



CTC Source Protection Region



Source Water Protection Planning in Ajax

Consultation on the *Draft Proposed Assessment Report: Toronto and Region Source Protection Area*



September 30, 2010

Susan Self, Chair, CTC Source Protection Committee

Source Water Protection?

- **Source water** is the water used to supply public drinking water systems.
- **Source water protection** is simply protecting water sources from contamination or overuse.



Source Water Protection is the best, and most cost-effective way to protect our drinking water for now and forever

Why Source Protection?

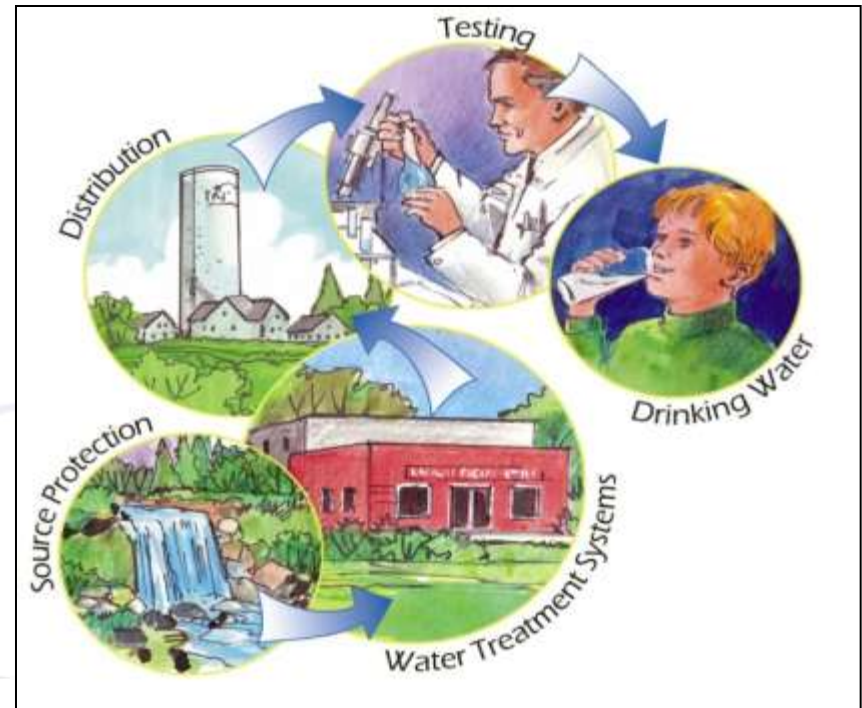


Walkerton:

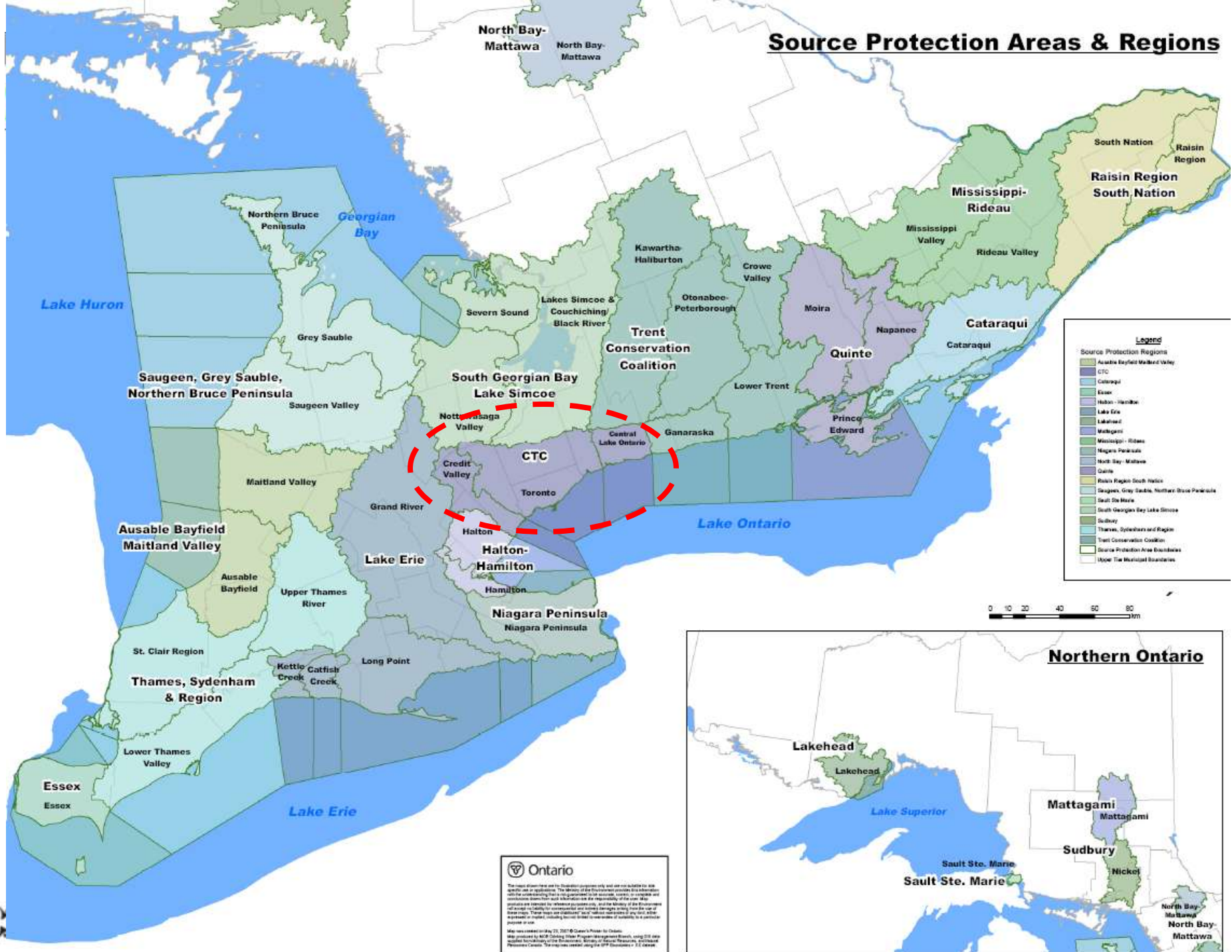
- 7 people died, half the town became sick and people are still being affected

