



# Understanding Flood Season

IN THE  
ABITIBI-TÉMISCAMINGUE REGION



## What is a flood?

A flood is a temporary increase in water levels in a river, lake or stream. Floods occur in spring and fall. The severity and extent of floods are determined by weather conditions and hence may vary from year to year and from season to season. These weather conditions are impossible to predict in advance and include such factors as rainfall, snowpack depth, the speed of the snowmelt and the ground's absorption capacity (still frozen, already waterlogged, or dry and covered with vegetation).

Hydro-Québec operates five hydroelectric generating stations on the upper portion of the Rivière des Outaouais (Ottawa River): Rapide-7, Rapide-2, Rapides-des-Quinze, Rapides-des-Îles and Première-Chute. This is the only river in the Abitibi-Témiscamingue region where Hydro-Québec has hydroelectric facilities. To supply water to these generating stations, Hydro-Québec manages the Dozois and Decelles reservoirs in collaboration with the Ottawa River Regulation Planning Board (ORRPB).

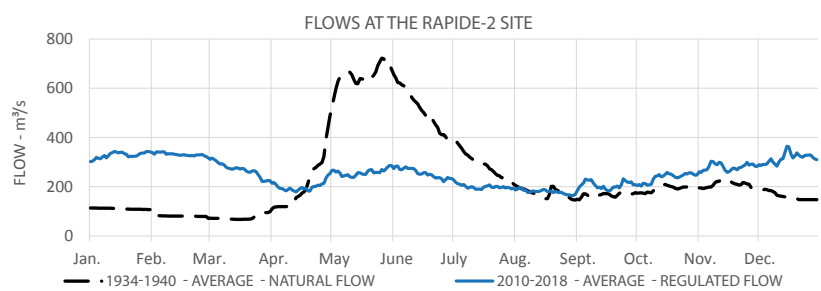
### What is the ORRPB?

The Ottawa River Regulation Planning Board (ORRPB)—or Commission de la planification de la régularisation de la rivière des Outaouais (CPRRO)—was created to encourage the sharing of information between agencies, in order to establish optimum water management strategies that ensure the safety of waterfront residents and infrastructures. Among other things, it coordinates the drawdown and refilling of reservoirs by dam operators. The ORRPB brings together various water management actors in the region:

- Ministère de l'Environnement et de la Lutte contre les changements climatiques du Québec
- Ministry of Natural Resources and Forestry of Ontario
- Environment and Climate Change Canada
- Public Services and Procurement Canada
- Canadian Coast Guard
- Ontario Power Generation
- Hydro-Québec

The ORRPB closely oversees the management of every drop of water in the Outaouais. For more information on ORRPB and on water levels in the region in real time, see <https://http://ottawariver.ca/>

### Every year, Hydro-Québec takes action to limit flood impacts:



The construction of Dozois reservoir in 1948 has reduced inflows at the peak of the spring flood by roughly 50%.

# Hydro-Québec generating stations in the Abitibi-Témiscamingue region

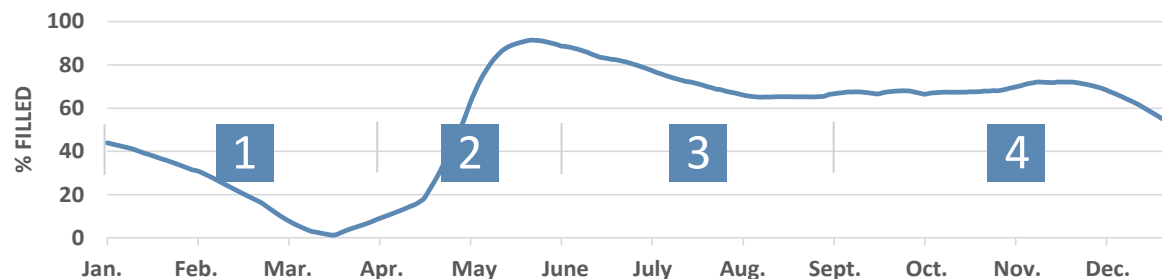
*Angliers dam is operated by the Québec government*



*The Rivière des Outaouais (Ottawa River) is 1,120 km in length, making it Québec's longest river. Its upper reaches cross the Abitibi-Témiscamingue region from east to west, from Dozois reservoir to Lac Témiscamingue.*

*To store water, Hydro-Québec mainly relies on Dozois reservoir, which has a capacity of 1,871 hm<sup>3</sup>. Although Decelles reservoir may look bigger in the illustration, its capacity is only 387 hm<sup>3</sup>.*

## Managing water levels in Dozois reservoir



### 1. Winter: emptying (drawdown)

Reservoirs are gradually emptied between December and March. When the spring thaw begins, they contain almost no water.

### 2. Spring: storage

From mid-March to early June, as much water as possible is stored for as long as possible in Dozois and Decelles reservoirs to limit inflows to the Outaouais, which is already swollen with water from the surrounding watersheds.

### 3. Summer: lowering of water levels

From July to October, reservoir levels are lowered, but sufficient quantities are retained to maintain natural habitats and enough water for boating.

### 4. Fall: storage

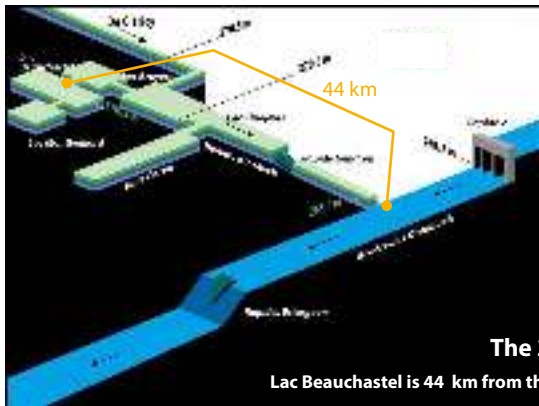
Between October and December, the fall flood occurs and is stored in the reservoirs. Reservoir water levels are controlled to be able to generate enough electricity to meet the higher demand in winter. And so the cycle begins again.

## Hydro-Québec has no facilities on Rivière Kinojévis for storing surplus water

The five lakes area (Beauchastel, Montbeillard, Bruyères, Kinojévis and Baie Caron lakes) receives the inflows from the watersheds north, east and south of Rouyn-Noranda. This water then flows into Rivière Kinojévis, and in turn into Rivière des Outaouais.

However, the Kinojévis narrows in the 26-km stretch before it meets the Outaouais, which, along with the presence of the Gendron rapids, hinders the flow of water into the Outaouais. During flood periods, the surplus water causes water levels in the lakes to rise, sometimes causing flooding.

Hydro-Québec has no reservoirs, dams or generating stations on the Kinojévis to store this surplus water.



### The 2002 floods

Lac Beauchastel is 44 km from the confluence of the Kinojévis and Outaouais rivers. According to our analysis of the major 2002 flood, there was a 2.5-m difference in elevation between the two locations.





Design : equipelebleu.com



For information on flood risk, or on current water levels and flows in rivers and streams, we invite you to consult the Vigilance website maintained by the Ministère de la Sécurité publique [in French only]:

**<https://geoegl.msp.gouv.qc.ca/adnv2/>**

Do have any questions on how Hydro-Québec facilities are managed?  
Contact us at **[RAMAT-NdQ@hydro.qc.ca](mailto:RAMAT-NdQ@hydro.qc.ca)**. Or visit:

**<https://www.hydroquebec.com/generation/spring-runoff.html>**