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LOCAL

Cutting down on the 'pea soup' in lakes

U-M professor studies toxic algae blooms

BY TRACY DAVIS
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The days of the massive nuisance algae blooms on at least one area lake could well be over, according to early research results from a University of Michigan professor.

Ford and Belleville lakes – two big impoundments along the Huron River popular for lakeside living, fishing and other recreation – have long been plagued with toxic algae blooms that can kill fish and hamper summertime recreation.

But something as simple as manipulating the flow of water through the dams that create the lakes has showed some promising results in cutting down on the pea soup created in the lakes every summer.

Professor John Lehman's research on Ford Lake shows that the problem appears to stem from nutrients that have settled into the sediments on the lake floor. In summer, when the weather is warm enough for algae to form, storms stir the phosphorus and ammonia-rich lake bottom material to the surface, where sunlight allows algae to grow.

But by releasing water from the bottom of the dam instead of the top, stagnant bottom conditions and resulting algae were prevented, Lehman said.

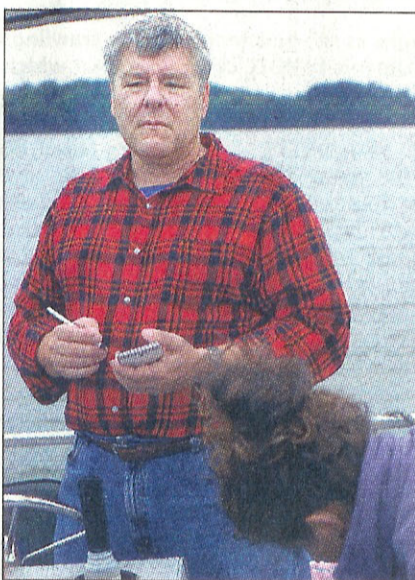
"The prevailing paradigm is to control the amount of nutrients because that's what is driving these terrible nuisance blooms," Lehman said. "But what was actually triggering the worst of the blooms was internal to Ford Lake itself, and it may be controlled by the way the dam is managed."

Elizabeth Riggs, a watershed specialist for the Huron River Watershed Council, said the early results are promising, but that a few more years of work would show whether dam manipulation was a sustainable long-term solution. While the idea could have application at other lakes along the Huron, it would depend on whether the lakes were created by dams that had bottom gates available, and whether dam operators would be cooperative.

For now, the nuisance algae blooms are primarily confined to Ford and Belleville lakes, but Riggs said increasing development could lead to blooms on other area lakes.

Mark Clancy, a 16-year Ford Lake resident who serves on the community's water conservation advisory committee, said the lake was better this past summer – during the experiment – than it had been as long as he'd lived on it.

"I just wish he would have kept it up



John Lehman, University of Michigan professor of ecology and evolutionary biology, collects data from water samples collected from Ford Lake.

Learn more

More information on professor John Lehman's algae research at Ford Lake will be available at a presentation Oct. 19 at the Eagle Crest Marriott Hotel in Ypsilanti from 6:30 p.m. to 9:30 p.m.

The program is free and open to the public. Reservations are required and can be made by calling 734-769-5123 ext. 17. There is no registration deadline.

For more information and updates on this project, visit the Web site: www.umich.edu/~hrstudy.

through the summer to see if it would have prevented algae we have now," he said.

The trade-off is that releasing water from the bottom of the dam does not allow Ypsilanti Township, which operates the Ford Lake Dam and Hydroelectric Facility, to generate electricity. The township gets some \$300,000 annually in revenue from the electricity generated there.

Township Administrative Services Director Joann Brinker said the amount they released from the lower gates cost the township about \$5,000 in revenue, but it made such a dramatic difference in the lake that officials are interested in finding ways to continue working with Lehman.

"It's not a lot of money compared to the effects," she said.



PHOTOS: ROBERT CHASE, THE ANN ARBOR NEWS

Former University of Michigan biology student Elizabeth Rourke prepares to determine the water clarity at Ford Lake late last month. Rourke works with University of Michigan professor John Lehman, who discovered how to decrease algae-causing nutrients through manipulating the dams. The research may mean toxic algae blooms, above, top, become less common.

Lehman started his project three years ago with several ideas to reduce algae growth. He narrowed them to the dam manipulation idea and oxygenating the lower levels of the lake to help prevent stagnation.

Lehman spent June through August this summer experimenting with

the dam manipulation. Next summer, Lehman and his research team plan to start injecting oxygen into the bottom of the lake to see if that produces similar results.

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