

DRINKING WATER SOURCE PROTECTION

Trent Conservation Coalition Source Protection Region



10 Surface Water Sites – Drinking Water Threats

Trent Conservation Coalition (TCC)

Source Protection Region (SPR)

Source Protection Committee Meeting – October 6, 2009

Peterborough, Ontario



Expert People. Better Decisions.



Agenda



- § Technical Rules – latest version August 2009
- § Definition of Threats
- § Methodology of Identification
- § Surface Water Sites – Update on Threats
- § Questions

Technical Rules



§ Part XI – Drinking Water Threats: Water Quality

§ Part XI.2 – Drinking Water Threats - Activities

- Rule 118 (Prescribed Threats)
- Rules 119 to 125 (Other Activities)

§ Part XI.3 – Drinking Water Threats - Conditions

- Rule 126 (Conditions)

§ Part XI.4 – Identifying Areas for Threats - Activities

- Rules 127 to 131 (Significant Threats)
- Rules 132 to 134 (Moderate Threats)
- Rules 135 to 137 (Low Threats)

§ Part XI.5 – Identifying Areas for Threats - Conditions

Prescribed DW Threats - Activities



Number	Prescribed Threat
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act</i> .
2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3	The application of agricultural source material to land.
4	The storage of agricultural source material.
5	The management of agricultural source material.
6	The application of non-agricultural source material to land.
7	The handling and storage of non-agricultural source material.
8	The application of commercial fertilizer to land.
9	The handling and storage of commercial fertilizer.
10	The application of pesticide to land.
11	The handling and storage of pesticide.
12	The application of road salt.
13	The handling and storage of road salt.
14	The storage of snow.
15	The handling and storage of fuel.
16	The handling and storage of a dense non-aqueous phase liquid.
17	The handling and storage of an organic solvent.
18	The management of runoff that contains chemicals used in the de-icing of aircraft.
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.
20*	An activity that reduces the recharge of an aquifer.
21	The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard. O. Reg. 385/08, s. 3.

Note:

* indicates that threat is not water quality threat.

Conditions – Surface Water



- § the presence of a single mass of more than 100 litres of one or more dense non-aqueous phase liquids in surface water in a surface water intake protection zone
- § the presence of a contaminant in surface soil in a surface water intake protection zone if, the contaminant is listed in Table 4 of the Soil, Ground Water and Sediment Standards is present at a concentration that exceeds the surface soil standard for industrial/commercial/community property use set out for the contaminant in that Table; and
- § the presence of a contaminant in sediment, if the contaminant is listed in Table 1 of the Soil, Ground Water and Sediment Standards and is present at a concentration that exceeds the sediment standard set out for the contaminant in that Table.

Methodology - Activities



- § Review Vulnerable Area Delineation
- § Conduct database search on IPZ-1 & IPZ-2
- § Conduct field reconnaissance survey
- § Overlay parcel fabric
- § Use vulnerability score, land use, known circumstances to evaluate for potentially significant threats
- § Enumerate potential significant threats and number of parcels affected

Methodology – Activities (cont'd)



- § Collect contact information on land owners of parcels identified as potentially significant
- § Send letters and information to land owners
- § Follow up with interview and/or site visit to collect information regarding specific circumstances
- § Enumerate identified significant threats

Methodology – Conditions



- § Review available background information
 - Any information provided
 - RSCs located in IPZs
- § Calculate Risk Scores
- § Enumerate Significant Threats

Provincial Threat Categories with Circumstances That Could Pose a Significant Risk in an Intake Protection Zone

		Intake Protection Zone Vulnerability Scoring									
		Chemical					Pathogen				
Prescribed drinking water threat category		Contaminant released:									
		10	9	8.1	8	<8	10	9	8.1	8	<8
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act</i> .	ü	ü				ü	ü	ü	ü	
2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.	ü	ü	ü	ü		ü	ü	ü	ü	
3	The application of agricultural source material to land.	ü	ü				ü	ü	ü	ü	
4	The storage of agricultural source material.	ü	ü				ü	ü	ü	ü	
5	The management of agricultural source material.										
6	The application of non-agricultural source material to land.	ü	ü				ü	ü	ü	ü	
7	The handling and storage of non-agricultural source material.	ü	ü				ü	ü	ü	ü	
8	The application of commercial fertilizer to land.	ü	ü								
9	The handling and storage of commercial fertilizer.	ü									
10	The application of pesticide to land.	ü	ü	ü							
11	The handling and storage of pesticide.	ü	ü								
12	The application of road salt.	ü	ü								
13	The handling and storage of road salt.	ü	ü								
14	The storage of snow.	ü	ü								
15	The handling and storage of fuel.	ü									
16	The handling and storage of a dense non-aqueous phase liquid (DNAPLs)*.	ü									
17	The handling and storage of an organic solvent.	ü									
18	The management of runoff that contains chemicals used in the de-icing of aircraft.	ü	ü								
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.**										
20	An activity that reduces the recharge of an aquifer.**										
21	The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.	ü	ü				ü	ü	ü	ü	

*DNAPLs are chemicals that are heavy and sink in water (e.g. trichloroethylene)

**Water quantity threats will be evaluated as a part of the Water Budget studies

Surface Water Sites



§ Lakefield

§ Peterborough

§ Hastings

§ Marmora

§ Campbellford

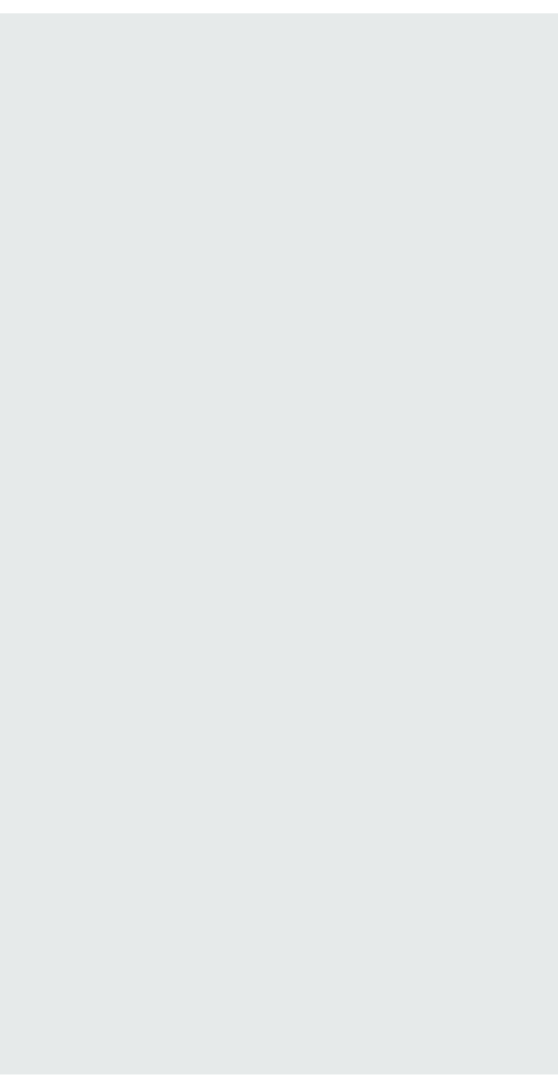
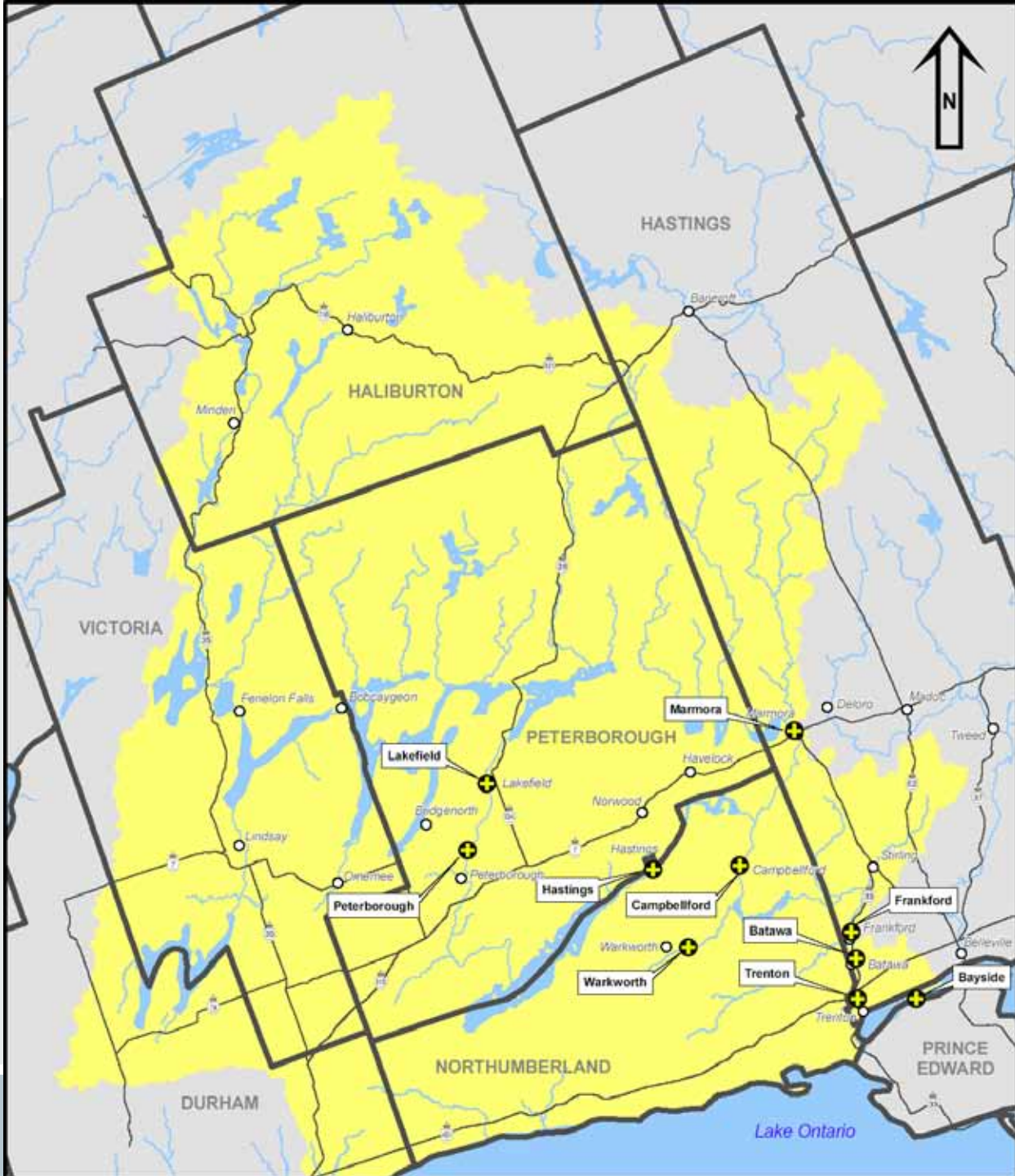
§ Warkworth

