

# interconnexion

Brookfield Renewable's Lièvre Region **Newsletter**

Summer 2018

## Dufferin dam gets a facelift

**BEFORE**

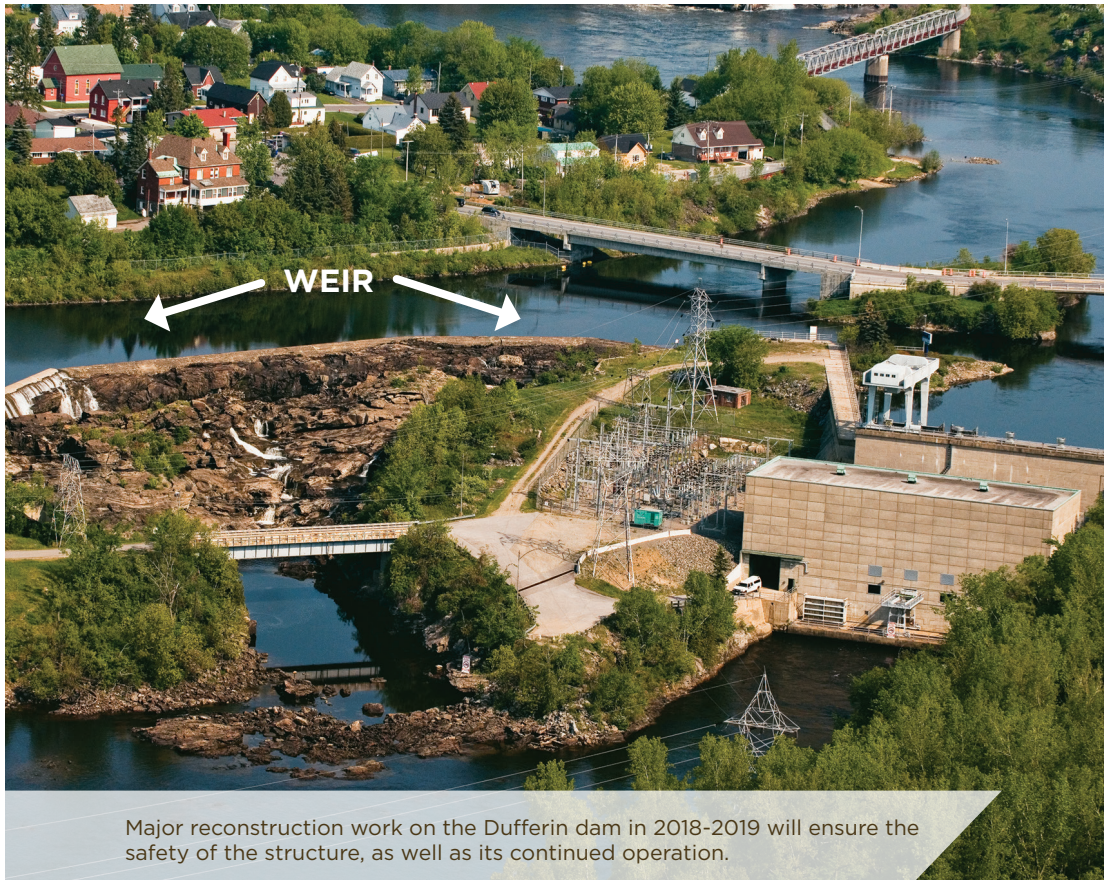


When the river flows through the hydroelectric plant, the spillway remains dry.

**AFTER**



A few minutes after stoppage of the hydroelectric plant, the water is redirected to the spillway.



Major reconstruction work on the Dufferin dam in 2018-2019 will ensure the safety of the structure, as well as its continued operation.

This summer, workers will be busy at the Dufferin dam, a stone's throw from the Brady bridge and next to Maclaren park in the Buckingham sector. Like any structure, the 180-metre long dam, which was built in the late 1920s, periodically requires major investments to keep it safe and optimize its long-term operation.

