

# interconnexion

Brookfield Renewable's Lièvre Region **Newsletter**

Summer 2017



The Lièvre River at Ferme-Neuve on May 4, 2017 | Photo : COBALI

## **FLOODING** in 2017 in Québec



**261**  
Municipalities affected



**5,260**  
Homes affected



**4,066**  
People evacuated



**557**  
Roads affected

Source: Urgence Québec

## **The 2017 spring flood season** **THE LIÈVRE AVOIDS THE WORST**

A snowy winter followed by frequent heavy spring rains created weather conditions that resulted in the worst flooding seen in the past 20 years on the Lièvre River. Several regions in southwestern Quebec sustained widespread damage, the worst of which was avoided in the Lièvre region, thanks in part to stringent management of the dams and optimal use of the reservoirs.

A few dozen homes and cottages in the region were affected by the floodwaters. Some roads were closed and a number of people were evacuated. Fortunately, water levels remained below the threshold of a major flood.

Throughout the flooding, the dam managers at Brookfield Renewable, the Quebec Ministry of Sustainable Development, Environment and Climate Change along with Boralex were in constant contact with Civil Security and the municipalities to determine when to open and close the dams in order to minimize the impact on property owners.

Weather forecasts, mathematical models, observations in the field, experience and erring on the side of caution were all contributing factors that came into play in making the best possible decisions at critical moments.

“Communication is key,” explained François Routhier, Fire Coordinator for the Collines-de-l’Outaouais RCM. “When the situation was at its most dire, we did twice-daily updates with dam operators, municipalities, the police and emergency services in order to make proper adjustments and prevent the worsening of the situation.” The municipalities were able to closely monitor ongoing developments for waterfront property-owners who were at the greatest risk from the floodwaters.

Brookfield Renewable would like to thank all the key players that worked so closely together to ensure public safety and the protection of properties.



## An unusual spring flood season



Photo: COBALI

The Lièvre River at Ferme-Neuve on May 4, 2017  
In the Ferme-Neuve sector, where the water level of the Lièvre is not regulated by dams, the river overflowed its banks, flooding approximately 30 homes. This was the sector where the greatest impact was felt.



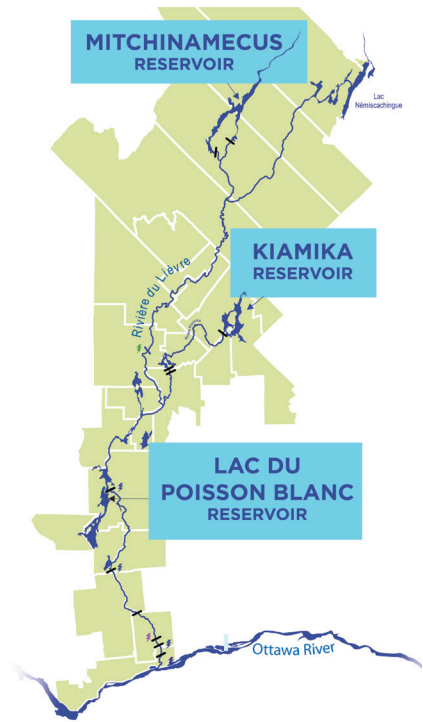
Despite the high water flows, the safety of the dams was never a concern. The High Falls dam in Val-des-Bois and Bowman, pictured here with one of its floodgates open, is designed to accommodate high water flow that occur only once every 10,000 years. This spring, when the water flow was at its peak, it was still under than a third of this 1:10,000-year flow and only two of the 11 available floodgates were opened. Brookfield stringently maintains its facilities and its control room monitors the river and the dams 24/7, 365 days a year to ensure they operate safely at all times.



Normally, a low flow runs into this section of the Lièvre close to Chemin de Montréal Ouest in Gatineau, but the high spring run-off spilled a considerable amount of water in the river bed for several weeks.