§ Frankford

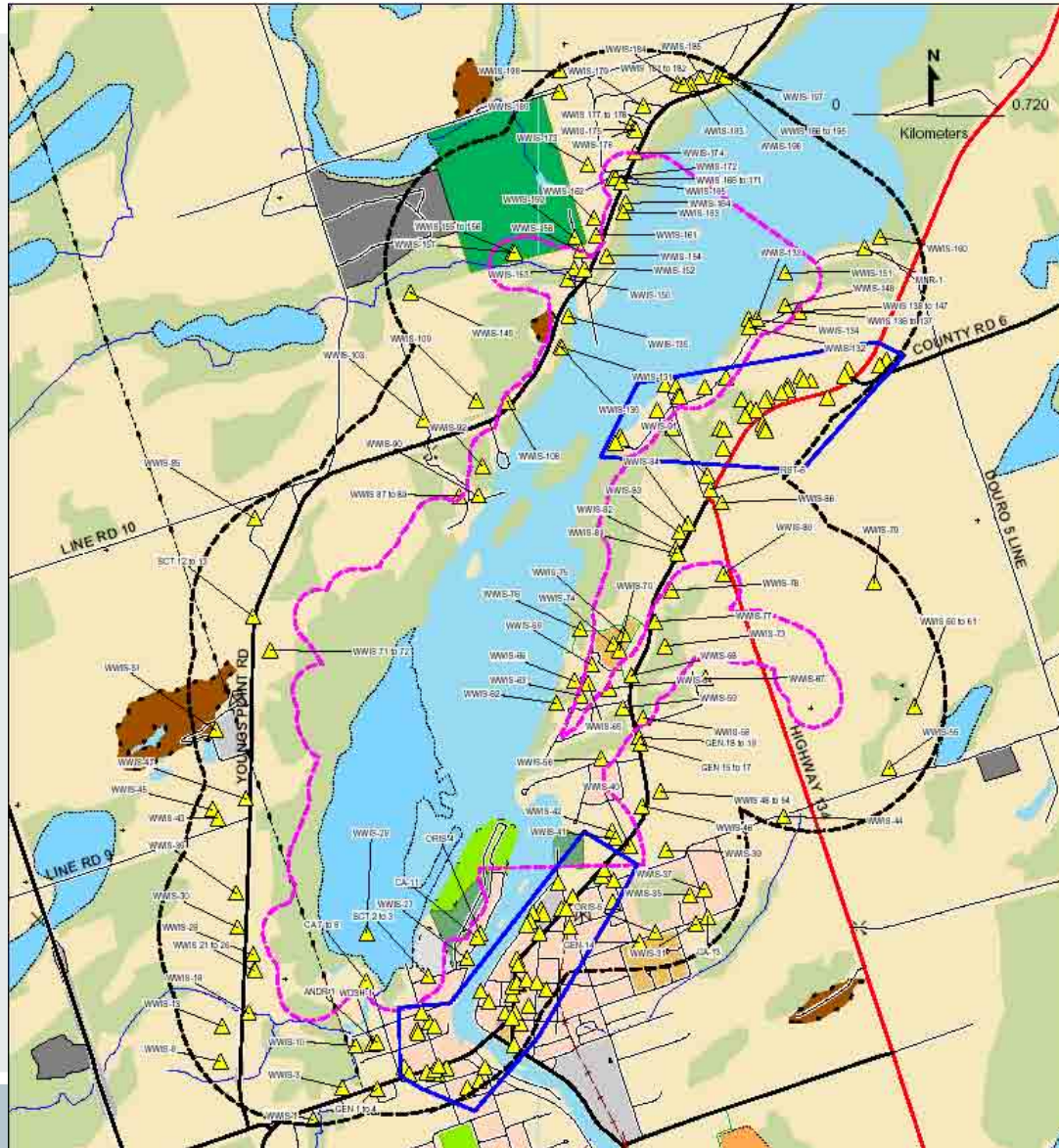
§ Batawa

§ Trenton

§ Bayside



Lakefield – Database Search



- § Anderson's Waste Disposal Sites (ANDR) – 1 record
- § Certificates of Approval (CA) – 19 records
- § Commercial Fuel Oil Tanks (CFOT) – 1 record
- § Environmental Registry (EBR) – 3 records
- § ERIS Historical Searches (EHS) – 2 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 19 records
- § Mineral Occurrences (MNR) – 1 record
- § Occurrence Reporting Information System (ORIS) – 5 records
- § Pesticide Register (PES) – 3 records
- § Private and Retail Fuel Storage Tanks (PRT) – 3 records
- § Retail Fuel Storage Tanks (RST) – 6 records
- § Scott's Manufacturing Directory (SCT) – 13 records
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 1 record
- § Water Well Information System (WWIS) – 198 records

