

## Source Protection Committee - MINUTES

Minutes of Meeting of the Essex Region Source Protection Committee (SPC) held on **Wednesday April 9, 2014**, in the **Essex Civic Centre, Council Chambers**, 360 Fairview Avenue West, Essex, Ontario.

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<b>Members Present:</b>	John Barnett – carrying proxy for David Church	Bernard Nelson
	Tom Fuerth (Chair)	Robert Peterson
	Tim Mousseau – carrying proxy for Antonietta Giofu	Hans Peter Pfeifer
	Charles McLean	Mario Songeo – carrying proxy for Thom Hunt
		David Watsa

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<b>Absent:</b>	John Stuart	
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<b>Regrets:</b>	Robert Auger	Andrew Pula
	David Church	Ashley Stevenson
	Antonietta Giofu	Larry Verbeke (SPA Liaison)
	Thom Hunt	

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<b>Staff:</b>	Richard Wyma, General Manager/Secretary-Treasurer, Acting SWP Project Manager
	Candice Kondratowicz, Corporate Services Assistant
	Shaun Anthony, (Acting) Water Quality Specialist
	Jovana Burz, GIS/Data Assistant
	Mike Nelson, Watershed Planner
	Roger Palmi, GIS Technician
	Susanne Tomkins, Communications Specialist
	Michael Dick, Agricultural Technician

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<b>Delegates:</b>	None
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<b>Guests:</b>	Bob Bedggood, Chair, SPC, Lower Thames Valley Conservation Area
	Rajesh Bejankiwar, Physical Sciences Officer, International Joint Commission
	Chris Tasker, SWP Project Manager, Thames Sydenham and Region
	Kit Woods, Manager of Environmental Services, Municipality of Leamington

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## **CALL TO ORDER**

The Chair of the SPC, Tom Fuerth, called the meeting to order

## **CHAIRS WELCOME**

Chair Tom Fuerth noted that he attended the Chair's meeting in March.

It was mentioned that Chair Fuerth and Mr. Wyma have been continuing with the Municipal visits to discuss the Risk Management Services options available to the Municipalities. Visits have been completed with the Town of Tecumseh, City of Windsor, Town of Lakeshore, Town of Amherstburg and Township of Pelee Island.

MOE's Source Protection Program is currently being audited. The Essex Region has recently completed a teleconference with the Auditors to address any concerns that needed to be addressed.

Chair Fuerth let Mr. Wyma speak about the work plan that was recently submitted to MOE. Details included the Source Protection Plan Updates and the Municipal Readiness.

ERCA has hired a new Project Manager/Water Quality Scientist. Katie Stammer will officially start in May.

## **INTRODUCTIONS**

Bob Bedggood, Chair, SPC, Lower Thames Valley Conservation Area

Rajesh Bejankiwar, Physical Sciences Officer, International Joint Commission

Chris Tasker, SWP Project Manager, Thames Sydenham and Region

Kit Woods, Manager of Environmental Services, Municipality of Leamington

## **SPECIAL ANNOUNCEMENTS**

Mr. David Watsa made an announcement that with great regret he is resigning from the Source Protection Committee immediately. He thanked the SPC for their great work and was pleased to be part of this committee. Mr. Watsa is relocating and is no longer able to be part of this committee.

## **DISCLOSURE OF CONFLICT OF INTEREST**

None

## **AGENDA**

- I. The Agenda for the Meeting of the Essex Region Source Protection Committee (SPC) held on Wednesday, April 9, 2013.

Resolution SPC 01/14

Moved by Robert Peterson

Seconded by Bernard Nelson

*THAT the Agenda for the Wednesday, April 9, 2013, Meeting of the Essex Region Source Protection Committee (SPC) be approved.*

- CARRIED

## **MINUTES**

- I. Minutes of the Meeting of the Source Protection Committee (SPC) held on  
Resolution SPC 02/14                      Moved by Tim Mousseau  
Seconded by Mario Sonego

*THAT the Minutes of the Meeting of the Source Protection Committee (SPC) held on Thursday, November 28, 2013 and the recommendations therein be adopted as distributed.*

- CARRIED

## **CORRESPONDENCE**

None

## **PRESENTATION**

- I. Mr. Rajesh Bejankiwar, Physical Sciences Officer  
International Joint Commission (*presentation attached*)

## **SOURCE PROTECTION AUTHORITY (SPA) INFORMATION**

None

## **MOE LIAISON'S UPDATE**

Teresa McLellan, Crown Liaison Officer, MOE provided a brief update to the SPC.

