STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

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VIA E-MAIL

TO: Senate Appropriations Subcommittee on Natural Resources and Environmental Quality Members
House Appropriations Subcommittee on Natural Resources and Environmental Quality Members
Chris Harkins, Director, Senate Fiscal Agency
Mary Ann Cleary, Director, House Fiscal Agency

FROM: Amy Epkey, Administration Deputy Director

DATE: April 3, 2019

SUBJECT: Report on the Status of the Implementation Plan for the Western Lake Erie Basin Collaborative Agreement

In accordance with Section 410 of Part 2, Article VII, of 2018 PA 207, attached is the Department of Environmental Quality's (DEQ) report on the Status of the Implementation Plan for the Western Lake Erie Basin Collaborative Agreement for Fiscal Year 2018.

If you need further information, please contact Phil Argiroff, Assistant Director, Water Resources Division, at 517-284-6668; or you may contact me at 517-284-5002.

Attachment
cc/att: Chris Kolb, Director, State Budget Office
Greg Bird, Legislative Director, Governor's Office
Emily Laidlaw, Policy Director, Governor's Office
Abbey Frazier, Senate Fiscal Agency
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Legislative Report

STATUS OF THE IMPLEMENTATION PLAN FOR THE WESTERN LAKE ERIE BASIN COLLABORATIVE AGREEMENT

Report Period:
Fiscal Year 2018

Authority:
Section 410 of 2018 PA 207

Western Lake Erie Basin Collaborative Agreement Update

Lake Erie has nuisance and harmful algal blooms (HAB) in the western basin and dissolved oxygen depletion in the central basin. In June 2015 Governor Rick Snyder signed the Western Basin of Lake Erie Collaborative Agreement (Agreement) with the Premier of Ontario and the Lieutenant Governor of Ohio. The Agreement with Ohio and Ontario calls for a 40 percent reduction in phosphorus loading to the Western Lake Erie Basin (WLEB) by 2025. Each party was to develop an implementation plan to accomplish this. Michigan published its final implementation plan in January 2016 after considering public comments. The Departments of Environmental Quality (DEQ), Agriculture and Rural Development (DARD), and Natural Resources, and the Office of the Great Lakes are working together, building on Collaborative Agreement Implementation Plans, in part, to develop and implement the Domestic Action Plan, which is called for under Annex 4 of the Great Lakes Water Quality Agreement. The Domestic Action Plan was finalized and submitted to the United States Environmental Protection Agency at the end of February 2018.

Section 410 of Public Act 207 of 2018 requires the DEQ to compile a report on the status of the implementation plan for the WLEB collaborative agreement. To learn more about the presence and timing of harmful algal blooms, the report shall contain all the following:

a) An estimated cost of removal of total phosphorus per pound at the 4 major wastewater treatment plants.

The Detroit Wastewater Treatment Plant (WWTP) estimates an annual expense of approximately $1 million to reduce total phosphorus loads by 400 metric tons. This is equivalent to about $1.13/pound. Total phosphorus (TP) reductions are continuing, and the Detroit WWTP typically discharges from its main outfall in the 0.2-0.4 milligram per liter (mg/l) TP concentration range (the new limit is 0.6 mg/l growing season average). The TP reductions at the Detroit WWTP are the primary cause for the TP reductions at the mouth of the Detroit River into the WLEB. The DEQ continues to hold monthly calls with the Great Lakes Water Authority (which now operates the Detroit WWTP) and the Detroit Water and Sewerage Department.

The cost of total phosphorus reductions being made at the Monroe Metro WWTP and Wayne County Downriver WWTP are not yet available as control efforts are still underway. The National Pollutant Discharge Elimination System (NPDES) permit for the Monroe Metro WWTP was issued in May 2016 with more stringent TP limits (0.6 mg/l growing season average) that are consistent with those for the Detroit WWTP and a schedule to achieve those tighter limits by 2019. The DEQ issued the NPDES permit in 2017 with the more stringent TP limits to be achieved by 2020 that are consistent with those specified in the Detroit WWTP (a growing season average of 0.6 mg/l).