The Walkerton Inquiry:

- Multi barrier approach to protecting municipal drinking water throughout Ontario.
- Each barrier deals with one or more of the flaws that came to light in Walkerton.



Source Protection Areas & Regions



Ontario

The map shows the location of the Source Protection Areas and Regions only and is not suitable for site specific use or application. The Ministry of the Environment, Conservation and Forestry is not responsible for the accuracy of the information on this map. The Ministry of the Environment, Conservation and Forestry is not responsible for the accuracy of the information on this map. The Ministry of the Environment, Conservation and Forestry is not responsible for the accuracy of the information on this map.

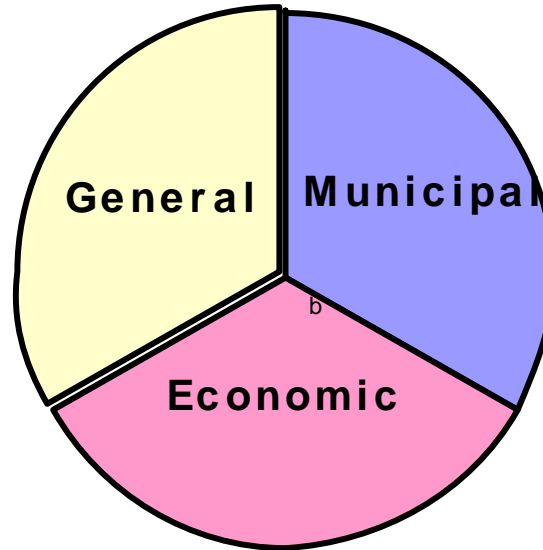
Map was created on July 25, 2017 © Queen's Printer for Ontario
Map produced by MCF Strategic Policy Program Development Branch, using GIS data supplied by the Ministry of the Environment, Conservation and Forestry, and the Ministry of Municipal Affairs and Housing. The map is subject to the terms and conditions of the Open Government Licence (OGL) 3.0 Canada.

CTC Source Protection Area



1 Assessment Report for each Source Protection Area
=
3 Assessment Reports for the CTC Source Protection Region

Who is the CTC Source Protection Committee?



Chair – Susan Self

Liaison Members:

Brian Denney (CA)

Norine Schofield (MOH)

John Westlake (MOE)

**Juli Abouchar
Michael Garrett
Jessica Ginsburg
Robert Goodings
Irv Harrell
Peter Orphanos
Fred Ruf**

**Andrea Bourrie
Doug Brown
Wendy Burgess
Louise Foster
Heather Laidlaw
Peter Miasek
Lynne Moore**

**Bob Burnside
Michael D'Andrea
David Kentner
Laura McDowell
John Presta
Mark Schiller
Howard Shapiro**

CTC Source Protection Region Timelines

<u>Terms of Reference</u>	<u>Assessment Reports</u>	<u>Source Protection Plans</u>
<ul style="list-style-type: none"> • Road map for Source Protection Planning 	<ul style="list-style-type: none"> • Scientific basis behind Source Protection Planning • Public consultation period • Due December 2010; updated report due June 2011 	<ul style="list-style-type: none"> • Policy development <ul style="list-style-type: none"> ✓ Reduce & prevent threats ✓ Future & existing development • Consult with <ul style="list-style-type: none"> ✓ Municipalities ✓ Potentially affected property owners
<p>2008</p>	<p>2010</p>	<p>2012</p>

