

# **Ohio's Draft Implementation Plan**

## **An Overview for Agriculture**

**Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)**

Cale Selby, Environmental Management Branch



# Western Basin of Lake Erie Collaborative Agreement



## WESTERN BASIN OF LAKE ERIE COLLABORATIVE AGREEMENT

The Governors for the Western Lake Erie Basin States of Michigan and Ohio and the Premier of the Province of Ontario (collectively, "the Parties")

**ACKNOWLEDGE** the vital importance of the Western Basin of Lake Erie to the social and economic well-being of the States and Province and the close connection between the water quality of the Western Basin of Lake Erie and health of the entire lake;

**ACKNOWLEDGE** that the water quality and environmental conditions of Lake Erie are being impacted by nutrients and other factors to the point that it poses a barrier to achieving the economic value and environmental well-being of the entire lake;

**ACKNOWLEDGE** the need to address point and nonpoint derived nutrients, especially phosphorus, and other biological and ecological factors in the Western Lake Erie Basin that may result in impairments to the water quality and ecology of Lake Erie in its entirety;

**ACKNOWLEDGE** the Parties' right and obligation to continue to support efforts under national or binational initiatives and agreements and to individually develop and implement the necessary programs, actions and policies to carry out their commitment to protect, restore and enhance the water quality of the Western Lake Erie Basin and recognize the quantifiable early actions that have already been taken by the Parties to reduce nutrient loadings;

**ACKNOWLEDGE** that the goals and timelines are set based on the best understanding of current Lake Erie conditions and processes and will need continual updating and assessment over time through an adaptive management process;

**REAFFIRM** that restoration and enhancement of the Western Basin of Lake Erie cannot be achieved solely by the Parties in isolation, but rather, it is dependent upon the collaboration between the Parties to address the water quality of the Western Basin of Lake Erie;

**CONCLUDE** that the best means to improve and protect Lake Erie's water quality is through a collaborative initiative between the Parties that has a defined goal, establishes specific implementation plans with time-tables and is measured against expected results;

### THE PARTIES AFFIRM TO

#### A Goal:

Through an adaptive management process, work to achieve a recommended 40 percent total load reduction in the amount of total and dissolved reactive phosphorus entering Lake Erie's Western Basin by the year 2025 with an aspirational interim goal of a 20 percent reduction by 2020;

#### A Base Year:

To use phosphorus loading data from 2008 to the Western Lake Erie Basin as the basis from which progress will be measured;

June 2015

Michigan Department of Environmental Quality  
Water Resources Division  
Michigan's Implementation Plan  
Western Lake Erie Basin Collaborative  
January 14, 2016

#### Purpose

The purpose of the Michigan Implementation Plan is to define actions toward the collaborative goal, serve as interim approach to domestic action plans to be developed under the Great Lakes Water Quality Agreement Annex A process, provide focus for allocation of resources for actions, identify actions and potential policy and/or program needs.

#### Background

Lake Erie has seen many water quality problems over the past 50 years, including problems with nutrient enrichment. In the 1960s, the lake was declared "dead." Major pollution control efforts targeting the municipal and industrial point sources in the 1970s greatly improved lake quality. Lake Erie recovered and was soon recognized as a tremendous wildlife fishery and recreational resource. Environmental conditions began to change again in the late 1980s as new aquatic invasive species, like Dreissenid mussels, established in Lake Erie. These invasive species changed the lake ecosystem in many ways that are not well understood. Additionally, farming practices changed over a similar time frame, with the advent of no-till farming and increased use of drain tiles. All these changes resulted in blue green algae blooms occurring in nuisance conditions on a regular basis in the Western Lake Erie Basin (WLEB), particularly off the mouth of the Maumee River. In August 2014, the Toledo, Ohio, drinking water supply was overwhelmed with harmful algal bloom toxins and had to stop supplying drinking water for a few days. As a result, a sense of urgency was given to taking action to correct the problems Lake Erie is facing today.