Ms McLellan thanked both Mr. Wyma and Mr. Palmini for their efforts during this time and expressed gratitude for pulling together and submitting the work plan to the MOE.

Comments on the SPPlan are expected to be sent back in July. Currently, Lakehead and Niagara are the only SPC's that have had their SPPlans approved.

## **REPORTS**

- I. **Report SPC 01/14** – Harrow-Colchester South, Pelee West Shore ICA and Threats Analysis

As indicated in the report, a Technical Advisory Committee (TAC) was suggested to be formed to work with the TSR TAC to review microcystin for all intakes based on the modeling & information developed and discussed. The TAC would then make a recommendation to the Essex Region and TSR SPC's.

Tim Mousseau, John Barnett & Hans Peter Pfeifer volunteered to be part of this TAC. It was also suggested that John Stuart be asked to be part of this committee as well.

Resolution SPC 03/14

Moved by Tim Mousseau

Seconded by Charles McLean

*THAT the SPC report 01/14 be received for information and discussion purposes; and further,*

*THAT the SPC establish a 'Technical Advisory Committee' to look at various methods to deal with the 'microcystin' issue with TSR Technical Advisory Committee*

- CARRIED

## **OTHER BUSINESS**

None

## **NEW BUSINESS**

None

## **MEETING ADJOURNMENT**

Resolution SPC 04/14

Moved by Tim Mousseau

Seconded by Mario Sonogo

*THAT the meeting be adjourned.*

- CARRIED

## **DATE – NEXT MEETING**

The next meeting of the SPC is scheduled for May 21, 2014, but was noted that this meeting would not be necessary and should happen after the Technical Advisory Committee meets. Therefore, it was suggested that the next SPC meeting will be held sometime in June (date to be confirmed at a later date).

## **CONCLUSION OF MEETING**



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Tom Fuerth, Chair  
Source Protection Committee

## A Balanced Diet for Lake Erie: Reducing Phosphorus Loadings and Harmful Algal Blooms

- Lake Erie Ecosystem Priority (LEEP) Report Overview -

Essex Region Source Protection Authority Meeting  
Essex, ON April 9, 2014

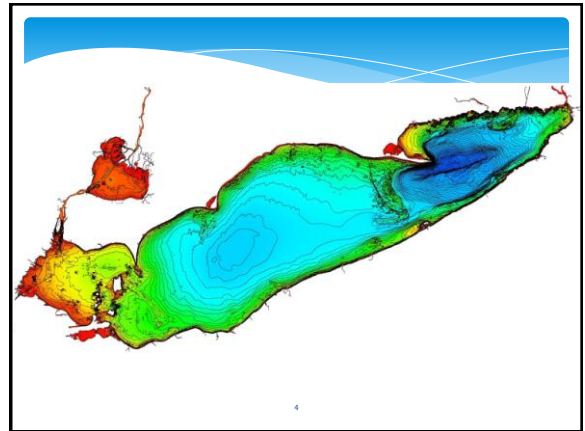
Raj Bejankiwar  
International Joint Commission



## Overview

- \* Lake Erie Overview
- \* IJC Role
- \* Context and Origin of LEEP
- \* Key Findings
- \* Recommendations

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## West Basin Harmful Algal Blooms

## Central Basin Hypoxia

Cross Section of Lake Erie in Summer

**Top Layer**  
Warm, Sunlit, Mixes with Oxygen from the Air

**Bottom Layer**  
Cool, Dark, Cut Off from the Air

West                      Central                      East

Phosphorus Fertilizes Algae, Which Grow in the Top Layer, But which Sink to the Bottom when they Die. Bacteria and Fungi Decompose the Algae near the Bottom, Using up the Oxygen which is Dissolved in the Water.

