A Collaborative Strategy to Improve Water Management and Drainage to Reduce Phosphorus Loss in the Thames River Basin

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July 12, 2016
A partnership between OFA and the Great Lakes and St. Lawrence Cities Initiative


Detailed recommendations from 4 subcommittees on i) best practices, ii) agricultural outreach, iii) science and iv) working with regulatory agencies.

Strategy adopted by OFA and GLSLCI boards respectively, in June 2016.
A collaborative amongst a cross section of agricultural organisations, conservation organisations, drainage organisations and municipalities to raise awareness and provide an extension service aimed at reducing the surface and subsurface transportation of phosphorus off agricultural land either directly into waterways, or via municipal drainage systems.

Extension work will be aimed at two scales:
1) at the farm level, projects to slow down and/or store water on farmland; and
2) at the communal drainage system level, to store/remove/recycle phosphorus in drainage system or at outlet.

Monitor progress, report publicly on results

Establish funding program to offer incentives to undertake improvements

Recognition program for participants
Strategy Overview

Who?

- Coordinating Committee
- Collaborative Board of Directors
- Collaborative MOUs
- Project Manager
  - Drainage Stewardship Coordinator (Upper Thames)
  - Drainage Stewardship Coordinator (Lower Thames)
- Contract in communications, outreach capacity
- Farmers, landowners, municipalities, CAs, CCAs, drainage engineers, superintendents, contractors
Strategy Overview

Where?

• Three watersheds identified
  1. McGregor Creek (Lower Thames)
  2. Jeanettes Creek (Lower Thames)
  3. Medway (Upper Thames)

• Chosen as preferred sites to begin the strategy based on data available showing elevated levels of phosphorus, and opportunity to use existing monitoring instrumentation to establish a baseline.

• Further refinement of areas within these three watersheds, in consultation with federal and provincial authorities, conservation authorities, drainage superintendents who operate in the watersheds, and the county OFA offices.
Strategy Overview
Financing

- Implementation of the strategy will cost an estimated $1.5 million per year for 5 years, for a total of $7.5 million.
- Strategy implementation is contingent on successful fundraising.
- Funding will be sought from the public and private foundations, government, private companies.
Strategy

Timing

- **June 2016**: Approval of strategy by OFA, Cities Initiative boards
- **Summer 2016**: Fundraising
- **Fall 2016**: Begin prep work
- **January 2017**: Create board, hire staff
- **Fall 2017**: Begin implementation
- **Fall 2019**: Conduct Review of Strategy, amend approach as required
- **Fall 2021**: Complete strategy, ensure continuity through existing organisations & municipalities
Strategy Prep Work

- Approval of the strategy by the boards of the OFA and Cities Initiative
- Secure funding
- Create the board
- Hire the project team
- Develop a website
- Develop a communications strategy and materials
- Develop a promotion and outreach strategy and materials
- Gather BMP information and prepare materials
- Develop a protocol to engage with regulatory agencies
- Agree on a monitoring and evaluation protocol
- Agree on subwatersheds within chosen watersheds in which to start work.
- Arrange presentations at events
Outreach, Engagement
Agricultural Community

- Face to face meetings with local farmers, landowners, possibly hosted by municipality
- Involve local farm organisations, commodity groups as agents to communicate and raise awareness amongst local farmers, landowners.
- Identify local champions to help rally people locally, ask county federation for advice.
- Contact landowners as well as farmers to reach those who lease land.
- Articles in leading farming publications, presentations at agricultural conferences
- Distribute information through OFA County federations, OMAFRA Nutrient Management Plan group, and/or livestock commodity groups
- Provide CCAs, PAgS, CA staff with materials that they can disseminate to farmers, landowners
- Use of Social media (twitter and facebook),
Outreach, Engagement Municipalities

- Drainage 101 presentations to municipal councils, importance of the municipal role in reducing phosphorus entering waterways.

- Project team to engage municipalities in watersheds, determine their interest and capacity to participate in the strategy.

- Ask participating municipalities to help engage landowners and farmers through public meetings, mail-outs, etc.

- Model municipal drainage by-law and policy to be developed to share with municipalities + existing examples (Leamington, Huron-Kinloss) to be circulated to municipal councils, drainage superintendents and engineers.
Outreach, Engagement
Drainage Professionals

Host session on drainage and phosphorus reduction in the Thames River region, for drainage superintendents, drainage engineers, drainage contractors, other landscape managers (CCAs, Cas, P.Ags, etc).

Workshops on drainage improvements at conferences of drainage professional associations, LICO, DSAO, Drainage Engineers’ Committee.

Technical workshops on installation of water management/drainage features, possibly hosted by universities involved in similar research.

Drainage demonstration day, possibly hosted by LICO

Provide continuous education opportunities to update content as new information on BMPs, results of strategy come available.

Annual sessions at LICO conference, Drainage Engineers Committee, Professional Engineers of Ontario, OCCAA, Conservation Ontario’s Latornell Symposium
Outreach, Engagement
First Nations

Within Strategy
- Outreach to First Nations in chosen watersheds
- Seek traditional knowledge and monitoring data from First Nations in chosen watersheds

Outside of Strategy
- Document drainage outlet discharge onto Chippewas of Thames territory, assist with determining source, alert authorities to address impact.
Working with Regulatory Agencies

On communal drain, season for drainage maintenance or improvements may be impacted by

Endangered Species Act
Fisheries Act
Conservation Authorities Act
Species At Risk Act

Once project is identified, bring representatives from DAWG and DART (MNRF, DFO, CAs) together with local drainage superintendent, drainage stewardship coordinator to discuss project early in process.
BMPs

- Gather current best knowledge of BMPs (literature review) for reducing phosphorus loss, including the effectiveness of BMPs in mitigating impact of major storm events and snow melt on phosphorus loss.
- Hold a BMP Workshop with Conservation Authorities, drainage superintendents, drainage engineers and licensed contractors to assemble shared knowledge and experiences.
- Possible treatment design competition to spur innovation.
- Develop website, with “portal” interactive community, to house Information on BMPs.
In-stream monitoring to be conducted above and below the areas where improvements are undertaken and in a control watershed.

Use of existing instrumentation where possible, supplemented by additional instrumentation as required.

Land characteristics survey to add information to evaluation.
Next Steps

- Secure funding
- Create board and coordinating committee
- Consult with regulatory agencies on where this strategy fits into broader phosphorus reduction efforts.
- Promotion of strategy (Better Farming Magazine; Conservation Ontario, drainage, agricultural, municipal conferences)
- Outreach in local watersheds