Phosphorus removal at the Ypsilanti Community Utilities Authority WWTP were implemented for protection of the lower Rouge River and prior to the Lake Erie phosphorus load baseline year of 2008. As a result, costs of these control measures should not be attributed to the load reductions necessary to meet Lake Erie goals.

b) A description of the grants that have been awarded.

Gaining additional understanding of HABs in the WLEB is a critical issue of importance. An HAB produces toxin(s). In the WLEB, blooms of cyanobacteria can produce toxins(s). An HAB work group, coordinated by the DEQ with input from several departments/agencies, continues to make progress to provide a better understanding regarding presence and timing. In May 2016 the DEQ issued a request for proposals to develop a deeper understanding of how harmful blooms develop and how to prevent them. To assist in the development of technology to combat HABs, $241,887 was awarded in two grants – one to Grand Valley State University and one to Oakland University with Wayne State University. These projects are ongoing.

The DEQ partnered with the DARD and provided $400,000 toward a grant to Michigan State University to study the effectiveness of drain water management practices in reducing nutrient loads, including dissolved reactive phosphorus (DRP), from tiled fields. The study is examining farm fields over a five-year period and analyzing methods, quantification levels, conversion and uptake of this form of phosphorus, and what source controls and management practices are available.

The DEQ awarded a $386,048 grant to the Legacy Land Conservancy in 2015 to protect crucial riparian property along the upper River Raisin through the purchase of up to 3 permanent conservation easements. The grantee is providing $124,822 in local match.

The Hillsdale Conservation District received a $166,391 grant in 2016 to create a watershed plan for Bean Creek (a Michigan tributary to the Maumee River) that meets the U.S. Environmental Protection Agency's nine elements and Michigan's Clean Michigan Initiative criteria. It will set the agenda to restore designated use impairments, protect high quality waters, and reduce phosphorus loads to Western Lake Erie. The grantee is providing $32,498 in local match.

New best management practices (BMPs) to mitigate on farm losses of nitrogen and phosphorus will be introduced to farms in the River Raisin watershed through a $769,336 grant awarded to the Lenawee Conservation District in 2017. BMPs to be implemented include 50 blind inlets, 75 saturated buffers, 66,000 feet of buffer strips, and 1,000 new acres of Drainage Water Management. The grantee is providing $347,386 in local match.

c) A description of the work that has commenced on the issue of dissolved reactive phosphorus, the expected objectives and outcomes of that work, and a list of the parties involved in that effort.

Developed Partnership Effort to Research DRP: The DEQ partnered with the DARD and provided $400,000 toward a grant to Michigan State University to study the effectiveness of drain water management practices in reducing nutrient loads, including DRP, from tiled fields. The study is examining farm fields over a five-year period and analyzing methods, quantification levels, conversion and uptake of this form of phosphorus, and what source controls and management practices are available.

d) A description of the efforts and outcomes aimed at the total phosphorus reduction for the River Raisin watershed.

Michigan's goal for the River Raisin watershed is to reduce loads of total phosphorus by 40 percent from the baseline year of 2008, and good progress has been made. By 2016, it was estimated that loads had been reduced by nearly 25 percent. An evaluation completed in February 2016 titled, "What was the Cause?" discusses the DEQ's determination that, among other things, Concentrated Animal Feeding Operation NPDES permitting and compliance with those permits and nonpoint source activities, especially BMPs related to agriculture, were the main source of reductions that resulted in lower loads of TP. Between 2016 and 2018, data appear to indicate an uptick in loading, likely due to changes in voluntary maintenance of agricultural best management practice. The DEQ will continue to track load reductions in the River Raisin and work with partners to adapt management strategies as needed.

See also paragraph b) related to grants.