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## IJC Role

- \* Boundary Waters Treaty (1909):  
“It is further agreed that the waters herein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other”.
- \* International Joint Commission (IJC) established to prevent and resolve disputes related to shared waters

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## Great Lakes Water Quality Agreement

- \* 1972 Agreement led to improvements in Lake Erie
- \* Agreement updated in 1978, 1983, 1987, 2012
- \* Role of IJC – periodic assessments, provide advice, public outreach
  - \* Assessments of progress
  - \* Provide advice
  - \* Public outreach
- \* Article 7(1) – “Providing to the Parties, at any time, special reports concerning the quality of the Waters of the Great Lakes”

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## IJC Priorities – 2012-15

**Lake Erie  
Ecosystem  
Priority to  
Reduce  
Phosphorus  
and Algal  
Blooms**

**Assessment  
of Progress  
toward  
Restoring the  
Great Lakes**

**Strengthening  
the Capacity  
to Deliver  
Great Lakes  
Science and  
Information**

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## Lake Erie Ecosystem Priority (LEEP) Objective

*To provide science and policy advice to governments that would reduce nutrient loads and harmful algal blooms*

*(with a focus on the west and central basins of Lake Erie)*

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## Complementarity

- \* Lake Erie Lakewide Action and Management Plan's (LAMP) Binational Nutrient Management Strategy
- \* Environment Canada's Great Lakes Nutrients Initiative
- \* Lake Erie Commission's Ohio Phosphorus Task Force I and II reports
- \* U.S. EPA's Great Lakes Restoration Initiative
- \* Catfish Creek Conservation Authority's stewardship programming

*... among others*

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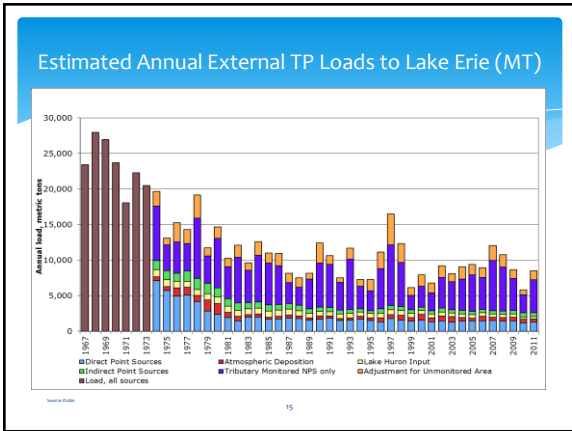
## LEEP Process

- \* Spring, 2012 - Science Advisory Board – Taking Action on Lake Erie (TACLE) Work Group established
- \* Fall, 2012 – Consultations on IJC approach
- \* Winter, 2012/13 – Preparation of 7 Review Papers e.g., external loading, load-response curves
- \* February, 2013 – Expert Workshop
- \* August, 2013 – Draft LEEP Report Release
- \* September – October, 2013 – Consultations
- \* February 27, 2014 (tentative) – LEEP Report Release

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## Findings

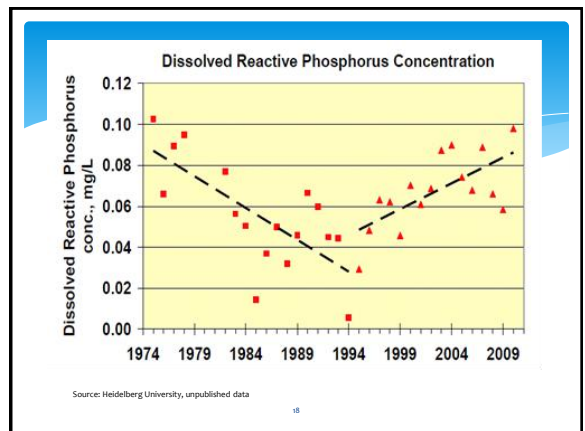
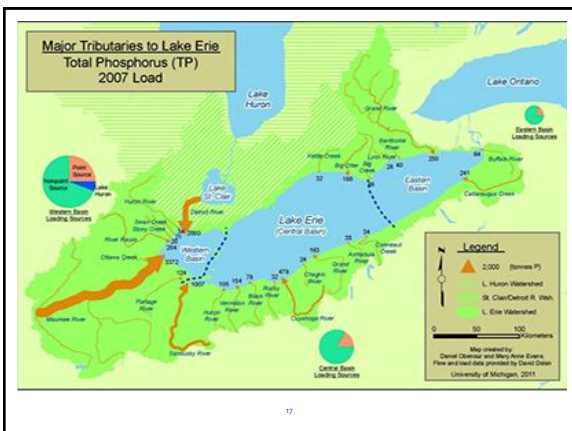
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## Sources of Phosphorus Loads

