Though it likely won’t change much of the work already under way to protect western Lake Erie from excessive algal blooms, Michigan’s recent designation of its part of the watershed as “impaired” signals the importance of reaching new binational goals to control phosphorus runoff.

Every two years, as part of compliance with the Clean Water Act, all states must determine which of their water bodies are polluted and/or don’t meet water quality standards. They then submit their impairment list to the U.S. Environmental Protection. The new designation for western Lake Erie is due to the presence of extensive algal blooms and their harmful impact on aquatic life and other wildlife, Michigan environmental officials say. The blooms are the result of excessive levels of phosphorus.

“When we looked at our part of the lake, all of the waters were either impaired or susceptible to impairment,” says Kevin Goodwin, a senior aquatic biologist with the state Department of Environmental Quality’s Water Resources Division.

In contrast, Ohio has only listed its part of the western Lake Erie shoreline as impaired. But both Michigan and Ohio, along with Ontario, have agreed to meet the same goal — reduce total phosphorus loads to Lake Erie by 40 percent by 2025. This is the same target set under the U.S.-Canada Great Lakes Water Quality Agreement of 2012.

Reaching this goal will require limiting the amount of nutrient runoff from agricultural operations, and in recent years, states have begun to put new controls in place. Ohio’s SB 1 [3], for example (enacted in 2015), prohibits manure and fertilizers containing phosphorus and nitrogen from being spread on frozen, snow-covered or saturated ground. And legislation passed in 2014 (SB 150) will soon require Ohio farmers to be trained and certified before applying fertilizer to their land.

In Michigan, Goodwin says, three separate state agencies are working on a “domestic action plan.” That work, along with the strategies being developed in Ohio and Ontario, will serve as the foundation of a regionwide plan to prevent algal blooms and reduce phosphorus loads in Lake Erie.

One traditional government approach to reducing nutrient runoff has been offering farmers financial incentives to keep environmentally sensitive land out of production — for example, the federal Conversation Reserve Program (CRP). In Ohio, legislation was introduced this fall (HB 607) to create a state-funded Water Quality Improvement
Program modeled after the CRP.

But in a University of Michigan-led study released earlier this year [4], researchers concluded that “traditional, incentive-based programs would have to be implemented at an unprecedented scale” to reach the new goals for protecting Lake Erie.

Reaching that objective, researchers concluded, also will require the widespread use of effective nutrient-management practices (especially the subsurface application of phosphorus-based fertilizer) and a significant conversion of cropland to grassland.

The U.S. Environmental Protection Agency is working with Michigan and Ohio to reach the new phosphorus-reduction goals. But in a December letter to the EPA, U.S. Reps. Debbie Dingell of Michigan and Marcy Kaptur of Ohio urged the federal agency to list the open waters of western Lake Erie as impaired.

“The path to recovery requires additional legal reinforcement,” they wrote.

Great Lakes advocacy groups also have called for this federal designation, saying it would trigger an assessment of where the pollutants are coming from and in what amounts. That information would then be used to create a legally enforceable “pollution diet” to restore water quality in Lake Erie.

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