Hydlo and FRIENDS 2.0
Tipi Talks

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ICE COVER



Flyover for ice study in 2025 with tallyman John E. Sam.

The Capacity Upgrades

The units at La Grande-4, La Grande-3 and Robert-Bourassa (La Grande-2) generating stations will need to be replaced and modernized, making it possible to increase their capacity. Ayimihiituunaanuwich is the process through which the Eeyou and Hydro-Québec are working together to review the technical, environmental, social and cultural aspects of these potential changes at La Grande.

Ice Cover

Ice is an important component of Eeyou land use, particularly for snowmobile travel and hunting. To signify the importance, we evaluated the following component:

Ice Cover: The layer of ice that forms on the reservoirs and river sections downstream generating stations during cold weather and remains until it melts in warmer conditions.

How was Eeyou Knowledge Incorporated into the Study?

From January to April 2025, Chisasibi community members joined the technical team to conduct ice and thermal regime field studies. Five Chisasibi Eeyou participated in the field program, assisting with the January field campaign, March aerial surveys, and additional aerial surveys and sampling activities in April.

In early April 2025, a workshop was done to gather Eeyou knowledge on ice. The discussions at the workshop brought valuable insight on winter and spring ice conditions and the river crossings used by caribou during the winter, contributing to a better understanding of seasonal wildlife movements and land use. In January, March and April 2026, Chisasibi Eeyou joined the ice study campaign, conducting multiple flyovers covering samplings from La Grande-1 to La Grande-4.

Key Takeaways

Expected changes:

Expected to remain similar

- A slight increase in the size of the existing ice-free zone downstream of the La Grande-3 generating station, which could result in changes to the presence of geese and ducks at waterfowl hunting sites used by Eeyou land users.
- In the main reservoir areas, no significant changes to ice conditions or access are expected.
- Near the intakes and downstream of La Grande-4 and La Grande-3, existing unsafe areas could become slightly larger and ice conditions could become more fragile.
- Near Chisasibi, no significant changes to ice conditions are expected.

Results of Environmental Surveys

Considering the conditions described below, no significant changes to ice formation are expected as a result of the potential capacity upgrades, and ice cover is expected to remain safe for travel. Overall ice thickness is expected to remain similar to current conditions. However, ice may become thinner in a few areas near water intake structures, where water moves faster, and near the upper area of reservoirs. During late spring, ice is expected to thin and weaken as it normally does. No changes are expected in the way ice breaks or deteriorates.



Spillway for La Grande-4 generating station in winter.

La Grande-4 and La Grande-3

Upstream of the La Grande 4 and La Grande 3 reservoirs, water levels could be lower than under current winter conditions, declining more rapidly until late February and then more gradually through March and April. The ice edge could be slightly farther from shore, exposing some rocks and small islands.

Downstream of La Grande-4 and La Grande-3, water flow could increase in certain locations, resulting in higher water speed, especially in January when power demand peaks. In these unsafe areas, existing open water and thin ice could extend over a larger area and persist for longer periods.



Ice study in January 2026.

Robert-Bourassa (La Grande-2) / La Grande-1

At Robert-Bourassa (La Grande-2), water levels could decrease more slowly during January and February, resulting in slightly higher water levels by the end of February compared to current conditions. During this time, the ice edge could be closer to shore. Water levels could then decrease more quickly in March and April.

Ice conditions are not expected to change significantly as a result of the capacity upgrades in the La Grande 1 reservoir, on the Chisasibi (river), also known as the Grande Rivière, and its estuary.

Change to ice cover are expected as a result of climate change. For more information, refer to the Climate Change fact sheet.

For more information: