

LAKE HURON LAKEWIDE ACTION AND MANAGEMENT PLAN 2017-2021



An Overview

Prepared by the Lake Huron Partnership



Cave Point
Photo Credit: Don Wilkes

GREAT LAKES WATER QUALITY AGREEMENT

Updated Agreement signed by Canada and the U.S. in September 2012.
Annexes include;

- Areas of Concern
- Lakewide Management
- Chemicals of Mutual Concern
- Nutrients
- Discharges from Vessels
- Aquatic Invasive Species
- Habitat and Species
- Groundwater
- Climate Change Impacts
- Science



What is LAKEWIDE MANAGEMENT?

An open **process** that provides science-based answers to three questions:

- How is the lake doing?
- What is stressing the lake?
- What additional actions are necessary?

A lakewide **mechanism** to help coordinate and facilitate:

- Taking action
- Tracking progress and challenges

The Lake Huron Partnership



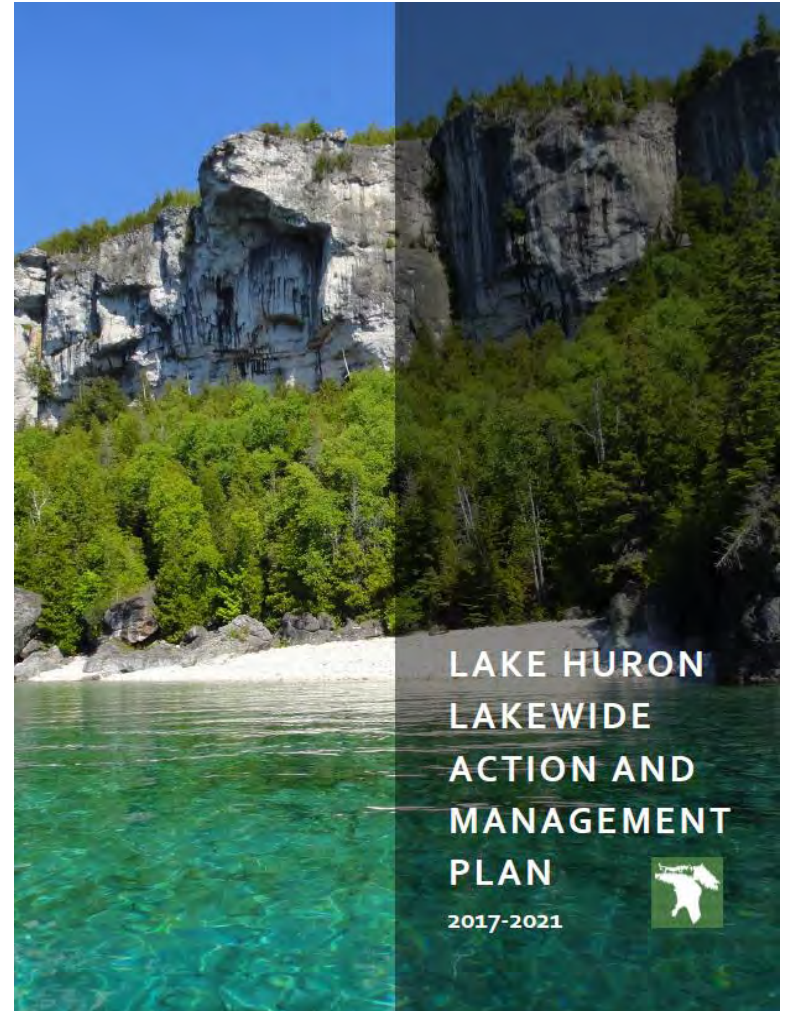
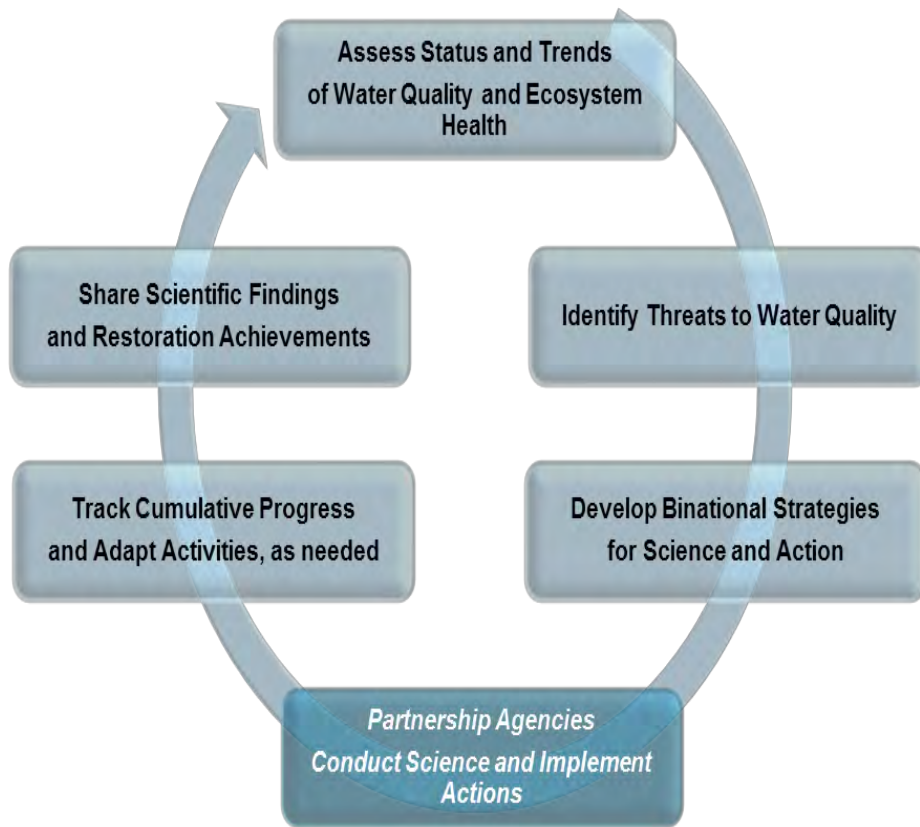
Members representing federal, provincial, indigenous, tribal, state and local governments, with participation from others including NGOs, academia/ researchers, and the public.



Co-chaired by Environment and Climate Change Canada and the U.S. Environmental Protection Agency.

2017-2021 Lake Huron Lakewide Action and Management Plan (LAMP)

The LAMP is a binational action plan for restoring and protecting the Lake Huron ecosystem.



A Shared Understanding

Input from government and scientists, resource managers, First Nations, Métis Nation of Ontario, and other organizations.



DRAFT Lake Huron Partnership
Science and Monitoring Synthesis

THE STATE OF LAKE HURON IN 2010



at Lakes Fishery Commission

SPECIAL PUBLICATION 13-01

STATE OF THE GREAT LAKES 2017
HIGHLIGHTS REPORT

An overview of the status and trends of the Great Lakes ecosystem



THE SWEETWATER SEA

STRATEGIES FOR CONSERVING
LAKE HURON BIODIVERSITY



State of Lake Huron Workshop Proceedings
Great Lakes Maritime Heritage Center
Alpena, Michigan, U.S.A.
November 4-5, 2015

Prepared for:
Environment and Climate
Change Canada

Draft report submitted:
December 2015

LimnoTech
Water
Environment | Scientific
Engineering

Canada

LAKE HURON LAMP

Content includes:

- State of the Lake, including threats
- Actions to address threats and achieve lakewide objectives
- 43 Lake Huron Partnership actions to focus on during 2017-2021 timeframe

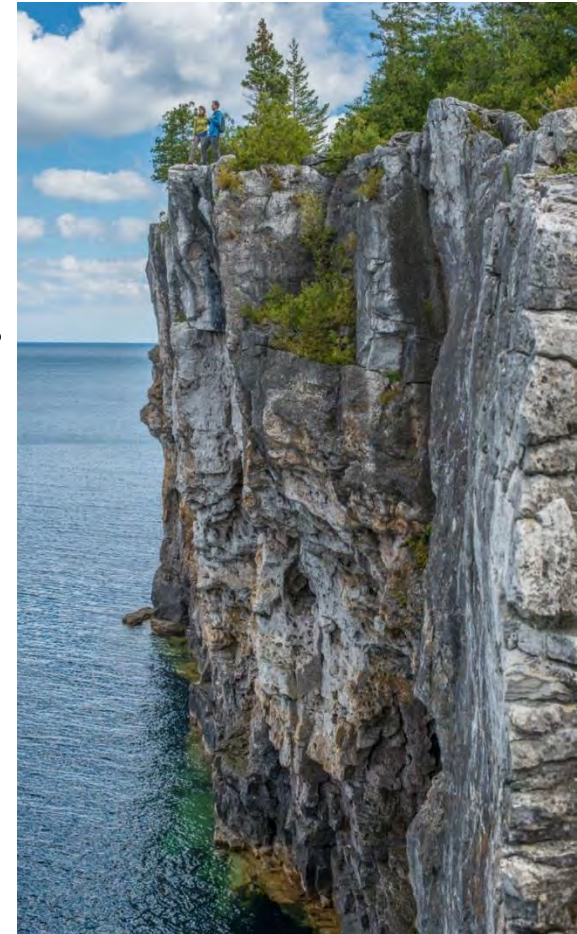


Flowerpot Horiz
Photo credit: Don Wilkes

What are the LAKE CONDITIONS

The Lake Huron ecosystem is in “fair” condition

- Chemical pollutants are good and unchanging.
- Nearshore waters are of high quality.
- Off shore levels are variable, but below targets.
- Decline in nutrient levels and availability.
- Walleye largely recovered.
- Lake Trout populations approaching reproduction targets.



What are the THREATS TO THE LAKE

The ecosystem faces a number of threats

- Existing aquatic invasive species, such as Sea Lamprey, and the risk of new invaders
- Climate change impacts
- Areas of impaired habitat connectivity between the tributaries and the open lake
- Fish consumption advisories due to pollutants such as mercury and PCBs
- Substances of emerging concern, such as microplastics
- Other threats, such as impacts from the mining and energy sectors

Lake Huron Strategies & Actions

Chemical
Contaminants



Five threats



Five strategies



>40 actions

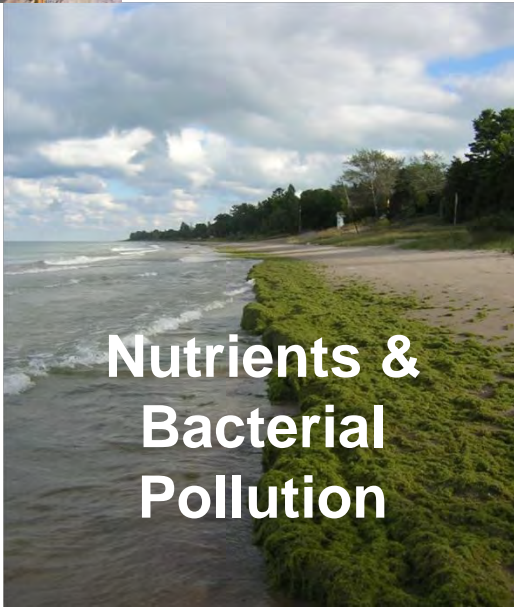


> 20 agencies

Climate Change
Impacts



Nutrients &
Bacterial
Pollution



Invasive
Species



Loss of
Habitat
and Native
Species

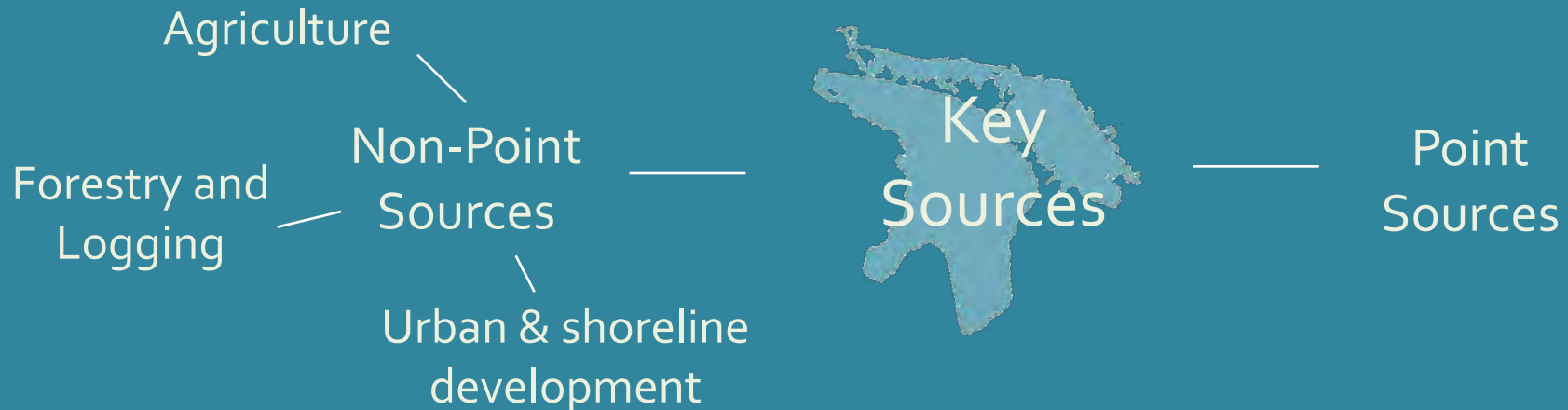


Nutrient & Bacterial Pollution Actions



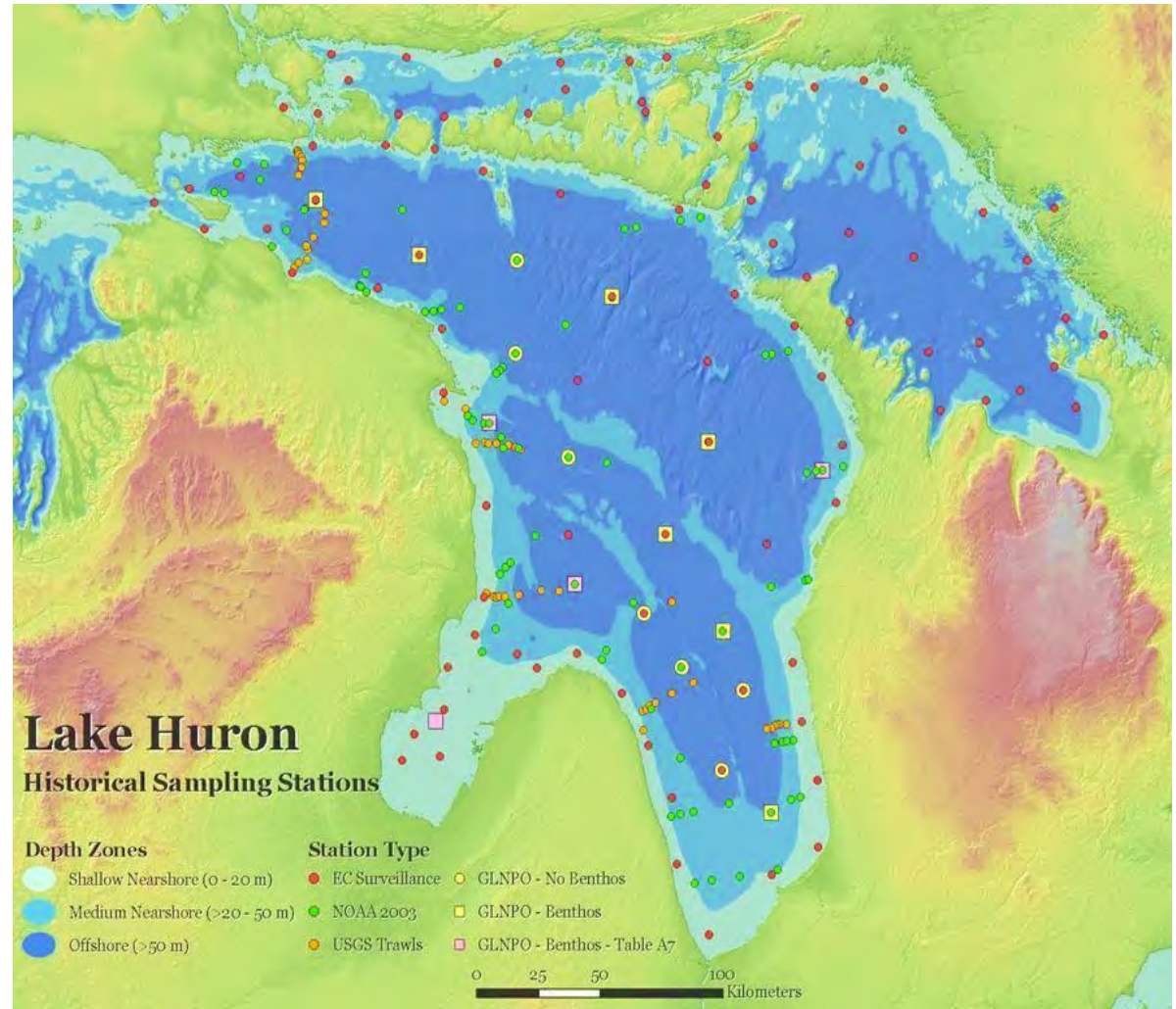
Summary of **11** Actions identified for 2017-21:

