STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
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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, Senior Deputy Director

DATE: February 26, 2020

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

In accordance with Section 410 of 2019 PA 57, attached is the Department of Environment, Great Lakes, and Energy's (EGLE) report on the Status of the Implementation Plan for the Western Lake Erie Basin Collaborative Agreement for Fiscal Year 2019.

If you need further information, please contact Phil Argiroff, Assistant Director, Water Resources Division, at 517-290-3039; or you may contact me at 517-284-5002.

Attachment
cc/att: Chris Kolb, Director, State Budget Office
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Emily Laidlaw, Policy Director, Governor's Office
Abbey Frazier, Senate Fiscal Agency
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EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Legislative Report

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

**Report Period:**
**Fiscal Year 2019**

**Authority:**
**Section 410 of 2019 PA 57**

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 Michigan Departments of Environment, Great Lakes, and Energy (EGLE); Agriculture and Rural Development (DARD); and Natural Resources (DNR) are working together, building on Collaborative Agreement Implementation Plans, in part, to develop and implement the Domestic Action Plan (DAP), which is called for under Annex 4 of the Great Lakes Water Quality Agreement. The DAP was finalized and submitted to the United States Environmental Protection Agency (USEPA) in February 2018.

In accordance with Executive Directive 2019-14, EGLE, DARD, and DNR are now working on developing an Adaptive Management Plan (AMP) by the end of March 2020, which will serve as a companion document to the DAP and identify additional steps needed to ensure that Michigan meets its specific DAP objectives. The AMP will outline a process that will allow managers to determine systematically whether management activities are succeeding or failing by integrating structured decision-making into planning and implementation efforts and include enhanced monitoring and assessment initiatives into a deliberative adaptive management process and decision-making feedback loop over time.

Section 410 of 2019 PA 57 requires EGLE to compile a report on the status of the implementation plan for the WLEB Agreement. To learn more about the presence and timing of HABs, the report shall contain all the following:

a) An estimated cost of removal of total phosphorus (TP) per pound at four major wastewater treatment plants (WWTP).

   The Detroit WWTP estimates an annual expense of approximately $1 million to reduce TP loads by 400 metric tons. This is equivalent to about $1.13/pound. The 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. EGLE 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 TP 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. EGLE 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 NPDES permit (a growing season average of 0.6 mg/l).

TP removal at the Ypsilanti Community Utilities Authority WWTP was implemented for protection of the lower Rouge River and prior to the Lake Erie TP 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. A HAB produces toxin(s). In the WLEB, blooms of cyanobacteria can produce toxins(s). A HAB work group, coordinated by EGLE with input from several departments/agencies, continues to make progress to provide a better understanding regarding presence and timing. In May 2016 EGLE issued a request for proposals to develop a deeper understanding of how HABs 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. The objectives of these projects were two-fold, first to develop methods to rapidly evaluate Microcystis blooms for the presence of algal toxins and second to develop models that can be used to assess the potential risk of HABs throughout Michigan. Final reports for these two grant projects are due in 2020.

EGLE 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 quantifying reductions of nutrients including DRP and TP from drain water management control structures implemented at farms in the WLEB.

EGLE 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 3 permanent conservation easements. The grantee provided $242,998 in local match. This project was completed in 2019.

The Hillsdale Conservation District received a $166,391 grant in 2016 to create a watershed management plan for Bean Creek (a Michigan tributary to the Maumee River) that met the 9-element watershed plan criteria established by the USEPA 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 the WLEB. The grantee provided $32,498 in local match. The watershed management plan was completed in 2019.

New best management practices (BMP) 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 by EGLE 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 drain water management. The grantee is providing $347,386 in local match.

The River Raisin Institute received a $286,275 grant from EGLE to address agricultural sources of nutrients from the S.S. Lapointe Drain, a direct discharge to Lake Erie. The grant was awarded in 2019 and will fund implementation of cover crops, filter strips, reduced tillage, drain water management, and nutrient management plans. The grantee has committed to providing $110,855 in local match.

The Legacy Land Conservancy received a $360,233 grant from EGLE in 2019 to protect critical riparian property along the Upper River Raisin through the purchase of 4 permanent conservation easements. The grantee has committed to providing $120,095 in local match.

The Lenawee Conservation District received a $773,522 grant from EGLE in 2019 to implement agricultural BMPs to reduce nutrient loads from the River Raisin. The grantee has committed to providing $542,641 in local match.

The Southeast Michigan Council of Governments (SEMCOG), in partnership with EGLE, has received $300,000 from the USEPA to implement a regional project to address urban green storm water infrastructure. Local and county governments within the SEMCOG seven-county jurisdiction were eligible to apply to fund projects that address nutrient inputs from runoff to local rivers. Six communities were selected by SEMCOG's Regional Review Committee, which is comprised of local elected officials, and were awarded funding to complete projects by October 1, 2020.

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: EGLE 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 TP reduction for the River Raisin watershed.

Michigan's goal for the River Raisin watershed is to reduce loads of TP 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 EGLE'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 BMPs. EGLE will continue to track load reductions in the River Raisin and work with partners to adapt management strategies as needed.