



# Harmful Algal Blooms in the Great Lakes and What's Being Done to Prevent Them

December 1, 2017 | 9 am CST/10 am EST



GREAT LAKES  
LEGISLATIVE CAUCUS



MIDWEST

# Agenda

## **Housekeeping**

*Lisa Janairo, Program Director, CSG Midwest*

## **Welcome and Introductions**

*Senator Darwin Boohar (Michigan), Vice Chair, Great Lakes Legislative Caucus*

## **Featured Presentation: Great Lakes Water Quality Agreement (GLWQA) Annex 4 Update**

*Santina Wortman, Physical Scientist, U.S. Environmental Protection Agency,  
Great Lakes Program Office*

## **Business Session**

- GLLC Leadership
- 2018 Events and Activities

## **Adjourn**

# Housekeeping

- This event is being recorded. The recording will be available later today at [www.greatlakeslegislators.org](http://www.greatlakeslegislators.org)
- To reduce noise on the phone lines, all participants will be in “listen-only” mode during the presentation.
- There will be time for questions after the presentation.
  - Click on the “raise hand” icon in the webinar console, or
  - Type questions using the “questions” pane in the webinar console.
- If you wish to speak, you must enter the audio PIN.

# About the GLLC

- The GLLC is a binational, nonpartisan group of state and provincial lawmakers from the Great Lakes region.
  - Eight U.S. states: Illinois, Indiana, Michigan, Minnesota, New York, Pennsylvania, Ohio and Wisconsin
  - Two Canadian provinces: Ontario and Québec
- The Caucus has three primary goals:
  - Facilitate the regional exchange of ideas and information on key Great Lakes issues;
  - Strengthen the role of state and provincial legislators in the policymaking process; and
  - Promote the restoration and protection of the Great Lakes.

# Featured Speaker



**Santina Wortman**

Physical Scientist

Great Lakes Program Office

U.S. Environmental Protection Agency

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(312) 353-8319

# GLWQA Annex 4 Update

**United States Environmental Protection Agency  
Great Lakes National Program Office (GLNPO)**

Santina Wortman

Great Lakes Legislative Caucus Web-Meeting  
12/01/17

# Great Lakes Water Quality Agreement

1972



## Great Lakes Water Quality Agreement

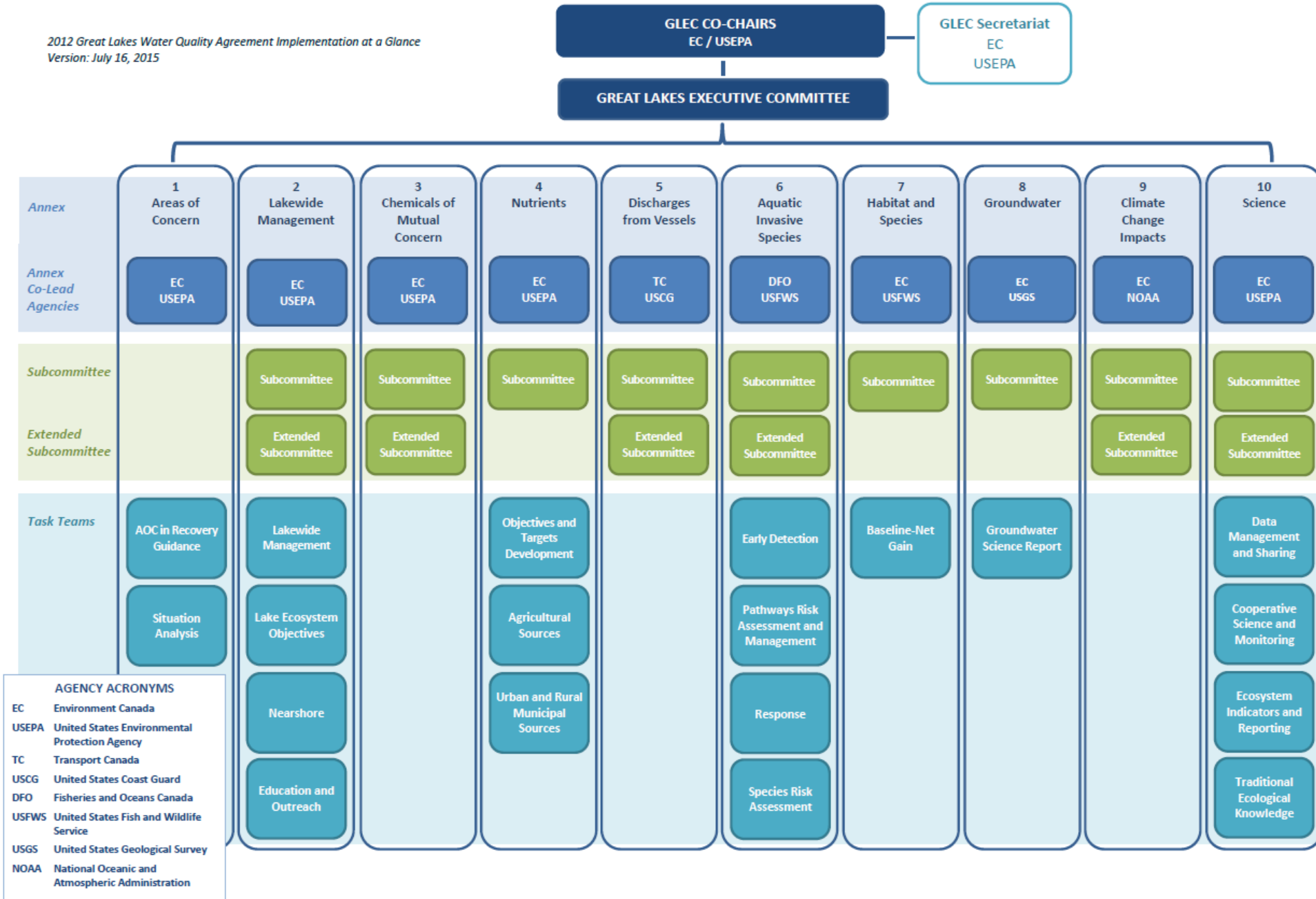
*Protocol Amending the Agreement Between Canada and the United States of America  
on Great Lakes Water Quality, 1978, as Amended on October 16, 1983,  
and on November 18, 1987  
Signed September 7, 2012*