- Build on nutrient reduction efforts in priority watersheds.
- Nutrient reduction in urban areas through low impact development and treatment plant improvements.
- Support efforts to gather, summarize and report nutrient & bacterial science and monitoring results.



SCIENCE PRIORITIES

1. Nutrient Loading, Fate, and Transport.
2. Lower and Upper Food Web Linkages.
3. Contaminant Loading and Cycling.



Lake Huron open water sampling stations and transects used by Environment and Climate Change Canada, the United States Geologic Survey, National Oceanic and Atmospheric Administration, and the United States Environmental Protection Agency – Great Lakes National Program Office.

OTHER INFORMATION

LAMP also includes:

- Significance of Lake Huron ecosystem.
- Activities that everyone can take.
- Information about:
 - Nearshore framework,
 - Outreach & engagement,
 - Monitoring programs.



Fathom Five National Marine Park
Student Wetland Volunteers
Photo credit: Scott Park

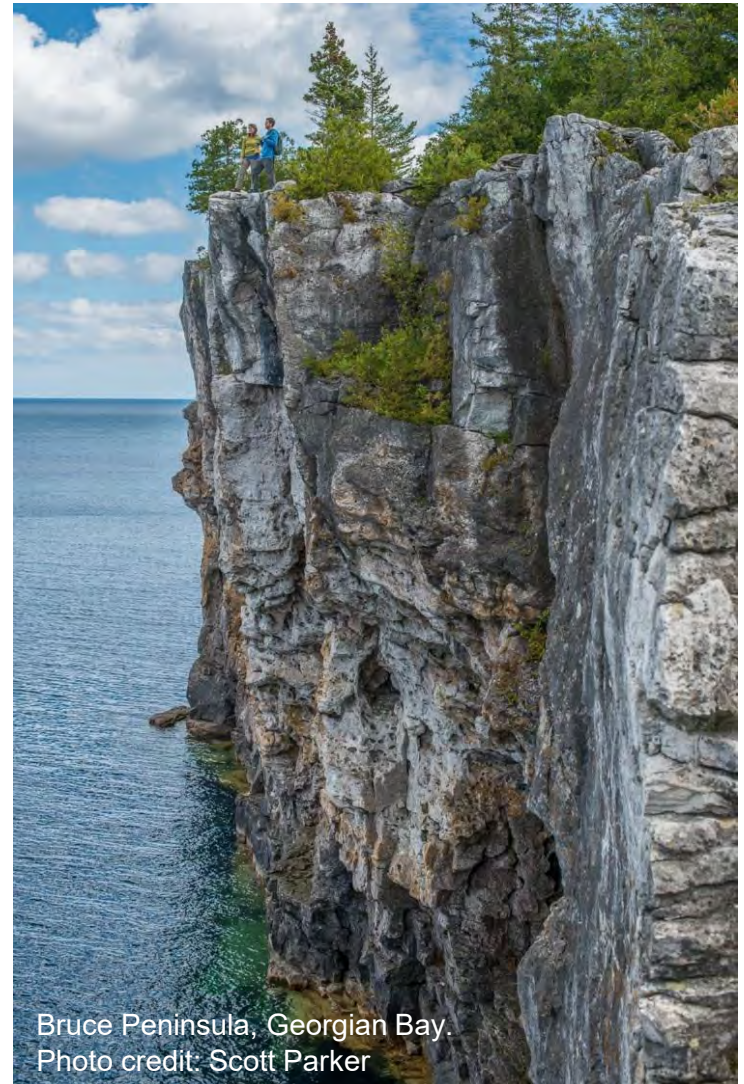
COMMITMENT TO ACTION

- Agencies commit to incorporate, to the extent feasible, LAMP objectives and actions in their decisions on programs, funding, and staffing.
- Agencies commit to specific actions in which they anticipate involvement.



TRACKING PROGRESS

- Internal agency work planning and reporting will help track progress of each individual organization.
- Lake Huron Partnership will undertake lakewide coordination and assessment of progress.



REPORTING

- Lake Huron Partnership will provide annual updates to the public.
- Annual reports will include a brief status of LAMP actions.



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Overview

Lake Huron's abundant natural resources and water-based industries support a strong regional economy through commercial and recreational fishing, shipping, mining, forestry, and agricultural operations. Parks and conservation areas provide tourism and recreation opportunities and nurture a connection with the natural world. To protect this resource, the Lake Huron Partnership is working with all levels of government, watershed management agencies, and the public to develop the 2017-2021 Lake Huron Lakewide Action and Management Plan (LAMP). The LAMP represents a model of binational collaboration and a shared, science-based understanding of Lake Huron. The full LAMP report will be posted at: www.binational.net

This Annual Report focuses on the following topics:

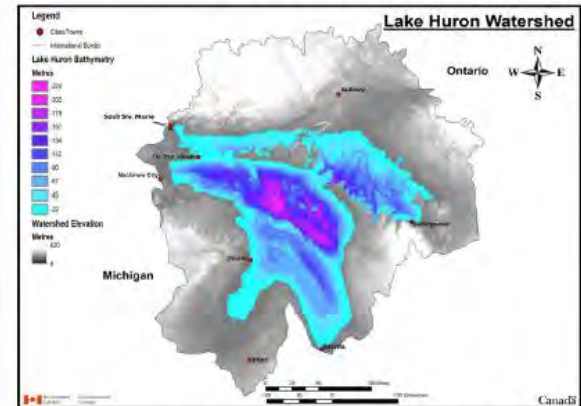
- The state of Lake Huron;
- Cooperative Science and Monitoring Initiative for 2017;
- Binational strategies that address key environmental threats; and
- Outreach, engagement and education initiatives.

What is the Lake Huron LAMP?

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

The Draft Lake Huron Lakewide Action and Management Plan (LAMP) is a binational action plan for restoring, enhancing, and protecting the Lake Huron ecosystem. The LAMP is developed and implemented by the Lake Huron Partnership, which is led by the U.S. Environmental Protection Agency (USEPA) and Environment and Climate Change Canada (ECCC). The Partnership facilitates information sharing, sets priorities, and assists in coordinating binational environmental protection and restoration activities.

This 2017 annual report highlights accomplishments and progress in achieving lakewide management goals during the past year and identifies LAMP-related activities including outreach, monitoring, and protection and restoration actions.



Lake Huron has the largest watershed and longest shoreline of the Great Lakes. The maximum depth is 229 metres (750 feet). Credit: Environment and Climate Change Canada.