

# ***Taking Action on a Lakewide Scale***

## **Lakewide Management**

**GREAT LAKES PUBLIC FORUM  
October 4, 2016 – Toronto, ON**

Chris Korleski, U.S. Environmental  
Protection Agency

John Marsden, Environment and Climate  
Change Canada

Ludington, Lake Michigan.  
Photo credit: NOAA.

# What is Lakewide Management?



Collecting samples on Lake Michigan.  
Photo credit: NOAA.

# What is Lakewide Management?



Lake Superior Partnership Working Group Meeting, Terrace Bay, Ontario. October 2015.



# What is Lakewide Management?



Peninsula Harbour, Ontario.  
Photo credit: Ontario MOECC.

# The purpose of the Lakewide Management Annex is to:

- *contribute to the achievement of the General and Specific Objectives of the Great Lakes Water Quality Agreement*
  - *by assessing the status of each Great Lake*
  - *by addressing environmental stressors that adversely affect the Waters of the Great Lakes which are best addressed on a lakewide scale through an ecosystem approach*

# Presentation Overview

## 1. History

## 2. Key outcomes 2014-16

- Lake Superior Lakewide Action and Management Plan (LAMP)
- Nearshore waters

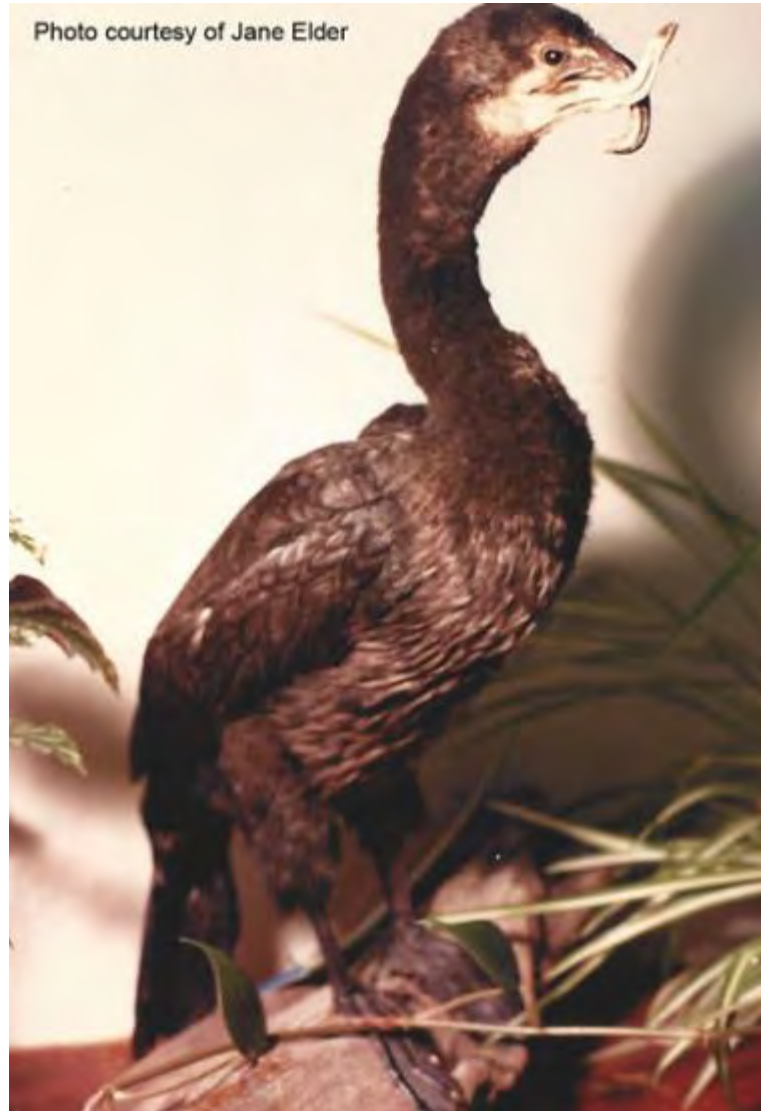
## 3. Priorities for Science and Action 2017-19

# We have come a long way



In 1952, the Cuyahoga River caught on fire.  
Photo credit: Cleveland Press. Cleveland State University Library

