Canada-Ontario **Domestic Action Plan** for Lake Erie Phosphorus Reduction



Agriculture Sector Working Group April 19, 2017



- Present an overview of the Canada-Ontario Draft Action Plan for Lake Erie to Achieve Phosphorus Reductions from Canadian Sources (Action Plan)
- Highlight the timeline and next steps for finalizing the Action Plan
- Provide an opportunity to ask questions and discuss the proposed actions presented in the draft Action Plan
- Provide an opportunity to discuss potential actions of partners

Ontario's Lake Erie Nutrient Commitments



Lake Erie Action Plan Early Engagement

July 2016

Early engagement with Lake Erie community

- Lake Erie Nutrients Working Group
- Face to Face sessions
 - Lake Erie Conservation Authorities
 - Agriculture sector
 - Municipal Sector
 - ENGO's and special interests
 - First Nations /Metis

1st EBR Policy Proposal Notice

Ontario posted on **October 6, 2016** for public comment (45 day consultation period) a Policy Proposal Notice which:

- 1. Set Ontario's target under the Great Lakes Protection Act, 2015 (GLPA) to be "a 40 percent phosphorus load reduction by 2025 (from 2008 levels) for the Ontario portion of the western and central basins of Lake Erie, as well as an aspirational interim goal of a 20 percent reduction by 2020."
- 2. Identified preliminary list of Ontario's proposed actions to be considered for incorporation in the draft Canada-Ontario Action Plan for Lake Erie.
 - Six of the proposed actions addressed phosphorus contributions from agricultural sources

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Pulley Proposal Modes: Tale: souring Progotous to Minimize Agal Booms in Lake Erie	EBR Registry Number: 012-8760 Ministry; Writing of the Environment and Clenate Change Date Proposal loaded to the Registry; October 05: 2016		
Comments may also be surt by s-mail to Land WaterSportato ta			
Representing: The comment period for this proposal is now over The comment period for this proposal is now over			
Description of Policy.	Contact:		
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	7 Lake Ene Binational Targets		

Highlights - What We Heard

What We Have Learned

- Most phosphorus is lost in the non-growing season and phosphorus loss potential varies significantly across the landscape and within fields.
- Improved soil health is important: Reduced erosion and increased water retention in soil are important in preventing phosphorus loss from agricultural land.
- Multiple Best Management Practices are more effective in reducing runoff than individual ones, but solutions need to be tailored on a farm by farm basis.
- Voluntary efforts (adoption of nutrient management and conservation tillage BMPs) went a long way to reduce phosphorus levels and algal blooms in Lake Erie in the 1970's and 1980's.
- More sophisticated approaches are now needed to respond to a changing environment. These approaches should emphasize:
 - Innovative partnerships with industry, engaging leaders in the farm community for sustained behaviour change;
 - Site specific solutions that are tailored to the individual farm (e.g., soil type, slope and production practices) to ensure the right BMP is placed on the right site;
 - A multi-barrier approach considering the suite of best management practices and the economic realities of agriculture.
- More information is needed, but we need to move ahead with what we know adaptive management is critical.

Draft Action Plan for Lake Erie

- Led by 5 agencies (ECCC, AFFC, OMAFRA, MOECC, MNRF)
- Considered input from early engagement and EBR posting
- High level: likely to get more specific over time
- Plan Includes:

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- Characterization of landscape and sources
- Economic implications
- Phosphorus reduction targets
- Actions
 - Actions across all basins and Lake St. Clair
 - Canada and Ontario Actions only
 - New and existing
 - · What we could commit to at the time
 - Accountability
- Adaptive Management including governance
- Numerous gaps
- Released Mar 10, 2017

Partnering in Phosphorus Control:

Achieving Phosphorus Reductions in Lake Erie from Canadian Sources

The Canada-Ontario Draft Action Plan

Gathering Ideas

Draft Action Plan Engagement

- Draft Action Plan released Mar 10th, 2017 for a 60 day consultation and review period (May 9th, 2017)
- Online and face to face sessions
 - Perspectives on Canada's and Ontario's proposed actions
 - Actions of partners for inclusion in the plan
 - Thoughts on governance
- Engagement Sessions being scheduled now for mid April/early May 2017
 - Lake Erie Nutrients Working Group
 - Agriculture Sector Working Group
 - Other sector based sessions
 - Public Sessions

What's in the Draft Action Plan?