Assessment Report Components:

Introduction

Chapter 1

Watershed Characterization

Chapter 2

Water Budgets and Water Quantity Threats

Assessment

Chapter 3

Groundwater Vulnerability and

Surface Water Vulnerability

Chapter 4

Threats and Issues - Water Quality Threats

Assessment

Chapter 5

Conclusion

Chapter 6



CTC Source Protection Region

Credit: Inlet, Source Protection Area
Toronto and Region Source Protection Area
Credit Lake Ontario Source Protection Area

**Draft Proposed Assessment Report :
Toronto and Region Source Protection Area**

Volume 1 of 2: Report



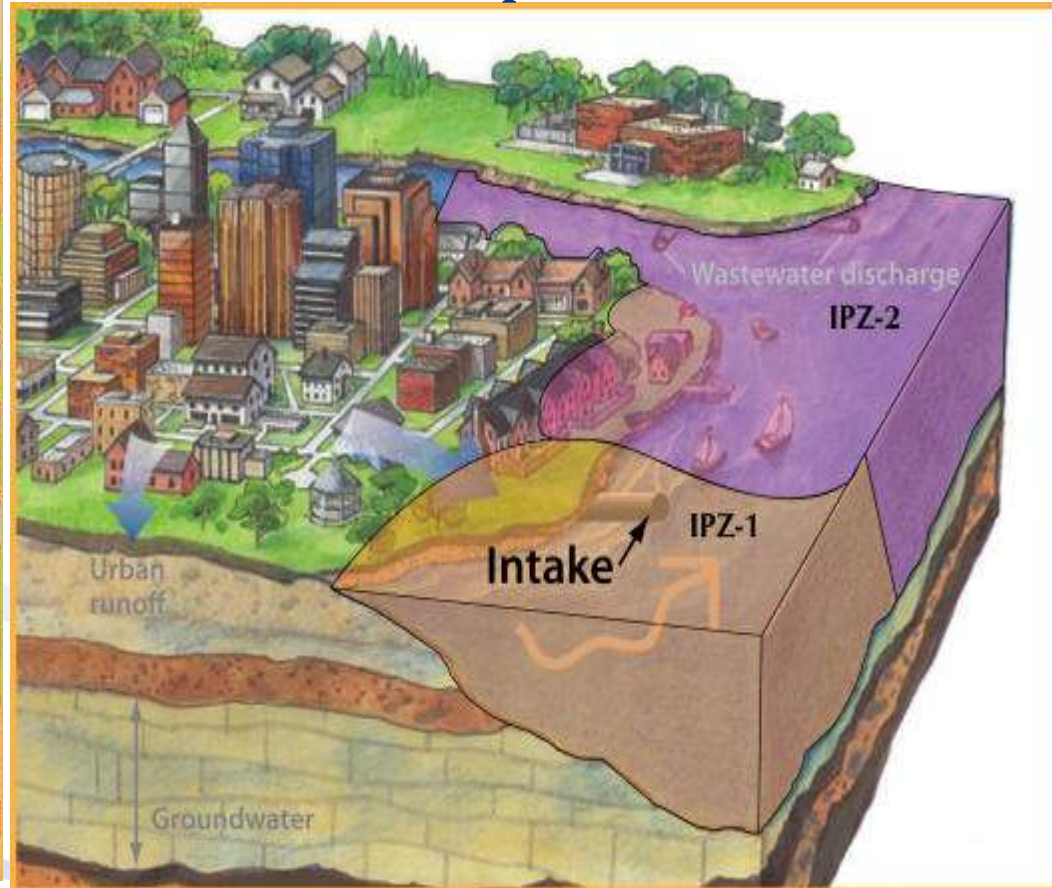
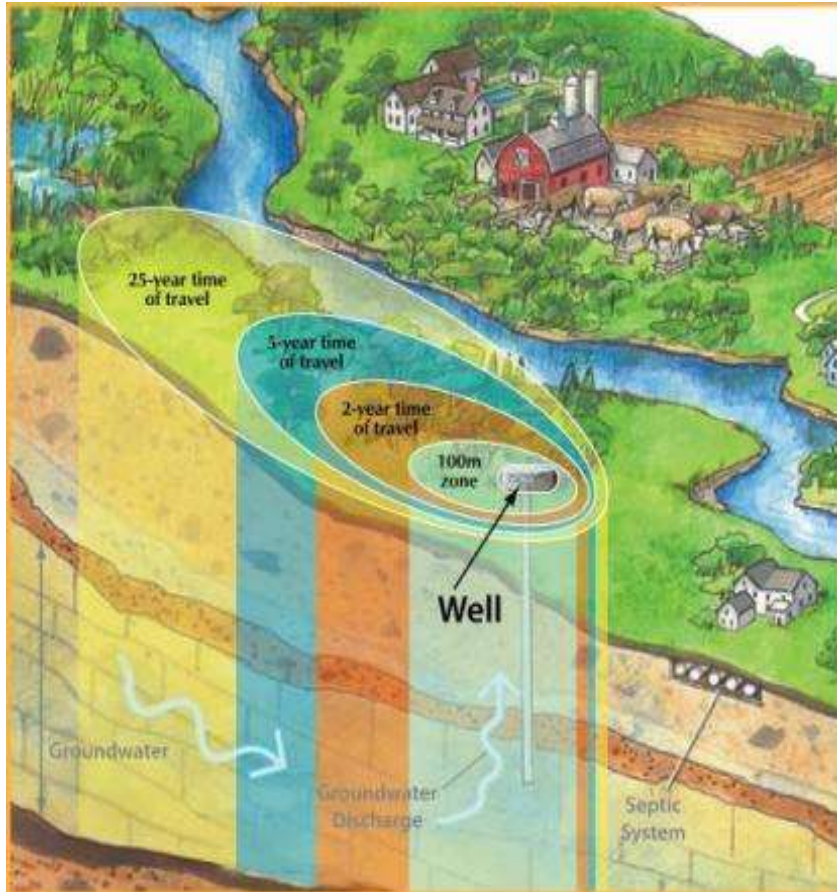
Sept. 16, 2010