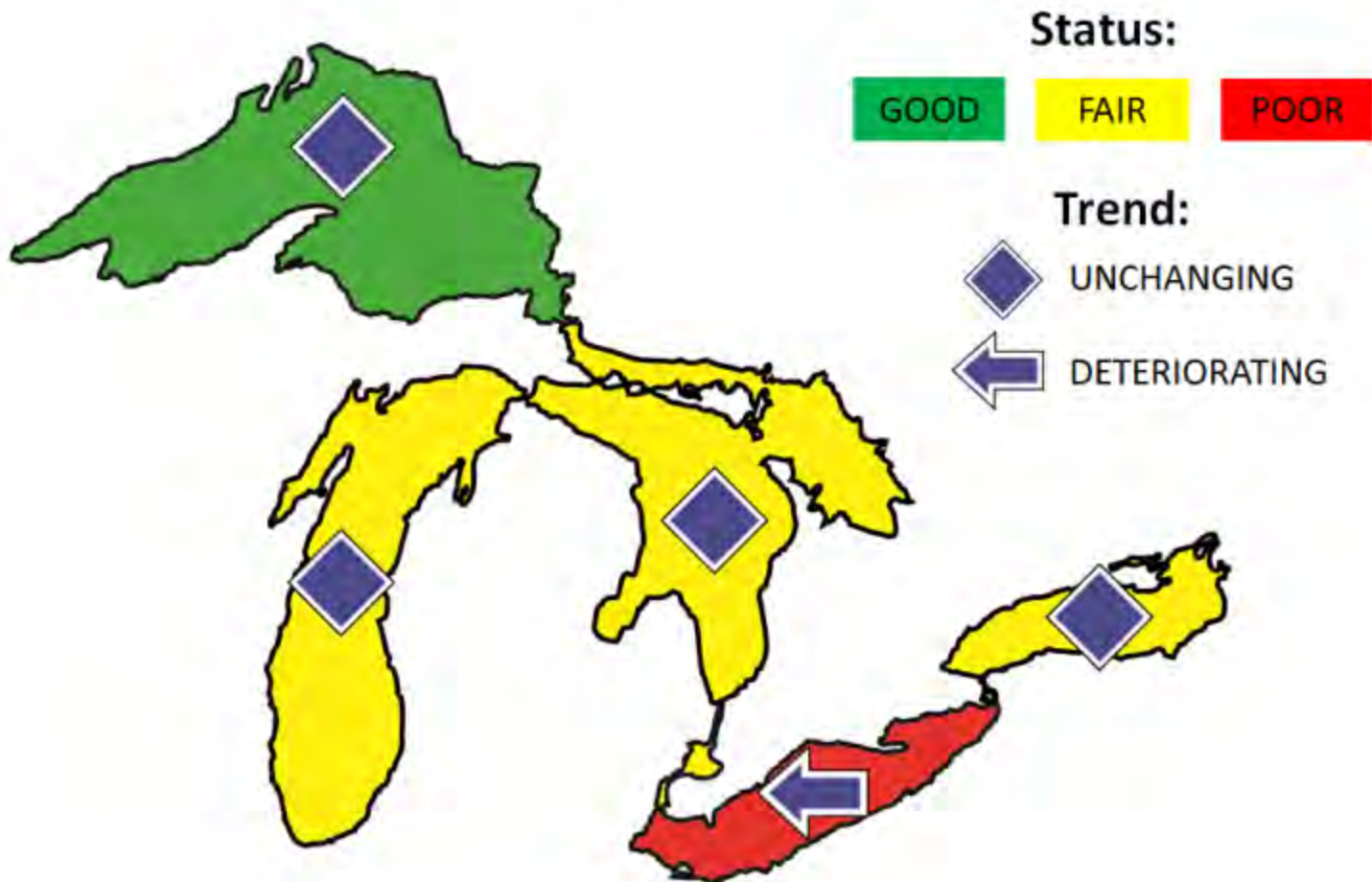
# We have come a long way





# We have come a long way

## Lake-by-Lake Overall Assessments



# Lakewide Management has changed



CANADA

TREATY SERIES 1972 No. 12 RECUEIL DES TRAITÉS

## BOUNDARY WATERS

Agreement between CANADA and the UNITED STATES  
of AMERICA on Great Lakes Water Quality

Signed at Ottawa, April 15, 1972

Entered into force April 15, 1972

## EAUX LIMITOPHES

Accord entre le CANADA et les ÉTATS-UNIS D'AMÉRIQUE  
relatif à la qualité de l'eau dans les Grands lacs