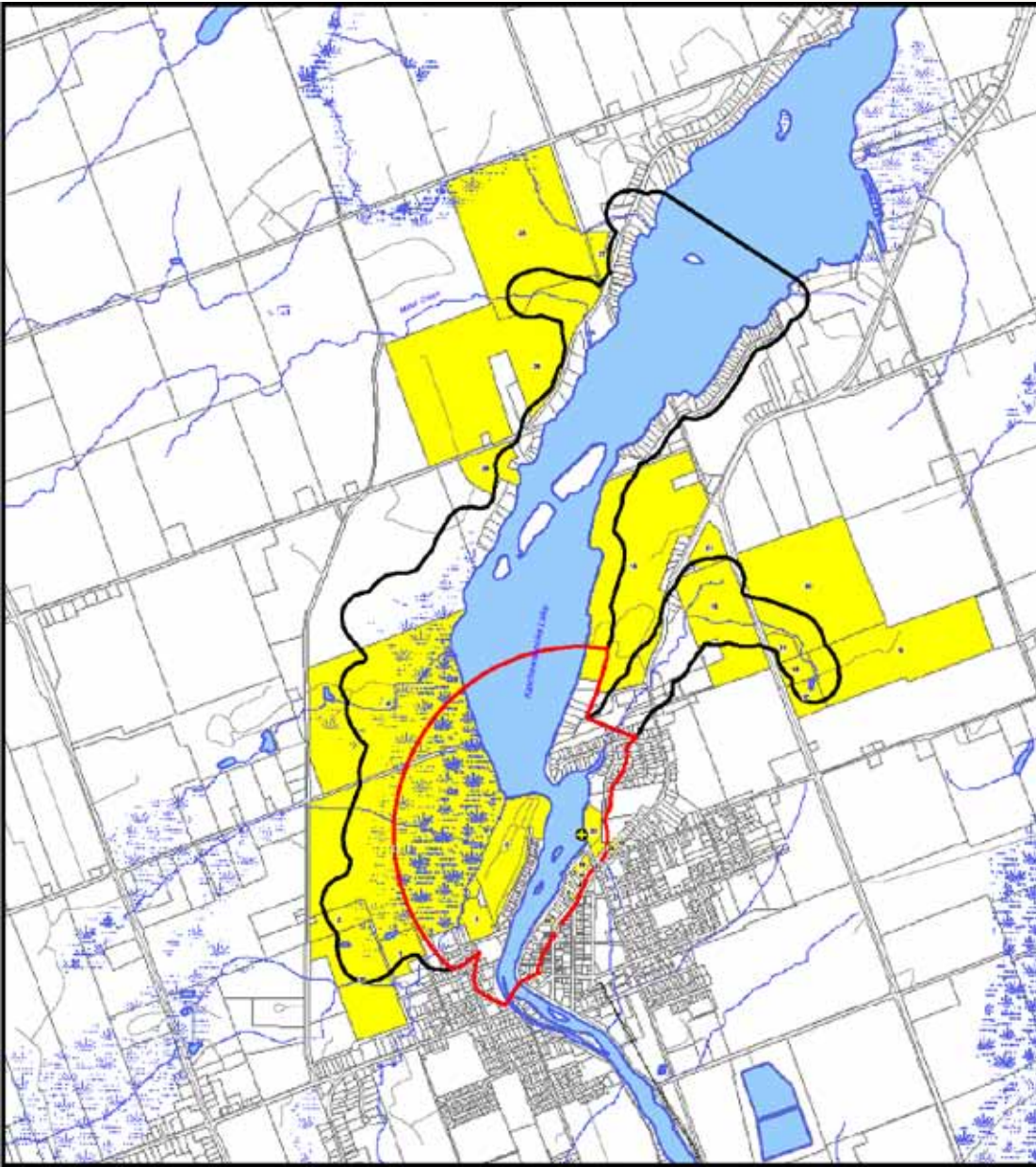
Lakefield – Potentially Significant

Threats

§ 31 Parcels Identified for additional information

§ IPZ-1 Vulnerability Score = 10

§ IPZ-2 Vulnerability Score = 9

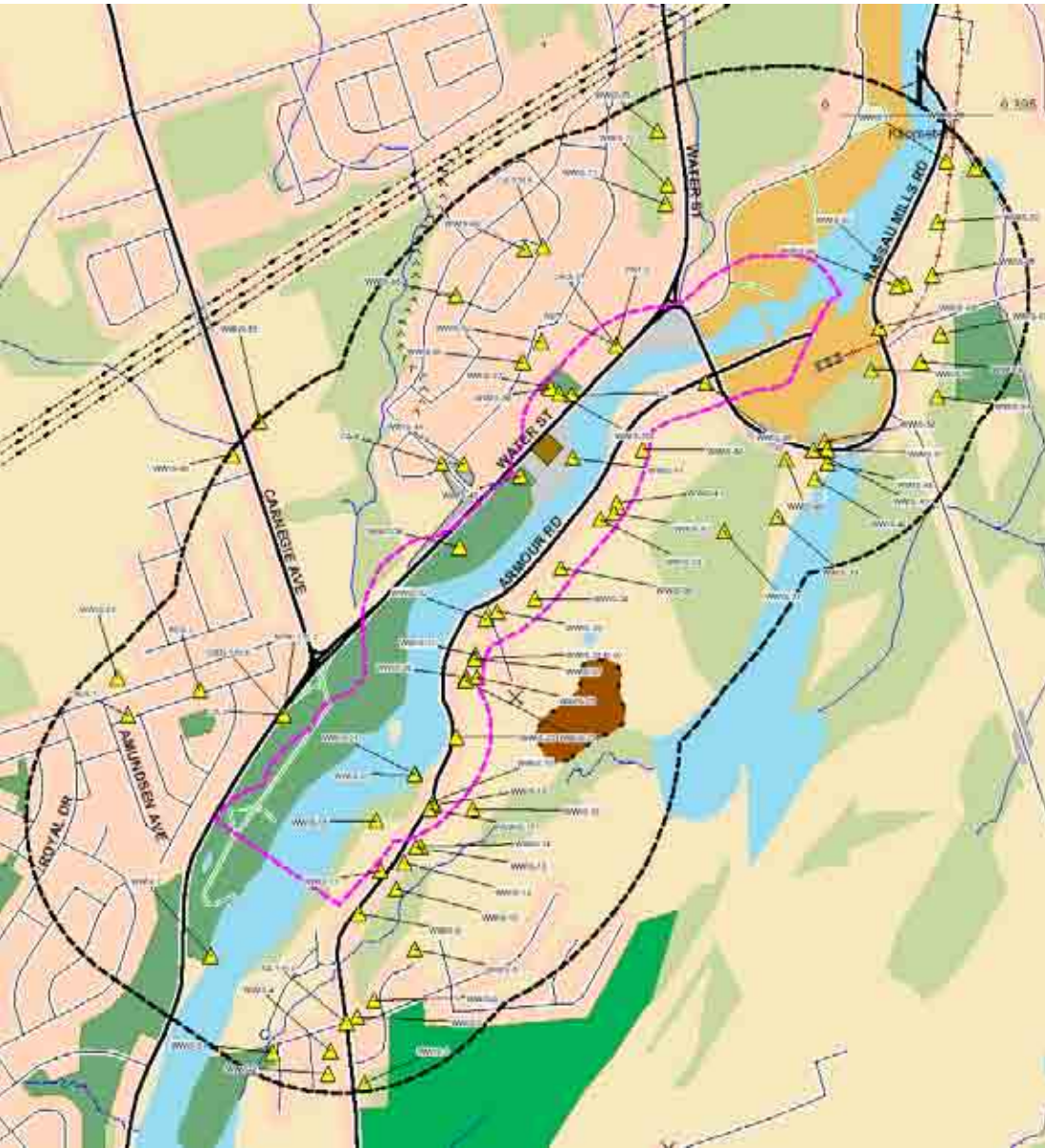


Lakefield – Status for Identified Significant Threats



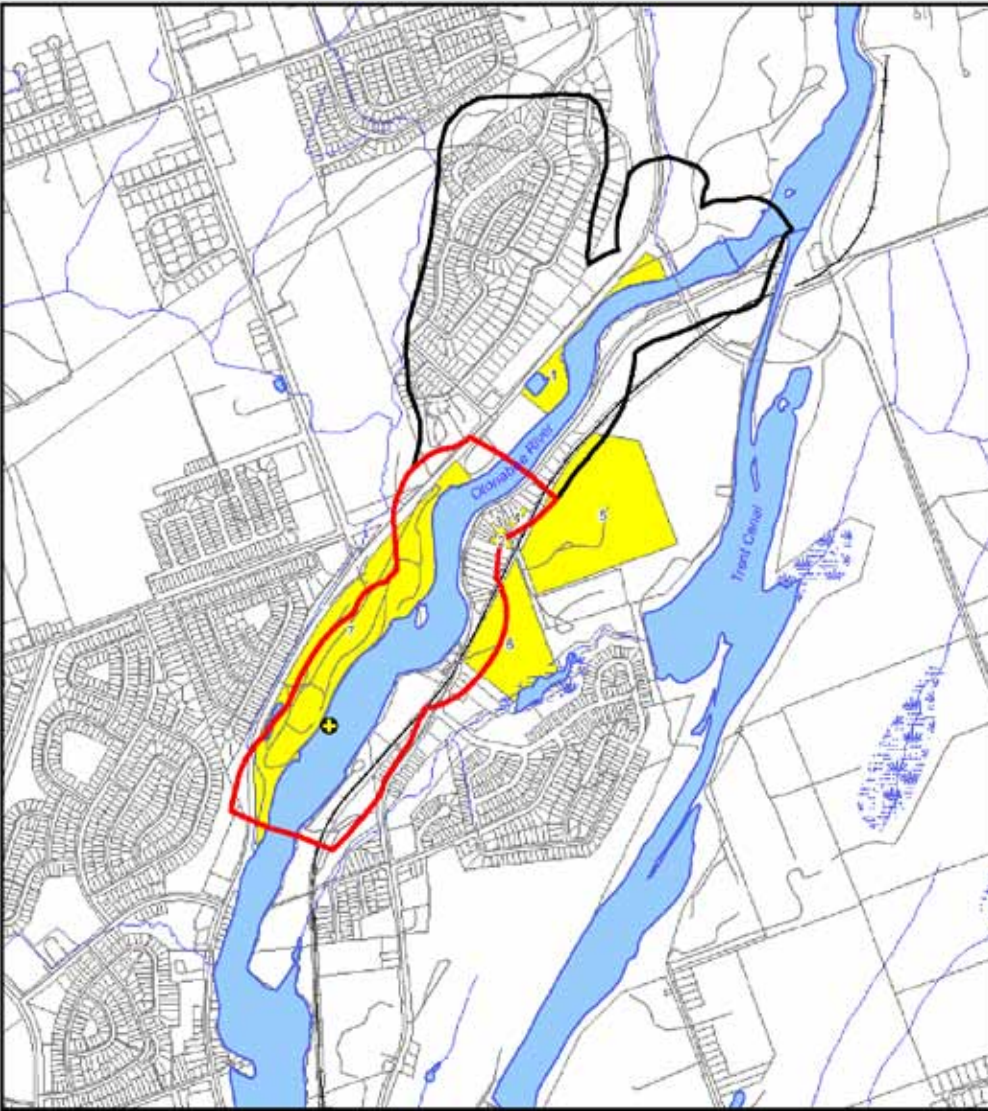
- § No Conditions
- § Just received contact info
- § Letters/Info to be sent this week

Peterborough - Database Search



- § Certificates of Approval (CA) – 6 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 6 records plus 3 non-mappable records
- § National Pollutant Release Inventory (NPRI) – 3 records
- § Occurrence Reporting Information System (ORIS) – 2 records
- § Pesticide Register (PES) – 1 record
- § Private and Retail Fuel Storage Tanks (PRT) – 2 records
- § Retail Fuel Storage Tanks (RST) – 1 record
- § Water Well Information System (WWIS) – 75 records

Peterborough – Potentially Significant Threats



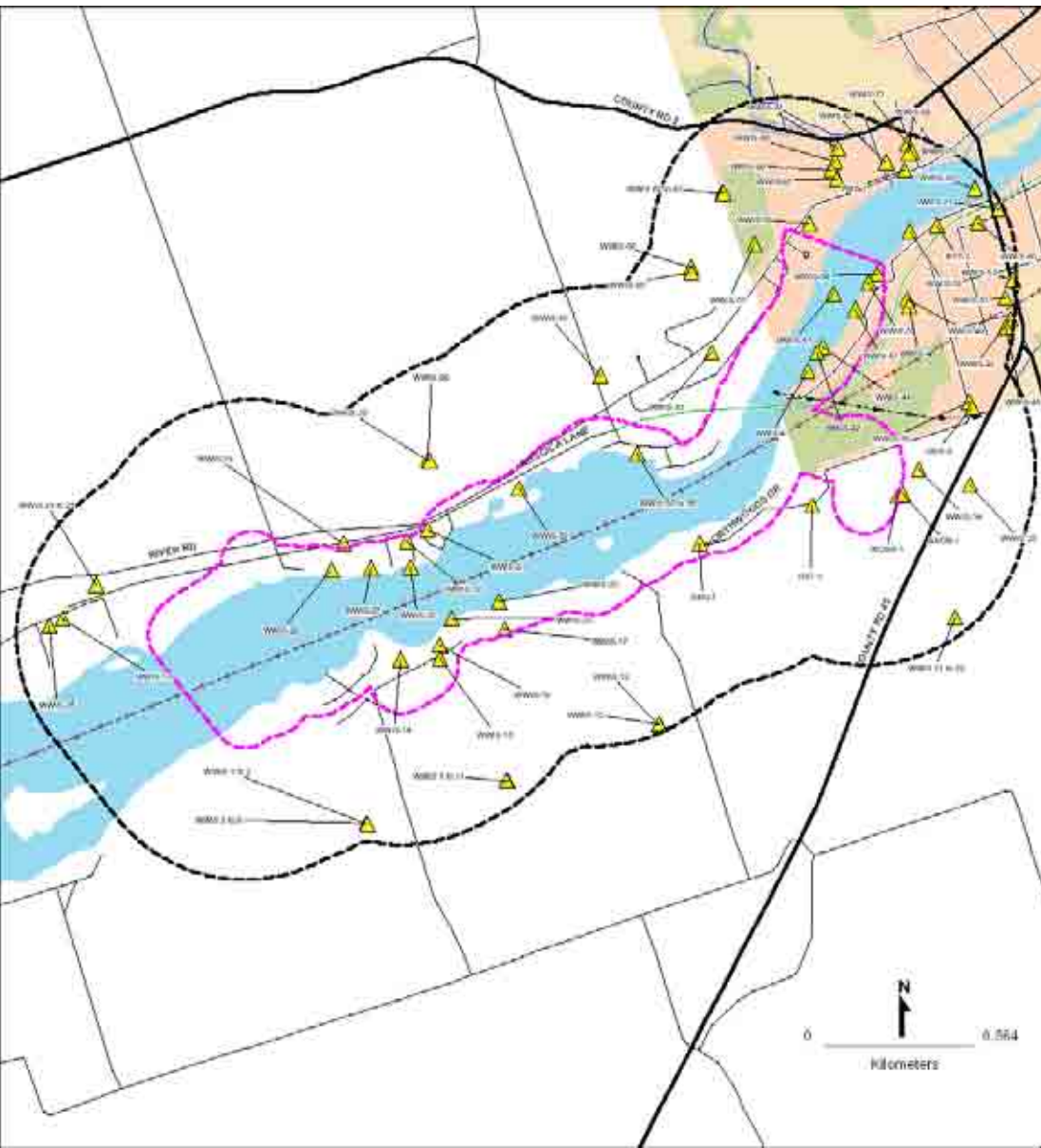
- § 7 Parcels Identified for additional information
- § IPZ-1 Vulnerability Score = 10
- § IPZ-2 Vulnerability Score = 9

Peterborough – Status for Identified Significant Threats



- § RSC for Dafoe Drive Property (former landfill) – Not a Condition
- § 7 Letters sent out, 6 initial phone calls made, 1 site with no phone listing
- § ***Significant Threats identified on 3 parcels to date***
- § 4 sites requiring follow-up
- § No sites requiring site visits yet

Hastings – Database Search



- § Anderson's Waste Disposal Sites (ANDR) – 1 record
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 2 records
- § Private and Retail Fuel Storage Tanks (PRT) – 1 record
- § Retail Fuel Storage Tanks (RST) – 2 records
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 1 record
- § Water Well Information System (WWIS) – 72 records

