

# CSI - Ohio

The Common Sense Initiative

## Business Impact Analysis

**Agency Name:** Department of Agriculture

**Regulation/Package Title:** Soil & Water Conservation – Watershed in Distress

**Rule Number(s):** 901:13-1-(11, 19, 20, and 99)

**Date:** September 24, 2018

**Rule Type:**

**X Amended**

**X 5-Year Review**

The Common Sense Initiative was established by Executive Order 2011-01K and placed within the Office of the Lieutenant Governor. Under the CSI Initiative, agencies should balance the critical objectives of all regulations with the costs of compliance by the regulated parties. Agencies should promote transparency, consistency, predictability, and flexibility in regulatory activities. Agencies should prioritize compliance over punishment, and to that end, should utilize plain language in the development of regulations.

## **Regulatory Intent**

### **1. Please briefly describe the draft regulation in plain language.**

The State of Ohio has long considered water quality as a top priority. The original rules on Watersheds in Distress were adopted in 2010, and the Grand Lake St. Marys watershed was designated as “distressed” in early 2011. The administration, originally through the Department of Natural Resources, and now the Department of Agriculture (Department), enacted and continues to enforce these regulations with careful and deliberate action at Grand Lake St. Marys. As you will see in the proposed rule, the Department will ensure that cooperative practice continues for future watersheds designated as “distressed”.

Ohio has invested more than \$3 billion since July 2011 in Lake Erie and its watershed to improve drinking water and wastewater facilities, monitor water quality, plant cover crops, recycle dredge material, install controlled drainage structures on farm fields and fix faulty septic systems. Ohio sees this challenge as not caused by a single contributing source, but an effort to address all types of contributing nutrient sources to improve water quality.

Due to the presence of harmful algae blooms (HABs), Ohio Environmental Protection Agency’s 2018 Integrated Water Quality Report declared the Western Basin of Lake Erie “impaired” and amended its 2016 report to say the same. It has become clear that focusing solely on manure-based nutrient management plans for watersheds in distress limits the distress designation to only one type of agriculture nutrient source, and all agriculture-based nutrient sources should be considered. The Department views this rule package as the next step for watersheds designated as “distressed”.

The rules and their proposed amendments are outlined below:

**OAC 901:13-1-11** sets forth the rules and requirements for the land application of animal manure and nutrients in the state of Ohio. More specifically, the rule currently requires all Ohio farms to follow the conservation practices found in the relevant U.S. Department of Agriculture (USDA) “Field Office Technical Guide,” also known as the “590 standards,” developed by USDA’s Natural Resources Conservation Service. Farms within watersheds that have been designated as distressed are subject to the enforcement of 590 standards even if they have not experienced a discharge to waters of the state, and farms outside of watersheds that have been designated as distressed are subject to enforcement of 590 standards only if they experience a discharge. These standards include the most limiting application rates for manure and nutrients based on field conditions, as well as minimum setback distances for the application of manure in order to protect water quality.

The proposed rule amendments would delay non-discharge enforcement of 590 standards in watersheds in distress to give farms sufficient time to complete their nutrient management plans. Finally, the proposed amendments update existing regulations for distressed

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watersheds located in the Western Lake Erie Basin to reflect the standards enacted in 2015's Senate Bill (SB) 1. SB 1 does not include the prohibition against spreading manure between December 15 and March 1 and instead incorporates a standard which bars spreading manure on frozen, snow-covered, or rain-soaked ground unless certain precautions are taken.

**OAC 901:13-1-19** outlines the nutrient management planning requirements for watersheds in distress. The rule has been amended to require all owners, operators, or persons responsible for applying nutrients on more than fifty acres on an annual basis within a watershed in distress to develop a nutrient management plan in accordance with the rule. The rule outlines the information that must be included within the nutrient management plan.

Further, the rule has been amended to require operations to attest to the completion of a nutrient management plan. This amendment removes the requirement that plans need to be submitted and approved by the Department. This amendment will aid the Department's ability to handle a large influx of nutrient management plans after a designation. The Department will move to adopt an attestation mechanism of approval of nutrient management plans, with the ability to request a plan at its discretion, subject to civil penalties if out of compliance. This mechanism is not dissimilar to other regulatory methods, such as auto insurance verification.

**OAC 901:13-1-20** states that the director may designate watersheds in distress. No changes have been proposed to this rule.

**OAC 901:13-1-99** establishes the schedule of civil penalties for violations to Chapter 901:13-1 of the Ohio Administrative Code. The rule has been amended to update a paragraph reference due to the proposed amendments to OAC 901:13-1-19.

**2. Please list the Ohio statute authorizing the Agency to adopt this regulation.**

R.C. 939.02

**3. Does the regulation implement a federal requirement? Is the proposed regulation being adopted or amended to enable the state to obtain or maintain approval to administer and enforce a federal law or to participate in a federal program?**

No.

**4. If the regulation includes provisions not specifically required by the federal government, please explain the rationale for exceeding the federal requirement.**

Not applicable.

**5. What is the public purpose for this regulation (i.e., why does the Agency feel that there needs to be any regulation in this area at all)?**

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As stated above, The State of Ohio has long considered water quality as a top priority. The original rules on Watersheds in Distress were adopted in 2010, and the Grand Lake St. Marys watershed was designated as “distressed” in early 2011. The administration, originally through the Department of Natural Resources, and now the Department of Agriculture (Department), enacted and continues to enforce these regulations with careful and deliberate action at Grand Lake St. Marys. As you will see in the proposed rule, the Department will ensure that cooperative practice continues for future watersheds designated as “distressed”.

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Under ORC Chapter 939, the Department is required to establish feasible and economically reasonable standards to achieve a level of management and conservation practices in farming operations that will abate wind or water erosion of the soil and abate the degradation of the waters of the state by residual farm products, manure, or soil sediment, including attached substances. The establishment of these standards, as well as, the enforcement mechanisms outlined in these rules, enables Ohioans to conserve, protect, and enhance soil, water, and land resources.

**6. How will the Agency measure the success of this regulation in terms of outputs and/or outcomes?**

The Department will measure success in these regulations by an overall decrease of nutrient levels in all watersheds in distress. The Department will utilize water quality data from the Environmental Protection Agency of Ohio’s monitoring stations to collect this data.

## **Development of the Regulation**

### **7. Please list the stakeholders included by the Agency in the development or initial review of the draft regulation.**

On August 5, 2018, the Department opened the stakeholder comment period. The stakeholders were invited to submit comments to the Department by August 17, 2018.

<b>Organization</b>	<b>Name</b>
Black Swamp	Rob Krain
Capitol Advocates	Rob Eshenbaugh
Capitol Consulting	Belinda Jones
CCAO	Adam Schwiebert
CCAO	Cheryl Subler
CJR Group	Gary Smith
Ducks Unlimited	Russ Terry
Environmental Defense Fund	Karen Champan
Environmental Law & Policy Center	Madeline Fleisher
Lake Erie Charter Boat Association	Dave Spangler
Lake Erie Charter Boat Association	Paul Pacholski
Lake Erie Foundation	Matt Fisher
Lake Erie Improvement	Jim Stoffer
National Wildlife Federation	Gail Hesse
Ohio Agribusiness Assoc.	Andrew Allman
Ohio Agribusiness Assoc.	Chris Henney
Ohio Beef Council & Ohio Cattlemen's Association	Elizabeth Harsh
Ohio Corn & Wheat	John Torres
Ohio Corn & Wheat	Tadd Nicholson
Ohio Dairy Producers	Scott Higgins
Ohio Ecological Food and Farm Association	Amalie Lipstreu
Ohio Environmental Council	Trent Dougherty
Ohio Environmental Stewardship Alliance	Vickie Askins
Ohio Farm Bureau	Adam Sharp
Ohio Farm Bureau	Roger High
Ohio Farm Bureau	Jack Irvin
Ohio Farm Bureau	Larry Antosh
Ohio Farm Bureau	Tony Seegers

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Ohio Farm Bureau	Yvonne Lesicko
Ohio Farm Bureau	Leah Curtis
Ohio Farmers Union	Joe Logan
Ohio Farmers Union	Linda Borton
Ohio Federation of Soil and Water Conservation Districts	Mindy Bankey
Ohio Forestry Association	John Dorka
Ohio Municipal League	Kent Scarlett
Ohio Pork Producers Council	Bryan Humphreys
Ohio Poultry Association	Jim Chakeres
Ohio Seed Improvement Association	John Armstrong
Ohio Soil and Water Conservation Commission	Tom Price
Ohio Soybean Council	Kirk Merritt
Ohio State University	Adam Ward
Ohio Township Association	Heidi Fought
Ohio Turf Association	Brian Laurent
Ohio Wine Producers	Donniella Winchell
Ohio's Lake Erie Shores and Islands	Larry Fletcher
Partners for Clean Streams	Kris Patterson
Pheasants Forever	Jim Inglis
The Nature Conservancy	Jessica D'Ambrosio
The Nature Conservancy	John Stark
The Nature Conservancy	Sara Madenwald
The Nature Conservancy	Tracy Freeman
TMACOG	Tim Brown
TMACOG	Kari Gerwin

On August 13, 2018, the following stakeholders met with the Department to discuss the rules package at its campus:

<b>Organization</b>	<b>Name</b>
Capitol Advocates	Rob Eshenbaugh
Ohio Agribusiness Assoc.	Chris Henney
Ohio Beef Council & Ohio Cattlemen's Association	Elizabeth Harsh
Ohio Dairy Producers	Scott Higgins
Ohio Farm Bureau	Tony Seegers
Ohio Farm Bureau	Yvonne Lesicko

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Ohio Farm Bureau	Leah Curtis
Ohio Federation of Soil and Water Conservation Districts	Mindy Bankey
Ohio Pork Producers Council	Bryan Humphreys
Ohio Poultry Association	Jim Chakeres
Ohio State University	Adam Ward
Ohio Corn Growers Association	Brad Reynolds
Ohio Soybean Association	David Batocletti

On August 15, 2018, a second meeting was held at the Department's campus to discuss the rules package. The following stakeholders were present:

<b>Organization</b>	<b>Name</b>
CCAO	Adam Schwiebert
Environmental Defense Fund	Karen Champan
Environmental Law & Policy Center	Madeline Fleisher
Lake Erie Charter Boat Association	Dave Spangler
Lake Erie Charter Boat Association	Paul Pacholski
Lake Erie Foundation	Matt Fisher
Lake Erie Foundation	Ron Wyss
National Wildlife Federation	Gail Hesse
Ohio Ecological Food and Farm Association	Amalie Lipstreu
Ohio Environmental Council	Pete Bucher
Ohio Farmers Union	Joe Logan
The Nature Conservancy	Tracy Freeman
TMACOG	Tim Brown
Ohio Forestry Association	Brad Perkins
	Bryan Stubbs
	Nicole Nelsen
Ohio Township Association	Heidi Fought

**8. What input was provided by the stakeholders, and how did that input affect the draft regulation being proposed by the Agency?**

Pursuant to the deadline established for August 17, 2018, the Department received comments from the following stakeholders:

Advocates for a Clean Lake Erie

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Alliance for the Great Lakes  
Ms. Vickie Askins  
Coshocton Soil and Water Conservation District  
Environmental Law & Policy Center  
Lake Erie Foundation  
Mr. Matthew Langhals  
National Wildlife Federation  
Ohio Agribusiness Association  
Ohio Cattlemen's Association  
Ohio Corn & Wheat Association  
Ohio Dairy Producers Association  
Ohio Ecological Food and Farm Association  
Ohio Environmental Council  
Ohio Farm Bureau Federation  
Ohio Pork Council  
Ohio Poultry Association  
Ohio Sheep Improvement Association  
Ohio Soybean Association  
The Nature Conservancy  
Various Soil and Water Conservation Districts

Support was voiced from certain stakeholders regarding the anticipated positive impact on distressed watersheds that would result from the rules' enactment. Other stakeholders raised concerns that the rule package did not go far enough to regulate and restrict agricultural practices that are impacting Lake Erie's health. Others raised concerns with the anticipated costs and impact to industry of complying with the new regulations, their clarity, and the Department's capacity to implement them.

After review and consideration of the public's comments, the Department amended the proposed rule package and, on August 27, 2018, resubmitted it for additional public comment. Highlights of the Department's revisions include the following changes:

1. Make the proposed rule mirror the existing standards in the Revised Code that govern the application of manure and fertilizer on frozen, snow-covered and rain-soaked ground in the Western Basin. These standards were enacted in Senate Bill 1 of the 131st General Assembly;
2. Remove the manure application prohibition window for Grand Lake Saint Marys;

3. Give the Director more flexibility in establishing the deadline for the submission and approval of nutrient management plans; and
4. Allow farmers to attest to the completion of their nutrient management plans by the deadline, while maintaining Ohio Department of Agriculture oversight to verify the completion and incorporation of a nutrient management plan.

Items “3” and “4” are designed to assist both farmers and Ohio Department of Agriculture in the development of nutrient management plans. The director will have the authority to allow up to three years to craft nutrient management plans and to stagger the implementation deadlines of nutrient management plans. This is designed to create flexibility in the crafting of nutrient management plans and ease the concern raised in comments of the capacity to handle distressed designations. Additionally, out of the comments raised on the department’s ability to handle a large influx of nutrient management plans after a designation, the department will move to adopt an attestation mechanism of approval of nutrient management plans, with the ability to request a plan at its discretion, subject to civil penalties if out of compliance. This mechanism is not dissimilar to other regulatory methods, such as auto insurance verification.

As a result of these amendments, the rules were resubmitted to stakeholders on August 27, 2018. Stakeholders were given until September 7, 2018, to submit comments.

Support was voiced from certain stakeholders regarding the flexibility of farmers to apply manure and nutrients during the winter months when conditions were favorable and safe to apply. In contrast, other stakeholders raised concerns that agricultural operations would no longer have any restrictions on the application of manure and nutrients. Stakeholders also raised concerns regarding the Department’s ability to enforce the new proposals.

The Department greatly appreciates the work done by producers, farmers, researchers and interested parties in the Grand Lake St. Marys watershed. The Department’s goal, is to continue to build on the successes made and ultimately reach a point where the designation can be lifted.

Due to the comments submitted to the Department, OAC 901:13-1-19 has been amended to require the Department to conduct an audit of at least 5% of the attestations submitted to determine compliance regarding completion of nutrient management plans. Further, a clerical error found in the same rule was corrected in paragraph (B)(1). No other comments were incorporated into the rule.

Ohio's laws and rules regarding watersheds in distress are not specific to individual watersheds. The draft rules, in their current state, would enact similar enforcement guidelines for all watersheds in distress and would provide producers more flexibility to apply manure, while still adhering to practices that reduce the risk of runoff and nutrient loss. The rules, contrary to the concerns of some stakeholders, still impose guidelines on the application of manure and nutrients in watersheds in distress. The current proposed rules create a uniform, state-wide standard that governs the application of manure and fertilizer on frozen, snow-covered and rain-soaked ground. This standard mirrors the statutory standard found in ORC 905.326 and ORC 939.08 in the Western Basin.