Canada

2012





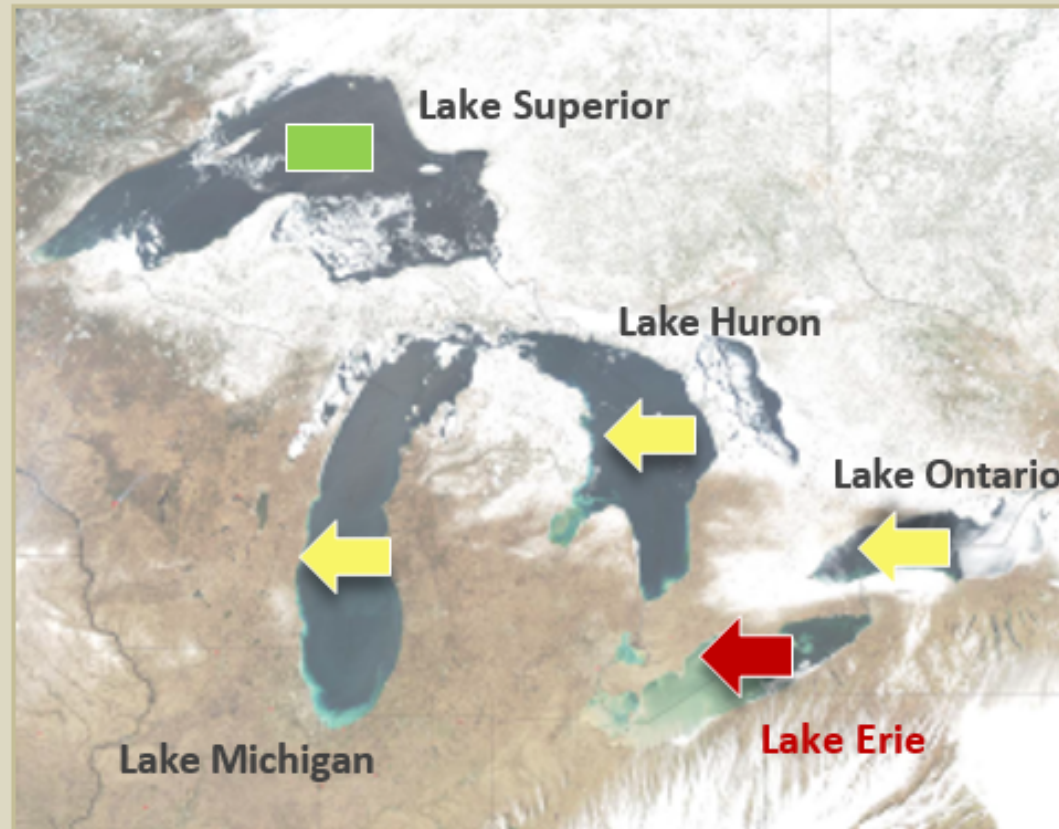
**AGENCY ACRONYMS**

EC	Environment Canada
USEPA	United States Environmental Protection Agency
TC	Transport Canada
USCG	United States Coast Guard
DFO	Fisheries and Oceans Canada
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
NOAA	National Oceanic and Atmospheric Administration



# Lake Erie

## Most Impacted & Our Highest Priority



State of the Great Lakes, 2016 Draft Assessment of the Nutrients in Lakes Sub-indicator

- |        |                       |
|--------|-----------------------|
| ■ Good | ⇨ Improving Trend     |
| ■ Fair | □ No Change in Trend  |
| ■ Poor | ⇦ Deteriorating Trend |

# GLWQA Annex 4 Nutrients – What we must do

*In cooperation and consultation with stakeholders,  
First Nations and Métis ,Tribes*

## Great Lakes Water Quality Agreement

Protocol Amending the Agreement Between Canada and the United States of America  
on Great Lakes Water Quality, 1978, as Amended on October 16, 1983,  
and on November 18, 1987  
Signed September 7, 2012



Canada

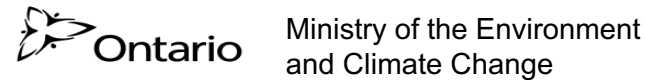
- Review, revise and/or develop concentration and loadings objectives for offshore and nearshore waters of Great Lakes **starting with Lake Erie**
- Establish allocations by country
- Establish load reduction targets for priority watersheds that have significant or localized impact
- Develop and implement P reduction plans for each country
- Monitor and report progress, and adaptive management