## The reservoirs PLAYED THEIR PART

The reservoirs play a critical role in controlling high water levels until the inflows subsided. The reservoirs were down to their lowest level during the winter in preparation for the spring run-off - and good thing they were! If they had been full at the onset of spring, the flooding would have been much greater. In the summer, the reservoirs play the opposite role: they release water to maintain the current and avoid excessively low water levels. There are nine reservoirs in the large Ottawa River basin, including three on the Lièvre River, all of which serve to manage excess water, and protect those who live downstream. The three reservoirs on the Lièvre River contributed to reducing the impacts of flooding in the lower Lièvre, as well as the Ottawa River, and even as far as the Montreal region.



### Mitchinamecus Reservoir

328 million  
m<sup>3</sup> of water

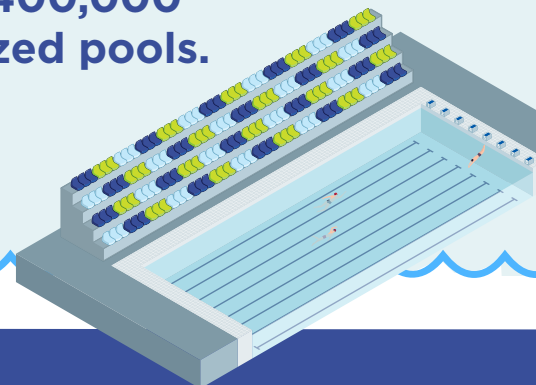
### Kiamika Reservoir

193 million  
m<sup>3</sup> of water

### Lac du Poisson blanc Reservoir

646 million  
m<sup>3</sup> of water

During the high-water period, the Lièvre's three reservoirs held back more than 1.1 billion cubic metres of water, the equivalent of more than 400,000 Olympic-sized pools.



## Facelift for Kiamika

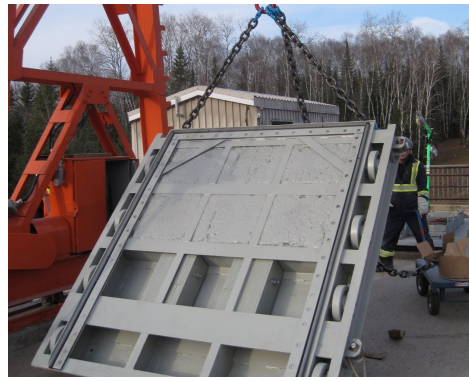


Photo: MDDELCC

This summer, Brookfield will be completing the refurbishment project at the Kiamika dam that was built in 1952 and is about 40 km northeast of Mont-Laurier. The two three-metre square sluice gates, which are used to allow water flow on either side of the dam, have been refurbished, along with the equipment that operates them.

“The work will ensure the facility’s reliability,” explained Jonathan Kahn, mechanical engineer at Brookfield Renewable. “We are also looking into the best operating methods, for example, using self-lubricating materials that require no greasing and therefore pose no environmental hazards.”

The Kiamika dam and reservoir are part of a system to prevent or limit the impacts of extreme situations such as flooding or low water levels on the Kiamika, Lièvre and Ottawa rivers. They also contribute to hydroelectric production, while respecting safeguards to protect wildlife and navigability. To view the map of the river and the dams: [www.energielalievre.com](http://www.energielalievre.com).

The Kiamika dam is owned and operated by the Quebec government. Brookfield Renewable is assuming the costs and the execution of the refurbishment project under its lease with the government.



## SPOTLIGHT on sustainable energy!

The Kokish River on northern Vancouver Island is a natural habitat with numerous species of fish, including several varieties of salmon and trout. Brookfield Renewable and its partner, the ‘Namgis First Nation, built a hydroelectric station on the river that opened in 2014.

Out of respect for the environment and in the interest of conservation, the co-owners designed the facilities in a way that protects or even improves the fish habitat. There is a fish ladder to enable migration, as well as a special screen called Coanda to keep fish from entering the penstock and enables them to migrate to the ocean.

The year after it was commissioned, the project was honoured with a Sustainable Electricity Award from the Canadian Electricity Association. This award acknowledges the efforts made by companies that implement sound, sustainable solutions to produce electricity. The Kokish project, which creates jobs in the region, is the result of a true partnership between Brookfield Renewable and the ‘Namgis at every stage of the process, from development to obtaining the permits, from construction to operation.