**9. What scientific data was used to develop the rule or the measurable outcomes of the rule? How does this data support the regulation being proposed?**

Please see the attached report which summarizes the data which was used to develop this rule. This data shows that focusing solely on manure-based nutrient management plans for watersheds in distress limits the distress designation to only one type of agriculture nutrient source, and all agriculture-based nutrient sources should be considered.

**10. What alternative regulations (or specific provisions within the regulation) did the Agency consider, and why did it determine that these alternatives were not appropriate? If none, why didn't the Agency consider regulatory alternatives?**

As outlined above, the Department considered all comments submitted by stakeholders in the two comment periods. The Department greatly appreciates the work done by producers, farmers, environmental groups, researchers, and interested parties in the Grand Lake St. Marys watershed. The Department's goal, is to continue to build on the successes made and ultimately reach a point where the designation can be lifted. While a number of alternative regulations were suggested, the Department believes that the rules as presented are the best option to reduce nutrient runoff in the state and improve current and future watersheds in distress.

**11. Did the Agency specifically consider a performance-based regulation? Please explain.**

*Performance-based regulations define the required outcome, but don't dictate the process the regulated stakeholders must use to achieve compliance.*

The rules contained in this package are performance-based regulations. The rules require the creation and attestation of nutrient management plans. These plans must be completed according to specific guidelines established in the rule, however the rule allows some flexibility in the creation of those plans.

**What measures did the Agency take to ensure that this regulation does not duplicate an existing Ohio regulation?**

The Department is given the sole regulatory authority over this matter in ORC 939.02.

**12. Please describe the Agency's plan for implementation of the regulation, including any measures to ensure that the regulation is applied consistently and predictably for the regulated community.**

Additional education and outreach will be performed with the affected communities of the changes with this rule. The staff members of the Division of Soil and Water ensure that all Ohioans are treated in a similar manner.

**Adverse Impact to Business**

**13. Provide a summary of the estimated cost of compliance with the rule. Specifically, please do the following:**

**a. Identify the scope of the impacted business community;**

The existing rule only applies to owners, operators and persons responsible for the land application of manure. The rule expands the impacted business community to also include all owners, operators, and persons responsible for the land application of nutrients on more than fifty acres of land.

**b. Identify the nature of the adverse impact (e.g., license fees, fines, employer time for compliance); and**

The impacted community must comply with the Natural Resources Conservation Service (NRCS) 590 standards contained in the Field Office Technical Guide.

Members of the impacted business community which operate within a watershed in distress must develop and operate in conformance with a nutrient management plan that address the methods, amount, form, placement, cropping system and timing of all nutrient applications.

The nutrient management plans must be in a form as outlined in paragraph (C) of rule 901:13-1-19. These forms include the Ohio nutrient management workbook, USDA NRCS comprehensive nutrient management plan (CNMP), or an equivalent document which has been approved by the Department. At a minimum, these plans must include soil tests, manure analysis (if applicable), planned application rates, field information, as well as other points of information outlined in rule. Depending on the size and scope of the operations which are required to obtain a CNMP may have to install additional manure storage facilities.

All operations must attest to the completion of their nutrient management plan by the deadline established by the Director.

The aforementioned plans must be updated every three years as well as conditions changed. Further, after a plan update is complete, the operators must re-attest to their plan.

Operations within a watershed in distress must be assessed with the Ohio nitrogen leaching risk assessment procedure, the phosphorus index, and the soil test risk assessment procedure as necessary.

Operations within a watershed in distress must compete and maintain operating records as outlined in paragraph (F) of rule OAC 901:13-1-19. This requires time for compliance as well as storage capabilities for five years of records.

Failure to comply with these rules may be subject to civil fines as outlined in OAC 901:13-1-99.

**c. Quantify the expected adverse impact from the regulation.**

The costs of compliance with these rules varies widely based on the size, scope, and location of the operation. There are a number of operations within Ohio who already have a nutrient management plan which would satisfy this rule. These operations would not incur any additional costs due to these changes. Further, there are operations which have a number of the components of a nutrient management plan but do not fully meet the requirements of a complete plan. These operations would have reduced costs in completing their requirements under these rules.

Operations which apply manure and are required to obtain a CNMP could expect to occur costs of \$55/hour for the development of this plan. Based on data provided to the Department by USDA NRCS, the cost of a CNMP could range from \$2,400 to \$12,100. The cost of the CNMP varies greatly and depends on the operation including size and complexity. Operations which do not apply manure would only be required to obtain a “simple” nutrient management plan. Costs for these plans on average range between \$2,500 to \$3,000 per plan, per producer. In an effort to assist the regulated community, USDA NRCS may have funds available to lower the cost of these plans.

As stated in subparagraph (b) of question 14, operations which apply manure may have to install additional manure storage facilities. According to the USDA NRCS, each livestock facility on average would be expected to spend \$80,000 for these “practices” over a ten-year period.

In addition, operations within a watershed in distress may be required to implement other practices such as installing filter strips onto their farmland, correcting and preventing erosion issues, and purchasing new equipment to comply with nutrient placement requirements.

For comparison purposes, the Grand Lake St. Marys watershed was designated as “distressed” in early 2011. At that time, 165 livestock producers were obligated to meet rules and develop nutrient management plans. USDA NRCS assisted with the implementation of these plans and contributed \$15,000,000. On average, this equates to \$91,000 per producer and \$183 per acre of farmland. While this figure represents the total dollar amount spent by USDA NRCS it does not include additional expenses paid by operators that were not covered by USDA NRCS.

In order to comply with recordkeeping requirements, operators must spend time for compliance. Operators may have equipment which tracks and records all the necessary data however, this type of equipment is expensive and not required. Operators can accomplish the recordkeeping requirements manually and may store paper records or keep electronic copies.

Individuals who do commit a violation of these rules may be subject to civil fines in amounts from \$250 to \$10,000. The amount of the violation depends on the rule violated, the severity of the violation, and any history of non-compliance. Further, the quantified impact of corrective actions will depend entirely on the violation and the means to correct that violation.

**14. Why did the Agency determine that the regulatory intent justifies the adverse impact to the regulated business community?**

As mentioned numerous times in this analysis, the State of Ohio has long considered water quality as a top priority. The original rules on Watersheds in Distress were adopted in 2010, and the Grand Lake St. Marys watershed was designated as “distressed” in early 2011. The administration, originally through the Department of Natural Resources, and now the Department of Agriculture (Department), enacted and continues to enforce these regulations with careful and deliberate action at Grand Lake St. Marys. As you will see in the proposed rule, the Department will ensure that cooperative practice continues for future watersheds designated as “distressed”.

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### **Regulatory Flexibility**

**15. Does the regulation provide any exemptions or alternative means of compliance for small businesses? Please explain.**

The rules exempt operations which apply nutrients to less than fifty acres of land on an annual basis. Further, the rule provides methods of compliance for nutrient management plans and additionally permits the Director to stagger the deadlines to comply with the nutrient management plan and attestation requirements.

**16. How will the agency apply Ohio Revised Code section 119.14 (waiver of fines and penalties for paperwork violations and first-time offenders) into implementation of the regulation?**

The Department is primarily concerned with protecting public safety and the environment through compliance with these rules. Whenever possible, the Department will treat administrative violations that do not involve environmental damage as opportunities for improvement through warning notices and solicitation of corrective actions. Harsher enforcement options will be reserved for offenders who do not cooperate or those that have repeated violations.