• Context and Lake Erie issues, science to support binational phosphorus reduction target development, Canada/Ontario phosphorus reduction actions, monitoring and research actions, adaptive management framework, and public reporting

Category of Action						
Reduce Phosphorus Loadings	Ensure Effective Policies, Programs and Legislation	Improve the Knowledge Base	Educate and Build Awareness	Strengthen Leadership and Coordination		
Strategic Actions						
A1 Support watershed and nearshore-based strategies and community-based planning for reducing phosphorus loadings	B1 Support and strengthen policies, programs and legislation	C1 Conduct monitoring and modelling	D1 Enhance communication and outreach to build awareness, improve understanding and influence change	E1 Improve communication and coordination		
A2 Reduce phosphorus loadings from urban areas	B2 Strengthen decision- making tools	C2 Conduct research to better understand nutrient dynamics in the Lake Erie basin	D2 Share data and information	E2 Establish an adaptive management framework		
A3 Reduce phosphorus loadings from agricultural and rural areas		C3 Conduct research to better understand and predict the impact of climate change on the Lake Erie ecosystem				
		C4 Conduct research to improve existing practices and develop new innovative practices and technologies for phosphorus loss reduction				

Goal: Reduce Canadian Phosphorus Loadings by 40 Percent

A. Reduce Phosphorus Loadings

A1: Support watershed and nearshore-based strategies and community-based planning for reducing phosphorus loadings

A1.3 Potential new programs – Multi-Agency

Canada and Ontario will explore the development of a multi-agency program(s) that supports the implementation of local actions within high risk areas for phosphorus loadings in the western and central Lake Erie basins

A. Reduce Phosphorus Loadings

A3: Reduce phosphorus loadings from agricultural and rural areas

 Canada and Ontario will continue to leverage existing funding initiatives (e.g., Growing Forward 2, Great Lakes Stewardship Initiative) to support implementation of agricultural BMPs and environmental investments in targeted regions of the Lake Erie basin.

A3.2 Potential new programs – Next Policy Framework

 Ontario will pursue programming that supports a multi-BMP whole farm approach to achieve phosphorus runoff reduction from farmland in the western and central basin of Lake Erie.

A3.3 Industry-led 4R Nutrient Stewardship Program

 Ontario will continue to support the development and implementation of an Ontario industry-led 4R program (right source of nutrients at the right rate, time, and placement) based on the internationally-recognized 4R Nutrient Stewardship system which helps farmers reduce nutrient losses into the environment through efficient nutrient application.

A3.4 Continue work with greenhouses to reduce phosphorus discharges

- Ontario in collaboration with the greenhouse sector will continue working with greenhouse growers to encourage nutrient recycling and reduce phosphorus levels in discharges to watercourses that flow into Lake Erie with a priority on the Leamington area and Thames River.
- Actions include education, awareness, innovation, monitoring, cost-shared investments and regulatory compliance and enforcement.

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A. Reduce Phosphorus Loadings

A3: Reduce phosphorus loadings from agricultural and rural areas cont'd

 Ontario with Canada's support will work with the agriculture sector to harmonize and streamline planning tools (e.g., Environmental Farm Plan (EFP), Farmland Health Checkup, nutrient management planning) to support an integrated, whole-farm approach to environmental sustainability.

A3.5 Restoration of native habitats

 Ontario will work with the Lake Erie community to implement restoration of native habitats including wetlands, and riparian habitat; focusing efforts in priority watersheds where phosphorus loadings are high and natural cover is low.

A3.6 Encourage stewardship on private lands

 Ontario will encourage stewardship activities on private lands that support phosphorus reduction in Lake Erie by providing incentives for landowners through programs such as the Conversation Land Incentive Program (CLTIP) and the 50 Million Tree Program.

B. Ensure Effective Policies, Programs and Legislation

B1: Support and strengthen policies, programs and legislation

- Ontario will consider further restrictions on the application of nutrients in the non-growing season.
 - Could consider a broader scope of nutrients and farms subject to restrictions and a range of "time-based", "place-based", and "conditionbased" restrictions
 - Would need to define what is/is not the non-growing season
 - Any proposal would require public consultation prior to development

B1.4 New Agricultural Soil Health and Conservation Strategy

• Ontario will finalize and implement a Strategy in collaboration with stakeholders to support agricultural soil management practices that provide economic, environmental and social benefits to Ontario and maximize long-term carbon storage in soils while protecting their long-term productivity.

