

Lake Ontario Collaborative Update

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Source Protection Committee Meeting
October 6, 2009



Lake Ontario Collaborative Partners

Municipalities

- Prince Edward County
- **Cobourg**
- **Port Hope**
- **Durham Region**
- City of Toronto
- Peel Region (Technical Lead)
- Halton Region
- City of Hamilton
- Niagara Region

Source Protection Areas/Regions

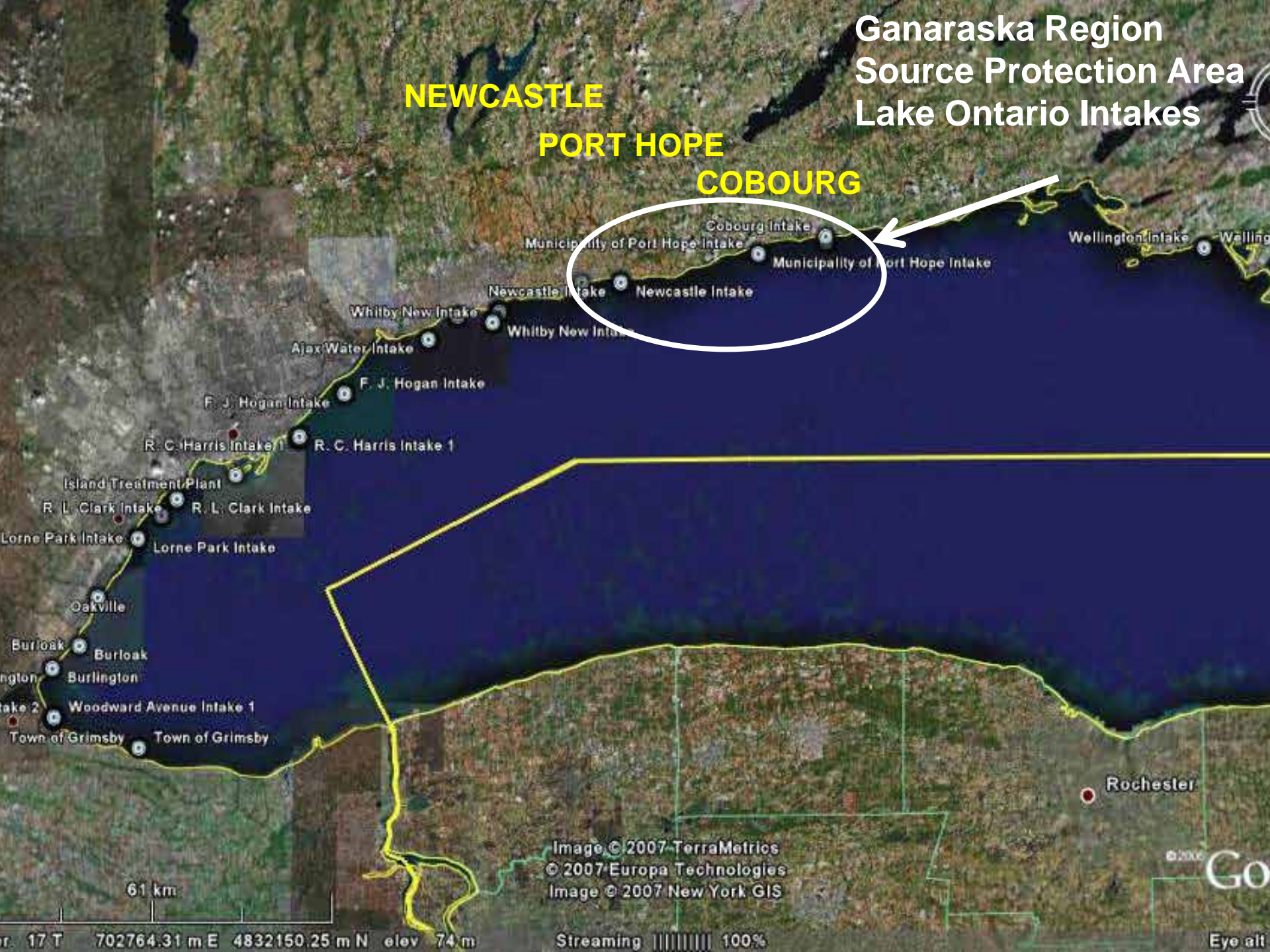
- Quinte
- CTC (Chair of Management Committee)
- **Trent Conservation Coalition**
- Halton/Hamilton
- Niagara