Signé à Ottawa, le 15 avril 1972

En vigueur le 15 avril 1972

1972 GLWQA



CANADA

TREATY SERIES 1978 No. 20 RECUEIL DES TRAITÉS

## POLLUTION

Agreement between CANADA and UNITED STATES OF  
AMERICA

Ottawa, November 22, 1978

In force November 22, 1978

## POLLUTION

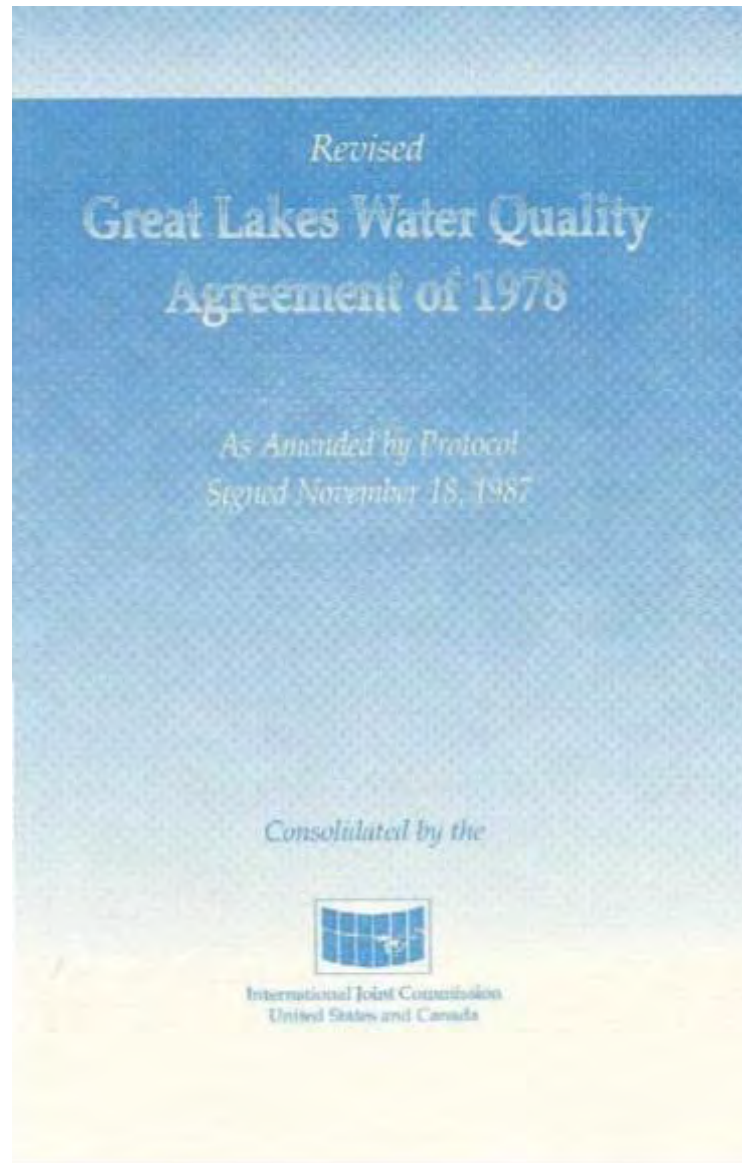
Accord entre le CANADA et les ÉTATS-UNIS D'AMÉRIQUE

Ottawa, le 22 novembre 1978

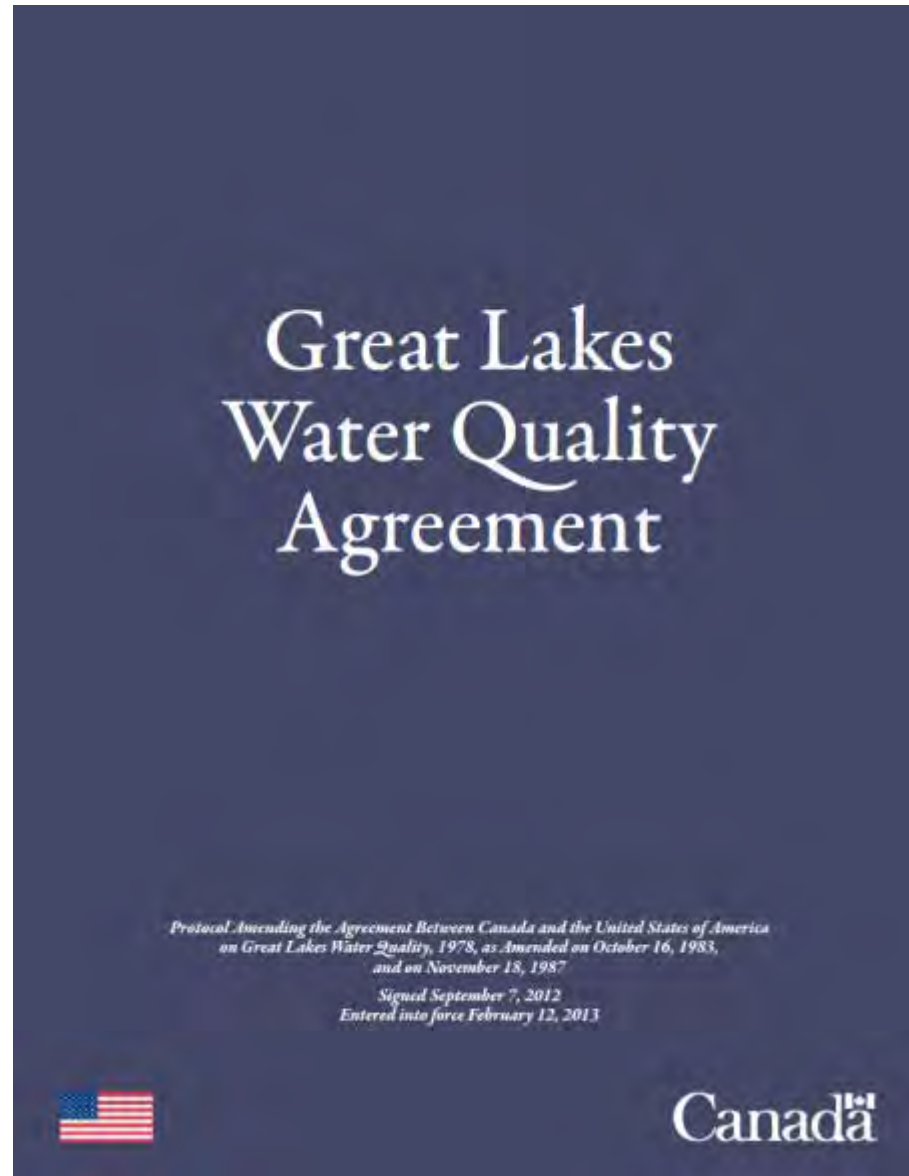
En vigueur le 22 novembre 1978

1978 GLWQA

# Lakewide Management has changed



# Lakewide Management has changed





# Lakewide Management Today

- Lakewide Action and Management Plans (LAMPs)
  - state of the lake ecosystem
  - lake ecosystem objectives
  - lake stresses/challenges
  - consensus/engagement
  - priorities for science and action
  - binational strategies
  - nearshore framework



Monitoring on the USEPA research vessel, Lake Guardian.  
Photo credit: S. Swart.