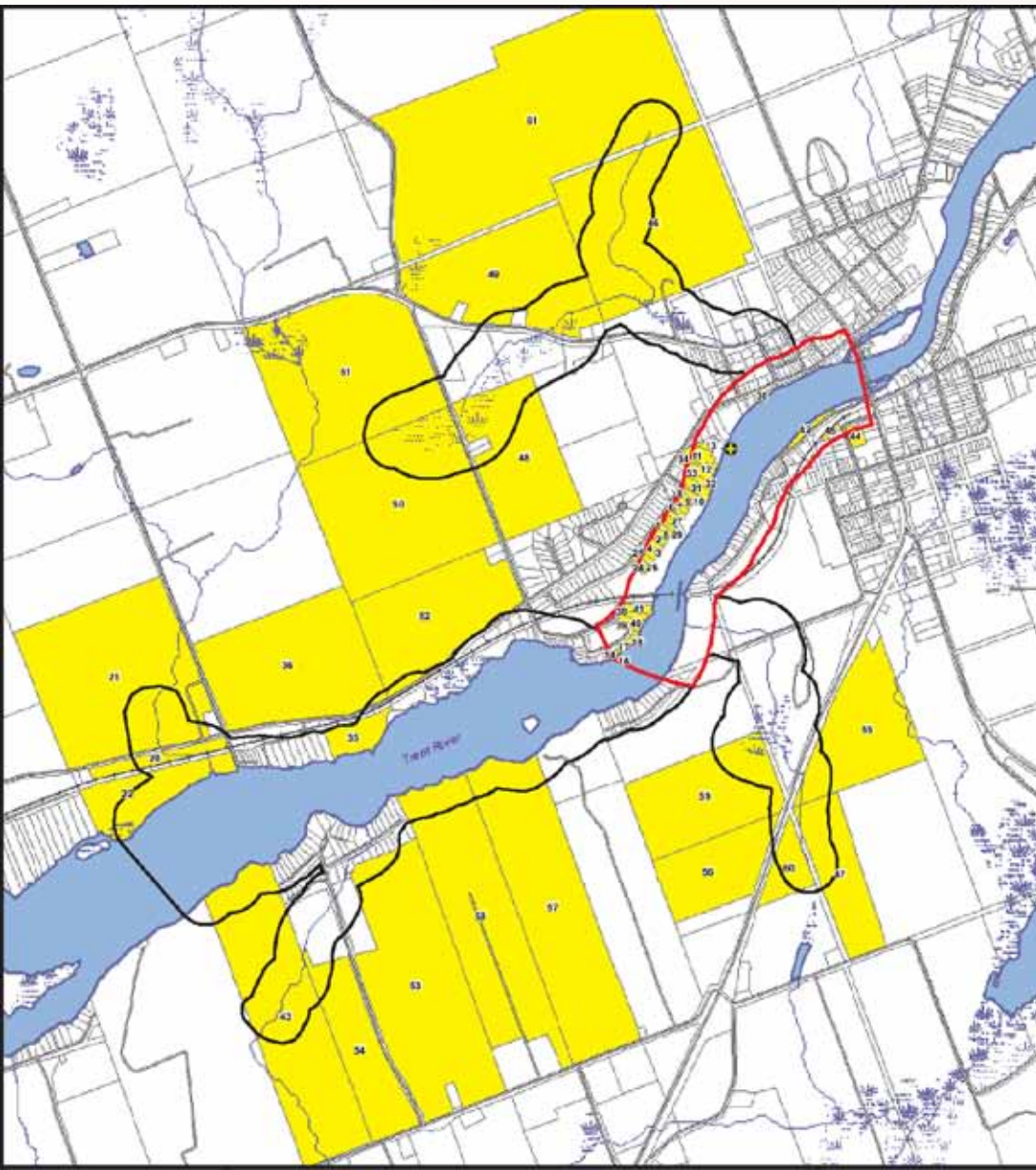
Hastings – Potentially Significant

Threats

§ 61 Parcels Identified
for Additional
Information

§ IPZ-1 Vulnerability
Score = 10

§ IPZ-2 Vulnerability
Score = 8

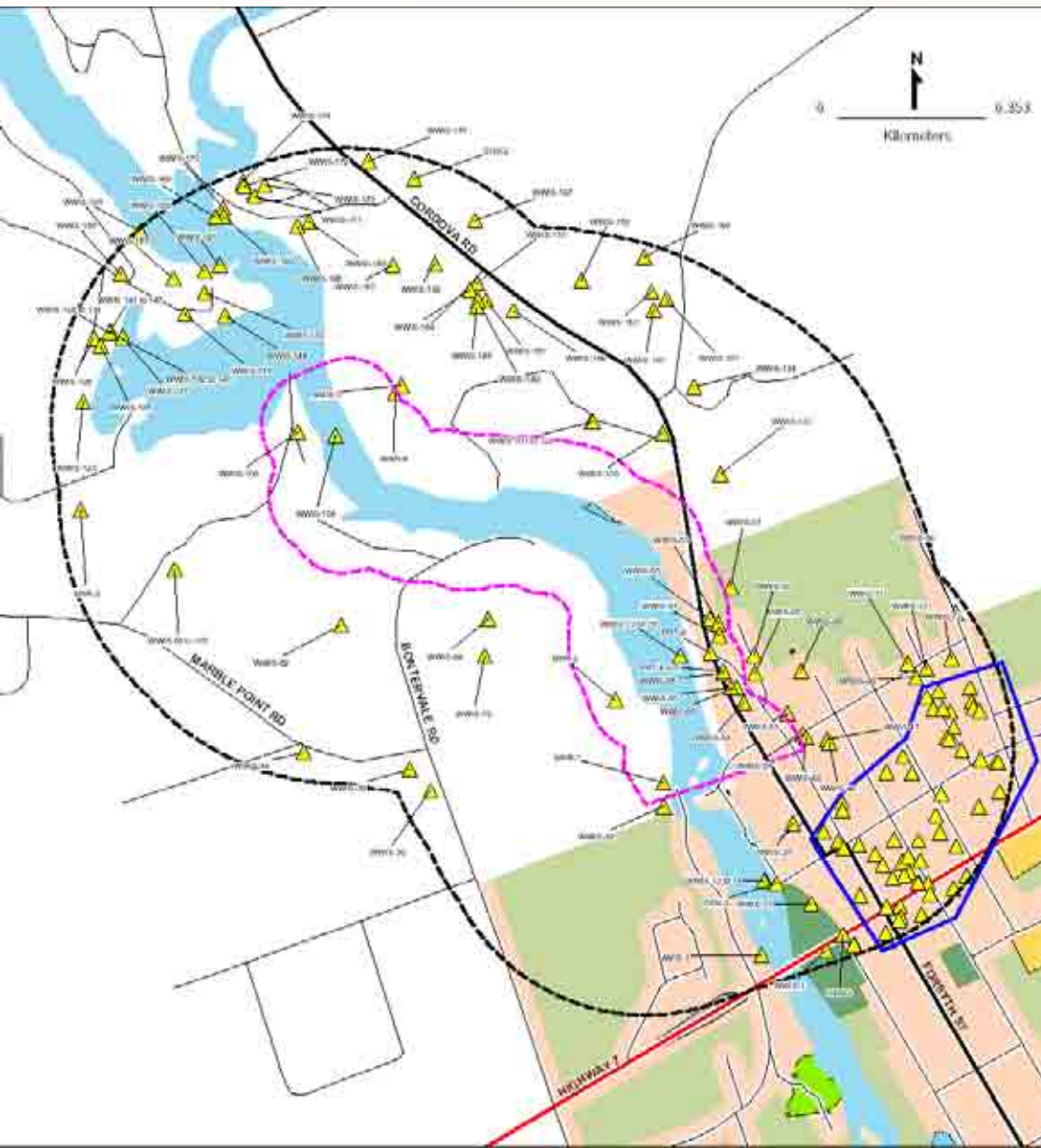


Hastings – Status for Identified Significant Threats



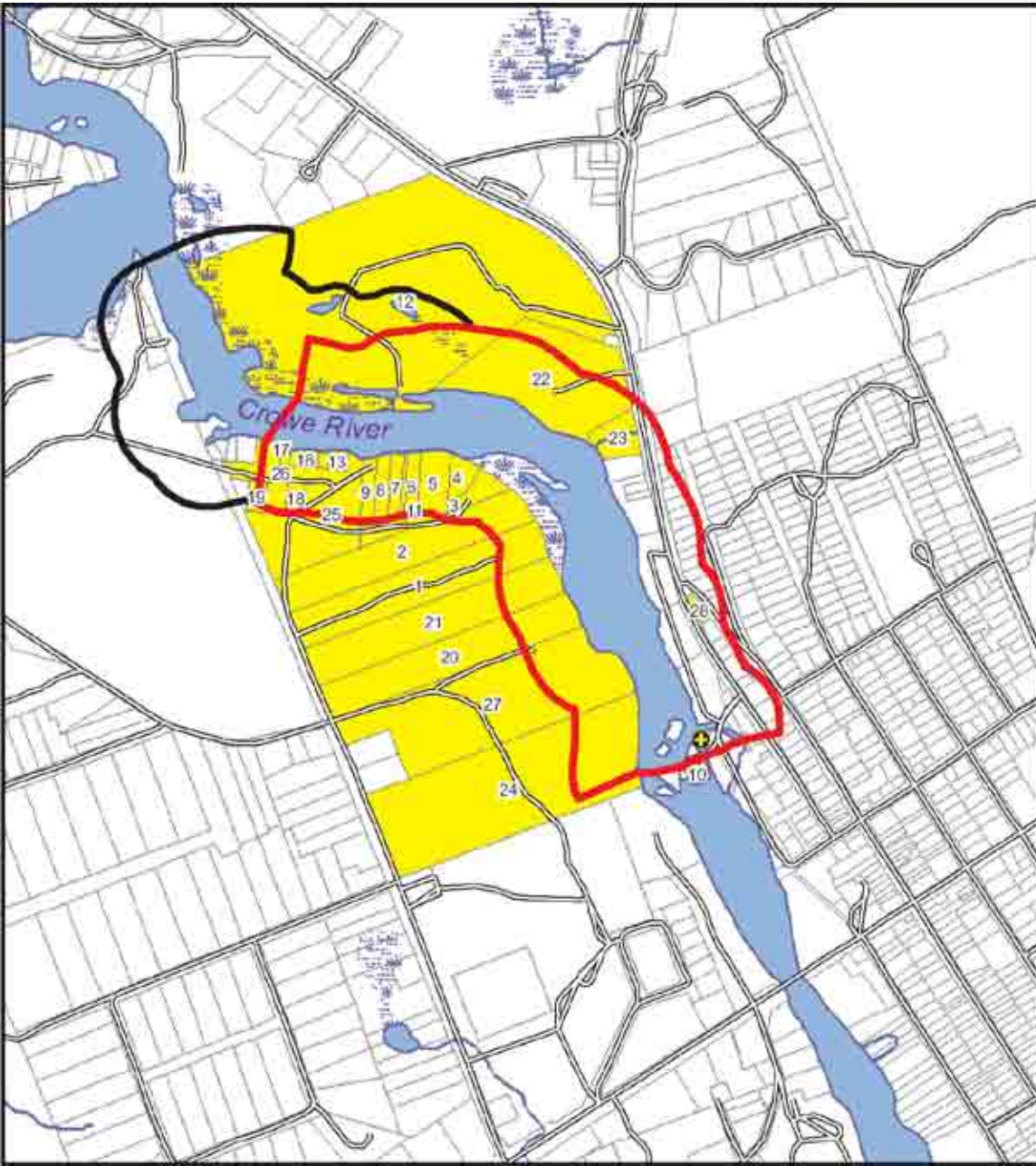
- § No Conditions
- § 61 letters sent out, 56 initial phone calls made, 5 sites with no phone listing
- § Significant Threat ruled out on 14 parcels
- § *Significant Threats identified on 17 parcels to date*
- § 30 sites requiring follow-up
- § 2 sites requiring site visits (refusal to answer)

Marmora – Database Search



- § Abandoned Mine Information System (AMIS) – 2 records
- § Certificates of Approval (CA) – 1 record
- § ERIS Historical Searches (EHS) – 2 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 14 records
- § Mineral Occurrences (MNR) – 4 record
- § Private and Retail Fuel Storage Tanks (PRT) – 6 records
- § Scott's Manufacturing Directory (SCT) – 13 records
- § Water Well Information System (WWIS) – 175 records