Over the next two summers, Brookfield Renewable will be rebuilding most of the dam's weir. This concrete structure is used when the turbines cannot handle all the water that comes down in the

river. The excess creates a waterfall as it flows over the weir instead of being channeled into the conduits leading to the turbines. It is most often used during spring runoff, but also when the turbines at the Dufferin plant stop: the water then immediately flows to the weir to continue its way down the river. The concrete crest is a dangerous place because large amounts of water can go over it without warning at any time if there is a turbine shutdown. This risk was one of the many challenges to be addressed in the engineering of the project.

*"Our team planned the project with great care to ensure worker safety and protect the environment. We also included several measures to reduce the impact of the work on the surrounding area,"* explained Mathieu Nadeau, civil engineer and project manager at Brookfield Renewable.







Brookfield Renewable is an active participant of the Lièvre River, Blanche River and Ruisseau Pagé Watersheds Committee (COBALI), and is pleased to publish news on its activities.

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.

## DID YOU KNOW?



COBALI is currently working on updating its water master plan. The work undertaken for the portrait and the public consultations held reveal some interesting facts.

- 1 Wake boats produce waves, which cause erosion and stir up sediments. How far should these boats be from the shore so that their wake does not cause more damage than a natural wave?  
**A. 50 metres      B. 100 metres      C. 300 metres**
- 2 In the Antoine-Labelle, Collines-de-l'Outaouais and Vallée-de-la-Gatineau RCMs, what percentage of homes are located on a body of water?  
**A. 30%      B. About 50%      C. More than 65%**
- 3 How many municipalities get their drinking water from the Lièvre River?  
**A. 3      B. 5      C. 7**
- 4 What are the two main water-related concerns that have emerged from COBALI's consultations with residents, municipalities and economic players?  
**A. Conflicts caused by pleasure craft AND the presence of cyanobacteria and Eurasian water-milfoil**  
**B. Water quality AND riverbank erosion**  
**C. Conserving wetlands AND preventing pollution**

- 1.C. According to studies conducted for the Coalition for Responsible and Sustainable Navigation, boats should be at least 300 metres from the shore, and where water is at least 5 metres deep. <http://coalitionnavigation.ca/projects>
- 2.B. More than half the homes are located on a body of water, and more than half of these are secondary residences.
- 3.A. The Lièvre is the source of drinking water for Ferme-Neuve, Mont-Laurier and the Buckingham and Masson-Angers sectors in Gatineau.
- 4.A. While conflicts caused by pleasure craft and the presence of cyanobacteria and Eurasian water-milfoil top the concerns, all these issues are important. COBALI will address them in the third edition of its water master plan, which is currently in the works. Info: [www.cobali.org/english/](http://www.cobali.org/english/)



## Val-des-Bois/Bowman Community centre: A SUCCESSFUL RENOVATION!

In March, Val-des-Bois and Bowman officially opened a fully renovated community centre at 121 du chemin du Pont-de-Bois in Val-des-Bois.

The renovations, which were carried out over several months, presented a number of structural challenges, among other things, in the restoration of this old building. Visitors will now enjoy a modern, welcoming centre that can be used for a variety of activities that contribute to the community's vitality.

Funding for the project, which amounted to more than \$500,000, was secured through the participation of two municipalities, a contribution from the Canada 150 Infrastructure Program, donations from key partners such as Brookfield Renewable and a remarkable community fundraising effort. Val-des-Bois provided \$200,000 from its accumulated surplus, and Bowman made a contribution that would give its residents access to the community hall for the next 15 years.

"It's vital to have a community hall where residents and organizations can congregate," said Bowman's mayor, Pierre Labonté. "Our two municipalities form one large community, and the community centre is centrally located so everyone can have access to it."

Roland Montpetit, mayor of Val-des-Bois, spoke of the beginning of a new era for the two municipalities.

"We're in the process of creating a vibrant village centre for residents, vacationers, tourists and campers. The new centre is a catalyst that will give everyone a safe, comfortable place to gather, and we have every reason to be proud of it."

Val-des-Bois already has plans for a children's park and a bike path to continue revitalizing the sector.