- >66% from agricultural/rural non-point sources
  - 50% monitored agricultural/rural NPS
  - ~ 16% unmonitored NPS
- ~ 16% point sources
  - 4-6% from Lake Huron
  - 4-6% from atmospheric

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## Key Findings – Phosphorus Loading

- \* Non-point sources predominate
- \* Agricultural operations are the major source of non-point source loads
  - 84% row crops, 16% manure (Ohio)
- \* Increasing influence of dissolved reactive phosphorus
- \* Priority watersheds e.g., Maumee delivers ~50% of west basin load in high concentrations
- \* At least half of annual load from March 1 – June 30

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## Key Findings – Effects

- \* West basin HABs driven by high concentration loads from (primarily) Maumee R. and other Ohio tributaries
- \* Central basin hypoxia driven by west and central basin loads including low concentration, high load Detroit River
- \* East basin benthic algae influenced by local sources?
- \* Fish communities affected e.g., oxy-thermal squeeze

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## Key Findings - Other

- \* Confounding influence of climate change
- \* Limited data on economic effects and human health effects
- \* Limited understanding of the effectiveness of beneficial management practices (BMPs) in removing dissolved reactive phosphorus (DRP)
- \* Uneven regulation and policy across Lake Erie jurisdictions

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## Recommendations

Report includes Recommendations addressing:

- \* Loading Targets
- \* Agricultural Sources
- \* Urban Sources
- \* Monitoring and Research

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## Recommendations – Loading Targets

Using Modelled Load/Response Curves:

- \* To reduce west basin harmful algal blooms to no/mild bloom conditions, a 37% reduction in TP and 41% reduction in DRP will be required from Maumee River and west basin tributaries (WB target load of 3,200MT)
- \* To reduce central basin hypoxia to 2,000km<sup>2</sup> and 10 days, a 46% reduction in TP and 78% reduction in DRP will be required from WB and CB tributaries (WB and CB target load of 4,300MT)
- \* Current Interim Load Target for Lake Erie may be too high

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## Recommendations – Agriculture and Non-Point Sources

Incentive-based programs:

- Expand focus to include DRP and TP
- Focus on critical March-June period
- Focus on priority watersheds
- Increase scale and intensity of projects
- Protection and restoration of natural lands

Regulatory interventions:

- Mandatory certification standards for applicators
- Link crop/production insurance with conservation performance
- Ban applications on frozen ground
- Mandatory septic system inspections

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## Recommendations - Urban

- \* Improve adoption of green infrastructure through a variety of mechanisms
- \* Prohibit the sale and use of phosphorus fertilizers for lawn care, with some exceptions

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## Recommendations – Research and Monitoring

- \* **Monitoring**
  - Enhanced tributary monitoring including wet weather
  - Detroit River outlet continuous monitoring
  - Effectiveness of rural and urban BMPs
- \* **Research**
  - Improved modelling
  - Open lake dredged material disposal
  - Influence of climate change on fish communities
- \* Improved data management through greater coordination and monitoring

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## Next Steps

- \* Public Report Released on February 27, 2014
- \* LEEP Phase 2 (2014, 2015):
  - \* Human health effects
  - \* Modeling tools
  - \* Economic impacts

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# Thanks!

For draft LEEP report visit [www.ijc.org](http://www.ijc.org)  
(final report will be posted February 27, 2014)

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