

Rivière des Mille Îles Dredging A Sustainable Water Supply Solution

Summary

The Rivière des Mille Îles provides drinking water to some 400,000 residents of Montréal's northern tier. Eleven municipalities (Blainville, Boisbriand, Bois-des-Filion, Laval, Lorraine, Mascouche, Mirabel, Rosemère, Sainte-Thérèse, Saint-Eustache and Terrebonne) draw their drinking water from the river, and fifteen treatment plants discharge their processed wastewater into it.

The current river water level is such that it is considered likely to compromise available quantities of drinking water if predictions for a hot, dry summer prove out.

Average recorded river water flow for the spring of 2010 was 35 m³/s as compared to normal seasonal flow of 265 m³/s. It is estimated that the minimum summer flow rate required to ensure proper functioning of water treatment plants is in the order of 30 to 35 m³/s.

Causes

The low water level in the Rivière des Mille Îles can be explained by weak snow accumulation last winter and light spring precipitation. Higher-than-normal seasonal temperatures resulted in snow melting quickly, and light precipitation meant that insufficient water was available to replenish upstream reservoirs to their full capacity, unlike preceding years. It thus has become impossible to withdraw more water from these reservoirs to feed the river and increase its flow.

Moreover, during the critical low-water period, when river water is at its lowest, the Rivière des Mille Îles receives only 3% of total outflow from Deux Montagnes lake. This is due to the fact that the riverbed is higher than the four other lake outlets at its upstream mouth.

Nature and objectives of work

The work will involve shallow water dredging at the river's mouth in order to increase outflow capacity from the lake. Excavation will cover some 15,000 square metres and extend to a depth of between 60 and 75 centimetres. The objective is to increase the minimum river water flow to 35 m³/s and guarantee affected municipalities sufficient drinking water.

Duration of Work

Work will take place between July and September 2010.