Prepared by:
Toronto and Region Conservation Authority

The Four Vulnerable Areas:

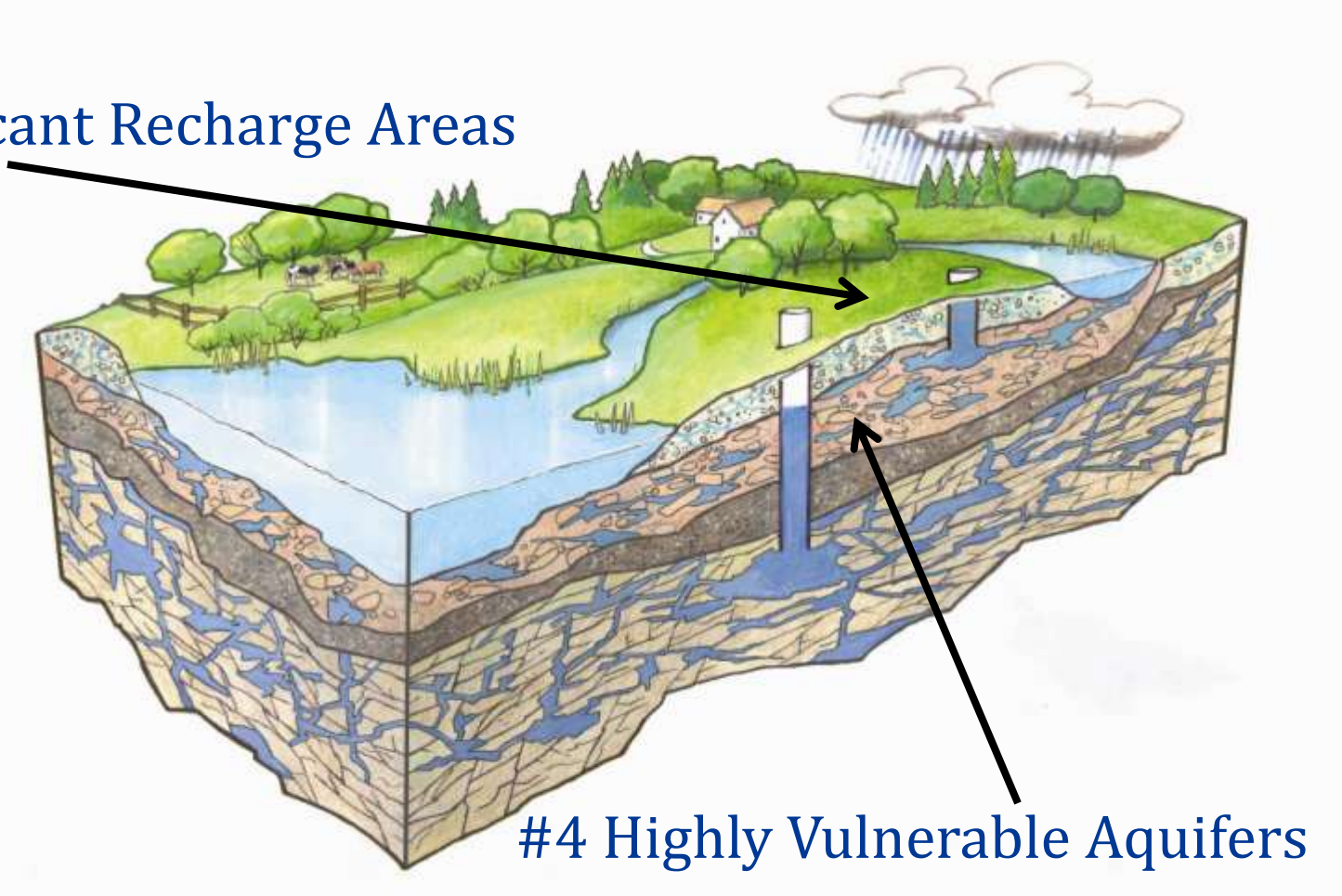
#1 Wellhead Protection Area