# Subcommittee Members



Agriculture and Agri-Food Canada

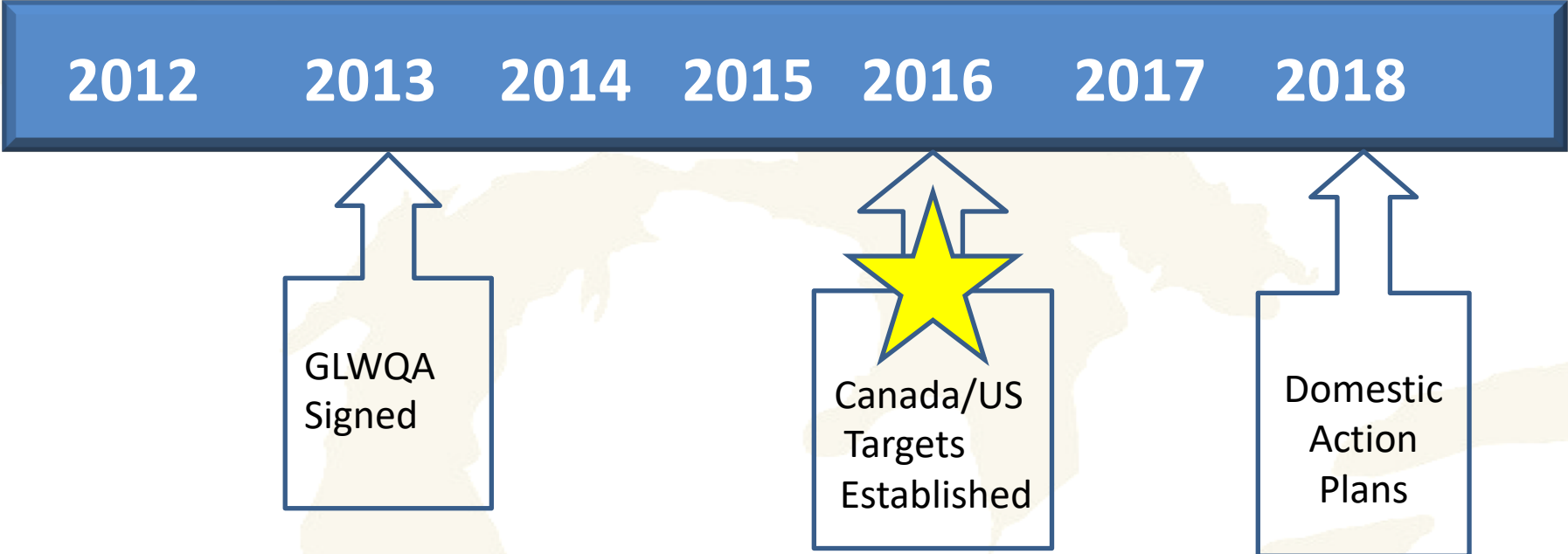
Agriculture et Agroalimentaire Canada



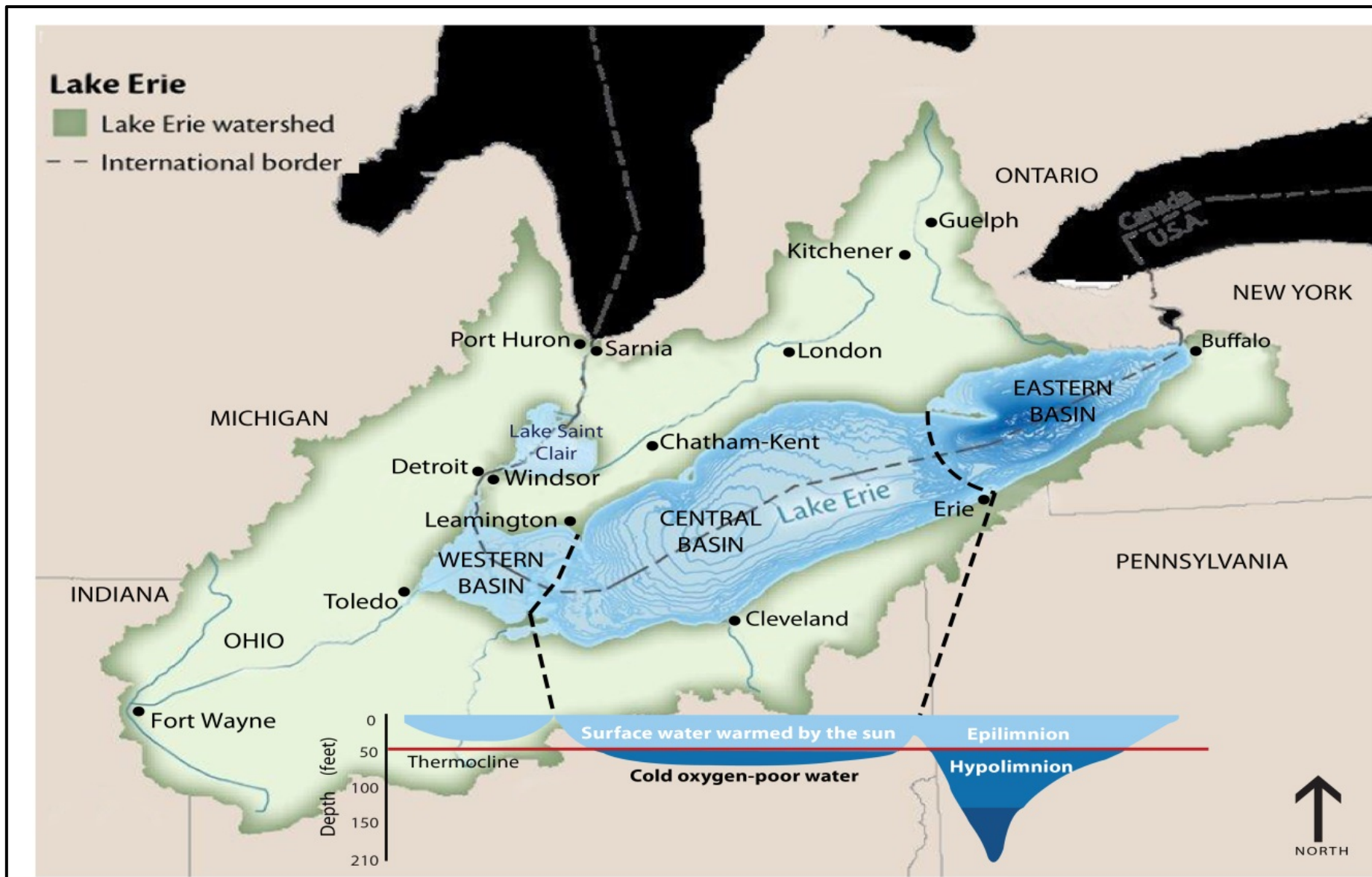
Environment and Climate Change Canada

Environnement et Changement climatique Canada

# Time-bounded Commitments for Lake Erie



# Lake Erie's 3 Basins



# Binational Phosphorus Load Reduction Targets

## HARMFUL ALGAL BLOOMS

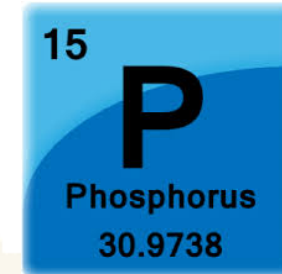
Maumee R & other  
Nearshore  
Priority Tributaries