# Lakewide Management Today



October 11, 2015. Photo credit: NOAA.



# There are many Lakewide Management Partners



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada



US Army Corps  
of Engineers



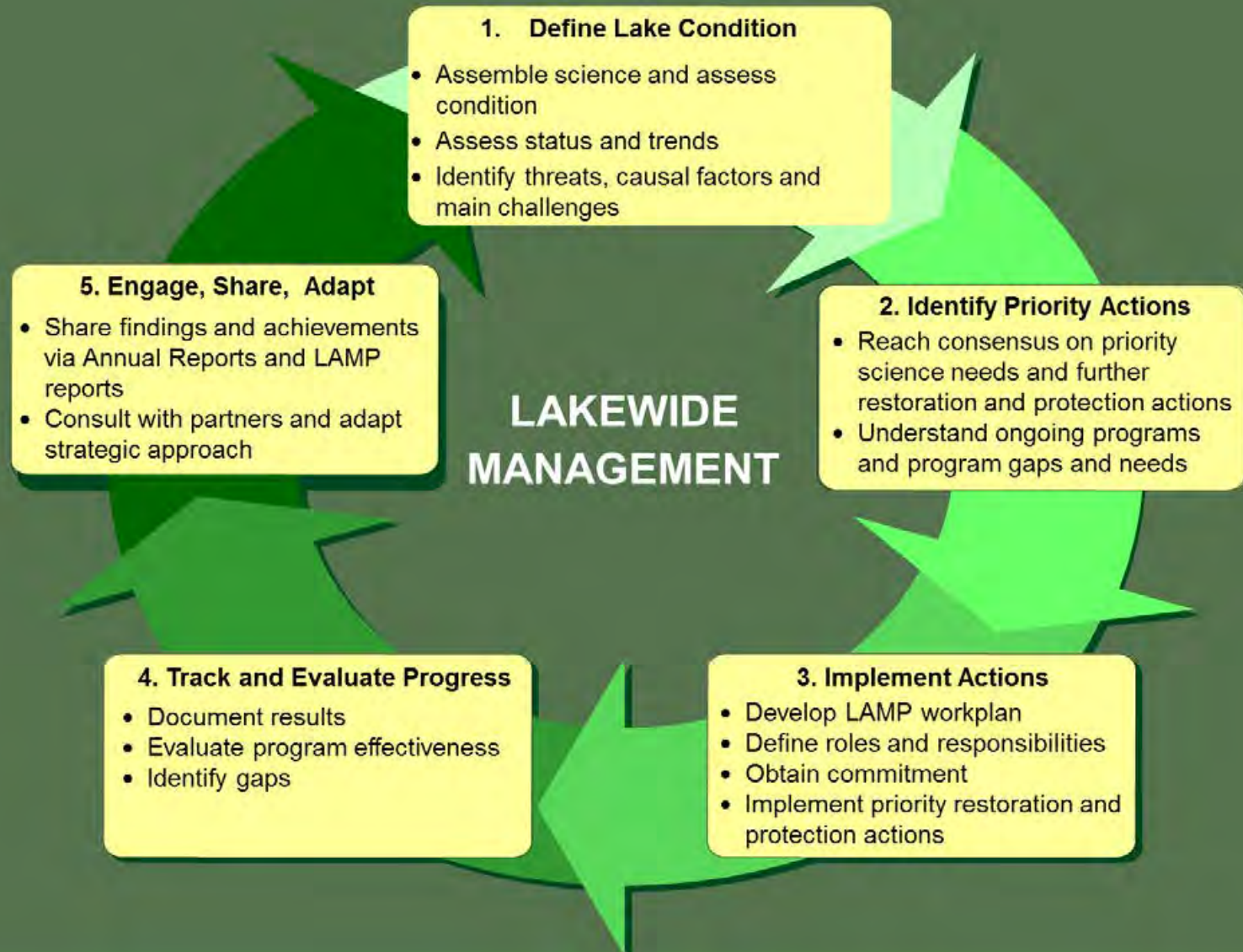
# We have made significant progress

## Key Outcomes:

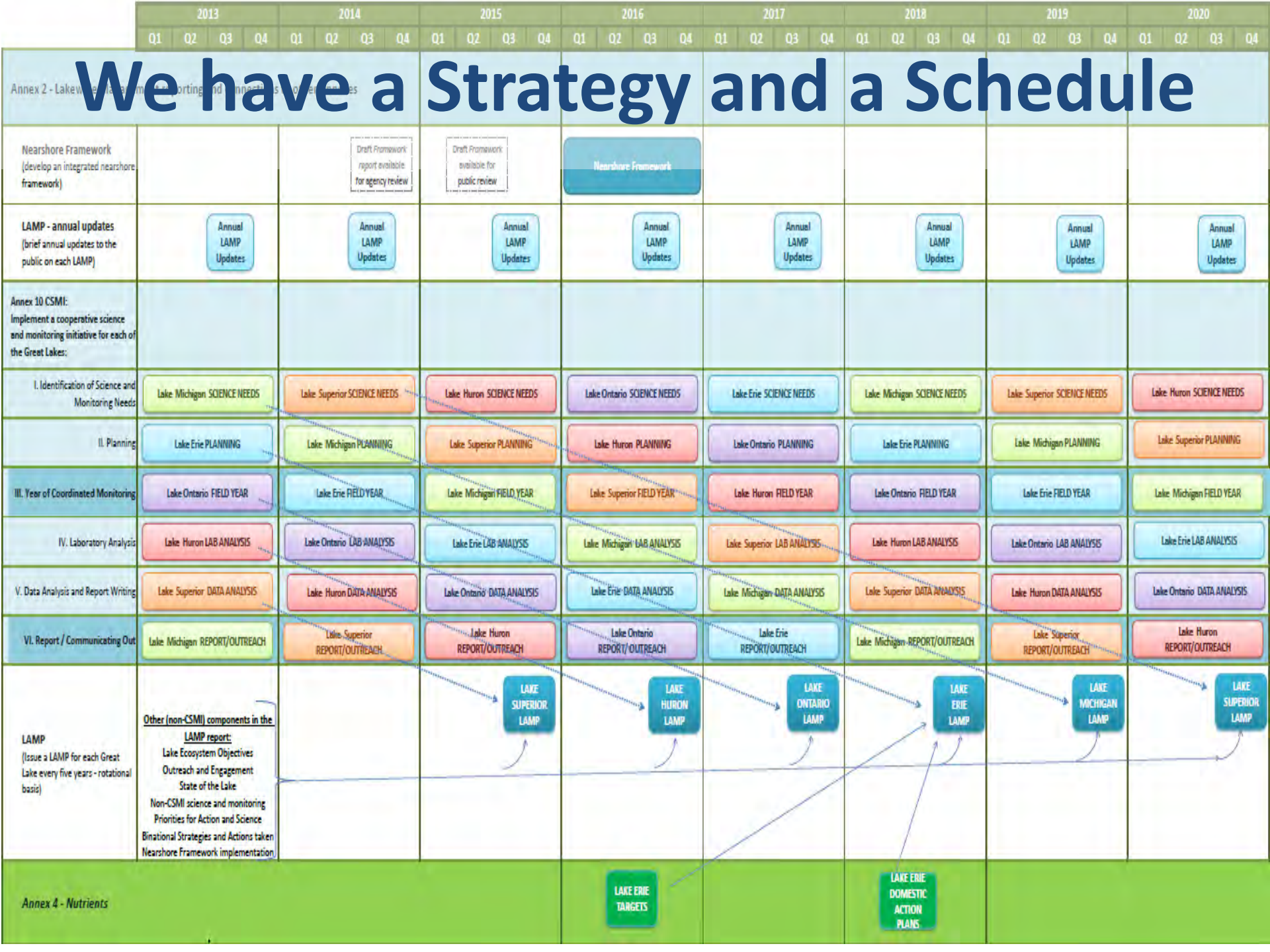
2012	2013	2014	2015	2016
<ul style="list-style-type: none"><li>• Published LAMP Annual Reports.</li><li>• Established Lake Ontario Science and Monitoring Priorities</li><li>• Finalized Lake Michigan Biodiversity Conservation Strategy.</li></ul>	<ul style="list-style-type: none"><li>• Published LAMP Annual Reports.</li><li>• Established Lake Michigan Science and Monitoring Priorities</li><li>• Finalized Lake Erie Biodiversity Conservation Strategy</li></ul>	<ul style="list-style-type: none"><li>• Published LAMP Annual Reports.</li><li>• Established Lake Superior Science and Monitoring priorities</li></ul>	<ul style="list-style-type: none"><li>• Published LAMP Annual Reports.</li><li>• Established Lake Huron Science and Monitoring priorities</li><li>• Finalized Lake Superior Biodiversity Conservation Strategy.</li></ul>	<ul style="list-style-type: none"><li>• Published LAMP Annual Reports.</li><li>• Finalized Lake Superior LAMP.</li><li>• Finalized Nearshore Framework.</li></ul>



# We have a Strategy and a Schedule



# We have a Strategy and a Schedule





Lake Superior  
Lakewide Action and Management Plan  
2015 - 2019



The Lake Superior Partnership

August 2016

**We have  
completed  
the Lake  
Superior  
LAMP**

# The Lake Superior LAMP Identifies Management Actions

- Aquatic Invasive Species
- Climate Change
- Dams and Barriers
- Chemical Contaminants
- High Quality Habitats
- Additional substances of concern
- Native Species Population
- Other threats



Falls River culvert on Golf Course Road, Baraga County, Michigan, before removal.

Photo credit: E. Johnston, Keweenaw Bay Indian Community.



