

The Townships Outlet

Linking the Townships' 41,000-member English-speaking community

Business aims to make a difference

BY NICK FONDA

ST-FRANÇOIS-XAVIER-DE-BROMPTON

Once known as Tomcod Pond, Petit Lac St-François lies tranquil on the edge of St. François Xavier de Brompton, on this overcast Monday morning in early August.

"See that green in the water?" asks Barry Husk, pointing at a lazy, faintly-visible film spreading its swirls on the surface of the water lapping at the shore. If the colour were different, the stain might pass for a film of oil left behind by an outboard motor.

"That's the blue-green algae that makes this small, natural lake the most polluted body of water in southern Quebec," continues the Drummondville businessman who hopes that his yearling company, BlueLeaf, will be able to find solutions that might bring Tomcod Pond back to life.



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Biologists Andréanne Blais and Sylvie Baillargeon with BlueLeaf founder Barry Husk.

BLUE LEAF:

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The first step for BlueLeaf was to monitor the lake to assess water quality, an ongoing task which is being undertaken by two young biologists, Andréanne Blais and Sylvie Baillargeon, both recent U de S grads.

"We come here with our boat every three weeks," explains Andréanne Blais, "We started at 8 this morning and we'll end up spending a good six hours on the water. We go to three different locations on the lake and then to the seven small streams that feed the lake. We fill five bottles at each location, and these will go to the lab to test for chlorophyll, phosphorous, nitrates, turbidity, E.coli and suspended matter. The lake sediments are also sampled and tested on a regular basis. At each of the ten locations we also take a series of readings. For example, we'll use a Secchi tube, or a Secchi disk to check for water clarity."

(The Secchi disk, which is what the two biologists use in the lake, is a simple black and white plastic disk attached to a rope. It is lowered into the water and slowly raised until the black and white colours can be distinguished. In clean water the colours can be seen at a depth of two metres or more. On this morning the Secchi reading was 20 cm. But it's been lower; on one occasion the disk was only 4 cm from the surface when its colours finally showed.)

"We also use a multi-parameter probe," continues Sylvie Baillargeon. "It looks like you're dangling a microphone in the water but it's an electronic probe that gives us a lot of information. We get readings for water temperature, oxygen concentration, pH or acidity, the concentration of suspended solids and dissolved solids, and the conductivity of the water (the more polluted the water, the better it conducts electricity)."



Biologists Andréanne Blais and Sylvie Baillargeon, recent U de S grads assess water quality.

"Lots of oxygen is often a sign of blue-green algae," Andréanne points out. "Like all green plants, the algae produce oxygen during the day, which would normally be a good thing for the lake. Unfortunately, when the algae die, they release a toxin and it is this toxin that threatens lake life. To compound matters, the toxin is long-lasting, and will remain present as long as three months after its release."

"This lake should be vibrant," continues the environmental biologist. "There are several properties and several farms, as well as the municipality which border it but all the dwellings are far back from the water and there's a green belt around the lake. The watershed around the lake is thriving. It provides a habitat for 90 species of birds, including Canada geese of which, during

migration one day last fall, there were 10 000. We see a lot of deer and we've seen muskrat, beaver and, not far up on a tributary, I even saw an otter."

"But there are very few species of fish," adds Sylvie. "We took a fish census earlier this year and we found minnows, black bass, perch, catfish and carp. Catfish and carp in particular are bottom-feeders, fish which can tolerate high levels of toxicity. There's lots of life around the lake, but in the lake itself, there are few fish and little biodiversity."

Ironically, it's because the lake is in trouble that the two young biologists have a job they clearly love. Andréanne says, "We're quite fortunate because this project allows us to be out in the field instead of behind a desk in an office, although field work varies

according to the season. In the winter we'll be in the office 90 per cent of the time, but we still come out on the ice to take water samples. In the summer we might spend one day a week in the office. Not all biologists are so lucky. And it's interesting work."

"We're looking beyond the physical and chemical parameters of the water," Husk points out. "We're taking biological parameters. Using disks called artificial substrates which mimic layers of sediment, we're noting what insect life establishes itself in the tributaries of the St. Francis. We're also measuring toxicological parameters. In particular we're looking for what are called endocrine disruptors, chemicals which will disrupt the hormonal balance of living organisms. We test for pesticides, herbicides, and pharmaceuticals like estrogen."

If all this seems like a lot, Husk notes that his biologists, including a fourth team member, José Audet-Lecouffe, are working simultaneously on three initiatives. "We're monitoring blue-green algae in 25 lakes in southern Quebec. We're also monitoring the 25 major tributaries that make up the St. Francis watershed. Our project here on Tomcod has permitted us to make a proposal to the Quebec government to undertake a \$1.6M pilot project to rehabilitate this entire watershed as part of Quebec's initiative to combat blue-green algae and we're expecting a response in the coming weeks."

The sky may be grey and the water green, but there's optimism on the BlueLeaf team. "The lake can only get better," argues Andréanne.

"Where there's life, there's hope," agrees her partner climbing into the electric-powered outboard that will bring them to their next sampling site. "And there's so much life around this lake that we're confident the lake itself can also become vibrant again."