

Environment

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Water forum focuses on toxic algae in Lake Erie Hardy invader can feed on multiple sources

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Western Lake Erie's newest form of toxic algae is a tough nut to crack.

Called *lyngbya wollei*, it's hardy enough to survive frozen water.

And, as a national algae expert said yesterday at a conference in Toledo, there's probably a lot more than phosphorus that's feeding it.

"It's almost like a cockroach. It can grow out of practically nothing, with just a few crumbs, and then keep growing," Hans W. Paerl, a University of North Carolina marine and environmental sciences professor, said at the Toledo Yacht Club.

His comments reminded attendees at the third annual Western Lake Erie Waterkeeper Association conference that the biological issues facing the lakes are more complex than they were years ago.

Phosphorus, which can be found in anything from fertilizer to sewage, was the focus of the Great Lakes Water Quality Agreement the United States and Canada signed in 1972, a landmark agreement widely credited by scientists as the beginning of Lake Erie's recovery.

Large blooms of algae vanished for about 25 years after the two countries agreed to spend billions of dollars on sewage improvements and ban phosphates in laundry detergent.

Then, a toxic algae known as *microcystis* re-emerged in the late 1990s. Farm runoff was blamed.

Lyngbya wollei followed. It was discovered a year ago along the Oregon shoreline, in front of the University of Toledo's Lake Erie Center.

Unlike *microcystis*, a collection of fine pea-green particles that bubble to the lake's surface in late summer between Toledo and Sandusky, *lyngbya wollei* consists of long, hair-like strands of algae that ball up, form thick mats, and cling to the shoreline. Fresh samples were presented at yesterday's conference.

Sandy Bihn, association spokesman, said she scooped them up Wednesday night near her home along Bayshore Road in Oregon.

Without knowing exactly how the algae got into western Lake Erie, Mr. Paerl said that simply trying harder to keep phosphorus from entering the Maumee River likely won't do the trick.

That's because *lyngbya wollei* also feeds on another common farm fertilizer, nitrogen, as well as calcium.

Calcium can be found in road salt.

Mr. Paerl theorized that warm discharges from FirstEnergy Corp.'s coal-fired Bayshore power plant may be one of several other contributing factors.

The bottom line: Don't stay fixated on phosphorus.

"You can't solve the problem by reducing phosphorus alone," Mr. Paerl said. "I know phosphorus is important here. But take a look at nitrogen, too."

Nitrogen is a largely overlooked area of research in fresh water. It is associated more often with the growth of nuisance species in salt water, he said.

The good news is that researchers won't have to look far to do nitrogen work, given that it is another common fertilizer.

One of the region's top runoff researchers, David Baker, founder of Heidelberg College's water-quality laboratory, said the amount of farm chemicals entering the Maumee and

Sandusky rivers each year is staggering.

If you could buy back all the types of fertilizers and pesticides that wind up in the Maumee during a typical year, you'd have to spend \$66.5 million at market rates, Mr. Baker said. For the Sandusky, that figure would be \$14.3 million, Mr. Baker said.

Tom Bridgeman, a UT Lake Erie Center researcher specializing in algae research, said there are hundreds of types of algae in Lake Erie, most of which are too tiny to be seen and are valuable to the lake's biology. Only four are known to be toxic.

But treating them costs municipalities like Toledo thousands of dollars - easily \$500,000 during peak summer outbreaks, he said.

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