Marmora – Potentially Significant Threats



§ 28 Parcels Identified for Additional Information

§ IPZ-1 Vulnerability Score = 10

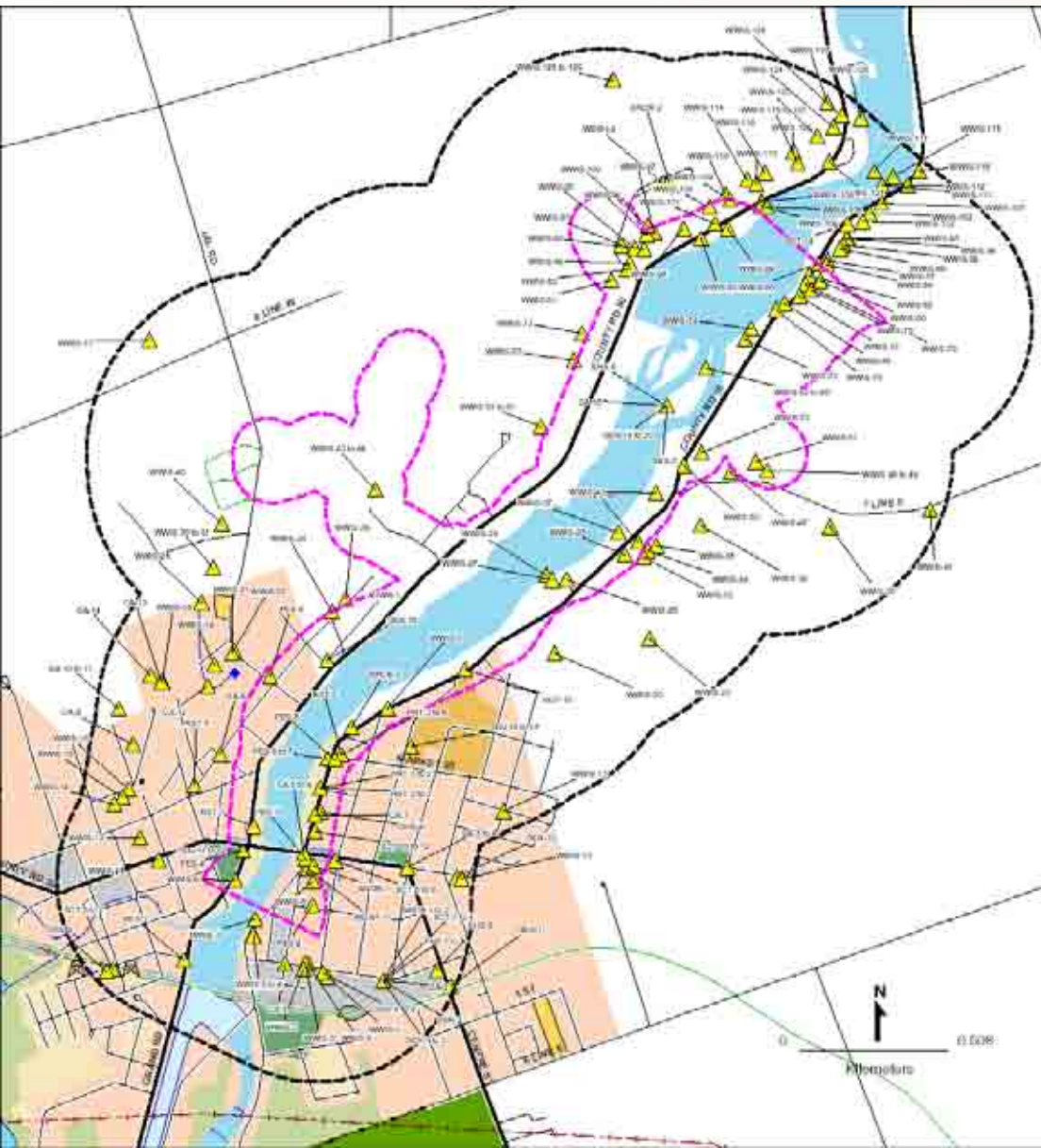
§ IPZ-2 Vulnerability Score = 7

Marmora – Status for Identified Significant Threats



- § No Conditions
- § 28 letters sent out, 27 initial phone calls made, 1 site with no phone listing
- § Significant Threat ruled out on 2 parcels
- § ***Significant Threats identified on 5 parcels to date***
- § 21 sites requiring follow-up
- § No sites requiring site visits yet

Campbellford – Database Review

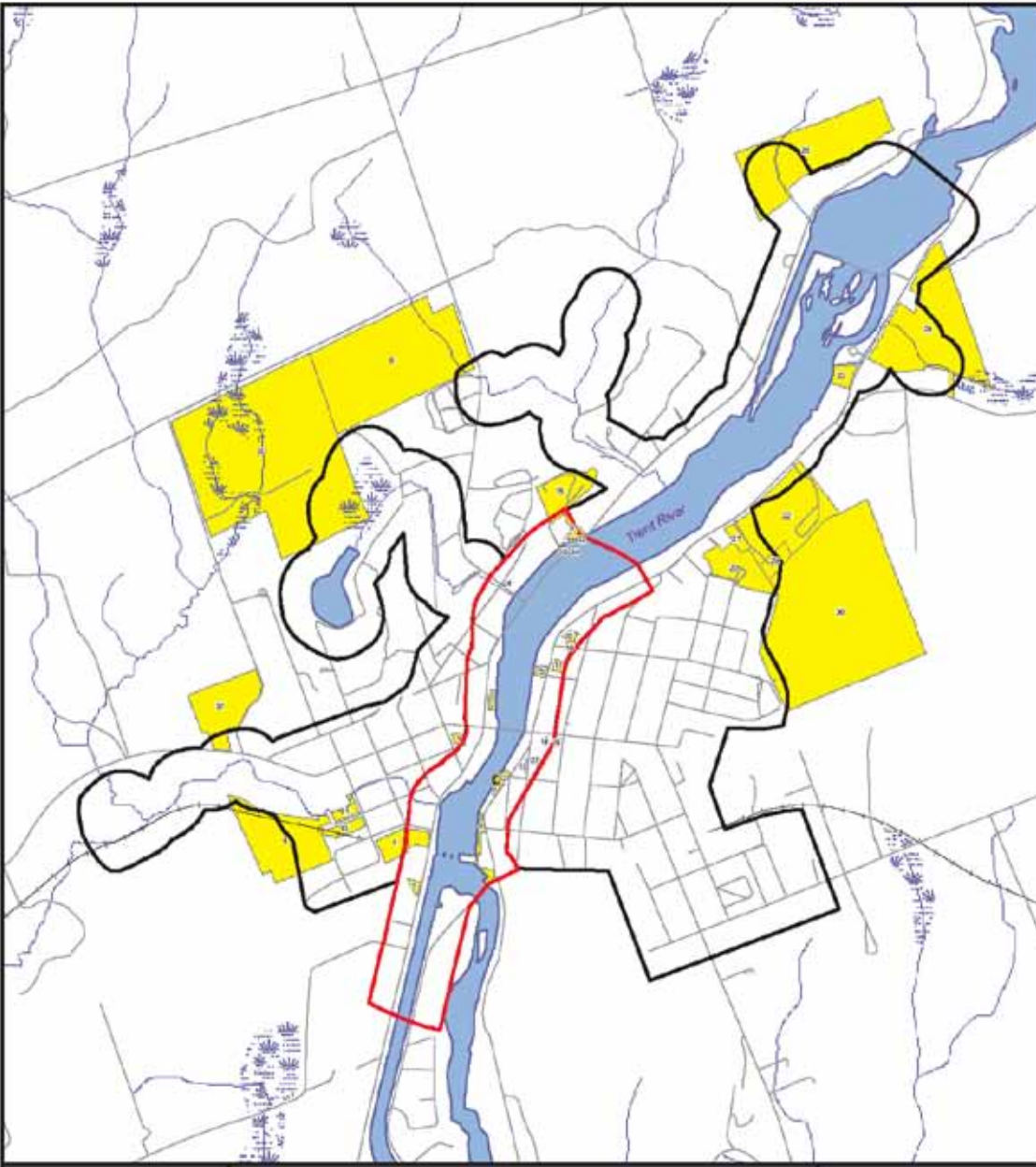


- § Anderson's Waste Disposal Sites (ANDR) – 3 records
- § Automobile Wrecking and Supplies (AUWR) – 1 record
- § Certificates of Approval (CA) – 15 records
- § Environmental Registry (EBR) – 1 record
- § ERIS Historical Searches (EHS) – 5 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 20 records
- § National PCB Inventory (NPCB) – 3 records
- § Occurrence Reporting Information System (ORIS) – 2 records
- § Pesticide Register (PES) – 8 records
- § Private and Retail Fuel Storage Tanks (PRT) – 6 records
- § Retail Fuel Storage Tanks (RST) – 5 records
- § Scott's Manufacturing Directory (SCT) – 14 records
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 2 record
- § Water Well Information System (WWIS) – 129 records

Campbellford – Potentially Significant

Threats

- § 37 Parcels Identified for Additional Information
- § IPZ-1 Vulnerability Score = 10
- § IPZ-2 Vulnerability Score = 9

