

# SLIMED!

Overuse of phosphorus fertilizers is causing toxic algae to bloom in the Great Lakes and inland lakes and streams. Now some county officials are taking action against the green slime.

BY ALESA MACKOOL

**G**reen slime and toxic lakes are no longer just the stuff of nightmares. For 2007, Muskegon County's New Year's resolution was to stop the nightmare from becoming a reality in its lakes and streams by banning the sale and use of phosphorus fertilizers. Other areas in the Great Lakes region have enacted similar restrictions.

But because phosphorus can be beneficial, the Muskegon County "ban" is not comprehensive. Phosphorus can be used on new lawns during their first growing season, if it is prescribed by a soil test, for agricultural purposes, on trees and shrubs and on flower and vegetable gardens. In other situations — mainly using phosphorus on established lawns — those who sell or use phosphorus fertilizers will be fined.

"I don't think people are going to go way out of their way to buy phosphorus fertilizers, especially when experts are telling them they don't need them," said Vicki Webster, Muskegon County environmental health supervisor. "The water around here is really a big draw for people, so when locals realize they can help, I think they'll be happy to comply."

The community's reaction won't be known until the grass starts growing, Webster noted.

Phosphorus is a generally

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harmless nutrient that promotes plant growth. The element is found naturally in the environment and is returned to the soil when plants decay. The problem is when people use too much, said Steven Safferman, associate professor of biosystems and agricultural engineering at Michigan State University. Rain water carries surplus phosphorus into lakes and streams, creating problems.

"A lake will naturally go through stages, and when phosphorus is artificially added, it speeds up the life of the lake," said Safferman, who was unfamiliar with the Muskegon ban.

Even in the water, the chemical speeds plant growth. Algae thrives

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on phosphorus. According to one publication by the Michigan Environmental Council (MEC), a single pound of phosphorus can stimulate the growth of up to 500 pounds of algae. The excessive growths are called algae blooms.

Once an abundance of algae blankets the surface, a cycle of destruction begins. When sunlight and oxygen are blocked from marine life, the natural life cycles under the water are disrupted.

“Lake owners want to treat [the undesired plant growth] with pesticides and herbicides, which put even more chemicals in the water,” said James Clift, MEC’s policy director.

Some algae can even be toxic, according to Jamie Cross, outreach program manager of Alliance for the Great Lakes. She cited one case in Dane County, Wisc., in which a boy died after plunging into a golf course pond filled with poisonous algae. Researchers are studying the possibility of algae harboring bacteria, Cross said.

Algae can also be very unpleasant to humans. Cross said some Lake Michigan beaches in Wisconsin are vacant due to *Cladophora*, a particularly strong-odored species along the shore.

As with most new laws, there is opposition to the phosphorus ban. Tom Smith, executive director of the Michigan Turfgrass Foundation, said phosphorus bans are not based on “good science.”

Smith also said individual county bans are not the best idea.

“The waters of the state belong to the people of the state,” Smith said.

He explained that his industry desires a statewide mandate allowing a “minimal amount” of the fertilizers to be used in areas where there are not high phosphorus levels in the watershed. A half a pound of phosphates — the naturally occurring form of phosphorus — per 1,000 square feet per year should be allowed without soil testing, Smith said.

“The fertilizer industry has realized this is a change and a trend,” Cross said. “Some companies have been very proactive in making products without phosphates.”

While restrictions on fertilizers are still relatively new, phosphorus in laundry soaps and other household products was restricted in the late 1960s and early 1970s. Phosphorus is blamed for algae blooms in the Great Lakes that made water unsafe for swimming and drinking.

“Lake Erie was considered dead,” Cross said.



Photo courtesy of NOAA/University of Wisconsin-Madison

A National Oceanic and Atmospheric Administration satellite image shows an algae bloom in Sandusky Bay and along the south shore of western Lake Erie on June 24, 2005.

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With the new phosphorus restrictions in place, the lake was clearer by the late '70s.

“Something’s amuck: Algae blooms return to Michigan shores,” a MEC pamphlet, called the Lake Erie case a “canary in a coal mine.”

But according to Smith, bans on fertilizer sales are illegal under state law and put an economic burden on businesses. Smith said there are approximately 24 such “illegal” ordinances in the state.

MEC’s Clift believes local phosphorus bans will increase.

“When people move into an area, they see that the water is a certain way, and they

get upset when the quality changes,” he said, noting that a good aesthetic appearance is in the community’s best interest. “More and more [policymakers] are seeing the quality of lake water being improved.”



**Alesa Mackool** is a sophomore double-majoring in journalism and political science at MSU. This is her first appearance in *EJ*. Contact Alesa at [mackoola@msu.edu](mailto:mackoola@msu.edu).