40%



Spring  
TP &  
DRP



## HYPOXIA

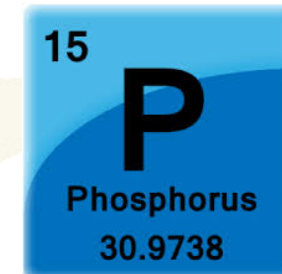
Western & Central  
Basin



40%



Annual  
TP



# The U.S. Action Plan is:

A compilation of state and federal actions +  
an overarching strategy and framework for tracking progress

## A Collaborative Effort

- Indiana Department of Environmental Management
- Michigan Department of Environmental Quality
- Michigan Department of Agriculture and Rural Development
- New York State Department of Environmental Conservation
- National Oceanic and Atmospheric Administration
- Ohio Department of Agriculture
- Ohio Environmental Protection Agency
- Ohio Lake Erie Commission
- Pennsylvania Department of Environmental Protection
- United States Army Corps of Engineers
- United States Department of Agriculture
- United States Geological Survey
- United States Environmental Protection Agency

# Objectives

- Clearly articulate federal and state commitments
- Identify potential policy/program needs
- Provide focus for allocation of resources
- Establish accountability for actions and results
- Provide a consistent framework across the Lake Erie basin for implementing programs and monitoring success

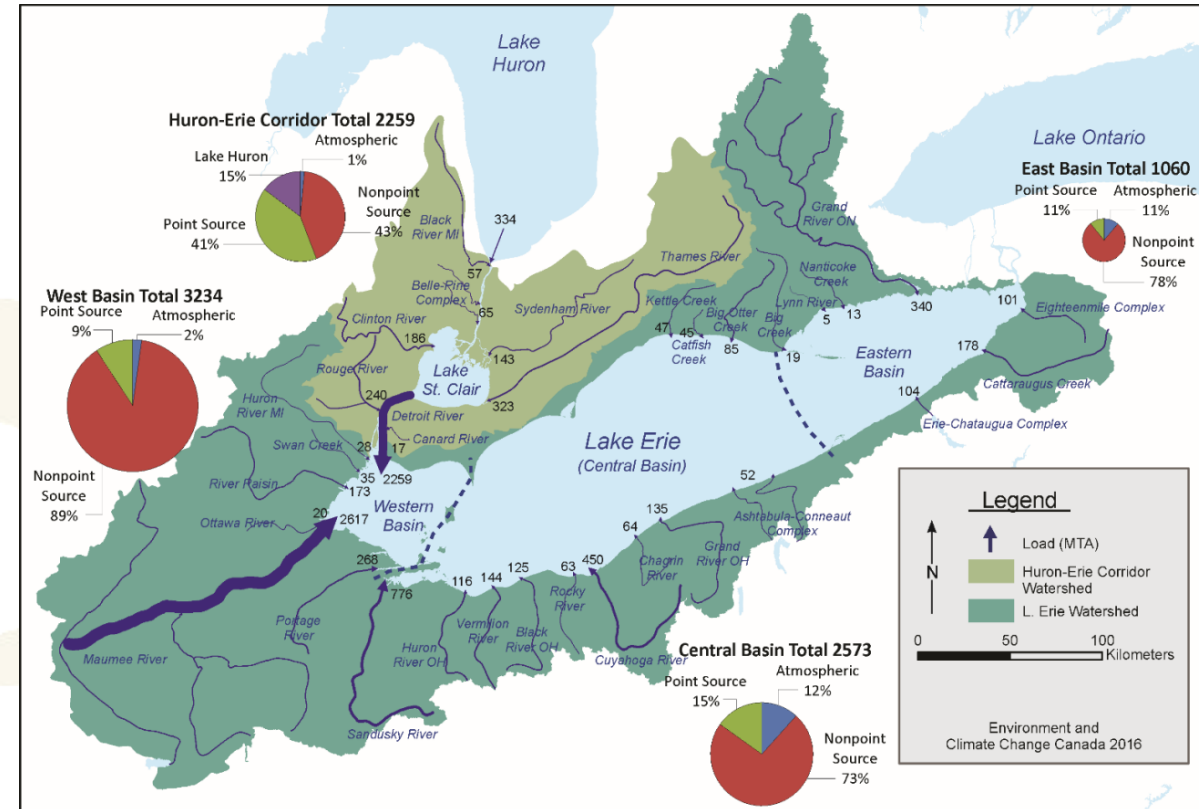


# P Reduction Strategy

- No silver bullet
- Must continue & accelerate ongoing efforts
- 40% possible through widespread adoption of conservation practices targeted to the areas where they are needed most
- Reduce nonpoint P losses during storm events
  - Source reduction & delivery
  - Systems of practices
- Water management + nutrient management are critical