## Lighting of surge tanks honoured with 2018 heritage award



Photo : Photographie Sonia Proulx

Since the lighting of the surge tanks at the Masson hydroelectric plant in May 2017, the rich industrial heritage of the Masson-Angers sector has literally been in the spotlight. The twin tanks, which have dominated the skyline in the region for more than 80 years, are lit up at night, an initiative of the Corporation de développement touristique Basse-Lièvre. To tell the story behind these tanks, the Société d'histoire de Buckingham produced a video, which can be viewed at [www.youtube.com/watch?v=q7LFjS-fZRY](http://www.youtube.com/watch?v=q7LFjS-fZRY).

In February 2018, the Corporation received a heritage award from the Ville de Gatineau for this project. It's a brilliant way to introduce the younger generation to the region's history while at the same time sparking interest among members of the general public!

This spectacular project, which was made possible with financial and logistical support from Brookfield Renewable, serves to bring the community together

### 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).

## The banks of the Lièvre: a clean bill of health

Since 2002, Brookfield Renewable has conducted detailed studies on shoreline erosion every five years. The studies cover the section of the Lièvre between the High Falls dam in Bowman and Val-des-Bois, and the Rapides-des-Cèdres dam in Notre-Dame-du-Laus, more than 200 km of shoreline over a distance of just 36 km.

The latest study, published in 2017, involved visits by boat, aerial photographs and the use of LiDAR technology, which uses laser sensors to measure distances and terrain with great accuracy.

The study confirms that the riverbanks are generally in good condition, which is great news for residents and those who use the river.

## Causes of erosion

Erosion is most noticeable in places where there is human activity, as well as along sandy banks and places where the land is most steeply sloped. Erosion is primarily a natural phenomenon caused by flowing water, but it can be accelerated by other factors:

- ▶ removal of natural vegetation;
- ▶ excavation or backfill work;
- ▶ shoreline development, e.g. laying sod, clearing access to the water;
- ▶ waves caused by boats.

To make the SNC-Lavalin study available to all residents along this section of the river, consultation copies were provided to the municipalities of Bowman, Val-des-Bois and Notre-Dame-du-Laus.

## AT A GLANCE

- ▶ Overall, the riverbanks are **SLIGHTLY ERODED AND STABLE**.
- ▶ **94% OF THE 212 KM** of shoreline shows little or no erosion.
- ▶ Developed shoreline is most affected by erosion: **11.8% OF THE SHORELINE** where there is development has average or heavy erosion, compared to **4.1% FOR NATURAL RIVERBANKS**.
- ▶ The percentage of developed shoreline has grown by **23% OVER 10 YEARS: 61 KM OF THE SHORELINE** is now developed.





## Just what is this foam?

If you've noticed pale or light-brown foam on the surface of the water, it's most likely not a cause for concern: it's a natural phenomenon. The foam builds up along lakeshores that are exposed to wind, on creeks and other places with flowing water. It occurs most often when large amounts of organic matter—such as leaves or

twigs—are washed into the water by heavy rains.

When it decomposes, organic matter releases particles into the water, which, when agitated by the power of the current, wind or waves, produce foam.

The phenomenon is often observed near waterfalls, rapids or even structures such as hydroelectric plants where water is churned up by the turbines.