Brookfield Renewable has more than 250 facilities, making it one of the world’s leading producers of renewable energy. With operations in North America, Latin America and Europe, it produces hydroelectricity, wind energy and electricity from biomass.



For more information, visit [www.cobali.org](http://www.cobali.org) or call 819-440-2422 to speak to a member of the COBALI team who will be happy to answer your questions on aquatic ecosystems.

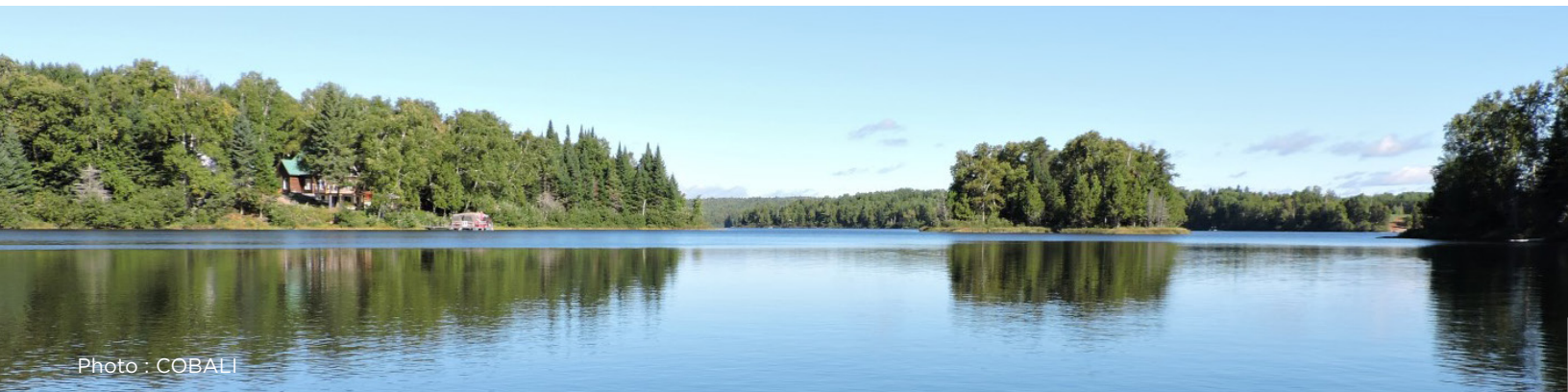


Photo : COBALI

## Helping municipalities go “blue”

Our municipalities are key players in protecting the environment, and COBALI plays an advisory and training role with municipal employees, including inspectors, to help them better understand the issues involved in water protection and take appropriate action.

A COBALI representative gives three-hour workshops on topics such as the ecology of aquatic environments, best practices, regulation, erosion and wetlands. The municipalities choose the type of training best suited to their needs and their residents' concerns.



### Rehabilitating Ruisseau Pagé in farming areas

Ruisseau Pagé has its source in the southern part of L'Ange-Gardien and flows through the Buckingham and Masson-Angers sectors of the city of Gatineau. A habitat of great biodiversity, the creek also flows into the wetlands of the Marais-Trépanier nature reserve, a conservation area.

At COBALI's initiative, four farmers with property along Ruisseau Pagé agreed in 2016 to join forces to protect and improve water quality. The work, which will be carried out in 2017, includes widening the strip of shoreline vegetation, taking hydro-agricultural measures to help reduce erosion, monitoring water quality and converting to organic farming methods. Moreover, since it is a collective initiative, the owners obtained funding for 90% of the cost of the project through the Quebec government's Prime-Vert program.

### COBALI has a number of other projects to support municipalities:

#### NOTRE-DAME-DE-LA-SALETTE

In the summer of 2016, COBALI took water samples in the basin of Ruisseau de l'Argile and Petit ruisseau de l'Argile for analysis. The results revealed variations in water quality that could be attributed to farming operations and landslides. In light of the data, the municipality is planning to take measures to improve the situation.

#### LAC-SAINT-PAUL

In the summer and fall of 2016, COBALI visited eight lakes in the municipality of Lac-Saint-Paul to test for the presence of Eurasian water milfoil, an exotic invasive species. Good news! The plant was not detected in any of the lakes. The municipality also asked COBALI to present possible options to better protect wetlands.