#2 Intake protection zone



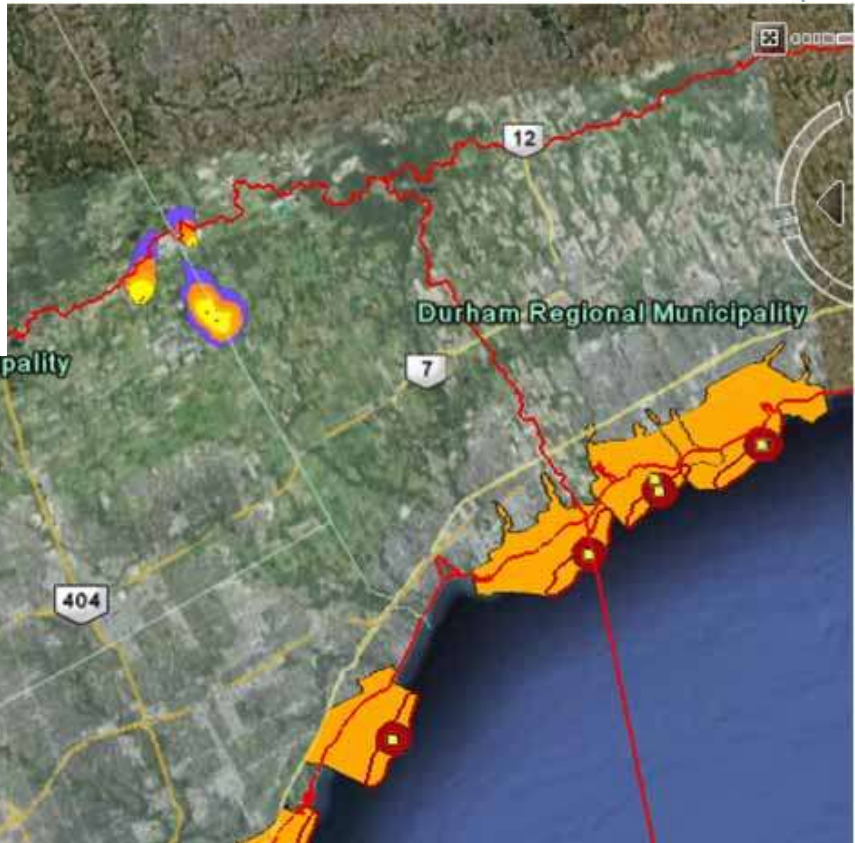
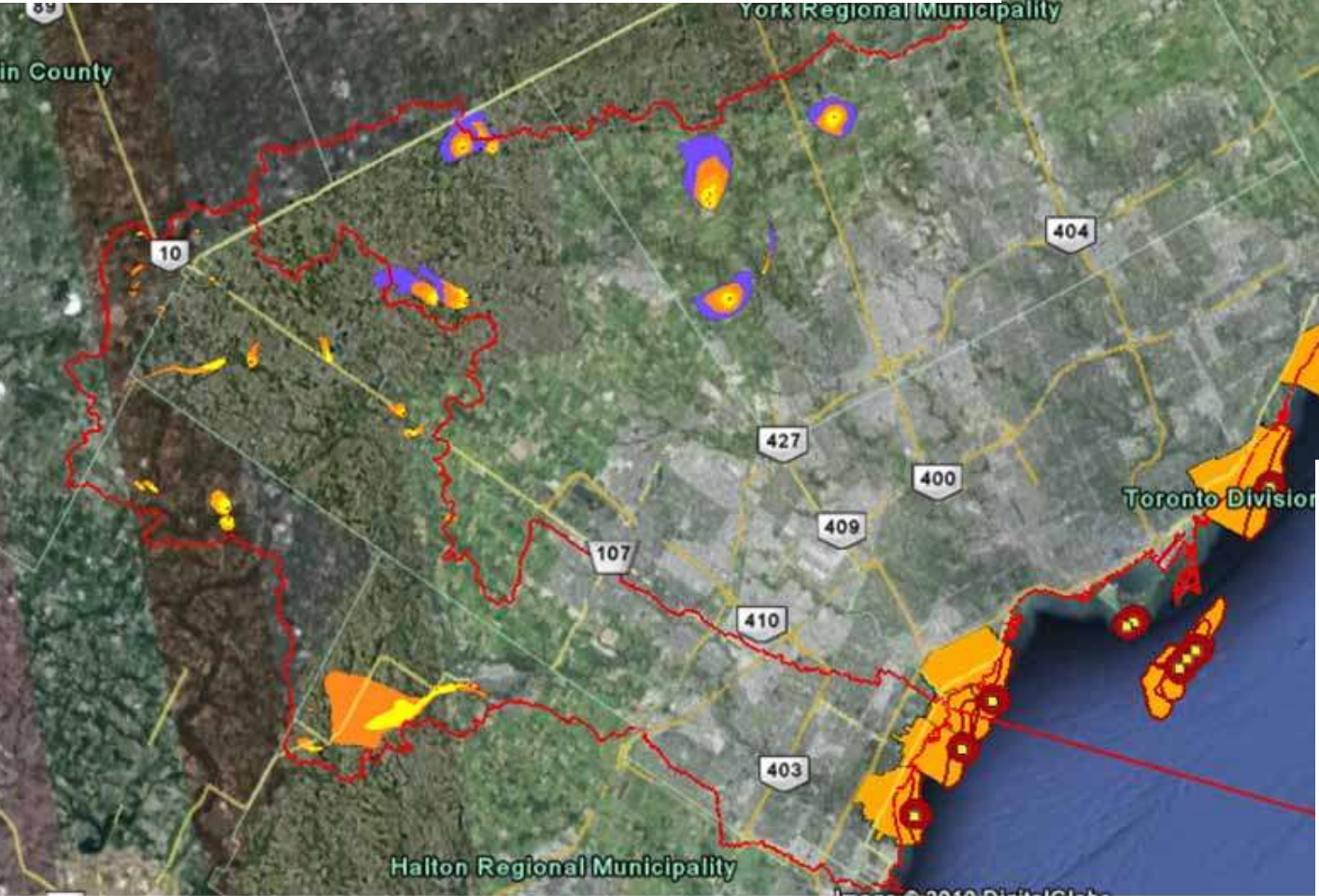
The Four Vulnerable Areas:

