

interconnexion

Brookfield's Lièvre Region **Newsletter**

Summer 2015



Machining the butterfly-valves



Installing a transformer



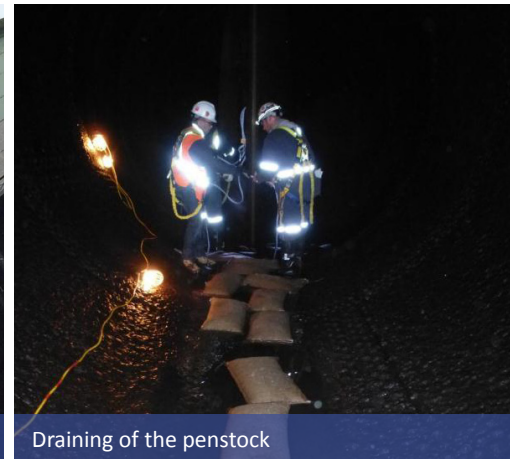
Masson hydroelectric generating station



The inside of an empty reservoir



Access to the reservoir tanks



Draining of the penstock

Masson Gets a Makeover

After more than 80 years, it's high time for a makeover. This is certainly true for the Masson hydroelectric generating station, whose twin towers topped with tanks are a well-known landmark in the area.

Built in 1933, the station contains a number of original parts that, thanks to regular maintenance, work as well as the day they were installed. However, for the station to continue to operate smoothly, more extensive repairs must be performed periodically. Last fall, that's what was done.

Brookfield engineer, Nancy Paquet, orchestrated quite a task with her team: eight restoration projects to be carried out in just one month, with crews working 20 or 24 hours a day. A real logistical headache. "Each project alone was

big," she said, "and we felt it was best to completely shut down the station for a month to do it all at once."

Reinforcement of surge chambers, a transformer replacement, repair of valves, replacement of water piping, underwater inspections – the plant was gone over with a fine-toothed comb before being put back into service in mid-November.

Careful planning of the work, carried out collaboratively with internal and external resources, helped avoid disturbing the neighbourhood, minimized the impact on recreational activities on the river and ensured the safety of the more than 130 workers involved.

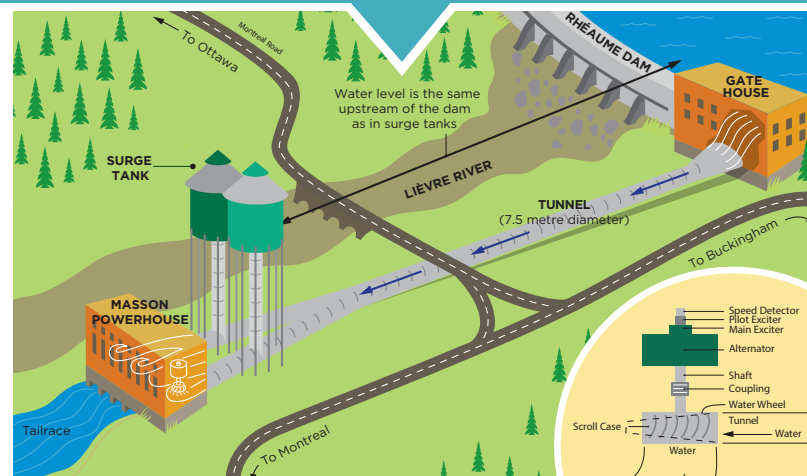
MISSION ACCOMPLISHED!