B1.5 Rural stormwater and agricultural drainage management review

- Ontario will, in 2018, begin a review of the province's approach to rural stormwater and agricultural drainage management using an integrated watershed approach.
- This will include an examination of the interactions between runoff from rural lands and roads, outlet drainage from agricultural lands and municipal drains with the objective of identifying opportunities to improve sustainable water management

B. Ensure Effective Policies, Programs & Legislation

B2: Strengthen decision-making tools

B2.1 Improving decision-making tools - Digital Elevation Model

In 2018, make publicly available a digital elevation model of the Lake Erie watershed to assist all members of the Lake Erie community in making evidence-based decisions (e.g., flood mapping, areas of soil erosion risk identification, precision agriculture) to ensure healthy lands and waters

C. Improve the Knowledge Base

C4: Conduct research to improve existing practices and develop new innovative practices and technologies to reduce phosphorus loadings

- C4.1 Ontario will continue to leverage government research programs and initiatives (e.g., New Directions, OMAFRA University of Guelph Partnership) to fund needed research and new technologies to test and improve agricultural BMPs for phosphorus reduction.
- C4.2 Canada and Ontario will continue to research the effectiveness of BMPs in reducing phosphorus losses from agricultural land during typical and extreme weather events.
- C4.5 Canada and Ontario will conduct research to improve modeling capability to quantify phosphorus reductions from BMPs at a landscape scale.
- C4.6 Canada and Ontario will investigate current (baseline) and future adoption of BMPs within the Lake Erie basin and within selected sub-watersheds to inform monitoring efforts and progress towards targets.
- C4.7 Ontario will investigate social, economic and environmental determinants impacting BMP adoption.
- C4.9 Canada and Ontario will work with partners to measure effectiveness of wetlands and other natural heritage features in reducing phosphorus through overland flow into watercourses.
- C4.10 Canada and Ontario will evaluate the feasibility of using economic instruments to achieve phosphorus reductions

D. Educate and Build Awareness

D1: Enhance communication and outreach to build awareness, improve understanding and influence change

D1.2 Enhancing the awareness of the impacts of P in waterbodies

 Canada and Ontario will, in collaboration with the Lake Erie community, enhance the awareness of the impacts of phosphorus on aquatic ecosystems work with the agricultural sector

D1.3 Communication of responsible nutrient management practices

 Ontario will work with the agricultural sector to communicate the practices for responsible nutrient management, including soil testing to determine appropriate phosphorus requirements

D1.4 Information and tools to increase the use of cover crops

Ontario will, in partnership with the agricultural sector, continue to develop and deliver information and tools to increase cover crop use in the non-growing season to reduce soil loss and field runoff and to promote the application of nutrients at the right time through the "Timing Matters" initiative

D1.5 Enhance drainage and erosion control education and training

By 2018, Ontario will deliver enhanced drainage and erosion control education and training to increase awareness of causes of nutrient loading in runoff and how to manage drainage to reduce P loads

D1.6 Recognize leadership, action and innovation

 Ontario will by 2018 develop a provincial award to recognize excellence, innovation and leadership in demonstrating environmental action at the farm level in the Lake Erie basin

E. Strengthen Leadership and Coordination

E2: Establish an adaptive management framework

Canada and Ontario will assess and report on progress towards achieving phosphorus reduction actions and targets in 2023 and every five years thereafter

E2.3 Land based performance measures

Canada and Ontario will develop land based performance measures to track
 changes to land use and management over time

Finalizing the Action Plan for Lake Erie

- Next Steps
 - Engagement (Spring 2017)
 - Develop performance measures (Summer 2017)
 - Refine/complete draft Action Plan for further public comment (Summer 2017)
 - Posting of final Action Plan (Winter 2017)

For more Information

Let's Talk Phosphorus Reduction in Lake Erie

letstalklakeerie.ca

OR

www.ebr.gov.on.ca

 Do you have any questions, feedback or input on the proposed actions outlined in this document?

BREAK

- Potential Actions of Partners
 - Many agencies, stakeholders and other partners have a role in reducing phosphorous loadings to Lake Erie. What actions does your organization/community plan to undertake as part of the Action Plan?