#### CHUTE-SAINT-PHILIPPE

Working with local stakeholders, COBALI helped define a zone on Lac Rochon to ensure that waves from wakeboats cause the least possible erosion. Boaters can refer to a map to find out which zone they should be using. COBALI is also helping Chute-Saint-Philippe carry out a diagnosis and develop a plan aimed at ensuring the quality of waterways.



Photo: Photographie Sonia Proulx

## A dazzling landmark

Since 1933, the twin surge tanks at the Masson hydroelectric generating station have been a landmark in the Basse-Lièvre community. Henceforth, the huge tanks shine brightly thanks to millions of colourful LED lights and act as a gateway to Gatineau both day and night.

The project was launched by the Corporation de développement touristique Basse-Lièvre (CDTBL) for Canada's 150th anniversary. The Corporation received support from the City of Gatineau, Brookfield Renewable, Gatineau 2017 and the Committee for the 150th.

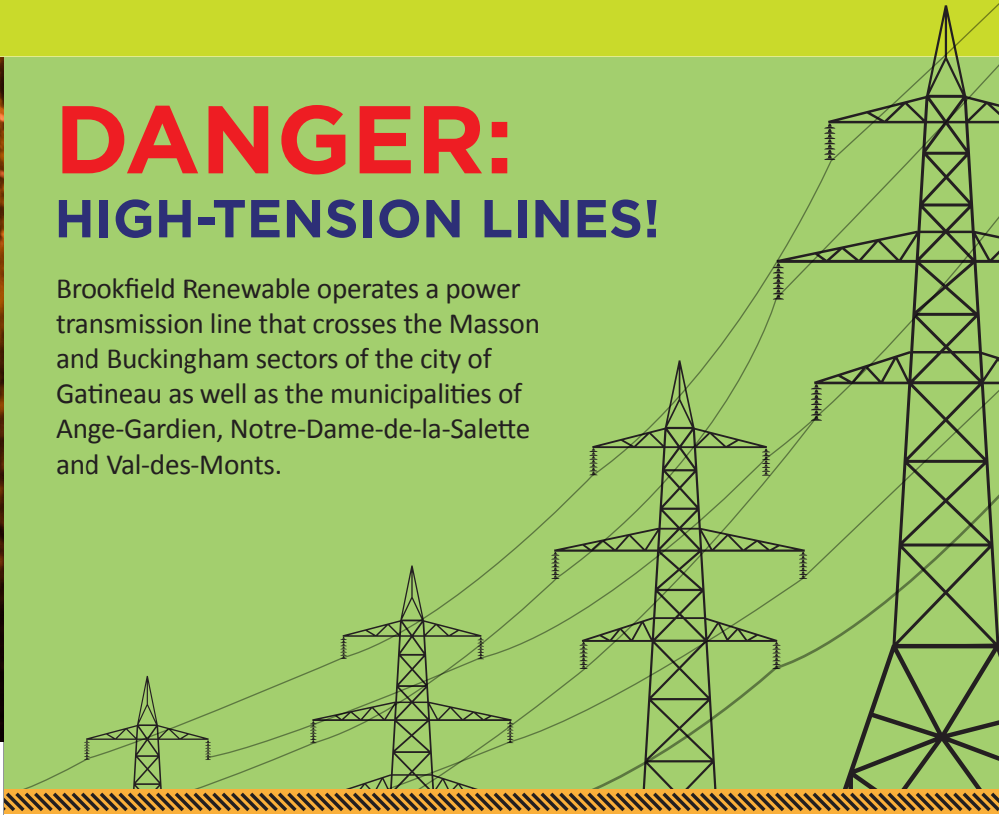
"The surge tanks are a powerful symbol of the region's rich industrial heritage and deserve to be highlighted," stated Isabelle Chaput, president of CDTBL.

Brookfield Renewable worked closely with the CDTBL to ensure the feasibility and the safety of the project and contributed funding, labour and a proper location to install equipment for the project. The surge tanks light up every evening at sunset.

To view the video on Youtube, search the keywords "Cheminées d'équilibre de Masson."