**LET YOUR NOSE BE YOUR GUIDE:** foam that smells like fish or earth is entirely natural.

## COTTAGE LIFE: pleasures that come with responsibilities ... naturally

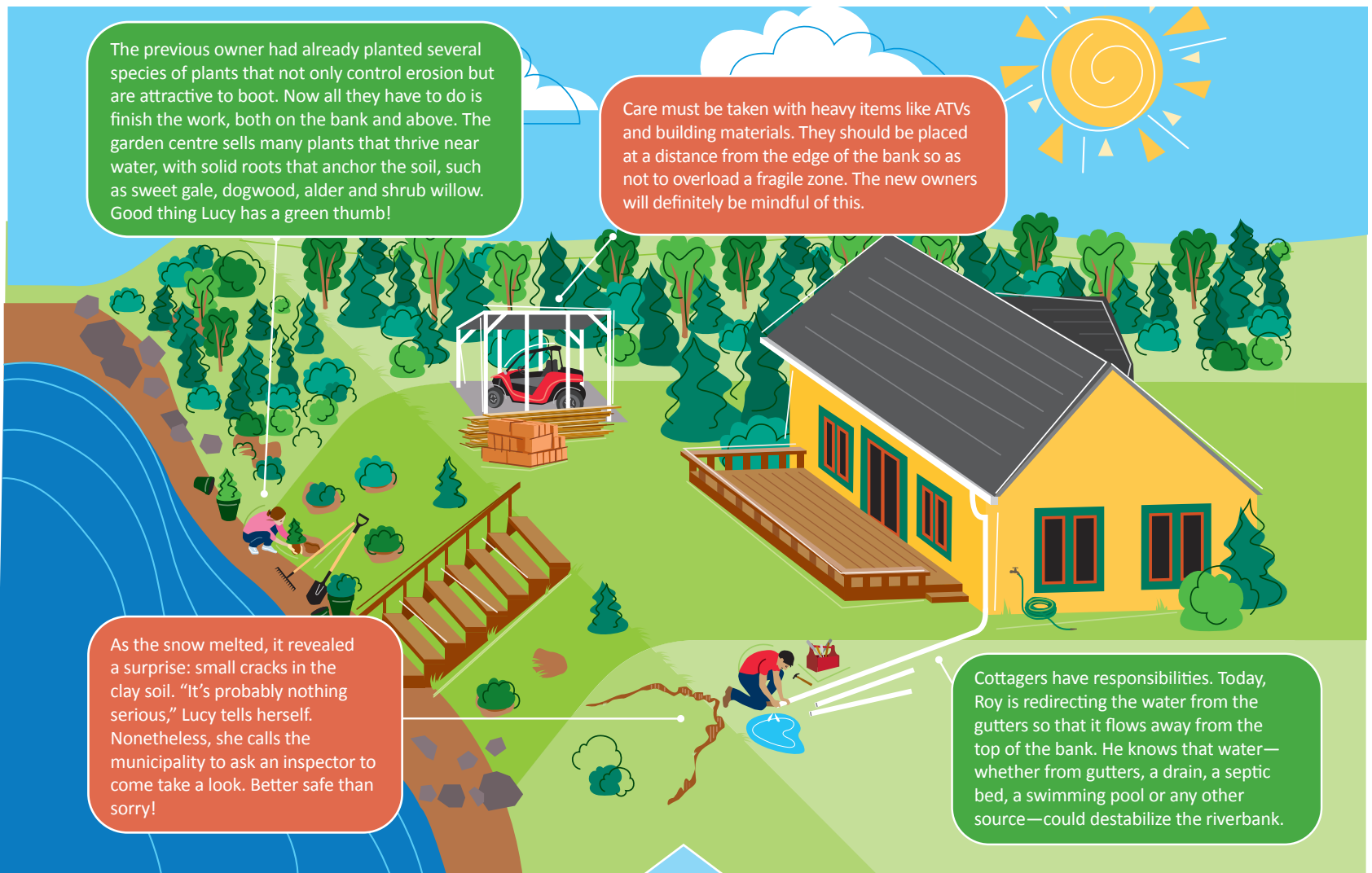
Their long-cherished dream has come true! Lucy Lakeshore and Roy Riverside just received the keys to their cottage. They're wasting no time setting it up the way they like it. See what they're doing to protect their fabulous riverfront property.

The previous owner had already planted several species of plants that not only control erosion but are attractive to boot. Now all they have to do is finish the work, both on the bank and above. The garden centre sells many plants that thrive near water, with solid roots that anchor the soil, such as sweet gale, dogwood, alder and shrub willow. Good thing Lucy has a green thumb!

Care must be taken with heavy items like ATVs and building materials. They should be placed at a distance from the edge of the bank so as not to overload a fragile zone. The new owners will definitely be mindful of this.

As the snow melted, it revealed a surprise: small cracks in the clay soil. "It's probably nothing serious," Lucy tells herself. Nonetheless, she calls the municipality to ask an inspector to come take a look. Better safe than sorry!

Cottagers have responsibilities. Today, Roy is redirecting the water from the gutters so that it flows away from the top of the bank. He knows that water—whether from gutters, a drain, a septic bed, a swimming pool or any other source—could destabilize the riverbank.



The above is provided for information purposes only. Every property is unique. Before starting any work on your waterfront property, contact your municipality to find out about best practices, by-laws and required permits.