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Fishermen and mayor call for action on Killarney Lake algae

Australian-developed product shows promise for removing dissolved phosphorus

By Daniel Winters

CO-OPERATOR STAFF / KILLARNEY

The fish are still biting, but local fishermen say it's high time that something was done about Killarney Lake's tendency to turn green in the summer.

"It's disgusting," said Morley Piluke, as he and fishing buddy Marco Hurtado hastily erected a fabric shelter in the biting wind of mid-December.

Bart Sutherland, who sat with friends next to a blazing wood stove in a well-provisioned ice fishing shack nearby, said that from June to October, the lake turns into a foul-smelling soup.

"If there's a solution out there, we should try it," he said.

His sentiments echoed those of Killarney mayor, Rick Pauls, who has argued for several years that the town's picturesque lake needs immediate remediation.

"Any scientist will tell you that our lake suffers from what they call 'internal loading.' We don't have an external loading problem anymore," said Pauls.

For decades, Killarney officials have used copper sulphate, also known as bluestone, to prevent algae blooms, and Pauls estimated that about 66 tons of the stuff were dumped into the lake.

Now that the provincial government has banned its use to treat eutrophication (consumption of oxygen by decaying material), he's in favour of trying out new technologies that would be much cheaper than the "millions" that it would cost to dredge the phosphorus-rich sediments out of the lake.

"It's like cancer. We don't wait for nature to treat it, we look for drugs and treatments and things like that. This province is too short sighted



Rick Pauls

to allow us to use any man-made solution," said Pauls.

But the provincial government may be warming up to the idea.

A spokesperson wrote in an emailed response that the province has agreed to work with the Killarney Lake Action Committee to assess a couple of in-lake remediation options including Phoslock, a water-treatment product developed by an Australian company. No timeline for the work was given, however.

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DAVE LEMKE

“The hope is that in-lake remediation might improve water quality in some small, nutrient-rich lakes such as Killarney and Pelican lakes,” the spokesperson wrote.

Nutrient control

That doesn't mean that it has given up on controlling nutrient inputs at their source, however.

“It is important to recognize that in-lake remediation techniques do not preclude external nutrient load reductions and may only be successful over the long term if the external sources of nutrients are first controlled,” the spokesperson wrote.

Analysis of lake bottom cores have demonstrated that Killarney Lake has experienced algal blooms for the last 4,700 years, but conditions appear to have worsened over the past 100 years.

Dave Lemke, a researcher with the Lake Simcoe Region Conservation Authority in Ontario, has performed limited trials in a pilot project using Phoslock.

The product, which looks like cat litter, is made from bentonite clay granules that contain small amounts of a rare earth element called lanthanum that tightly binds to dissolved phosphorus.

“We did some jar testing with it and had very good results,” said Lemke, who added that it didn't appear to be toxic to fish or other organisms.

However, he noted that Phoslock should only be used after every possible measure has been taken to prevent further inflows of the nutrient into a water body.

That's because if more nutrients flow in, the algae blooms will reoccur.

“It can take all of the phosphorus out of the water column, but if you haven't fixed the inputs, it will just come back,” said Lemke.

Andrew Palmer, a project co-ordinator with Waterloo, Ont.-based Greenland International Consulting, said that his firm has used Phoslock to treat Loafer's Lake, a 2.4-hectare body of water near Brampton that is recharged only by surface run-off. The project cost about \$80,000.

“There was a lot of algae on the lake and the smell was bothering residents,” said Palmer.

Before vegetation removal and the addition of 10 tonnes of Phoslock to the lake, phosphorus concentrations in the lake stood at 0.05 parts per million. Ten months after application, tests of the 4.1-metre-deep lake showed that the level of the nutrient dropped about 52 per cent, down to 0.02 ppm.

“Phoslock was never marketed as a silver bullet. It’s just something that you can use for maintenance on a body of water,” said Palmer, adding that it “temporarily” solves the problem by resetting the biological clock of the lake.

The clay-based product settles to the bottom and forms a “cap” that locks sediment-bound phosphorus underneath to prevent nutrients from re-entering the water column, he said, adding that in Europe, it is often used to treat drinking water reservoirs.

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