# The Lake Superior Partnership will implement LAMP projects

- Address Chemical Contaminants (example)
  - Outreach and education on mercury toxicity
  - Improve understanding and communication of mercury trends
  - Document pesticide disposal to inform existing pesticide collection programs
  - Support abatement of open burning of residential garbage to achieve reductions in the release of dioxins and furans



# Tracking Implementation and Reporting are next



# You Can Take Action!



EcoSuperior sponsored a home cleaner trade-in project in which the public was invited to trade in a typical household cleaning product for a kit to make their own cleaning products. Photo credit: M. McChristie.



The beauty of Lake Superior elicits a jubilant reaction from toddler. Photo credit: M. Collingsworth.



DRAFT

# LAKE HURON

LAKEWIDE ACTION AND MANAGEMENT PLAN  
2016-2020

**We are  
drafting  
the Lake  
Huron  
LAMP**



# You can contribute to the Lake Huron LAMP

- Call to identify and provide:
  - perspective on the environmental conditions, issues, or concerns that should be considered
  - any suggestions on the prioritization of those issues or approaches for addressing them.
- Draft will be available for comment in late 2016
- Scheduled for completion in early 2017

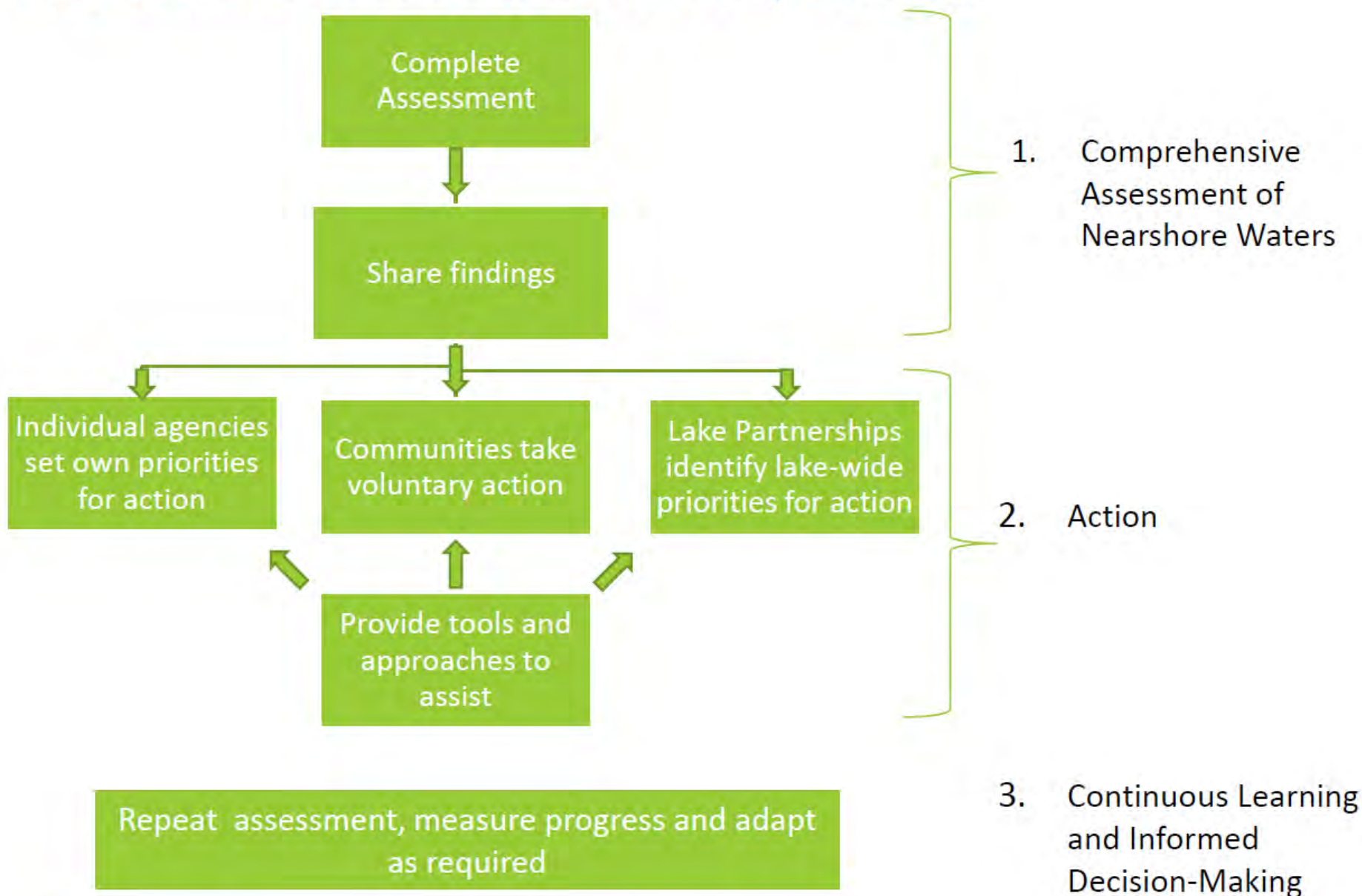


Photo credit: NOAA.

