EXPANDING THE PHOSPHORUS TOOLKIT:
REDUCING PHOSPHORUS LOADING FROM
AGRICULTURAL RUNOFF

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Ohio drinking water emergency 'not over yet'

John Bacon, USA TODAY  Published 9:26 a.m. ET Aug. 3, 2014 | Updated 9:50 p.m. ET Aug. 3, 2014

Miles of Algae Covering Lake Erie

By JUGAL K. PATEL and YULIYA PARSHINA-KOTTAS  OCT. 3, 2017

A potentially harmful algae bloom covered more than 700 square miles in the western basin of Lake Erie last week, turning the lake bright green and alarming residents and local officials.

Harmful algal bloom predicted for western Lake Erie

By The Tribune  Thursday, August 10, 2017 2:44:49 EDT PM

Ohio moves forward with plans to monitor algae blooms on Lake Erie

Ontario, Michigan and Ohio signed a deal to make a 40 per cent reduction in runoff over the next decade

“Financial, regulatory and land use policy tools must also be examined, tested and added to the phosphorus control tool kit” (p. 158)
RESEARCH GOAL

• To enhance and inform the development of alternative policy options and regulatory tools which reduce phosphorus loading into Lake Erie from agricultural runoff.
OBJECTIVES

1. Conduct a Policy Delphi to identify priority phosphorus management options.
2. Complete a literature review to supplement Policy Delphi and to determine strategies used in other jurisdictions.
3. Conduct interviews with farmers to determine place-based implementation considerations of identified priority options.
4. Synthesize and analyze results to inform policy and program development for phosphorus management.
Policy Delphi
- Financial
- Regulatory
- Land Use Policy

Literature Review

Identified Options

Farmer Interviews
## Anticipated Tools

### Financial
- Phosphorus trading
- Incentive reform
- Insurance premiums
- Payment for Ecological Services
- Outcome-based stewardship programs

### Land Use Policies
- Linkages with the implementation of Source Water Protection policies
- Improved wetland protection

### Regulatory
- Restrictions on fertilizer and manure applications (e.g., frozen ground)
- Regulatory mechanisms of conservation and nutrient management planning
- Nutrient Management Act
- Mandatory 4R certification for agrology advisors, retailers and applicators
Policy Delphi

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ONTARIO AGRICULTURAL COLLEGE
SCHOOL OF ENVIRONMENTAL DESIGN AND RURAL DEVELOPMENT
Policy Delphi

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ANTICIPATED OUTCOMES

• Improved understanding of alternative phosphorus management approaches that can supplement ongoing voluntary programs.
• Improved understanding of farmer perceptions of different management approaches, including the challenges associated with implementation, feasibility considerations, and necessary supports for compliance.
• Consideration of place-based and context-specific implications of different phosphorus management approaches on farmers.
• Inform policy and program development and future research priorities.
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IMAGE REFERENCES

- Slide 3, Good Choices Bad Choices Report: https://eco.on.ca/reports/2017-good-choices-bad-choices/