**17. What resources are available to assist small businesses with compliance of the regulation?**

Soil and Water Conservation Districts are present in every Ohio County to provide technical assistance to landowners. When funding is available, the Department can also provide

financial assistance through the Agricultural Pollution Abatement Program's cost share fund for the installation of structural practices to achieve compliance with the regulation.

# **Distressed Watershed Designation Analysis Selected Western Lake Erie Basin Watersheds**

Developed by the  
**Ohio Department of Agriculture**

**Division of Soil and Water Conservation**  
July 19, 2018

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## **Introduction**

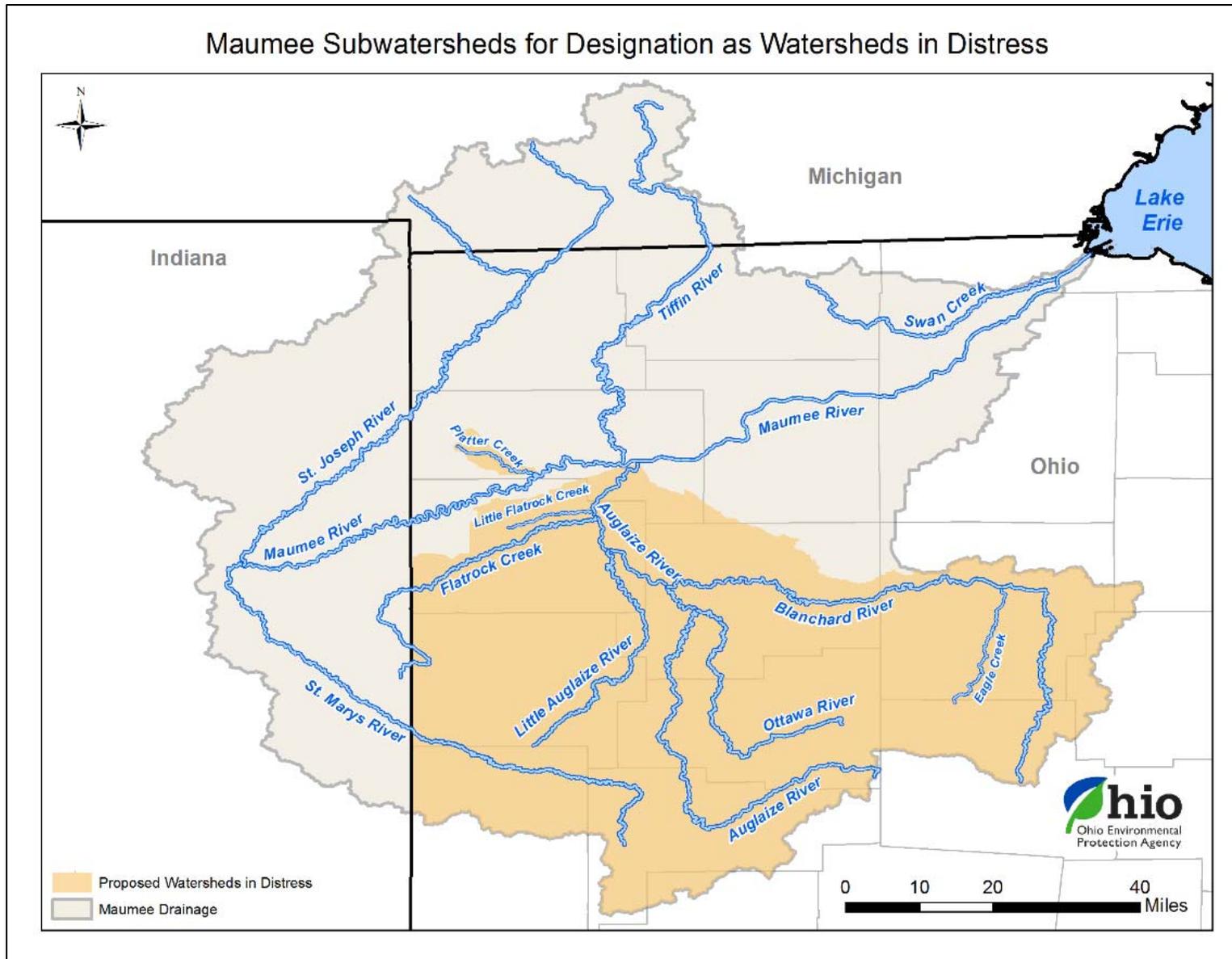
This report provides information related to an analysis of whether areas within the Western Lake Erie Basin watershed should be declared a “watershed in distress” as defined in Ohio Administrative Code (OAC) 901:13-1-20(A) by the director of the Ohio Department of Agriculture (ODA). (A complete version of OAC 901:13-1-20(A) is provided in Appendix A.) For such an analysis the director may consider the seven identified criteria as well as other relevant factors. ODA staff has conducted a review of data from Ohio EPA, Ohio Dept. of Health and Ohio Dept. of Natural Resources. All water quality monitoring data were provided by the Ohio Environmental Protection Agency.

This report was developed by staff of the Division of Soil and Water Conservation and approved by the director for issuance to the general public, and submission to the Ohio Soil and Water Conservation Commission for its review and potential concurrence, as provided in OAC 901:13-1-20(B).

ODA recognizes that there are many other sources of nutrients impacting Lake Erie. However, this report focuses on the role of documented agricultural sources.

An overview of the Maumee River watershed and the proposed areas to be declared a “watershed in distress” is shown in Figure 1.

Figure 1 Maumee River watershed with proposed watershed in distress identified



## Executive Summary

Due to harmful algal blooms and the release of related toxins occurring in the Western Basin of Lake Erie, the Ohio Department of Agriculture examined the need to declare Western Lake Erie Basin watershed and its surrounding drainage area as a “watershed in distress.” Consequently, ODA staff has conducted a review of data from Ohio EPA, Ohio Dept. of Health and Ohio Dept. of Natural Resources for the Western Lake Erie Basin (WLEB) watershed and compared the findings with criteria listed in Ohio Administrative Code 901:13-1-20(A).

The first criterion in the regulations pertains to determinations by Ohio EPA as to the cause and sources of any watershed impairments and if those factors are related to nutrients from agricultural sources. Ohio EPA has identified several watersheds within the Western Lake Erie Basin watershed with relatively higher concentrations of phosphorus in the surface water. In addition, Ohio EPA lists all of the identified watersheds as impaired by nutrients or sedimentation/siltation from agricultural sources in the 2018 Integrated Water Quality Monitoring Report. These watersheds are listed below:

- 1) Auglaize River (HUC 04100007)
  - 1a) Ottawa River (HUC 0410000703, 0410000704, 0410000705)
  - 1b) Little Auglaize River (HUC 0410000706, 0410000707, 0410000708)
  - 1c) Little Flatrock Creek (HUC 041000071207)
- 2) Blanchard River (HUC 04100008)
  - 2a) Eagle Creek (HUC 041000080301, 041000080302)
- 3) St. Marys River (HUC 04100004)
- 4) Platter Creek (HUC 041000050206)

Three other criteria relate to the threat or potential threat to use of the lake as a source of drinking water and recreation, and the threat to humans and wildlife, due to the presence of harmful algal blooms. The Western Basin of Lake Erie has periodic algal and/or cyanobacterial blooms capable of producing toxins that are harmful to humans and wildlife. These watersheds also contribute to conditions that are a threat to a drinking water supply, public health and enjoyment of Lake Erie as a recreational water body.

Water quality sampling indicates that total phosphorus and dissolved reactive phosphorus concentrations in the identified watersheds within the Western Lake Erie Basin watershed are higher than the other watersheds of the Western Lake Erie Basin watershed.