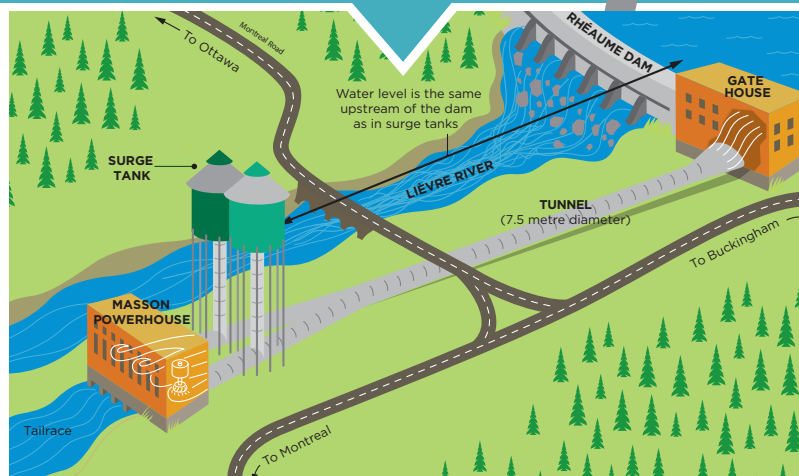
DANGER!

Normally, the Lièvre River flows in a huge tunnel 1.6 km long between the Rhéaume dam and Masson generating station. That means only a small trickle of water passes down the natural river bed under the Highway 50 bridge and the Major bridge. But when the Masson turbines suddenly stop and the tunnel closes, the river immediately returns to its natural bed with full force, transforming the stream of water into a powerful, turbulent river. You must always be very careful not to venture into the natural river bed.

THE DANGER IS QUITE REAL



Normally, the river flows through the tunnel.



The river bed fills up quickly when the Masson generating station stops working. These stoppages are unpredictable.

WHAT ARE THESE TANKS FOR?

The two surge chambers of the Masson station can be seen for miles. They are actually water tanks. The water level inside them is the same as at the Rhéaume dam that holds back the Lièvre River 1.6 km upstream.

Here is how it all works. At home, when you turn off a faucet suddenly, the water stops right away, producing a thud like a hammer blow, called a “water hammer”. Now your kitchen faucet measures just over a centimeter in diameter. At

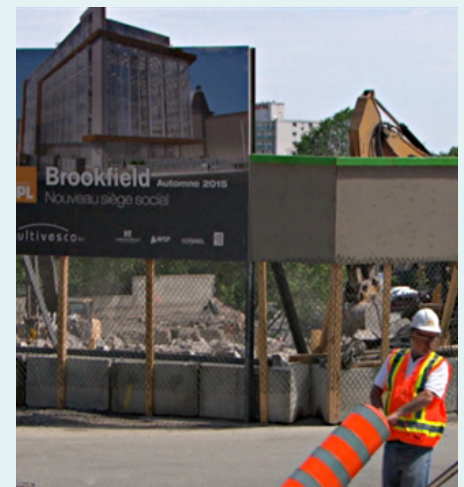
Masson, an underground pipe 7.5 meters in diameter brings water from the dam to the plant. You can imagine the speed and immense force of the water coming down toward the turbines. If the gates leading to the turbines close, the water is deflected upwards in the towers. As a result, there is no water hammer and no damage to the facility.

Major Investment in Gatineau

Brookfield Renewable Energy Group’s origins in Gatineau go back just over 15 years, and the organization is now building its new North American headquarters in the Hull sector this coming fall.

The six-story building under construction at 41 Victoria Street will house more than 400 employees who currently work in separate offices in Ottawa and Gatineau. The management team will move there, along with the administrative and human resources, finance services and the system control operation centre.

In addition to representing a major investment in the downtown area, this new office with bright, open concept workspaces will obtain LEED certification, a standard of excellence in energy efficiency.



For more information, visit 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.

Spring Cisco: A unique species in danger in Lac des Écorces

Lac des Écorces, near Mont-Laurier, is home to a species of fish that cannot be found anywhere else in Canada: the Spring Cisco.

For the past 15 years, this unique population has been declining fast, to the point that it is now on the list of endangered species in Canada.

What is causing this decline? The Rainbow Smelt, a competitor and predator of the Spring Cisco, was introduced into the lake in the late 1990s. Lac des Écorces has also been colonized by Eurasian milfoil, an invasive plant that reduces oxygenation of the water. Lastly, the Cisco's habitat has been degraded by residential development (removal of vegetation, non-compliant septic systems) and agricultural activities (chemical and fertilizer runoff).