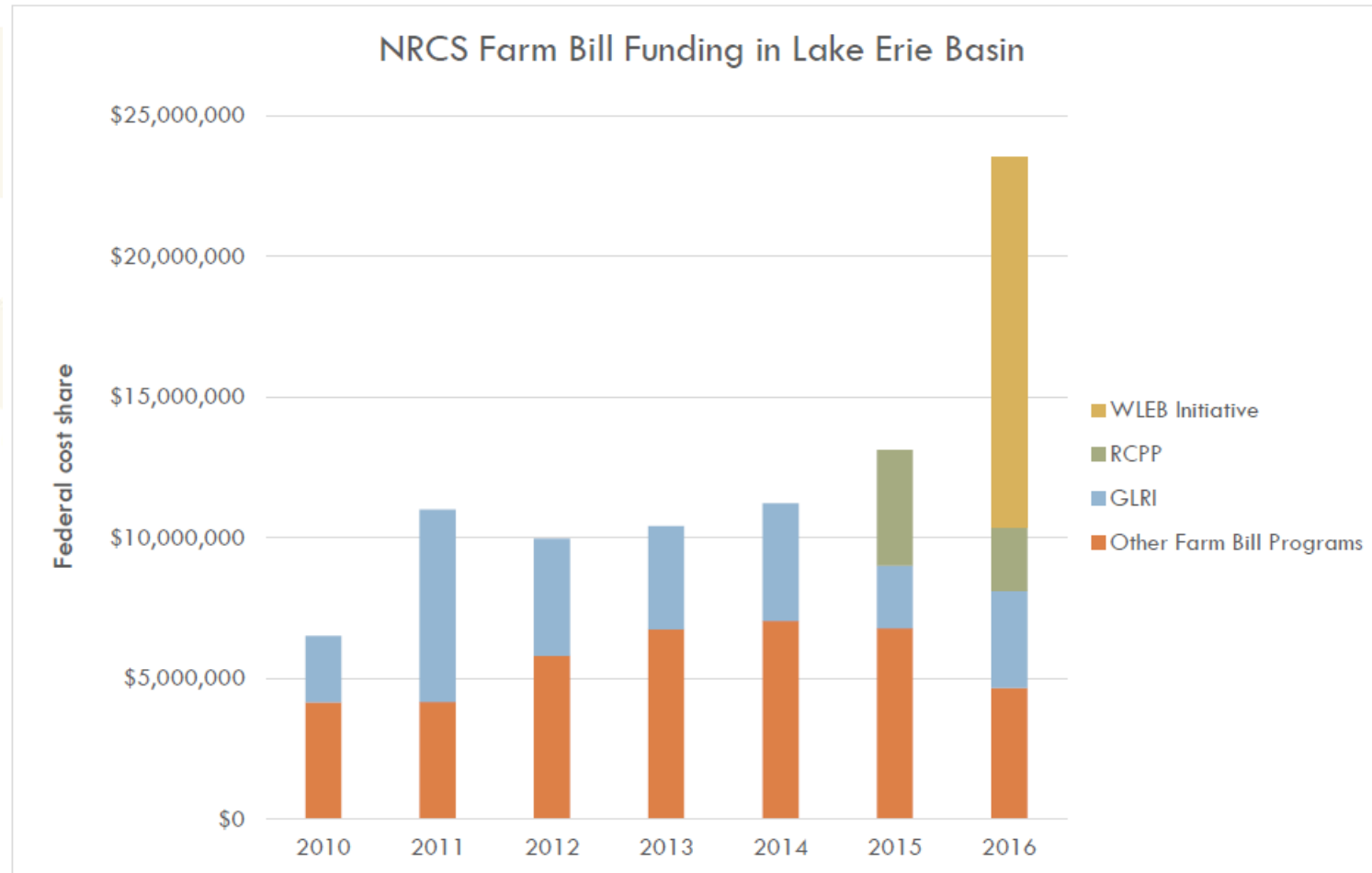
# What's inside?

- Sources, loads and allocations
- Basin-specific goals
- Priority watersheds
- Major partners and actions
- Major milestones
- How progress will be measured and reported



# Federal Programs

- EPA
  - CWA programs & policies
  - GLNPO long term monitoring
  - GLRI grants
- USDA
  - WLEB Initiative, RCPP, GLRI and regular Farm Bill programs
  - Research and assessments (CEAP, CIG, ARS & NIFA research)
- USGS
  - Tributary monitoring network
- NOAA
  - In lake monitoring and research
- USACE
  - Watershed modeling and wetlands research



# Major Activities and Milestones

## Categories

- Programs/Projects
  - Source Reductions
  - Runoff and drainage management
- Monitoring, assessment and applied research
  - BMP Effectiveness
  - Tributary/watershed
  - In Lake
- Program assessment/improvement activities

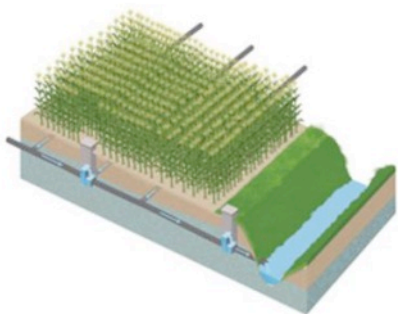
U.S. Domestic Action Plan - Major Federal Activities and Milestones					
Activity	Objectives	Cost	Responsible Parties	Timeframe	Major Milestones
<b>Programs/Projects</b>					
<b>Source Reductions</b>					
WLEB Initiative	Coordinated strategy using funding from multiple Farm Bill programs and GLRI to double the number of acres under conservation in WLEB.	\$77 M	USDA NRCS	FY 2016 – 2018	Programs have combined goals of 870,000 acres of conservation systems to reduce edge of field losses by 640,000 lbs TP (290 metric tons) and 175,000 lbs SRP.
RCPP Tri-State Western Lake Erie Basin Phosphorus Reduction Initiative	A diverse team of partners using a targeted approach to identify high-priority sub-watersheds for phosphorus reduction and implement conservation practices on the 855,000 acres that have been identified as the most critical areas to treat.	Over \$17M from NRCS and over \$28M from Conservation Partners	USDA NRCS, Michigan Department of Agriculture & Rural Development	FY 2015 - 2019	RCPP will accomplish 180 acres of wetland restorations; 500 conservation plans; 60,000 acres of nutrient management; and 1000 environmental risk assessments.
GLRI Ag Nonpoint Source Projects	Implementation of watershed management and domestic action plans to reduce nutrient loading from	\$5.6 M currently obligated of	EPA grants to State and local partners	FY 2015-2019	Anticipate over 100,000 pounds phosphorus