# DANGER: HIGH-TENSION LINES!

Brookfield Renewable operates a power transmission line that crosses the Masson and Buckingham sectors of the city of Gatineau as well as the municipalities of Ange-Gardien, Notre-Dame-de-la-Salette and Val-des-Monts.



### 12,000 VOLTS

This is the voltage of the line – **1,000 times greater** than that of an ordinary electrical outlet.



Did you know that you can be **ELECTROCUTED without even touching the line?** Always keep your distance!



Do you have a **MODEL AIRPLANE, DRONE OR KITE?** Fly it at a safe distance from any electrical wire and tower.



There are thousands of places to go **CLIMBING** without risking your life. **An electrical pylon isn't one of them!**



Before **CUTTING DOWN TREES** or using heavy equipment **less than 30 metres (100 feet) from high-tension wires**, make sure you have taken all measures to ensure your safety by contacting Brookfield at 819-986-4628. Trying to save time may have serious consequences.

**FOR MORE INFORMATION ABOUT SAFETY NEAR HIGH-TENSION LINES,** see <https://renewableops.brookfield.com/en/Presence/North-America/Recreation-and-Safety/La-Lievre>.



In the interest of contributing to the region's development and quality of life, Brookfield Renewable is proud to support many community organizations and municipalities in the Lièvre valley.



## Canoe racers celebrate 60 years

The Association des coureurs en canot de la Lièvre is celebrating the 60th anniversary of the *Classique internationale de la Lièvre*, on August 12 and 13, 2017.

Professionals will compete in the 37-km race course in the C-1 (one seat) or C-2 (two seat) category. New this year, members of the Association des coureurs en rabaska du Québec will be tackling the course in their nine-seat canoe.

There will also be a course for families, starting from Parc Millaire in Ferme-Neuve.

To celebrate this 60<sup>th</sup> anniversary, the Maison de la culture in Mont-Laurier is presenting an exhibition on the canoe and its evolution, from the earliest paddles to the modern canoe, from June 24 to July 29.

To view the entire calendar: [www.accl.ca](http://www.accl.ca).

## INFO LA LIÈVRE | Keep informed!

If you have any questions or comments about Brookfield's Lièvre region operations, call Info La Lièvre at 819-986-4628, 1-877-986-4364 (toll free) or send us an email at [infolalievre@brookfieldrenewable.com](mailto:infolalievre@brookfieldrenewable.com).

YOUR QUESTIONS AND FEEDBACK ARE ALWAYS WELCOME! For more information on water levels, visit us at [www.energielalievre.com](http://www.energielalievre.com).



## Welcome to the Pavillon d'accueil Énergie Brookfield!

Renovation work has been completed on the visitor reception pavilion at the Centre nautique de la Lièvre in the Parc du Landing, Buckingham sector. The pavilion will now be named for Brookfield, the Centre's financial partner from the outset.

Jean-Marc Lavoie, president of the Corporation plein air de la Lièvre, points out that the number of rentals is growing steadily. "The Centre rents canoes, kayaks, paddle boards and pedal boats, so there really is something for everyone. Groups can even rent a 10-seat rabaska canoe, for an experience that is out of the ordinary."

"With the opening of the pavilion, the Centre nautique is even better positioned for further development," added Mr. Lavoie. It will be presenting more activities and events in future so that residents can take full advantage of the waterfront.

[www.facebook.com/cnlievre](http://www.facebook.com/cnlievre) or [www.centrenautiquelievre.com](http://www.centrenautiquelievre.com)

## NEW: tourist information centre

Canoeists and paddlers have a new option this summer in Notre-Dame-de-la-Salette.

The municipality has opened its tourist information centre on Highway 309, which offers canoe and kayak rentals.

There is also a historical interpretation centre, a selection of local products and a gallery of crafts by local artisans. Six canoes and two kayaks are available. This development project, valued at \$150,000, will provide better services to welcome visitors as well as creating three summer jobs.

"By renting boats, we want people to discover a jewel in the Lower-Lièvre from a different viewpoint, from the water," explained Mayor Denis Légaré. "It's a wonderful area that is not yet well known."

Information: 819-800-3106