# We have developed the Nearshore Framework



# Nearshore Framework Components





# To Develop the Framework we engaged many people



Environment and  
Climate Change Canada

Environnement et  
Changement climatique Canada



Pêches et Océans  
Canada

Fisheries and Oceans  
Canada



Department of  
Environmental  
Conservation



Parks  
Canada

Parcs  
Canada





# **We are making progress on Lake Ecosystem Objectives**

- Establishing Lake Ecosystem Objectives for each Great Lake, including its connecting river systems, as a benchmark against which to assess status and trends in water quality and lake ecosystem health.

# **We have undertaken Outreach and Engagement**

A satellite image of the Pacific Ocean, showing the western coast of North America on the left and the eastern coast of Asia on the right. The ocean is a deep blue, and the landmasses are a lighter blue/green. The text is overlaid on the ocean area.

**8 webinars**

**800 participants**

**From:** Korleski, Christopher [<mailto:korleski.christopher@epa.gov>]  
**Sent:** May-11-16 1:26 PM  
**To:** GLIN Announce  
**Subject:** Call for Great Lakes Stakeholder Participation

## Call for Great Lakes Stakeholder Participation!

Hello Great Lakes Basin Stakeholders:

As you may know, the United States and Canada are implementing the Great Lakes Water Quality Agreement of 2012. This binational agreement targets many of the significant environmental issues impacting the lakes, including nutrient discharges, toxic hotspots known as “Areas of Concern”, and the introduction of aquatic invasive species. These issues, and several others, are addressed by the 10 individual Annexes to the Agreement, which provide direction and set goals and objectives for the restoration and protection of the Great Lakes.

Unlike most of the other Annexes, the Lakewide Management Annex of the Agreement does not address a singular environmental issue of concern (*e.g.*, nutrients or climate change). Instead, the Annex requires the cooperation of the many governmental partners and the public to look at each Great Lake individually and to develop a Lakewide Action and Management Plan (LAMP) for each lake that will address all environmental stressors in the way most appropriate for that particular lake. For example, you may be aware of the imminent finalization of a new Lake Superior LAMP - the first LAMP prepared pursuant to the 2012 Agreement.

The Agreement makes clear that Lakewide Management activities are to be undertaken in conjunction with the public. In the summer and fall of 2015, we hosted basin-wide and lake-specific webinars for interested Great Lakes stakeholders and the general public. The purpose of these webinars was to explain our Lakewide Management Annex work and seek comments on and suggestions for ways in which the government agencies could undertake outreach and engagement with stakeholders and the public. After considering the valuable feedback from those webinars, and taking into account governmental resources and certain federal requirements that apply to interaction with stakeholders, we are establishing a mechanism to obtain input from interested stakeholders, via a two-step process. The first step is already underway: the individual Lake Partnerships (*i.e.*, the group of federal, state, provincial, tribal and local governments or governmental agencies that oversee the development and implementation of the LAMP) are forming Outreach and Engagement (O&E) subcommittees that will take the lead on engaging with and reaching out to Great Lakes stakeholders on Lake Partnership-related issues.

The second step in this process is to: 1) identify individual stakeholders or stakeholder representatives (*i.e.*, an individual representing a larger organization) who would like to interact with the Lake Partnerships to provide

We have  
undertaken  
Outreach  
and  
Engagement

## Highlights



**Great Lakes Public Forum  
Registration is Now Closed**  
2016/09/30

Registration for the Great Lakes  
Public Forum is now closed. For  
more information, contact  
ec.grandslacs-  
greatlakes.ec@canada.ca



**Watch Live: Great Lakes Public  
Forum 2016**  
2016/09/29

Live video is provided by the  
International Joint Commission in  
conjunction with Detroit Public  
Television and TVO.

All Footage @

[Continue Reading](#)



[Binational.net](#) > [Engagement](#) > [Engagement Opportunities](#) > [Completed Engagement Opportunities](#) > [Public Comment Completed: Draft Nearshore Framework for the Great Lakes](#)

[Previous](#) [Next](#)

## Public Comment Completed: Draft Nearshore Framework for the Great Lakes.

Posted on 2016/05/13



Lake Superior nearshore. Credit: Brenda Jones.

A Nearshore Framework for the Great Lakes was drafted and was available for a sixty-day review period ending on July 12, 2016. The Nearshore Framework satisfies a

We have  
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Outreach  
and  
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### What is the Lake Ontario LAMP?

Under the 2012 Great Lakes Water Quality Agreement (GLWQA), the governments of Canada and the United States committed to restore and maintain the physical, biological and chemical integrity of the waters of the Great Lakes.

The Lake Ontario Lakewide Action and Management Plan (LAMP) is a binational action plan for restoring and protecting the Lake Ontario ecosystem. The LAMP is developed and implemented by the Lake Ontario Partnership, led by the U.S. Environmental Protection Agency (U.S. EPA) and Environment and Climate Change Canada (ECCC). The Partnership facilitates information sharing, sets priorities, and assists in coordinating binational environmental protection and restoration activities. The next Lake Ontario LAMP will be issued in 2017; in the interim, the Lake Ontario Partnership will: assess the state of the lake, measure progress, and promote management actions to address identified problems.