# New/innovative efforts in Lake Erie

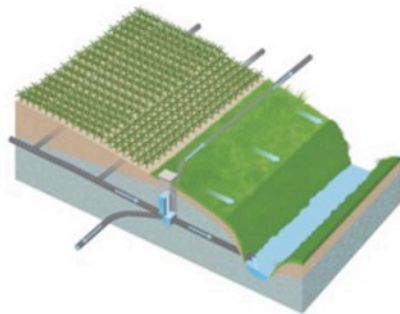
- Targeted funding for projects to accelerate nutrient reduction
- Assessing the effectiveness of BMPs, & developing new ones
- Piloting new programs/approaches (P Optimal wetlands, pay for performance, transforming drainage)
- Enhanced monitoring & modeling, forecasting tools



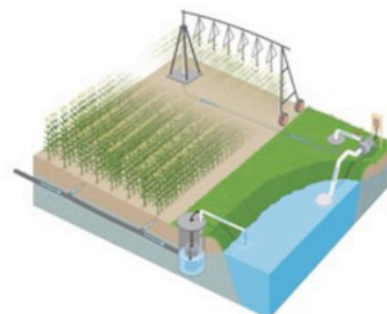
CONTROLLED DRAINAGE



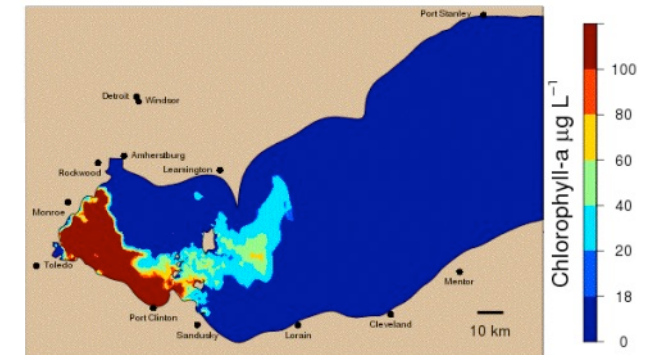
SATURATED BUFFERS



DRAINAGE WATER RECYCLING

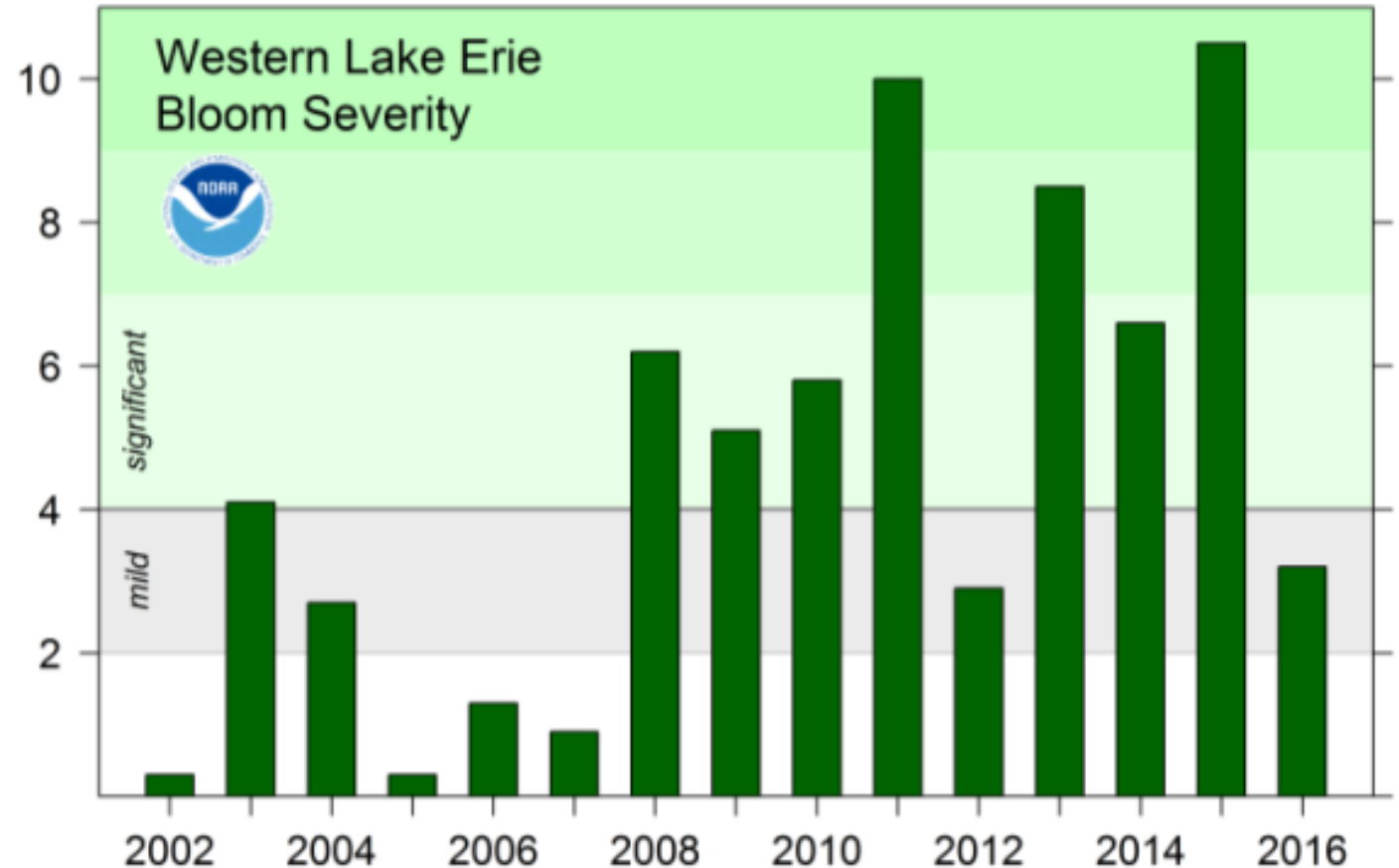


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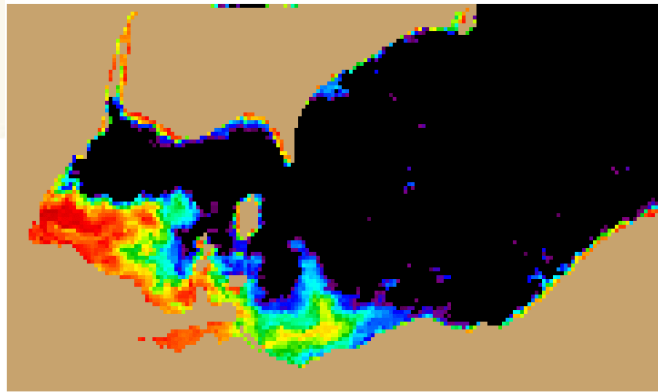


