Scientists float new theory on algae
U.S. Study. Plant-eating organisms might explain density

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Researchers in the United States are investigating alternate theories that could explain why blue-green algae blooms have been growing in Lake Champlain and Missisquoi Bay.

The consensus in Canada and the U.S. is that high levels of the toxic algae are caused by phosphorus seeping into the lake from neighbouring farms and communities.

But a professor at the University of Vermont says there’s more to it than that.

"The phosphorus concentrations have not increased, although the blooms have, so that tells me there’s something else," said Mary Whatzin, who is heading a study on blue-green algae.

She said a reduction in "grazers" - organisms that eat the algae - may be why the plant’s density has increased in Lake Champlain, which separates Vermont and New York and whose northern tip is in Quebec.

That tip - Missisquoi Bay - has seen high levels of cyanobacteria, or blue-green algae, in recent years, a result of shallow depth, phosphorus deposits and southern winds that push floating algae cells north of the border.

All the bay’s beaches were closed after the Montérégie public health department issued warnings to avoid contact with its water because of high levels of the toxic algae.

If ingested, the algae can be harmful to humans.

No health advisories have been issued for the U.S. part of Lake Champlain, but water is tested every week, Whatzin said.

Last year, Vermont and Quebec signed an agreement for the gradual reduction of phosphorus seeping into the lake by 2016.
It was determined that 60 per cent of phosphorus deposits comes from the U.S. and 40 per cent from Canada.

But Gregory Boyer, a biochemist at the State University of New York in Syracuse, said the accumulation of phosphorus in the lake over decades makes the amount that is currently being deposited almost irrelevant.

"I don't think phosphorus is the only issue," he said.

Phosphorus deposits have been drastically reduced in Lake Erie, yet that body of water is still experiencing problems with algae density, he said.

Boyer cited three popular theories to explain the conditions: a loss of predators that eat the algae, predators that eat anything but the blue-green algae, or predators that produce nutrients that feed the plant.

In Lake Champlain, scientists have been looking at zebra mussels, an exotic shellfish that was introduced to the body of water in the early 1990s, as one of the organisms that has affected the balance in the ecosystem.

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