Based on the above information and analysis, the identified watersheds within the Western Lake Erie Basin watershed are in distress as defined in OAC 901:15-1-20(A).

## Comparison to Six Identified Criteria

*1. The watershed is listed as impaired by nutrients and/or sediment from agricultural sources as determined by the Director of the Environmental Protection Agency.*

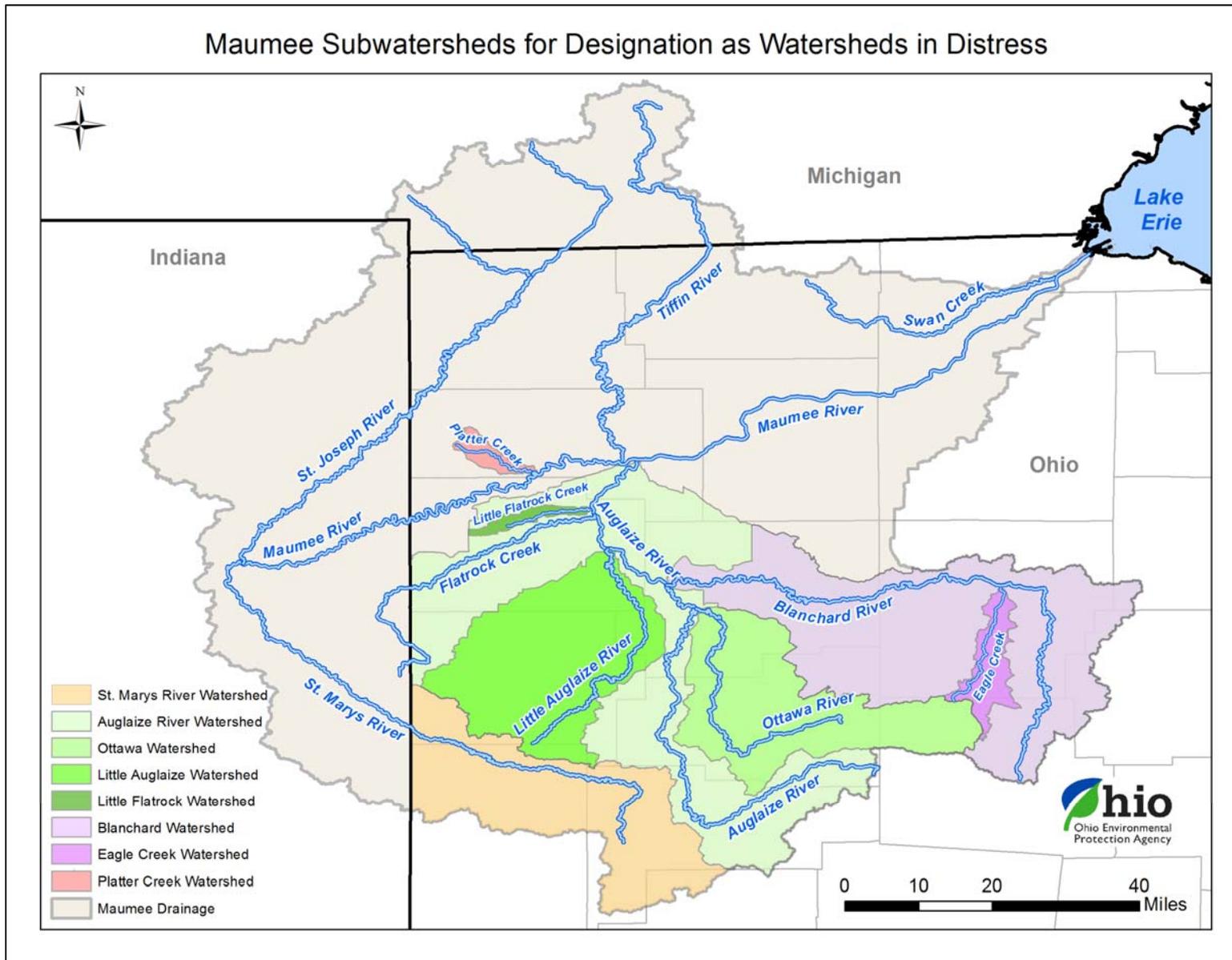
Ohio EPA's 2018 Integrated Water Quality Monitoring Report<sup>1</sup> characterizes the watershed draining to the Western Lake Erie Basin. Ohio EPA has identified several watersheds within the Western Lake Erie Basin watershed with relatively higher concentrations of phosphorus in the surface water. In addition, Ohio EPA lists all of these identified watersheds as impaired by nutrients or sedimentation/siltation from agricultural sources in the 2018 Integrated Water Quality Monitoring Report. These watersheds are listed below:

- 1) Auglaize River (HUC 04100007)
  - 1a) Ottawa River (HUC 0410000703, 0410000704, 0410000705)
  - 1b) Little Auglaize River (HUC 0410000706, 0410000707, 0410000708)
  - 1c) Little Flatrock Creek (HUC 041000071207)
- 2) Blanchard River (HUC 04100008)
  - 2a) Eagle Creek (HUC 041000080301, 041000080302)
- 3) St. Marys River (HUC 04100004)
- 4) Platter Creek (HUC 041000050206)

Table 1. The 2018 Integrated Water Quality Monitoring Report Status of selected watersheds.

Area	Subarea	HUC 8 Name	HUC 8	HUC 10 Name	HUC 10	HUC 12 Name	HUC 12	303(d) status	
1		<b>Auglaize River</b>	04100007					aquatic life use impairment including nutrients and sedimentation/siltation	
	1a			Ottawa River	041000703			aquatic life use impairment including nutrients and sedimentation/siltation	
	1a				041000704			aquatic life use impairment including nutrients and sedimentation/siltation	
	1a				0410000705			aquatic life use impairment including nutrients and sedimentation/siltation	
	1b			Little Auglaize River	0410000706			Public Water Supply impairment caused by nitrates	
	1b				0410000707			Public Water Supply impairment caused by nitrates	
	1b				0410000708			Public Water Supply impairment caused by nitrates	
	1c					Little Flatrock Creek	041000071207	aquatic life use impairment including habitat alteration and sedimentation/siltation	
	2		<b>Blanchard River</b>	04100008					aquatic life use impairment including flow regime changes, nutrients and sedimentation/siltation
		2a					Eagle Creek	041000080301	aquatic life use impairment including nutrients and low flow alterations
2a						Eagle Creek	041000080302	aquatic life use impairment including nutrients and low flow alterations	
3		<b>St Marys River</b>	04100004				aquatic life use impairment including mostly habitat alterations and sedimentation/siltation		
4						<b>Platter Creek</b>	041000050206	aquatic life use impairment including flow regime changes, nutrients and sedimentation/siltation	

Figure 2



*2. The watershed or a portion of the watershed exhibits conditions that are a threat to public health based on information provided by the Ohio Department of Health or local health district.*

The Ohio Department of Health monitors conditions at beaches in Ohio through the “Beachguard” database and issues three types of advisories: bacteria contamination alert, recreational public health advisory and elevated recreational public health advisory. In 2017, four advisories were issued related to algal blooms and toxins. These advisories were in effect for a total of 75 days. Included in this report is a list of advisories related to algal bloom issued for beaches in the Western Lake Erie Basin in 2017 (Appendix B).

