

## Scientists give Brown a lesson in algae blooms

### Senator discusses economic effects of an unhealthy lake

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Justin Chaffin, Stone Laboratory research coordinator, left, and U.S. Sen. Sherrod Brown collect water samples from Lake Erie.

PUT-IN-BAY, Ohio — Scientists from Ohio State University and Heidelberg University gave U.S. Sen. Sherrod Brown (D., Ohio) a tutorial Friday in why algae blooms are filling up Lake Erie's western basin.

The clear message from the trip to Stone Laboratory was that heavy amounts of phosphorous fertilizer running off farm fields combine with heavy spring rains and a warmer climate to cause dangerous algae and even the return of "dead zones" that threaten fish.

Local tourism officials joined with Mr. Brown afterward on Catawba Island to discuss the impact on tourism.

"Our fishing and tourism industries depend on a healthy Lake Erie," Mr. Brown said.

Scientist Jay Martin, professor of ecological engineering at Ohio State, said the challenge is to get farmers to adopt practices that keep phosphorous out of rainwater runoff. These practices are difficult to implement, though, because they cost time and money.

Some of those practices are controlling drainage, applying fertilizer directly into soils rather than on the top, and timing fertilizer use so as not to apply it just before a heavy rain.

The Maumee River contributes less than 5 percent of the water to Lake Erie but one-third to one-half of the phosphorous, said Christopher Winslow, associate director of Ohio State University's Sea Grant College Program.

Senator Brown was accompanied by several biology professors, aides, and several reporters and photographers on the trip to Put-in-Bay by way of Miller Boat Lines ferry. The group took a two-hour tour of Ohio State's Stone Laboratory Research Building on Put-in-Bay and a ride out on the water to show how water is tested.



The scientists said phosphorous contributes to explosive algae growth, including the toxin microcystin, which caused Toledo officials to issue a do-not-drink advisory Aug. 2-4. When the algae dies and decomposes it contributes to a dead zone in the lake, a problem that affected the lake until the 1970s when industrial pollution was curbed.

"There was a period from the mid-70s to the early 90s when low-oxygen areas weren't an issue," said Stuart Ludsin, associate professor of the department of evolution, ecology, and organizational biology at OSU. "You can prevent the dead zone through agricultural land practices."

Billy Market, owner and general manager of Miller Boat Line, said the livelihoods of thousands of people and the water supply for millions depend on the quality of Lake Erie. He called the algae problem "a ticking bio-time bomb."

A believer in manmade climate change, Senator Brown challenged the scientists around him, asking whether any of them had any colleagues who were climate change "deniers." All shook their heads no.

Sen. Sherrod Brown collects water samples from Lake Erie near Put-in-Bay.

Also on the tour was Kenneth Krieger, director of the National Center for Water Quality Research at Heidelberg University in Tiffin.

More than 450 farmers so far have applied for federal funding for enrollment in the Environmental Quality Incentives Program, which provides resources for producers to implement conservation practices, including preventive measures to reduce phosphorus runoff and prevent pollution in the Lake Erie Watershed.

The \$3 million in funding will come from the Natural Resources Conservation Service.

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