Ensuring the Survival of the Spring Cisco

With support from the City of Mont-Laurier and the municipality of Lac des Écorces, COBALI has launched a project to restore the Spring Cisco's habitat. The municipalities have inspected the shorelines around Lac des Écorces to check compliance of properties with municipal regulations.

Meanwhile, COBALI outreach personnel visited nearly 200 households in the summer of 2014 to promote good environmental practices, held awareness activities at the boat launch and helped support a new association of landowners around the lake. In addition, in the summer of 2015, all residents will receive information on how to landscape the water's edge naturally: the types of plants to choose and how to plant them to re-vegetate the banks. COBALI will also distribute plants to the landowners, which will give residents a helping hand.

In March, the City of Mont-Laurier and the Municipality of Lac des Écorces were honoured by the "Villes et villages à la rescousse" (Towns and Villages to the Rescue) committee because of their commitment to protecting the Spring Cisco. Congratulations!

Completion of this two-year project (2014-2015) is made possible by a grant from the Fondation de la MRC d'Antoine-Labelle pour l'environnement and Environment Canada.



WHY IS IT CALLED SPRING CISCO?

As its name says, this fish spawns during spring while other species of cisco spawn in the fall.

HOW TO RECOGNIZE IT

The Spring Cisco is a small fish with silver on its sides and its back varying from blue-green to black in colour. Adults usually measure between 15 and 30 cm.

GOOD PRACTICES TO ADOPT

- ✓ Make sure that septic systems are compliant.
- ✓ Avoid phosphorus-based products as well as pesticides and fertilizers.
- ✓ Maintain or restore the natural shoreline vegetation.
- ✓ Wash your boat before launching and after taking it out of the water, and reduce your speed.

CULTURAL LIFE IN LOWER LIÈVRE PLENTY OF FUN IN STORE

**MUSIC, CINEMA, FAMILY ACTIVITIES AND POPULAR FESTIVALS:
THERE'S PLENTY OF FUN TO BE HAD OVER THE NEXT
THREE YEARS IN EASTERN GATINEAU.**

BUCKINGHAM EN FÊTE FESTIVAL WILL BE HELD FROM JULY 9 TO 12

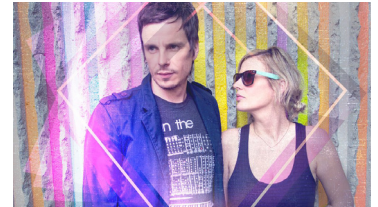
Brookfield Renewable and the Carrefour culturel L'Estacade have renewed their six-year partnership to bring back Festival Buckingham en Fête. More good news is that Brookfield will continue to support Brookfield cinema screenings at Salle Desjardins, and is increasing support to now contribute to the Brady Bridge P'tites folies.

Buckingham en fête Festival will be held at Maclaren Park from July 9 to 12. And to celebrate its 25th edition, the festival will feature a host of stars and family shows. Acts include: Les BB, Alfa Rococo, Kaïn, and Bodh'aktan et Taafé Fanga. Brookfield Renewable is proud to be the official host of the 2015 festival.

Always popular with families, Cinema Brookfield is still in business for the next three years, as are the activities of the Brady Bridge P'tites folies, in addition to Écran de Lune, Un été chaud à Gatineau, the Fête des Estacades, and Halloween in the Village.

"Brookfield Renewable has given us a vote of confidence by providing support for the activities that are the mainstay of cultural life in eastern Gatineau," said Hugo Parisien, executive director of the Carrefour culturel ESTacade.

For information, visit www.salledesjardins.ca



Photos : Facebook

INFO LA LIÈVRE | Keep informed!

If you have any concerns 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.

YOUR QUESTIONS AND FEEDBACK ARE ALWAYS WELCOME! For more information on water levels, visit us at www.energielalievre.com.

A DAY IN THE LIFE...



HAVE FUN AND STAY SAFE