In June 2015 Governor Rick Snyder signed the Western Basin of Lake Erie Collaborative Agreement (Agreement) with Premier Kathleen Wynne of Ontario and Lieutenant Governor Mary Taylor of Ohio (Attachment 1). This Agreement establishes a collaborative initiative that has a defined goal, establishes specific implementation plans, and is measured against expected results.

#### Goal of the Agreement

Through an adaptive management process, work to achieve a recommended 40 percent total load reduction in the amount of total and dissolved reactive phosphorus entering the WLEB by the year 2025 with an aspirational interim goal of a 20 percent reduction by 2020. The phosphorus loading data from 2008 was established as the base year from which progress will be measured. Finally, each state and province commits to developing, with stakeholder involvement, a plan outlining their proposed actions and time lines toward achieving the phosphorus reduction goal.

#### Objectives

##### Regional

This Agreement will provide a consistent framework across the WLEB for implementing programs and monitoring success. It will also establish accountability for actions and results.

Draft Michigan Plan -  
January 2016

## State of Ohio's Western Lake Erie Basin Collaborative Implementation Plan



May 2016

Draft Ohio  
Implementation Plan -  
May 2016

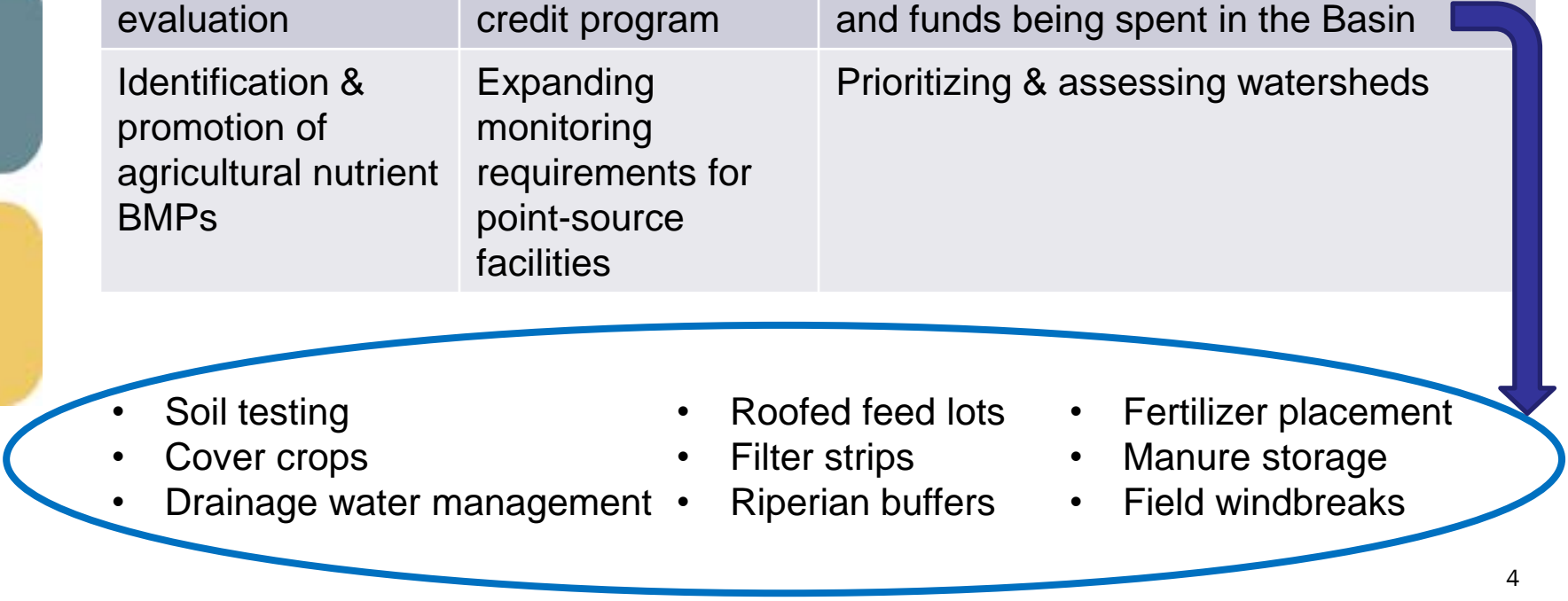
# Coordination & Guiding Principles



- **Implementation** of reduction practices
- **Verification** of implementation and effectiveness
- **Documentation** of water quality changes
- **Adaptability** as new information is obtained or changes occur
- **Accountability** toward achieving the goals