# Expected Outcomes

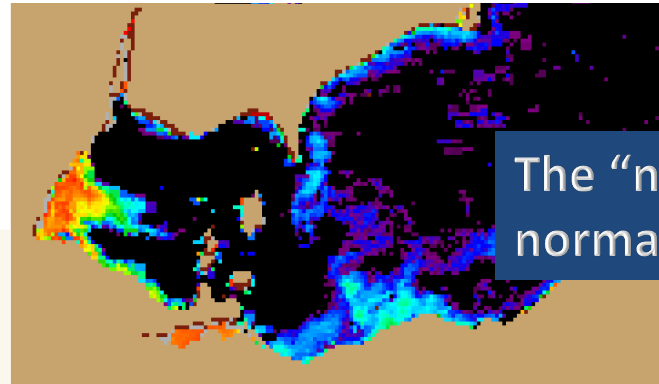
- Short residence time (2.7 years) – Lake could respond quickly
- Challenge is to reduce P during wet years
- Load has increased in part due to increase in discharge
- Relying on voluntary actions by private landowners – change will take time



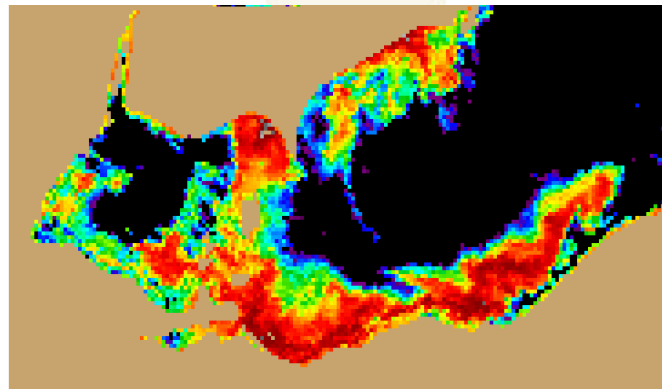
This is what we expect the bloom to look like if the targets are met



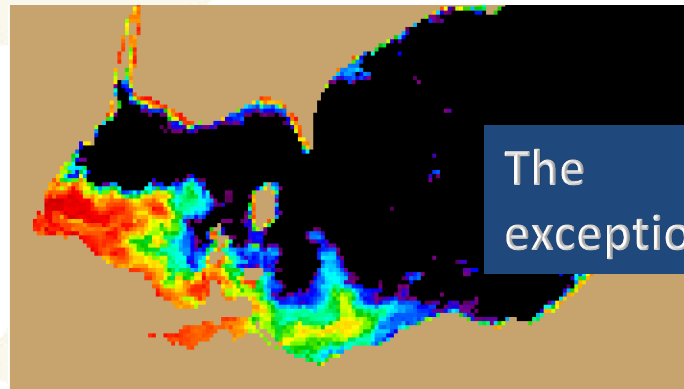
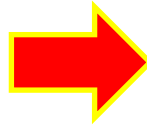
2008



The "new normal"