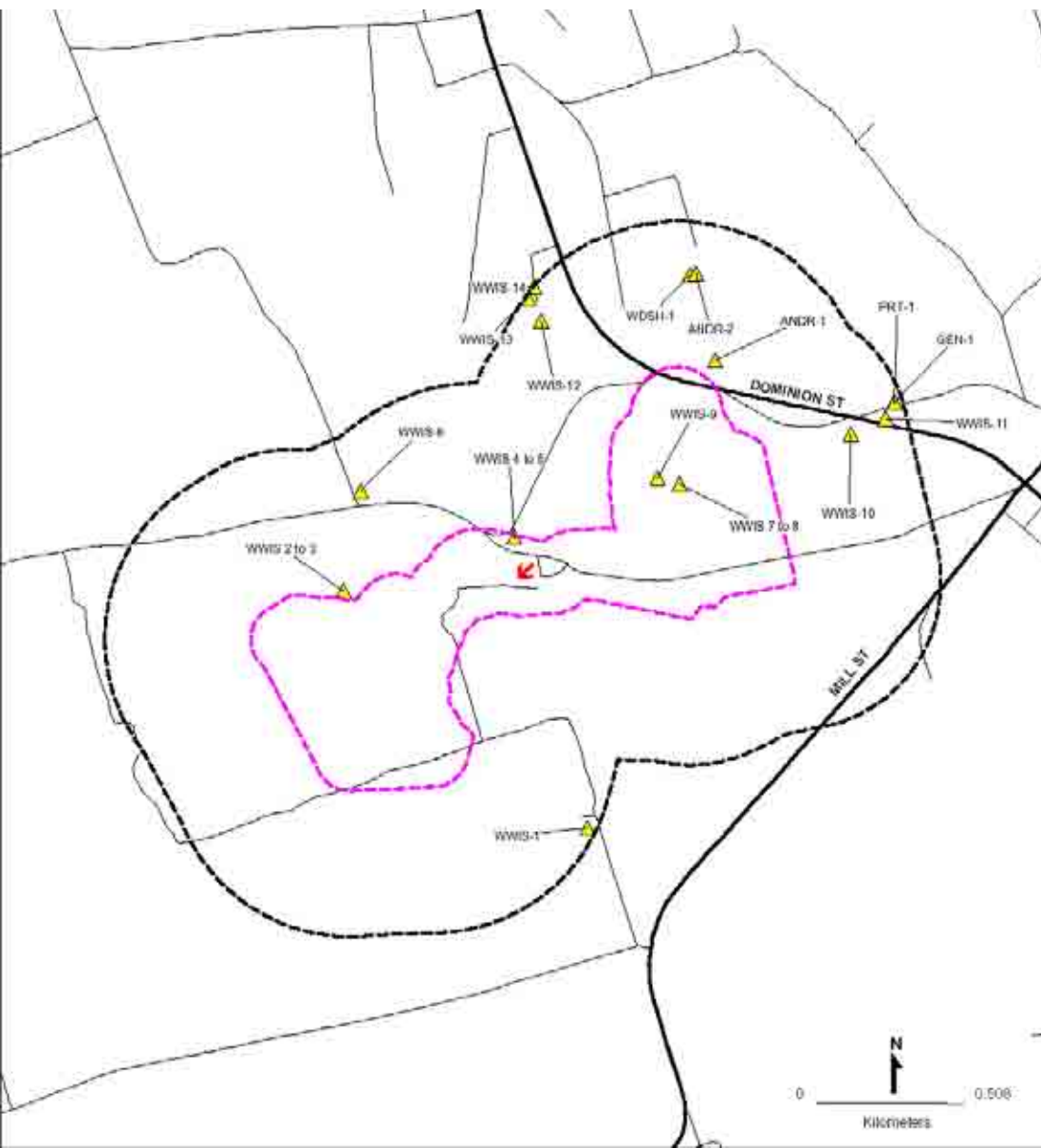


Campbellford – Status for Identified Significant Threats



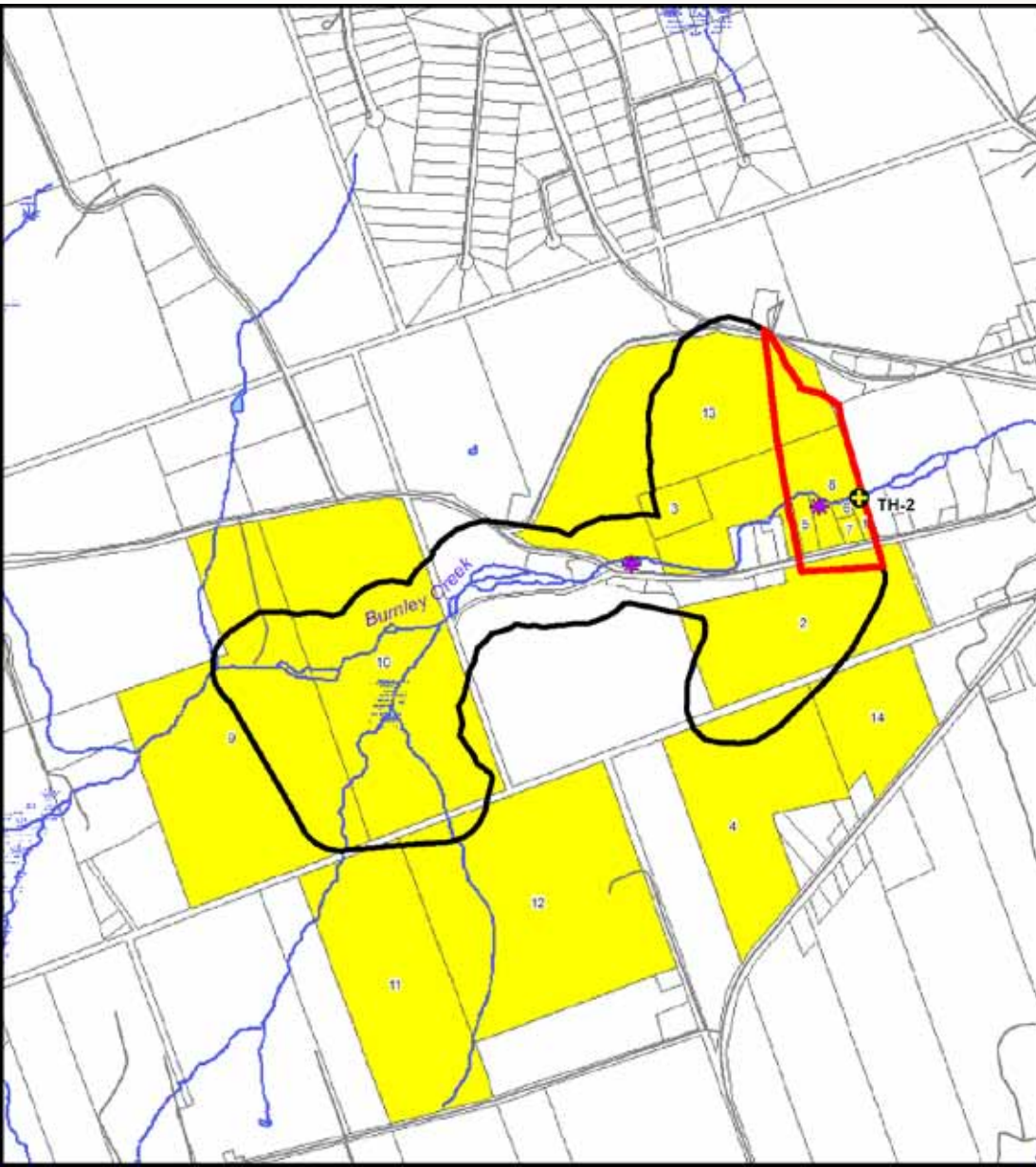
- § No Conditions
- § 37 letters sent out, 29 initial phone calls made, 8 sites with no phone listing
- § Significant Threat ruled out on 7 parcels
- § *Significant Threats identified on 1 parcel to date*
- § 29 sites requiring more follow-up
- § No sites requiring site visits yet

Warkworth – Database Search



- § Anderson's Waste Disposal Sites (ANDR) – 2 records
- § Certificates of Approval (CA) – 4 non-mappable records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 1 record
- § Occurrence Reporting Information System (ORIS) – 2 non-mappable records
- § Private and Retail Fuel Storage Tanks (PRT) – 1 record plus 1 non-mappable record
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 1 record
- § Water Well Information System (WWIS) – 14 records

Warkworth – Potentially Significant Threats



§ 14 Parcels Identified for Additional Information

§ IPZ-1 Vulnerability Score = 10

§ IPZ-2 Vulnerability Score = 9

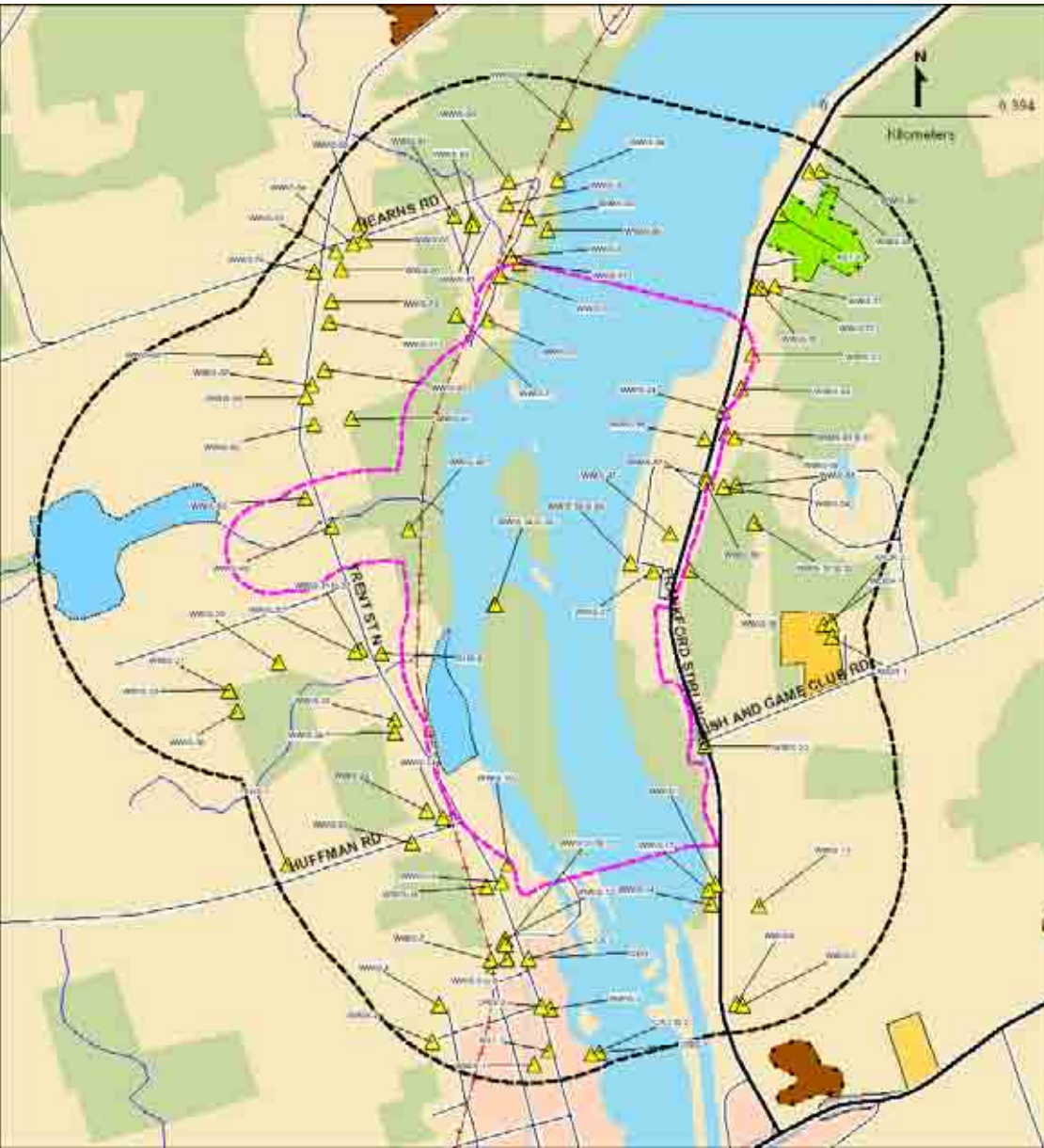
Warkworth – Status for Identified



Significant Threats

- § No Conditions
- § 14 letters sent out, 11 initial phone calls made, 3 sites with no phone listing
- § Significant Threat ruled out on 5 parcels
- § *Significant Threats identified on 3 parcels to date*
- § 6 sites requiring more follow-up
- § No sites requiring site visits yet

Frankford – Database Review



- § Anderson's Waste Disposal Sites (ANDR) – 2 records
- § Certificates of Approval (CA) – 3 records
- § ERIS Historical Searches (EHS) – 2 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 1 record
- § Occurrence Reporting Information System (ORIS) – 2 records
- § Retail Fuel Storage Tanks (RST) – 2 records
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 1 record
- § Water Well Information System (WWIS) – 97 records