*3. Streams, lakes or other waterbodies within the watershed exhibit periodic evidence of algal and/or cyanobacterial blooms capable of producing toxins that are harmful to humans, domestic animals or wildlife.*

Ohio EPA’s 2018 Integrated Water Quality Monitoring Report lists the Western Basin of Lake Erie as impaired for recreational use due to algal and cyanobacteria blooms. This designation was based, in part, due to the ambient HAB sampling that Ohio EPA conducts at Lake Erie as part of their nearshore Lake Erie monitoring programs. The State also uses remotely sensed imagery collected and processed by the National Oceanic and Atmospheric Administration or the National Aeronautical and Space Administration to assist in identifying the location of cyanobacteria blooms in Lake Erie. A full discussion of the methodology for this impairment designation appears in Section *F.4 Recreation Assessment for Algae in Western Lake Erie* of the 2018 Integrated Water Quality Monitoring Report.

A summary of the impairment status of Lake Erie from the 2018 Integrated Water Quality Monitoring Report appears in Table 2.

*4. There is a threat to or presence of contaminants in public or private water supplies.*

In 2016, Ohio finalized new rules for harmful algal blooms and cyanotoxins at public water systems, including requirements for routine microcystins and cyanobacteria screening monitoring and reporting. Starting June 1, 2016, Ohio public water systems were required to conduct routine monitoring for microcystins and cyanobacteria. Sufficient data were available to list 37 assessment units as impaired due to algae in Ohio EPA’s 2018 Integrated Water Quality Monitoring Report. The impairment listing includes all assessment units in Lake Erie with public drinking water (PDW) supply intakes including the Western Basin shoreline and open water.

A summary of the impairment status of Lake Erie from the 2018 Integrated Water Quality Monitoring Report appears in Table 2.

Table 2. Status of Lake Erie Assessment Units from 2018 Integrated Water Quality Monitoring Report.

Section L3. Status of Lake Erie Assessment Units		Sq. Mi. in Ohio	Human Health	Recreation	Aquatic Life	PDW Supply	Priority Points
Assessment Unit	Assessment Unit Name						
041202000101	Lake Erie Islands Shoreline (≤3m)	4.99	5	5	5	5	14
041202000201	Lake Erie Western Basin Shoreline (≤3m)	47.88	5	5	5	5	17
041202000202	Lake Erie Sandusky Basin Shoreline (≤3m)	68.01	5	5	5	5	16
041202000203	Lake Erie Central Basin Shoreline (≤3m)	13.39	5	5	5	0	9
041202000301	Lake Erie Western Basin Open Water (>3m)	527.30	3i	5	3	5	10
041202000302	Lake Erie Sandusky Basin Open Water (>3m)	361.71	3i	3	3	5	5
041202000303	Lake Erie Central Basin Open Water (>3m)	2544.98	3i	3	3	5	5

Category <sup>1</sup>	Subcategory
0	No water currently utilized for water supply
1	d TMDL complete; new data show the AU is attaining WQS
	h Historical data
	t TMDL complete at HUC <sup>2</sup> 11 scale; AU attaining WQS at HUC 12 scale
	x Retained from 2008 IR
2	Not applicable in Ohio system
3	h Historical data
	i Insufficient data
	t TMDL complete at HUC 11 scale; there may be no or not enough data to assess this AU at the HUC 12 scale
	x Retained from 2008 IR
4	A TMDL complete
	B Other required control measures will result in attainment of use
	C Not a pollutant
	h Historical data
	n Natural causes and sources
	x Retained from 2008 IR
5	alt Alternative restoration approaches <sup>3</sup>
	M Mercury
	d TMDL complete; new data show the AU is not attaining WQS
	h Historical data
	p Protection/preservation for threatened waters
	x Retained from 2008 IR

5. *There is a threat to or a presence of contaminants in a primary contact recreational water or bathing water as designated in OAC 3745-1.*

Ohio EPA's 2018 Integrated Water Quality Monitoring Report lists the Western Basin of Lake Erie as impaired for recreational use. See Table 2. A full discussion of the methodology for this impairment designation appears in Section *F.4 Recreation Assessment for Algae in Western Lake Erie* of 2018 Integrated Water Quality Monitoring Report.

6. *Other unacceptable nuisance conditions exist including the depletion of dissolved oxygen in water that results in impacts to aquatic life.*

The Ohio Department of Natural Resources investigates any negative impacts to aquatic life in Ohio waters. Since 2011, ODNR has investigated 47 cases of agricultural pollution in the counties impacted by this watershed-in-distress designation. ODNR estimates the number of fish killed at over 200,000. A summary of investigations and the suspected pollution source is included in this report (Appendix C).

7. *Analysis of other situations as determined by the director upon consultation with other federal, state and local agencies.*

- A. Ohio EPA has been conducting water quality monitoring throughout the Maumee River watershed. There is evidence that nutrient loads are higher in the southern portion of the watershed. In addition to nutrient monitoring data are two supporting facts:
  - a. More streamflow is yielded in the Auglaize and St. Marys watersheds. Over the last 15 years there was 23% more streamflow discharged from the Auglaize/St. Marys compared to the St. Josephs and Tiffin. This means that the even if the nutrient concentrations were the same between the two watersheds more load is yielded from the Auglaize and St. Marys Rivers.
  - b. There is more row crop agriculture in the southern portion of the watershed. An analysis of landuse in the Ohio EPA's nutrient mass balance studies shows that cultivated crops account for a greater percentage of landuse. For example, the Auglaize River drains 80% cultivated crops while the Tiffin River only 65%.
- B. The recommended watersheds as in distress are also based on observed flow weighted mean concentrations (FWMC) of total and dissolved reactive phosphorus. Using FWMCs as opposed to load reduces flow driven variability during the period of record used for the calculation.
- C. The FWMCs observed at monitoring stations in the Blanchard and Auglaize Rivers from March 2017 – October 2017 were the highest observed in the Ohio Portion of the Maumee Watershed. See Figure 3.
- D. The Platter Creek HUC-12 is a 21.5 square mile watershed draining directly to the Maumee River in Defiance County. It was found to be impaired for aquatic life use due to alterations in the stream's flow regime, nutrient enrichment and sedimentation. Ohio EPA's assessment of this impairment notes row crop agriculture and livestock manure application

as the primary sources of the stream's nutrient enrichment. The assessment of Platter Creek clearly shows phosphorus loading more similar to the Auglaize River watershed than the Tiffin or St. Joseph's watersheds.

- E. In 2016, in response to the 2012 Great Lakes Water Quality Agreement (GLWQA) commitments, Canada and the U.S. adopted phosphorus reduction targets for Lake Erie. These goals for phosphorus loadings to Lake Erie are expected to produce a bloom no greater than those that occurred in 2004 or 2012. Ohio EPA conducted water quality monitoring in 2017 and identified areas in the Western Lake Erie Basin watershed where the phosphorus flow weighted mean concentrations are more than two times higher than the GLWQA goals. All of the watersheds identified to be designated a watershed in distress were found to have phosphorus flow weighted mean concentrations more than two times higher than the GLWQA goals (See Table 3 & Table 4).
- F. The Indiana Domestic Action Plan identifies a FWMC averaged over an 8-year period in the St. Josephs River Watershed that meets the Annex 4 goal for TP, while the St. Marys yielded a concentration of 2x the Annex 4 target FWMC. This is consistent with the Ohio data from a shorter available period of record.