Others

- Ministry of the Environment
- Environment Canada
- Ontario Clean Water Agency
- Queen's University
- University of Waterloo
- Conservation Authorities
- Consultants

Ganaraska Region
Source Protection Area
Lake Ontario Intakes

NEWCASTLE
PORT HOPE
COBOURG



61 km

Image © 2007 TerraMetrics
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Streaming 100%

17 T 702764.31 m E 4832150.25 m N elev 74 m

Go

Eye all

Governance

- Multi-year/multi-phase project (Phase 1 – 3)
 - Funded by MOE
 - Agreements between MOE and Region of Peel (lead)
 - Management Committee (SPC Chairs and Project Managers from the 5 Source Protection Regions)
 - Steering Committee (technical –includes municipalities)
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Work Completed to Date

- IPZ-1 and IPZ-2 delineated (as per Guidance Modules)
- Preliminary threats inventory (as per Guidance Modules)
- Preliminary issues inventory (as per Guidance Modules)
- Other research/modelling work



Work Plan

- IPZ-1 and -2 wrap-up (& revisions required to meet Technical Rules)
 - **Needed for Assessment Report**
- Threats for IPZ-1 and -2 and Issues (to meet Technical Rules requirements)
 - **Needed for Assessment Report**
 - Municipalities completing some of this work

NOTE – *cannot have significant threat in IPZ-1 and -2 unless identified through an issue or through event modelling*

- Threats identification for IPZ-3 (Spill Scenario modelling)
 - **Not required for Assessment Report**

Issues & Threats - Municipal Tasks

- Municipal Contaminant Source Inventory
- Municipal Lake Ontario WTP Raw Water Quality Data Analysis
- Compilation of Available Precipitation Data (Past 5 Years)
- Municipal WTP Technology Inventory and Analysis
- Identification and Description of Drinking Water Issues



- Letter sent to each municipality in June
- GRCA staff have offered to assist with Port Hope and Cobourg work

Threats identification for IPZ-3

– Initial Steps

Initial “coastal zone” delineation

- 3 initial “coastal zones” set out for Lake Ontario:
 - 1) Niagara-Hamilton Harbour
 - 2) Hamilton-Harbour to Newcastle
 - 3) Newcastle to Quinte

Lake Ontario Model Set-up and Calibration

- Lake Ontario Model being built upon existing models developed by EC, U of Waterloo, and Queen’s U (coordinated by City of Toronto)

Watershed / In-Stream Modelling

- Watershed/In-stream models being built upon existing model platforms used by EC & CAs
- Link to lake model



Threats identification for IPZ-3 – Spill Scenario Simulations

Potential Scenarios

1. Nuclear Power Plant Tritium Spill (1992)
2. Bulk Fuel Storage
3. Wastewater Treatment Plan Discharges/Spills
4. Industrial based spill (Rural/on Private Service)
5. Sanitary sewer break/discharge
6. *Low Level Radio-Nuclide Waste Spill/Discharges?*
7. *Dredging & Ship Transport directly above intakes?*
8. *Tributary threats – agricultural runoff/urban sewer system/combined sewer overflow?*



Threats identification for IPZ-3 – Final Steps

- Peer Review of Models and Results
- Listing of Drinking Water Threats and Identification of Significant Threats
- IPZ-3 Refinement
- Significant Threats identified through this process can also be applied to IPZ- 1 and IPZ-2



Other Ongoing Lake Ontario Work

- Pathogen Monitoring Plan – Lake Ontario Winter Sampling (Environment Canada)
- Taste & Odour – occurrences at Treatment Plants during upwelling events