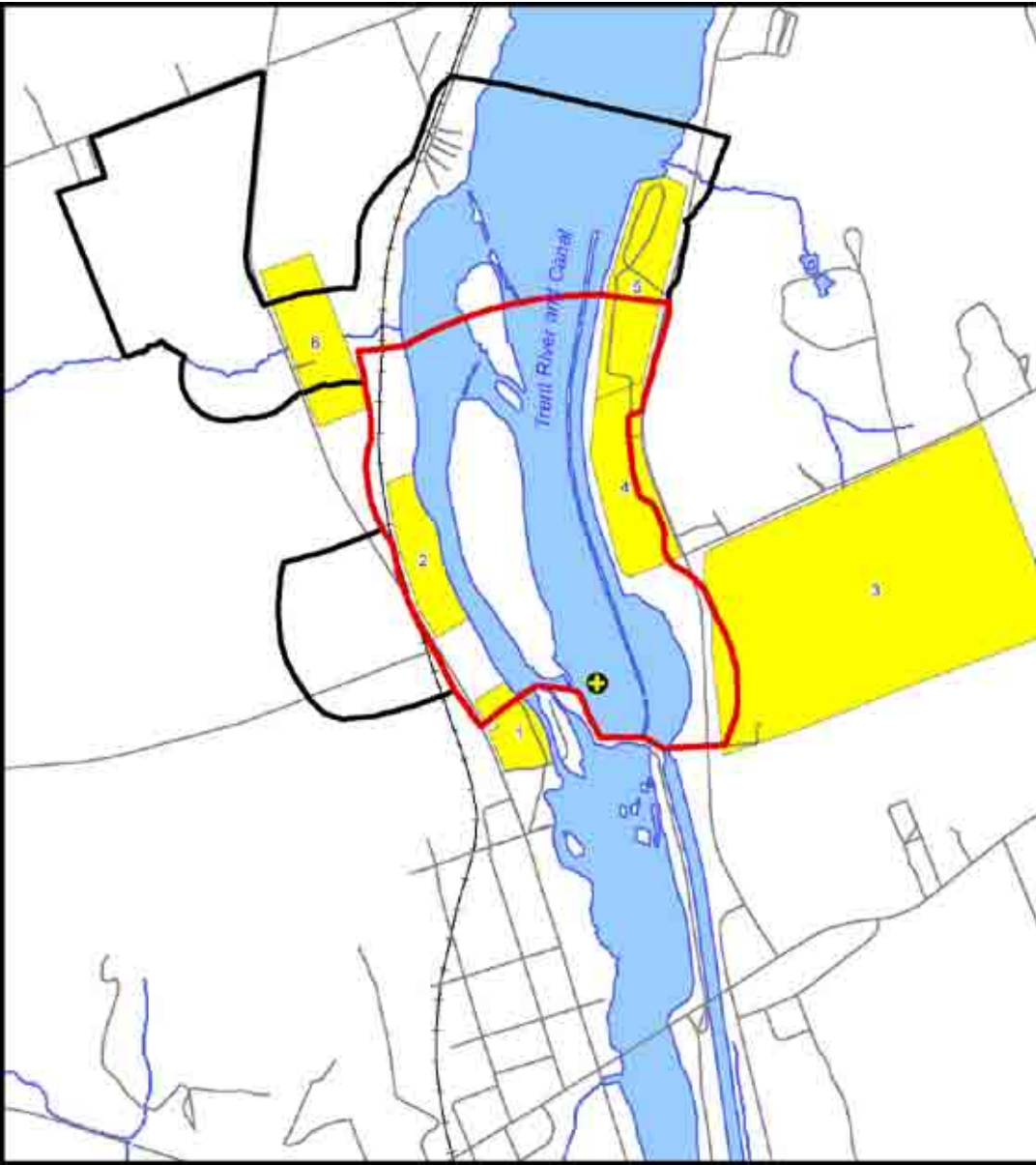
Frankford – Potentially Significant

Threats

§ 6 Parcels Identified for Additional Information

§ IPZ-1 Vulnerability Score = 9

§ IPZ-2 Vulnerability Score = 7.2



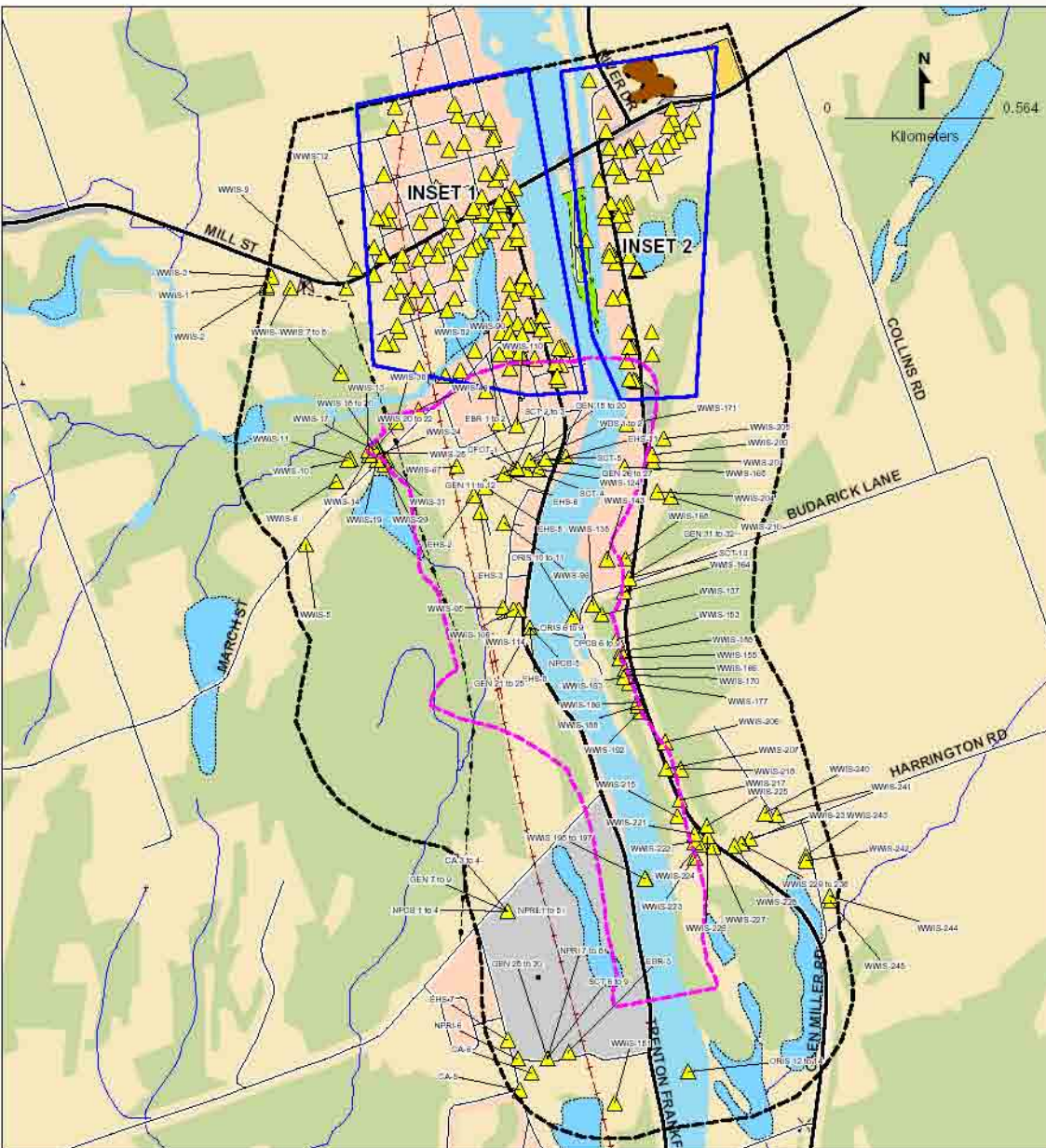
Frankford – Status for Identified



Significant Threats

- § No Conditions
- § 6 letters sent out, 6 initial phone calls made
- § Significant Threat ruled out on 2 parcels
- § ***No Significant Threats identified to date***
- § 4 sites requiring follow-up
- § No sites requiring site visits yet

Batawa – Database Review



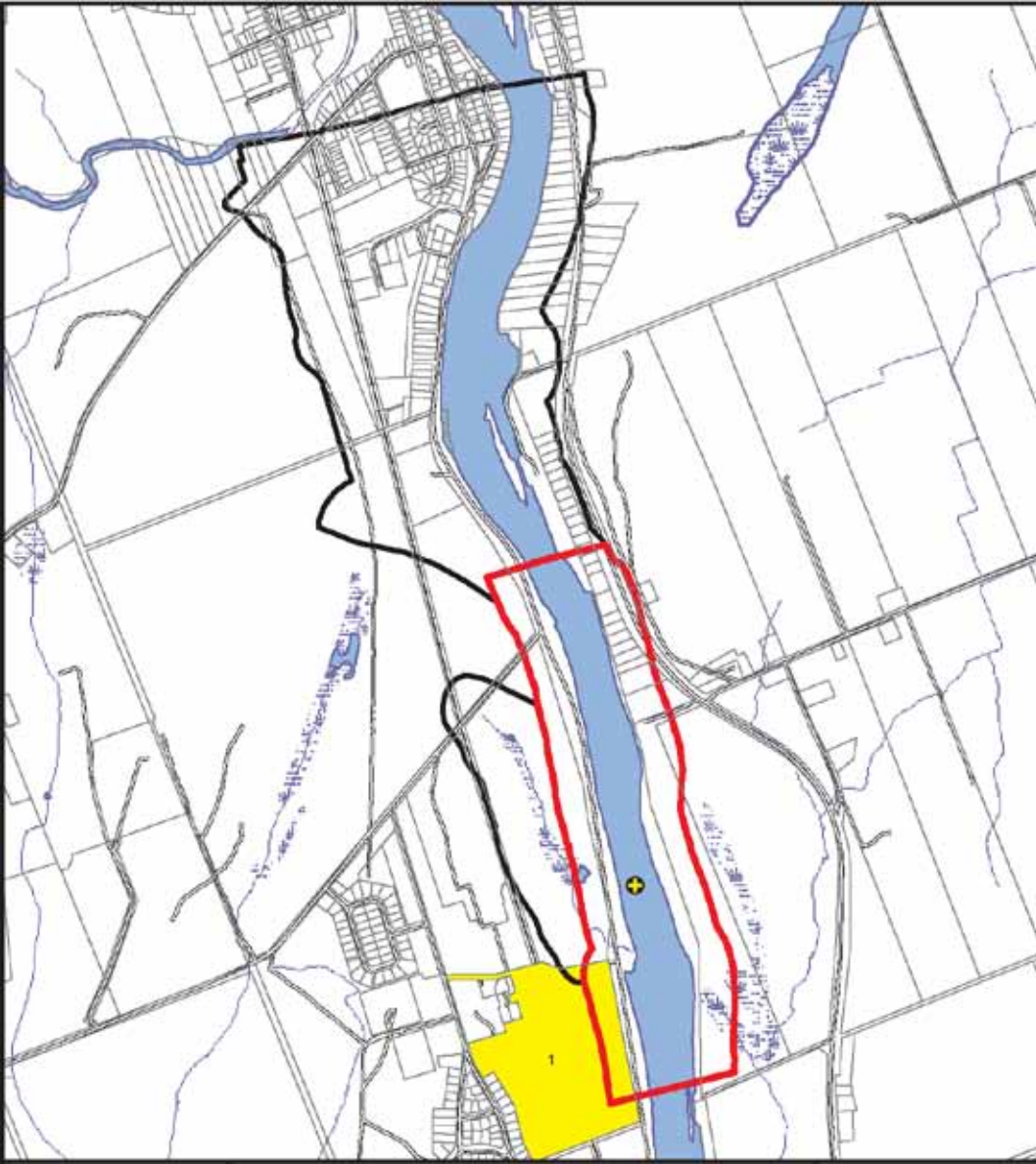
- § Certificates of Approval (CA) – 6 records plus 2 non-mappable records
- § Commercial Fuel Oil Tanks (CFOT) – 1 record
- § Compliance and Convictions (CONV) – 1 non-mappable record
- § Environmental Registry (EBR) – 3 records
- § ERIS Historical Searches (EHS) – 11 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 32 records plus 7 non-mappable records
- § National Analysis of Trends in Emergencies System (NATES) – 1 non-mappable record
- § National Environmental Emergencies System (NEES) – 1 non-mappable record
- § National PCB Inventory (NPCB) – 5 records
- § National Pollutant Release Inventory (NPRI) – 8 records
- § Inventory of PCB Storage Sites (PCFT) – 9 records
- § Occurrence Reporting Information System (ORIS) – 14 records
- § Pesticide Register (PES) – 4 records
- § Private and Retail Fuel Storage Tanks (PRT) – 4 records
- § Scott's Manufacturing Directory (SCT) – 10 records plus 2 non-mappable records
- § MOE Waste Disposal Sites – CA Inventory (WDS) – 2 records
- § Water Well Information System (WWIS) – 245 records