Figure 3

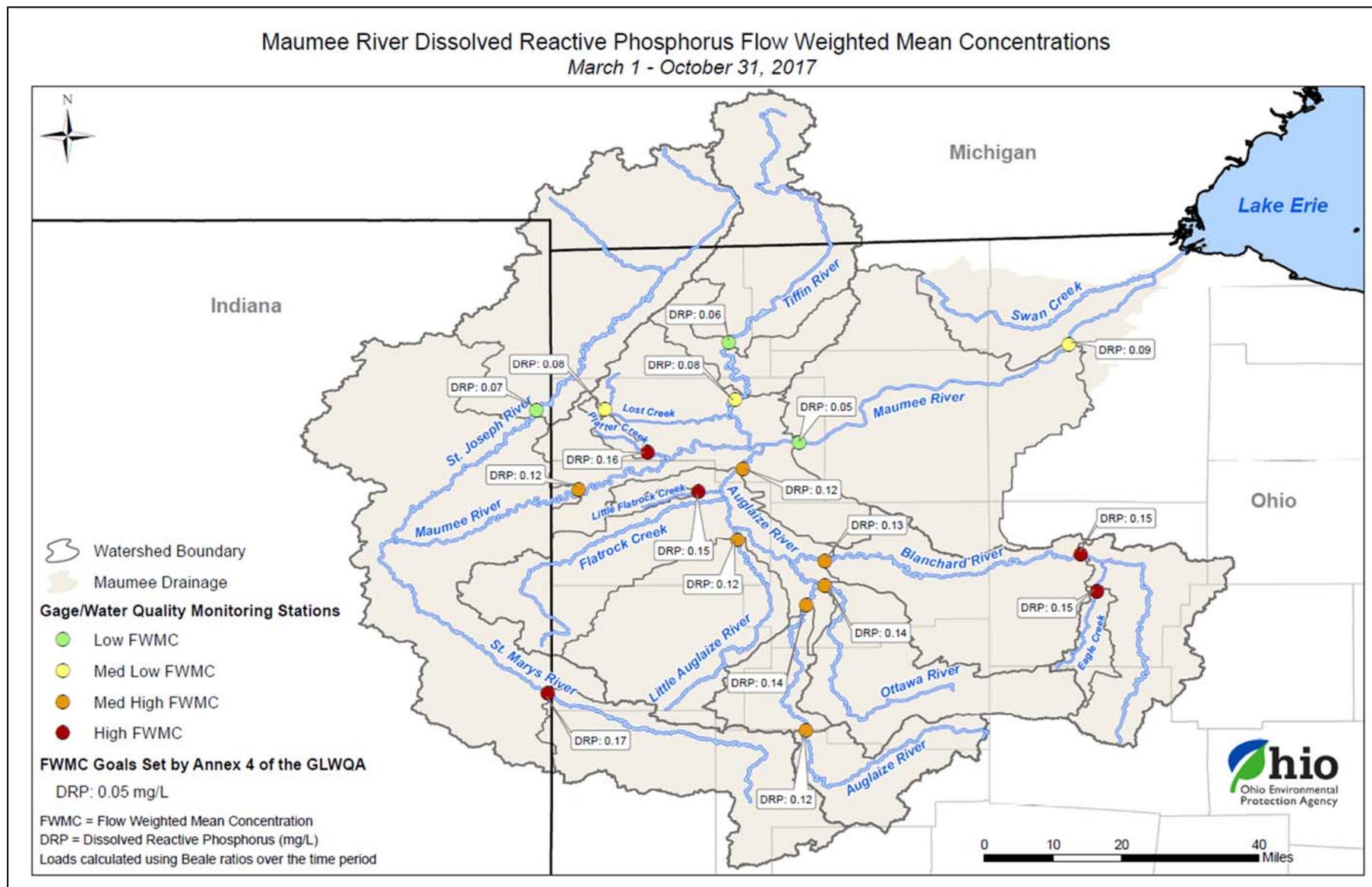


Table 3. Total Phosphorus Flow Weighted Mean Concentration (FWMC) from 2017.

Total Phosphorus		Period of record 3/1/2017 – 10/31/2017					
Monitoring Station	Associated HUCs	Sample Count	Period Avg Q (cfs)	Daily Load (kg)	Load (MT)	Load (short tons)	FWMC (mg/L)
St. Josephs at Newville, IN	04100003	49	685	388	95	105	0.23
Tiffin at Stryker	04100006	383	395	279	68	75	0.29
Maumee at Waterville	04100003, 04100004, 04100005, 04100006, 04100007, 04100008, 04100009	339	7479	7109	1742	1920	0.39
Tiffin near Evansport	04100006	79	568	587	144	159	0.42
Blanchard near Findlay	0410000801, 0410000802, 0410000803	378	427	454	111	123	0.43
Lost Creek Trib	041000060601	438	4	5	1	1	0.44
Auglaize near Defiance	04100007	84	2847	3147	771	850	0.45
Ottawa near Kalida	0410000703, 0410000704, 0410000705	86	431	488	120	132	0.46
Blanchard near Dupont	04100008	87	758	894	219	241	0.48
Platter near Sherwood	041000050206	38	21	25	6	7	0.49
Auglaize near Kossuth	0410000701, 0410000702	47	272	335	82	90	0.50
St. Marys at Willshire	04100004	44	422	521	128	141	0.50
Maumee near Defiance	0410000706, 0410000707, 0410000708	86	6544	8112	1987	2191	0.51
Auglaize near Ft. Jennings	0410000701, 0410000702, 0410000709	86	440	629	154	170	0.58
Eagle above Findlay	041000080301, 041000080302	138	66	97	24	26	0.60
Little Flatrock near Junction	041000071207	43	16	24	6	7	0.60
Little Auglaize at Melrose	0410000707, 0410000708	82	506	849	208	229	0.69
Maumee at Antwerp	04100004, 04100003, 04100005	88	2598	5153	1263	1392	0.81

Table 4. Dissolved Reactive Phosphorus Flow Weighted Mean Concentration (FWMC) from 2017

Dissolved Reactive Phosphorus		Period of record 3/1/2017 – 10/31/2017					
Monitoring Station	Associated HUC	Sample Count	Period Avg Q (cfs)	Daily Load (kg)	Load (MT)	Load (short tons)	FWMC (mg/L)
Maumee near Defiance	04100007	83	6544	802	196	217	0.05
Tiffin at Stryker	04100006	370	395	60	15	16	0.06
St. Josephs at Newville, IN	04100003	49	685	119	29	32	0.07
Lost Creek Trib	041000060601	437	4	1	0	0	0.08
Tiffin near Evansport	04100006	79	568	116	28	31	0.08
Maumee at Waterville	04100003, 04100004, 04100005, 04100006, 04100007, 04100008, 04100009	339	7479	1671	409	451	0.09
Auglaize near Defiance	0410000706, 0410000707, 0410000708	83	2847	802	196	217	0.12
Maumee at Antwerp	04100004, 04100003, 04100005	87	2598	755	185	204	0.12
Auglaize near Kossuth	0410000701, 0410000702	44	272	81	20	22	0.12
Little Auglaize at Melrose	0410000707, 0410000708	70	506	152	37	41	0.12
Blanchard near Dupont	04100008	87	758	241	59	65	0.13
Auglaize near Ft. Jennings	0410000701, 0410000702, 0410000709	85	440	146	36	39	0.14
Ottawa near Kalida	0410000703, 0410000704, 0410000705	86	431	146	36	40	0.14
Eagle above Findlay	041000080301, 041000080302	138	66	23	6	6	0.15
Little Flatrock near Junction	041000071207	43	16	6	1	2	0.15
Blanchard near Findlay	0410000801, 0410000802, 0410000803	369	427	156	38	42	0.15
Platter near Sherwood	041000050206	31	21	8	2	2	0.16
St. Marys at Willshire	04100004	40	422	179	44	48	0.17

## Conclusions

ODA staff has conducted a review of data from Ohio EPA, Ohio Dept. of Health and Ohio Dept. of Natural Resources for the Western Lake Erie Basin watershed and compared the findings with criteria for determining whether a watershed is in distress as provided in Ohio Administrative Code 901:13-1-20(A).