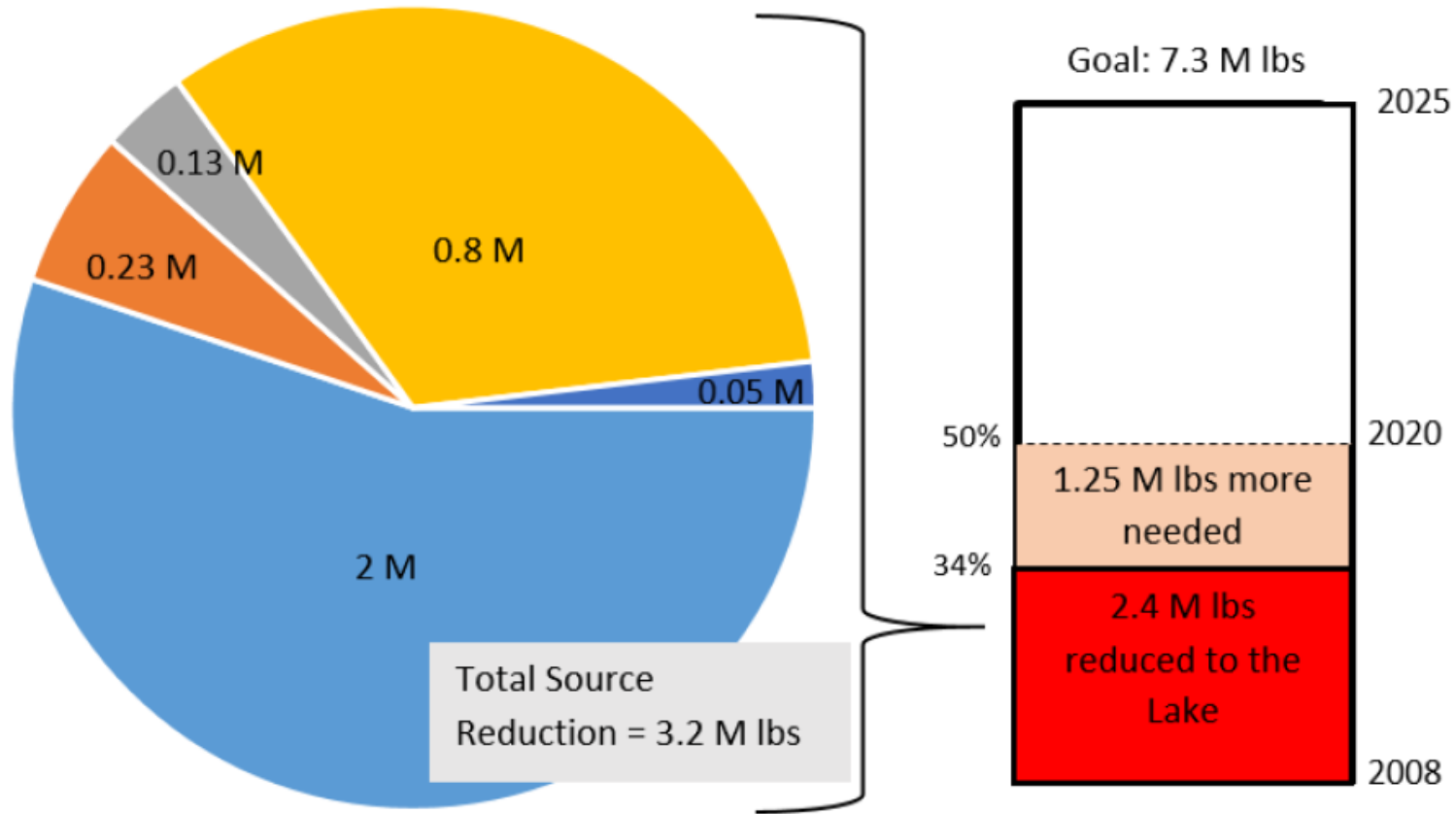


2011



The exception

## Phosphorus Reduction Projection



- NRCs-assisted conservation practices (2009-2019)
- EPA GLRI grants (2010-2017)
- CWA 319 grants (2008-2016)
- Detroit WWTP

Initial projection showing that 1.25 M lbs would be needed from other Federal, State and local efforts in addition to the major categories shown here in order to achieve 50% of the reduction goal by 2020.



# U.S. Commitments

- 7.3 million lbs phosphorus reduction - Priority is Maumee River
- 2020 and 2025 benchmarks for adaptive management
- Leverage GLRI funding to support implementation of DAPs
- States & Feds will work together & with binational partners to monitor & track progress through Annex 4 & ErieStat
- Annual webinars + triennial GLWQA Progress Reporting

# Next Steps

- Oct – Nov: States submit final draft DAPs to EPA
  - Pennsylvania & Ohio complete
  - Michigan, Indiana in process
- Dec: Response to comments on U.S. DAP
- Dec: Finalize U.S. DAP
- Jan – Feb: Interagency review & approvals
- All DAPs must be finalized n.l.t. February 2018

# Questions?

## Contact Information:

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To access the plans, visit [binational.net/a4](http://binational.net/a4) or [epa.gov/glwqa](http://epa.gov/glwqa)

# GLLC Leadership

**Representative Cory Mason**

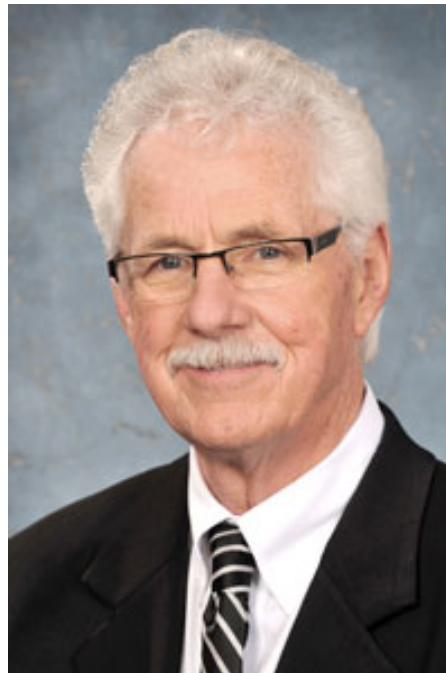
**Wisconsin**

**Chair, 2015-2017**



# **GLLC Leadership**

**Senator Darwin Booher  
Michigan  
Chair, 2017-2018**



**Executive Committee Members**

**ILLINOIS**



**Representative Robyn  
Gabel**

**INDIANA**



**Senator Ed Charbonneau**

**MICHIGAN**



**Representative David  
Maturen**

**MINNESOTA**



**Representative Jennifer  
Schultz**

**NEW YORK**



**Assemblyman Peter  
Lawrence**

**OHIO**



**Representative Dan  
Ramos**

**ONTARIO**



**Speaker Dave Levac**

**PENNSYLVANIA**



**Representative Curt  
Sonney**

**WISCONSIN**



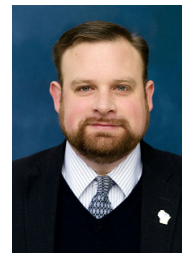
**Representative Nick  
Milroy**

**PAST CHAIR**



**Senator Ann H. Rest  
Minnesota**

**PAST CHAIR**



**Representative Cory  
Mason  
Wisconsin**

# 2018 Events and Activities

- Quarterly Web-Meetings
  - March 2 at 9 am Central/10 am Eastern
  - June 1 at 9 am Central/10 am Eastern
- **Nominating Committee**
  - Call for volunteers will go out in May
  - Nominating period will run from June 20 – July 20
  - Election of officers and Executive Committee members will take place on September 22

# 2018 Events and Activities

- Great Lakes Legislative Caucus 2018 Annual Meeting
  - **September 21-22** at the Sheraton Erie Bayfront Hotel in Erie, Pennsylvania
  - Early registration for members will open June 1
  - Resolutions will be considered
- Great Lakes Policy Institute
  - **September 20** at the Sheraton Erie Bayfront Hotel in Erie, Pennsylvania
  - One-day workshop preceding the annual meeting for a limited number of GLLC members
  - Purpose is to foster regional collaboration on key issues





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