# Action Items

12 months (Continuing)	12 months (New)	12-36 months
Improving sampling & monitoring processes	Development of tracking programs	Furthering the use of nutrient BMPs in agriculture and at point source discharges
Identifying priority watersheds	Pilot nutrient trading scheme	Identifying and fixing failing home septic systems
Progress evaluation	Pilot stewardship credit program	Improving the coordination of programs and funds being spent in the Basin
Identification & promotion of agricultural nutrient BMPs	Expanding monitoring requirements for point-source facilities	Prioritizing & assessing watersheds

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- Soil testing
  - Cover crops
  - Drainage water management
  - Roofed feed lots
  - Filter strips
  - Riparian buffers
  - Fertilizer placement
  - Manure storage
  - Field windbreaks

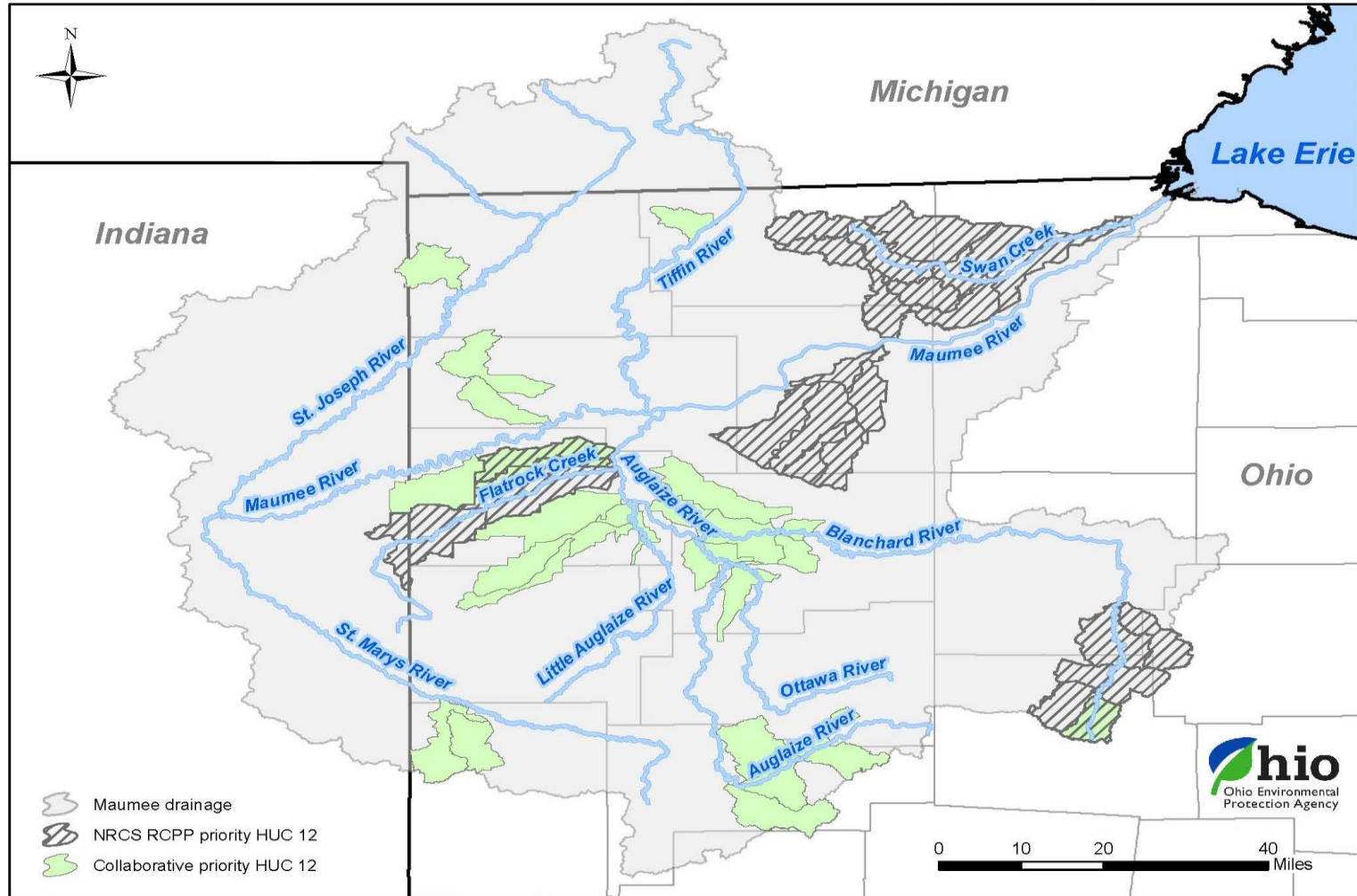
# Increasing Uptake of Ag BMPs

- **Cost incentives** in targeted watersheds
- Education and enforcement of fertilizer and manure **application restrictions**
- Develop a Farm Stewardship **Certification**