The Ohio EPA's 2018 Integrated Water Quality Monitoring Report lists the Lake Erie Western Basin Shoreline and Lake Erie Western Basin Open Waters as impaired for human health, recreation, aquatic life and public drinking water supply.

Water quality sampling at key points in the Western Lake Erie Basin indicates that total phosphorus and dissolved reactive phosphorus concentrations from these identified watersheds are higher than the other watersheds of the Western Lake Erie Basin watershed:

- 1) Auglaize River (HUC 04100007)
  - 1a) Ottawa River (HUC 0410000703, 0410000704, 0410000705)
  - 1b) Little Auglaize River (HUC 0410000706, 0410000707, 0410000708)
  - 1c) Little Flatrock Creek (HUC 041000071207)
- 2) Blanchard River (HUC 04100008)
  - 2a) Eagle Creek (HUC 041000080301, 041000080302)
- 3) St. Marys River (HUC 04100004)
- 4) Platter Creek (HUC 041000050206)

In addition, Ohio EPA lists all of these watersheds as impaired by nutrients or sedimentation/siltation from agricultural sources.

Based on the above information and analysis, the identified watersheds within the Western Lake Erie Basin watershed are in distress as defined in OAC 901:15-1-20(A).

## References

1. Ohio Environmental Protection Agency. (2018). Ohio 2018 Integrated Water Quality Monitoring and Assessment Report.  
<http://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport#1798510016-report>

## Appendix A

### Ohio Administrative Code

#### 901:13-1-20 Designating watersheds in distress.

- (A) The director may designate a watershed to be in distress, and thereby set requirements for the storage, handling and land application of manure; and/or the control of the erosion of sediment and substances attached thereto; and associated nutrient management plans for land and operations within the designated watershed boundaries. In evaluating a potential designation, the director may consider whether:
- (1) The watershed is listed as impaired by nutrients and/or sediments from agricultural sources as determined by the director of environmental protection and published in the "Ohio Integrated Water Quality Monitoring and Assessment Report" pursuant to Section 303(d) of the Federal Water Pollution Control Act or waters are identified as such in an approved "Total Maximum Daily Load Report" pursuant to rule 3745-2-12 of the Administrative Code as required by Section 303(d) of the Federal Water Pollution Control Act;
  - (2) The watershed or a portion of the watershed exhibits conditions that are a threat to public health based on information provided by the Ohio Department of Health or local health district;
  - (3) Streams, lakes, or other waterbodies within the watershed exhibit periodic evidence of algal and/or cyanobacterial blooms capable of producing toxins that are harmful to humans, domestic animals or wildlife;
  - (4) There is a threat to, or presence of contaminants in public or private water supplies;
  - (5) There is a threat to, or presence of contaminants in a primary contact recreational water or a bathing water as designated in Chapter 3745-1 of the Administrative Code;
  - (6) Other unacceptable nuisance conditions exist including the depletion of dissolved oxygen in water that results in impacts to aquatic life;
  - (7) Other situations as determined by the director upon consultation with other federal, state and local agencies.
- (B) Prior to proposing to designate a watershed in distress, the director shall prepare and issue a report documenting the factors in the watershed relating to the items in paragraph (A) of this rule.
- (C) No designation of a watershed in distress shall be issued until the Ohio soil and water conservation commission consents by a majority vote to a proposed designation.
- (D) The director may remove the watershed in distress designation upon reasonable confirmation of a sustained recovery, restoration and mitigation of the factors leading to the original designation.

## Appendix B

### Beach Advisories Related to Harmful Algal Blooms in the Western Lake Erie Basin 2017 from Ohio Department of Health

beachAccessTypeId	BeachName	Comment	CountyName	IssuingOrganizationName	ReasonTypeText	ReopenDate	StartDate	TypeId	TypeSeverityLevel	TypeText
PUB_PUB_ACC	Maumee Bay State Park (ERIE) Lucas		Lucas	Ohio Department of Natural Resources	Algal Bloom/Toxin	8/16/2017 16:13	8/1/2017 16:15	HAB_WATCH_ADV	2	Recreational Public Health Advisory
PUB_PUB_ACC	Maumee Bay State Park (ERIE) Lucas		Lucas	Ohio Department of Natural Resources	Algal Bloom/Toxin	8/31/2017 16:40	8/24/2017 15:26	HAB_WATCH_ADV	2	Recreational Public Health Advisory
PUB_PUB_ACC	Maumee Bay State Park (ERIE) Lucas		Lucas	Ohio Department of Natural Resources	Algal Bloom/Toxin	9/25/2017 11:35	8/31/2017 16:41	HAB_WARNING_ADV	3	Elevated Recreational Public Health Advisory
PUB_PUB_ACC	Maumee Bay State Park (ERIE) Lucas		Lucas	Ohio Department of Natural Resources	Algal Bloom/Toxin	10/19/2017 11:10	9/25/2017 11:36	HAB_WATCH_ADV	2	Recreational Public Health Advisory

## Appendix C

### Ohio Department of Natural Resources – Investigations Related to Agricultural Pollution in Proposed Watersheds in Distress Jan 2011 – Jun 2018

County	Year	Suspected Kind of Pollutant	Fish/Wild Animal Kill	Number killed
Allen	2011	Manure	Yes	8625
Allen	2012	Manure	Yes	17442
Auglaize	2012	Fertilizer	Yes	9952
Auglaize	2012	Manure	Yes	28770
Mercer	2012	Manure	No	0
Mercer	2013	Manures	No	0
Mercer	2013	Other--Rye Silage	Yes	2
VanWert	2013	Manure	Yes	6855
VanWert	2013	Manure	No	0
VanWert	2013	Manure	No	0
Allen	2014	Manure	Yes	13
Allen	2014	Manure	Yes	6684
Allen	2014	Manure	Yes	17
Allen	2014	Manure	Yes	6159
Auglaize	2014	Manure	Yes	28047
Auglaize	2014	Manure	Yes	2719
Auglaize	2014	Fertilizer	No	0
Hardin	2014	Manure	No	0
Putnam	2014	Manure	Yes	3
Putnam	2014	Manure	No	0
Van Wert	2014	Manure	Yes	6855
Auglaize	2015	Fertilizer	Yes	4629
Hardin	2015	Silage	Yes	3
Mercer	2015	Manure	Yes	2598
Mercer	2015	Manure/Chemicals/Soap and Detergents	Yes	10203
Mercer	2015	Manure	No	0
Paulding	2015	Manure	Yes	3963
Paulding	2015	Manure	No	0
Paulding	2015	Manure	No	0
Van Wert	2015	Fertilizer	Yes	8860
Van Wert	2015	Manure	Yes	249
Van Wert	2015	Manure	No	0
Van Wert	2015	Manure	No	0
Wyandot	2015	Manure	Yes	2
Hardin	2016	Manure	No	0
Mercer	2016	Manure	Yes	Unknown
Allen	2017	Manure	Yes	36822
Auglaize	2017	Manure	Yes	4
Hardin	2017	Manure	Yes	14915
Mercer	2017	Manure	No	0

Mercer	2017	Manure	No	0
Mercer	2017	Manure	Yes	10
Paulding	2017	Manure	No	0
Putnam	2017	Manure	No	0
Van Wert	2017	Manure	No	0
Paulding	2018	Manure	Yes	362
Defiance	2018	Manure	No	0