#3 Significant Recharge Areas



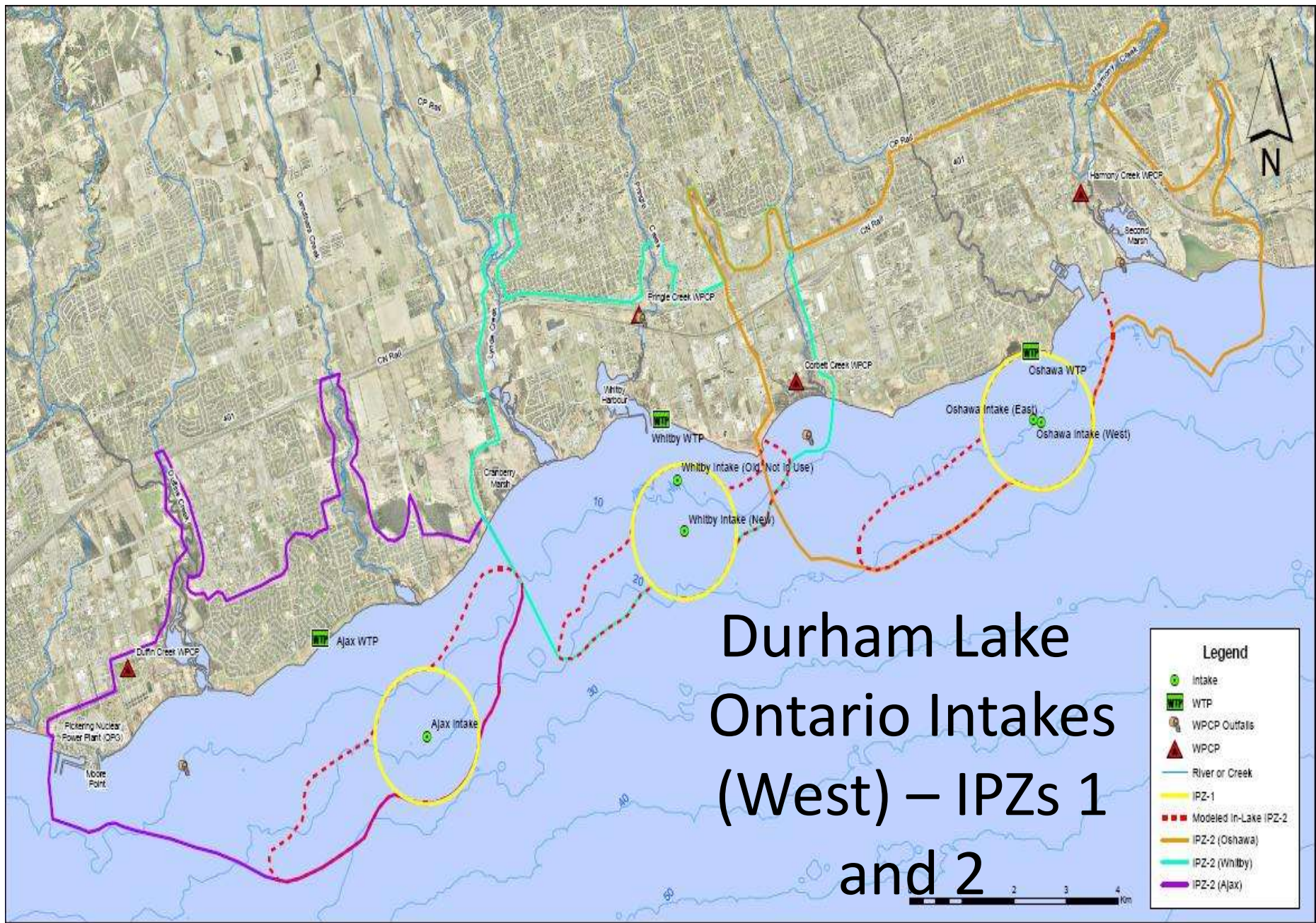
#4 Highly Vulnerable Aquifers

- 68 municipal wells in the CTC Region required delineation and threat assessment
 - CVSPA 46 wells, 1598 significant threats
 - TRSPA 22 wells, 494 significant threats
 - CLOSPA 0 municipal wells, 0 significant threats



- The Lake Ontario Collaborative is still assessing drinking water threats in Lake Ontario
 - CVSPA 2 systems
 - TRSPA 5 systems
 - CLOSPA 3 systems

Activity (or Threat Type)	Caledon East	Palgrave	Nobleton	Kleinburg	King City	Whitchurch-Stouffville	Uxville
1. The establishment, operation, or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act (EPA)</i>	0	0	0	0	1	3	3
2. The establishment, operation, or maintenance of a system that collects, stores, transmits, treats, or disposes of sewage	2	4	59	10	9	62	6
3. The application of agricultural source material to land	0	0	1	3	0	22	0
4. The storage of agricultural source material	0	0	0	0	0	4	0
5. The management of agricultural source material	0	0	0	0	0	0	0
6. The application of non-agricultural source material (NASM) to land	0	0	0	0	0	0	0
7. The handling and storage of non-agricultural source material NASM	0	0	0	0	0	0	0
8. The application of commercial fertilizer to land	0	0	0	0	0	15	0
