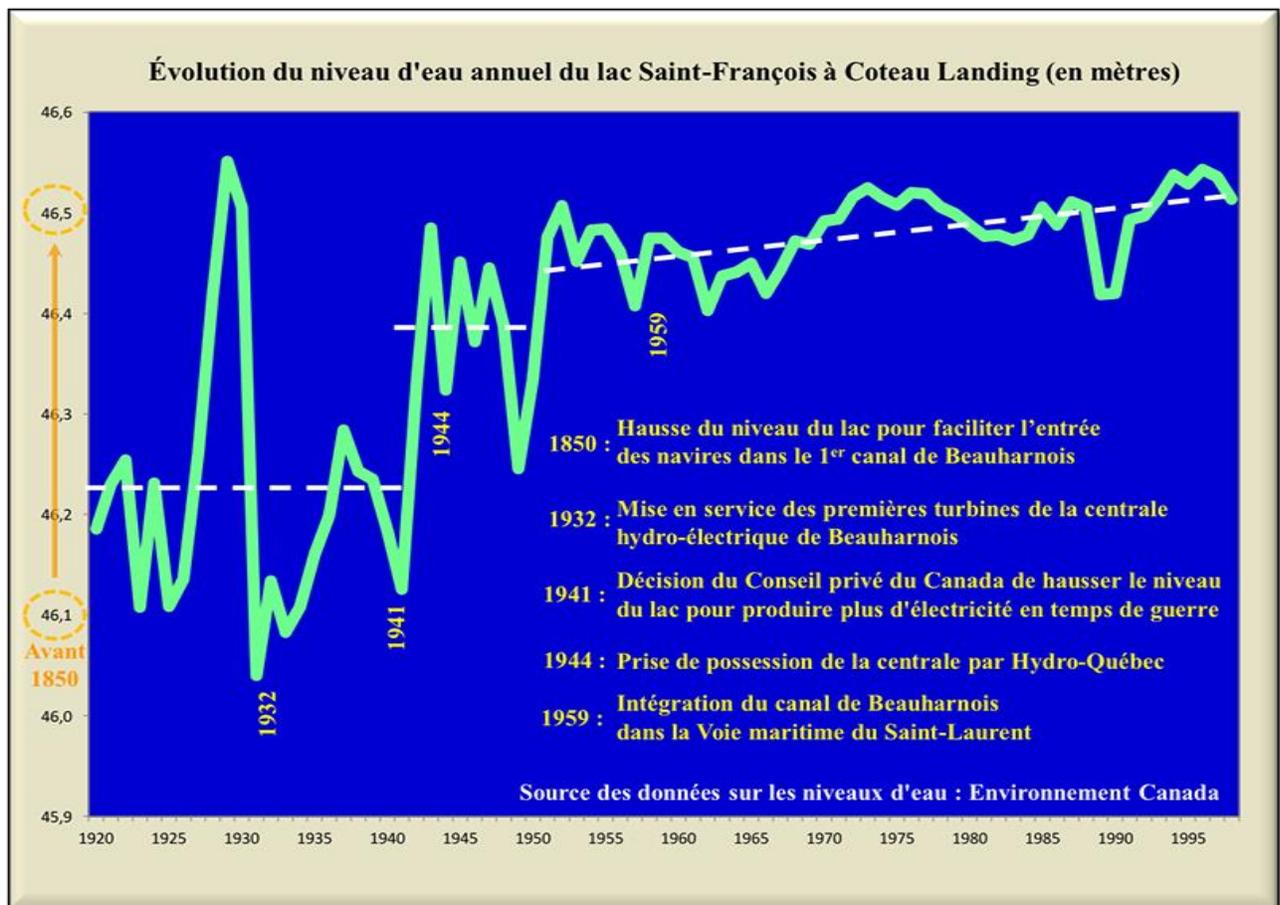
Its average annual flow is 7,720 m<sup>3</sup>/s at the lake inlet and 7,864 m<sup>3</sup>/s at its outlet, which corresponds to an intake of 144 m<sup>3</sup>/s by the tributaries. Only 3 of these tributaries are in Quebec, namely the Rivière Beaudette on the north shore, and the Rivière aux Saumons (on the border between Dundee and the Akwesasne Territory) and the Rivière La Guerre on the South shore. The current velocity is 2 to 3 m/s in the main channel, but varies between 0.05 m<sup>3</sup>/s and m<sup>3</sup>/s in the lateral bodies of water. University of Ottawa (Boudreau et al.) studies show that the St. Lawrence Seaway channel water flows directly across the lake and the most part flows into the Beauharnois Canal. The water table of the Seaway channel is subject to slower currents prone to sedimentation. These areas of sedimentation of fine materials constitute suitable habitats for the development of aquatic plants and marshes.

The current velocity of Lac Saint-François is regulated by dams at each end.

The main changes occurred with the construction of the St. Lawrence Seaway and the Moses-Saunders Power Dam in Cornwall/Massena and the Beauharnois one in Melocheville.

In the late 1920s, the construction of the latter dam caused the water body to rise by nearly 40 cm, favouring the formation of marshes encroaching mainly on agricultural land. Over the years, the level has been stabilized; the average annual level only varies by about fifteen centimetres.

Despite this stabilization, the water level varies over the months. It is during the winter months that the level is the highest. From May to November, the level remains fairly stable despite an increase in August. So, the fluctuations in the water level of the lake significantly differ from those of a natural water body with a spring freshet and a noticeably low water level at the end of the summer.



The control of the water level has eliminated the seasonal fluctuations of the lake level and thus has significantly reduced the size of its floodplain. This plain usually serves in the spring for breeding, nursery, and feeding areas for many species of fish.

Studies indicate that the lake has been affected mainly by two types of changes: the drying of wetlands and the dredging. The drying is associated with residential and industrial development which resulted in the filling, drainage and loss of a large part of aquatic plants and wetlands, environments on which waterfowl and fish depend for their food, their reproduction and raising their offspring. Dredging and dredging residue, mainly in deep water, were carried out during the construction and maintenance of the seaway. No dredging has been done for several years in the Quebec part of the lake.

Along the south shore, in Saint-Anicet and Sainte-Barbe, and the north shore, in Saint-Zotique, canals were dug perpendicular to the shore in aquatic plants to facilitate access to the shore and, in some cases, to ensure drainage of nearby lands. The dredged materials were deposited on the shore in the wet meadow, so as to raise the ground and allow the construction of cottages.