This 2016 annual report highlights accomplishments and progress.

### Overview

In 2016, the Lake Ontario Partnership continued to address key lakewide management issues, and cooperatively protected and restored water quality and ecosystem health across the lake basin. Priorities included:

- Implementing the Binational Biodiversity Conservation Strategy (BBCS);
- Advancing the Cooperative Science and Monitoring Initiative (CSMI);
- Improving coastal wetland and nearshore ecosystems;
- Assessing and managing nutrients;
- Restoring fish and wildlife species and habitat; and
- Minimizing the impact of aquatic invasive species.



Researchers caught an American Eel at Wolfe Island during research into downstream migration. Credit: Alastair Mathers, Ontario Ministry of Natural Resources and Forestry.

### Accomplishments

#### Cooperative Science and Monitoring Initiative: Key Findings

The binational CSMI promotes and coordinates science programs implemented by federal, provincial, state, tribal, First Nations, academic, and non-governmental agencies. It addresses key information needs identified through the LAMP process and includes enhanced research and monitoring activities in one Great Lake per year on a five-year rotation. The 2013 Lake Ontario CSMI is the most recent and focused on fish community dynamics, nutrient levels and fate, abundance of microscopic organisms in water and sediment, and the Lake Ontario food web. (...continued on next page...)

We have  
undertaken  
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Engagement

# We have identified 2017-19 Binational Priorities for Science

- Pilot application and testing of the nearshore framework
- Lake specific priorities for science are determined by the Lake Partnerships and actioned through the Cooperative Science and Monitoring Initiative
  - **Lake Huron 2017:** chemicals, nutrients, food web, physical
  - **Lake Ontario 2018:** nutrients, aquatic, chemical, habitat
  - **Lake Erie 2019:** tbd

# We have identified 2017-19 Binational Priorities for Action

- **2017:** Lake Huron LAMP will be completed
- **2017:** Lake Ontario LAMP will be completed
- **2018:** Lake Erie LAMP will be completed
- **2019:** Lake Michigan LAMP will be completed
- Implement Lake Superior LAMP
- Lake Ecosystem Objectives
- Outreach and Engagement

# You are invited to the Lake Breakout Sessions Today @ 4:30-6:00 PM

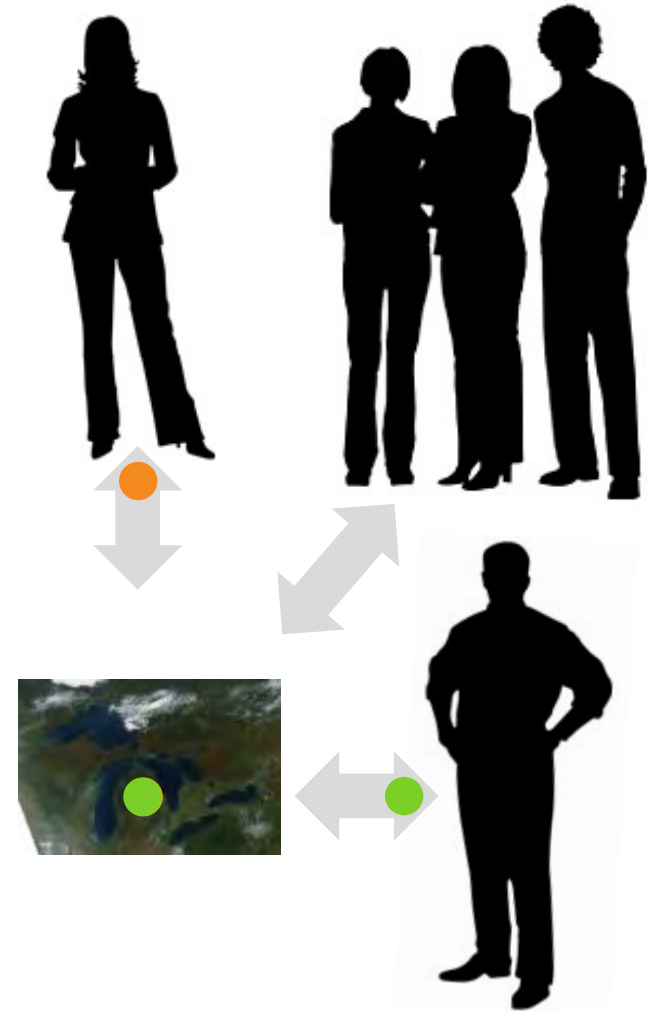
- To share info about the lake and lakewide management priorities
- To hear your views about our lake assessment and priorities, and how to enhance engagement



**Enhancing Government  
and Stakeholder  
teamwork will expand  
progress**



**Thanks for your work on  
Lakewide Management!**



A satellite image of the Great Lakes region, showing the five Great Lakes (Superior, Michigan, Huron, Erie, and Ontario) and the surrounding landmasses. The lakes are dark blue, and the surrounding land is a mix of brown and green, indicating different vegetation and land use. The text is overlaid on the image in a bold, yellow font.

**For more information:**

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[john.marsden@canada.ca](mailto:john.marsden@canada.ca)**

**[www.binational.net](http://www.binational.net)**