9. The handling and storage of commercial fertilizer	0	0	0	1	0	10	0
10. The application of pesticide to land	0	0	1	2	0	21	0
11. The handling and storage of pesticide	0	0	0	1	0	11	0
12. The application of road salt	0	0	0	0	0	0	0
13. The handling and storage of road salt	0	0	0	0	0	0	0
14. The storage of snow	0	0	0	0	0	0	0
15. The handling and storage of fuel	2	4	76	16	10	87	1
16. The handling and storage of a dense non-aqueous phase liquid	10	0	17	3	0	6	3
17. The handling and storage of an organic solvent	1	0	0	0	0	2	1
18. The management of runoff that contains chemicals used in the de-icing of aircraft	0	0	0	0	0	0	0
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body	0	0	0	0	0	Tier 3 Work Underway	Tier 3 Work Underway
20. An activity that reduces the recharge of an aquifer	0	0	0	0	0	Tier 3 Work Underway	Tier 3 Work Underway
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area, or a farm-animal yard	0	0	0	0	0	4	0
Total Threats	15	8	154	36	20	247	14
Total Parcels	5	4	73	16	11	80	13



Durham Lake Ontario Intakes (West) – IPZs 1 and 2

Legend	
	Intake
	WTP
	WPCP Outfalls
	WPCP
	River or Creek
	IPZ-1
	Modeled In-Lake IPZ-2
	IPZ-2 (Oshawa)
	IPZ-2 (Whitby)
	IPZ-2 (Ajax)

Lake Ontario Collaborative

Who?