- Consider development of new **drainage-related programs**

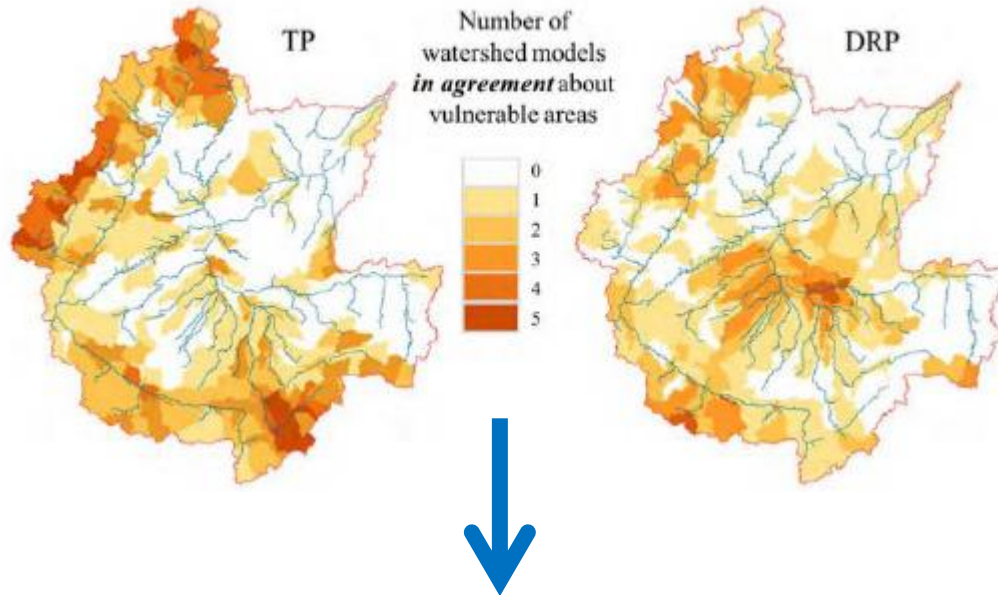


# Priority Subwatersheds

Maumee River Priority Watersheds (HUC 12)



# Priority Subwatersheds



5 SWAT models  
1 SPARROW model  
+ Ohio EPA Monitoring

Compare Models  
+ Analysis

## Implementation Groups

Category	HUC12s
Soils with low infiltration	14
High slopes (erosion)	5
High livestock density	2
Various landscape stressors	3

Priority Subwatersheds

# Assumptions Going Forward

- The first 12 months will be setting up the foundation from which the next 12-36 months will increase targeted implementation and verification.
- All sources of nutrients will be addressed and will be held accountable for verifiable reductions.
- A combination of voluntary and regulatory approaches will be considered to achieve reduction goals.
- Doing more of the same, in the same way, probably will not get us to where we need to be.



## Ohio's Western Lake Erie Basin Collaborative Implementation Plan:

<http://epa.ohio.gov/Portals/33/documents/WLEBCollaborative.pdf>

