Algae

1. Proper Noun - Plural _____

Algae

Phosphorus flowing from sources such as farms and fertilized lawns must be dramatically reduced to prevent another record algae bloom on Lake Erie like the one in 2011 that closed beaches and caused fish die-offs and water restrictions.

That's the recommendation of the International Joint Commission, a U.S.-Canadian advisory board for Great Lakes issues, following an extensive study.

The commission calls on local, state and _____Proper Noun - Plural_____ governments on both sides of the border to get far tougher on phosphorus sources into Lake Erie, particularly on farms, where manure on ice- or snow-covered ground and fertilizer applications in wet springs lead to runoff and are the main source of the nutrient problems in the lake. The commission's report calls for new regulations reducing nutrient loads by 40% or more around the lake, particularly in the spring when farmers' fertilizer applications occur.

"We call for ambitious changes, because that's what the science supports," said Lana Pollack, U.S. chair of the International Joint Commission. "Voluntary programs that have been in place are clearly failing. If they did the job we wouldn't be having the worst algal blooms in the history of the lakes."

But bureaucratic mandates will only harm farmers and raise prices for supermarket shoppers, said Herb Smith, 84,

a lifelong grain farmer in southeastern Monroe County near the Ohio border and president of the Monroe County Farm Bureau's board of directors.

"The consumer will pay for it in the long run," he said. "Nothing is free; we pay for it somewhere."

The sense of urgency stems from the massive algae bloom that developed in Lake Erie in 2011. The bloom choked up to 2,000 square miles of the lake in green muck for months and could be seen from outer space. The issue is most problematic for Lake Erie because it is the shallowest of the Great Lakes.

In addition to affecting recreational use of western Lake Erie as beaches and harbors were fouled, the bloom reduces fish populations and creates low-oxygen "dead zones" in the lake, according to scientists.

The bloom involved a Microcystis algae that releases a toxin potentially harmful to humans and wildlife. The toxin released in 2011 peaked at about 224 times safe levels recommended by World Health Organization guidelines, according to University of Michigan researchers.

Last September, Ohio's Carroll Township had to temporarily shut down the water supply to 2,000 residents when microcystin toxin from Lake Erie algae blooms reached alarming levels.

Lake

Erie recovered from similar nutrient problems in the 1970s and early 1980s, but the nature of the problem was different, said Don Scavia, director of the University of Michigan's Graham Sustainability Institute.

"The great success in the '70s and '80s was mostly focused on dealing with point sources -- wastewater treatment plants, municipal sources, erosion sources," he said. "The form of phosphorus getting into the lake has changed dramatically since the 1990s."

The leading gateway of phosphorus into Lake Erie is outside of Michigan: the Maumee River, flowing through Ohio past numerous farms and cities, including South Bend, Ind., and Toledo. The river contributes about 50% of the western Lake Erie basin's phosphorus load, according to scientists. The Joint Commission's report calls for particular attention to spring and fall farm fertilizer practices along the Maumee.

Matthew Child, a scientist with the commission's Great Lakes Regional Office, acknowledged the dilemma for farmers, particularly cattle farmers.

"They are year-round operations," he said. "They are generating large amounts of manure in the winter months." But leaving that manure on snow- or ice-covered ground leads to the runoff that's a big cause of the algae problem.

The

commission calls for governments to explore incentive programs such as grants to help farmers construct manure storage facilities and digesters, machinery that prepares the manure for use as a fertilizer.

Pollack said farmers also are now dealing with changing climate conditions, such as wetter springs.

The report also calls for better monitoring of Lake Erie tributaries where not enough is known.

"We need more information from the Detroit River," said Dave Dempsey, a commission policy adviser. "We're quite keen on learning more about the loads from the river; from upriver sources and contributions from major cities including Detroit, before it hits the western basin of Lake Erie."

Many farmers have already reduced their tillage -- agitation of the soil in preparation of growing -- to reduce runoff, Smith said.

"I stress how important it is that we as farmers do what we can to be good stewards of the soil," he said. "It's good environmentally and economically."

But farmers can do more to reduce algae-creating runoff without government impositions, he said.

"I believe we can accomplish this without regulations," he said. "Regulations lead to more regulations. I'm convinced in my own mind that we can voluntarily control this."