All the Source Protection Committees with Lake Ontario based drinking water sources, with a *management committee* chaired by CTC SPC Chair and a *steering committee* (directing the technical work) chaired by the Region of Peel

What?

They are undertaking technical work on Lake Ontario drinking water sources to appear in the updated Assessment Report

Why?

They are working together in order to minimize duplication and increase efficiency



Scope of Work

1. Communications Plan
2. Data Management Plan
3. Phase 2 Work
4. Pathogen Monitoring Plan – Lake Ontario Winter Sampling
5. Watershed Pollutant Loading
6. Phase 3 Municipal Data Compilation and Inventory and Issues Evaluation
7. IPZ-3 Delineation, Spill Simulations and Threats Assessments



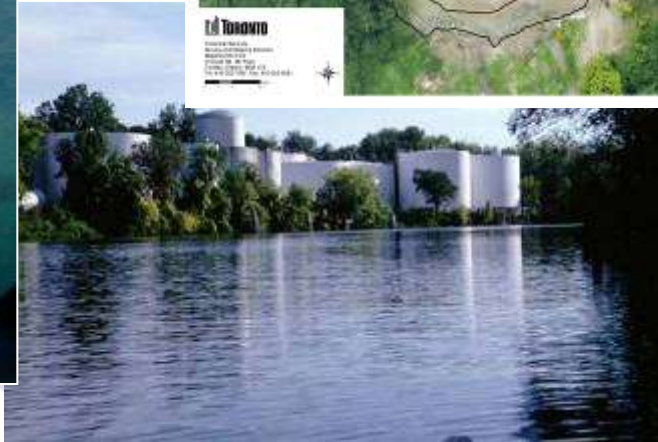
What are some of the potential lake-side risks to drinking water?

- Direct Discharges and Spills to Lake Ontario
- Petrochemical facilities
- Wastewater Treatment Plants & Storm Water
- Industrial Activities, including Bulk Fuel Storage
- Nuclear Power Stations



What are some of the upstream risks to drinking water?

- Discharges from tributaries during storm events
- Spills into tributaries upstream



LOC achievements and upcoming milestones:

- Modeling has been completed for 6 Draft spill scenarios (e.g Pickering, Hamilton Harbour fuel spill, Clarkson Refinery bulk fuel spill)
- Report preparation for these modeled spill scenarios is being undertaken
- Spill Scenario Modelling continues to evaluate for significant drinking water threats to CTC Lake Ontario intakes and delineate IPZ-3s
- Enumeration of Significant Drinking Water Threats, if any, for each intake based on Spill Scenario Modelling. To be included within amended Assessment Report(s)
- Pathogen monitoring will likely be expanded in the coming month(s)

Updated Assessment Reports

- Due June of 2011 and will include:
 - Lake Ontario findings,
 - Tier 3 water budget and
 - Reassessment of vulnerability scores in areas of WHPAs due to presence of transport pathways (i.e. other wells)
- Public consultation will be undertaken in areas affected by the updates
- Updated information will be used in the source protection plan



TRSPA Tier 3
Water Budget Area

Source Protection Plans

- All “significant” threats *must* be addressed through Source Protection Plans and significant threat policies must be complied with
- Plans will dictate the methods by which the different significant threats can be made less harmful including:

1. *prescribed instruments (other provincial approvals such as certificates of approval);*
2. *requiring risk management plans (negotiated with individual businesses);*
3. *restricted land use;*
4. *prohibition of activities;*
5. *education and outreach; or*
6. *combination of the above tools*



For more information:

Please talk with one of our staff:

- Find out more about Source Protection
- What specific activities might be drinking water threats

Stay in touch:

- Write or send an email with your comments or questions
- Sign up on our mailing list to receive information about updated Assessment Report findings and development of the Source Protection Plan

Contact us:

www.ctcswp.ca

sourcewater@trca.on.ca

Chair, CTC SPC 5 Shoreham Dr.
Downsview ON M3N 1S4

Thank You for Coming