Batawa – Potentially Significant



Threats

- § 1 Parcel Identified for Additional Information
- § IPZ-1 Vulnerability Score = 9
- § IPZ-2 Vulnerability Score = 7.2

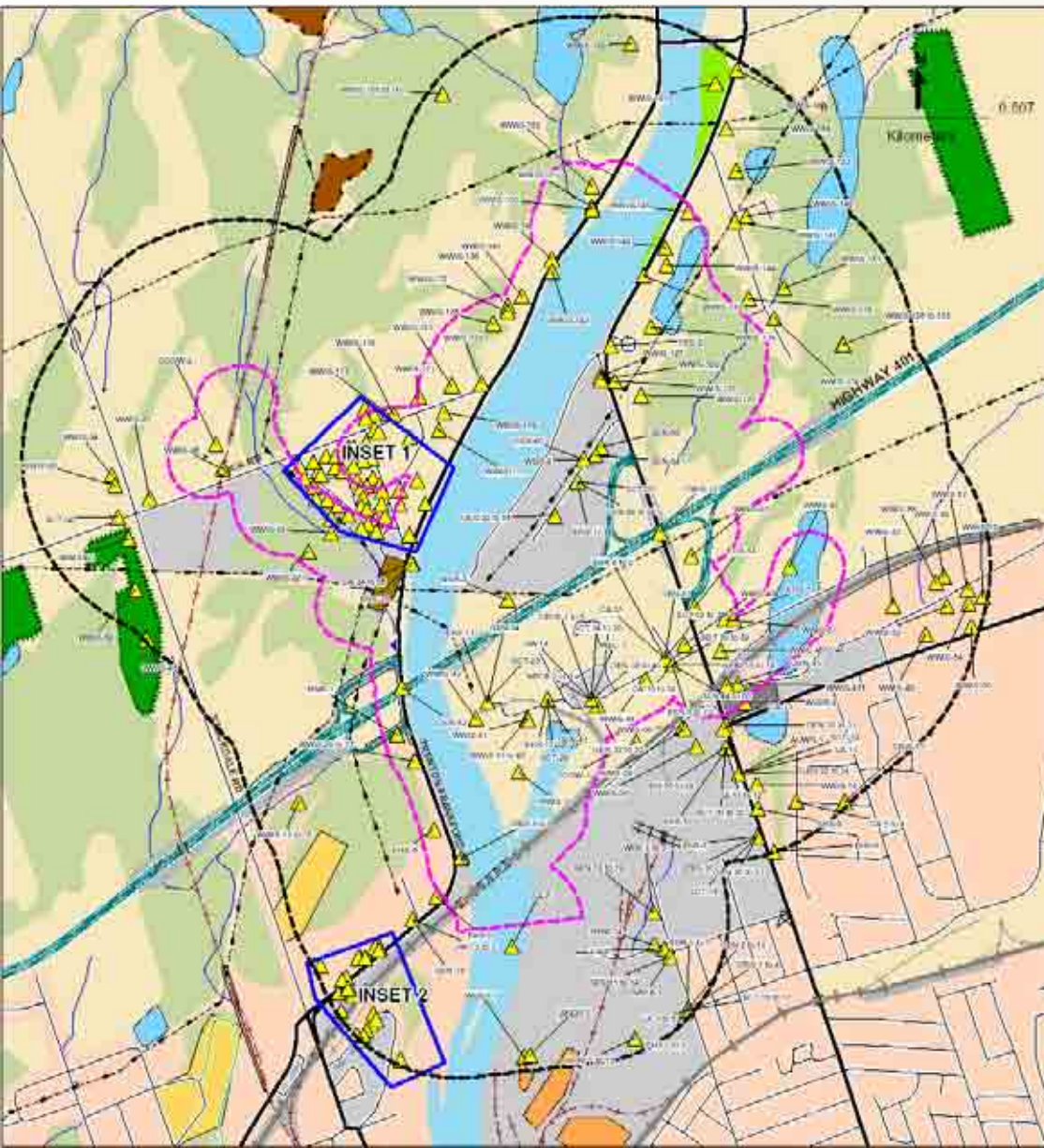


Batawa – Status for Identified Significant Threats



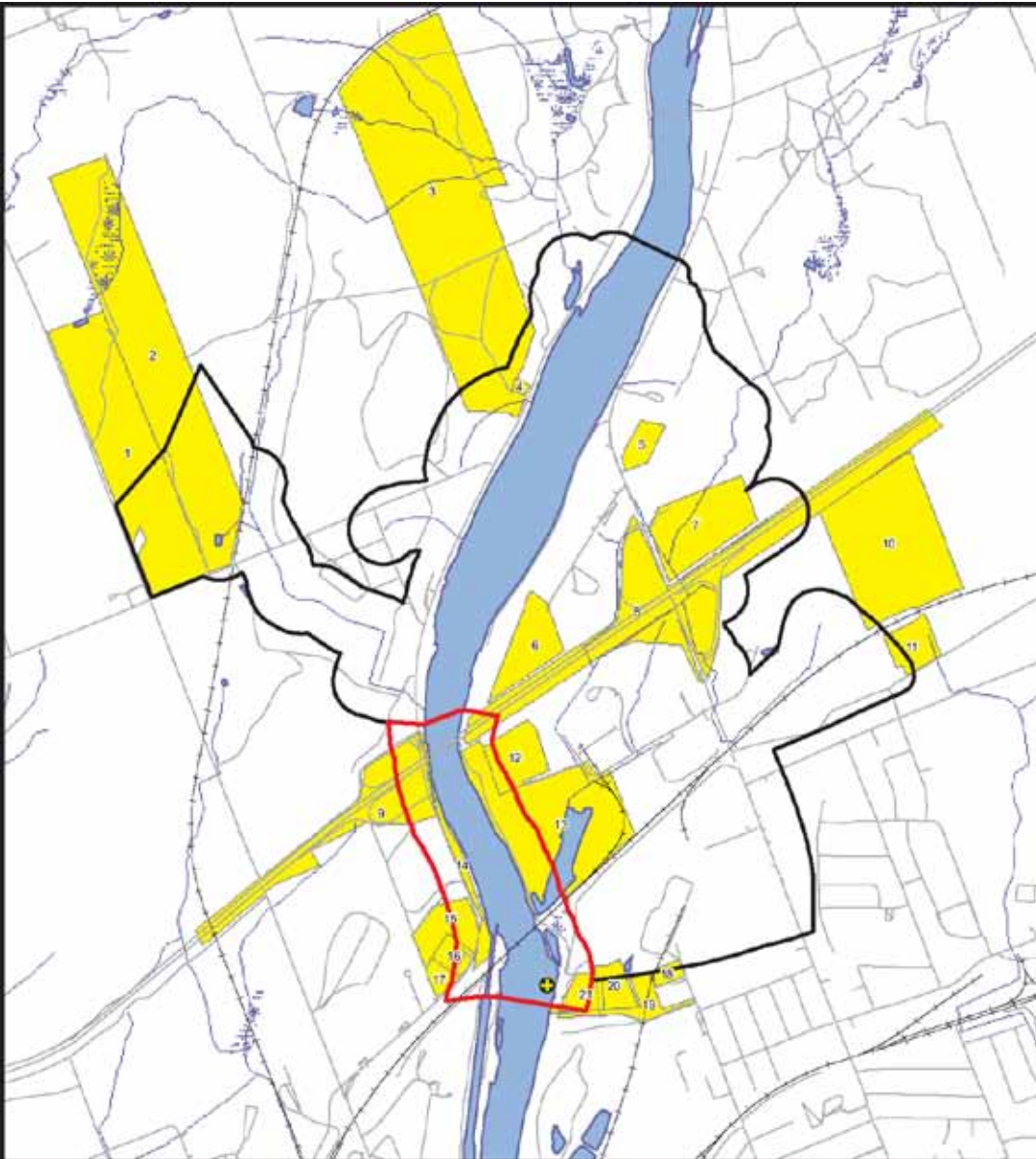
- § No Conditions
- § 1 letter sent out, 1 initial phone call made
- § Significant Threat ruled out on 1 parcel
- § *No Significant Threats identified for Batawa*

Trenton – Database Review



- § Anderson's Waste Disposal Sites (ANDR) – 3 records
- § Automobile Wrecking & Supplies (AUWR) – 1 record
- § Certificates of Approval (CA) – 35 records
- § Environmental Registry (EBR) – 9 records
- § ERIS Historical Searches (EHS) – 17 records
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 65 records
- § Mineral Occurrences (MNR) – 2 records
- § National PCB Inventory (NPCB) – 3 records
- § National Pollutant Release Inventory (NPRI) – 19 records
- § Ontario Oil and Gas Wells (OOGW) – 2 records
- § Inventory of PCB Storage Sites (PCFT) – 5 records
- § Occurrence Reporting Information System (ORIS) – 13 records
- § Pesticide Register (PES) – 2 records
- § Private and Retail Fuel Storage Tanks (PRT) – 3 records
- § Ontario Regulation 347 Waste Receivers Summary (REC) – 1 record
- § Retail Fuel Storage Tanks (RST) – 2 records
- § Scott's Manufacturing Directory (SCT) – 37 records
- § MOE Waste Disposal Sites – CA Inventory (WDS) – 4 records
- § Waste Disposal Sites – MOE 1991 Historical Approval Inventory (WDSH) – 1 record
- § Water Well Information System (WWIS) – 163 records

Trenton – Potentially Significant



Threats

- § 21 Parcels Identified for Additional Information
- § IPZ-1 Vulnerability Score = 10
- § IPZ-2 Vulnerability Score = 9

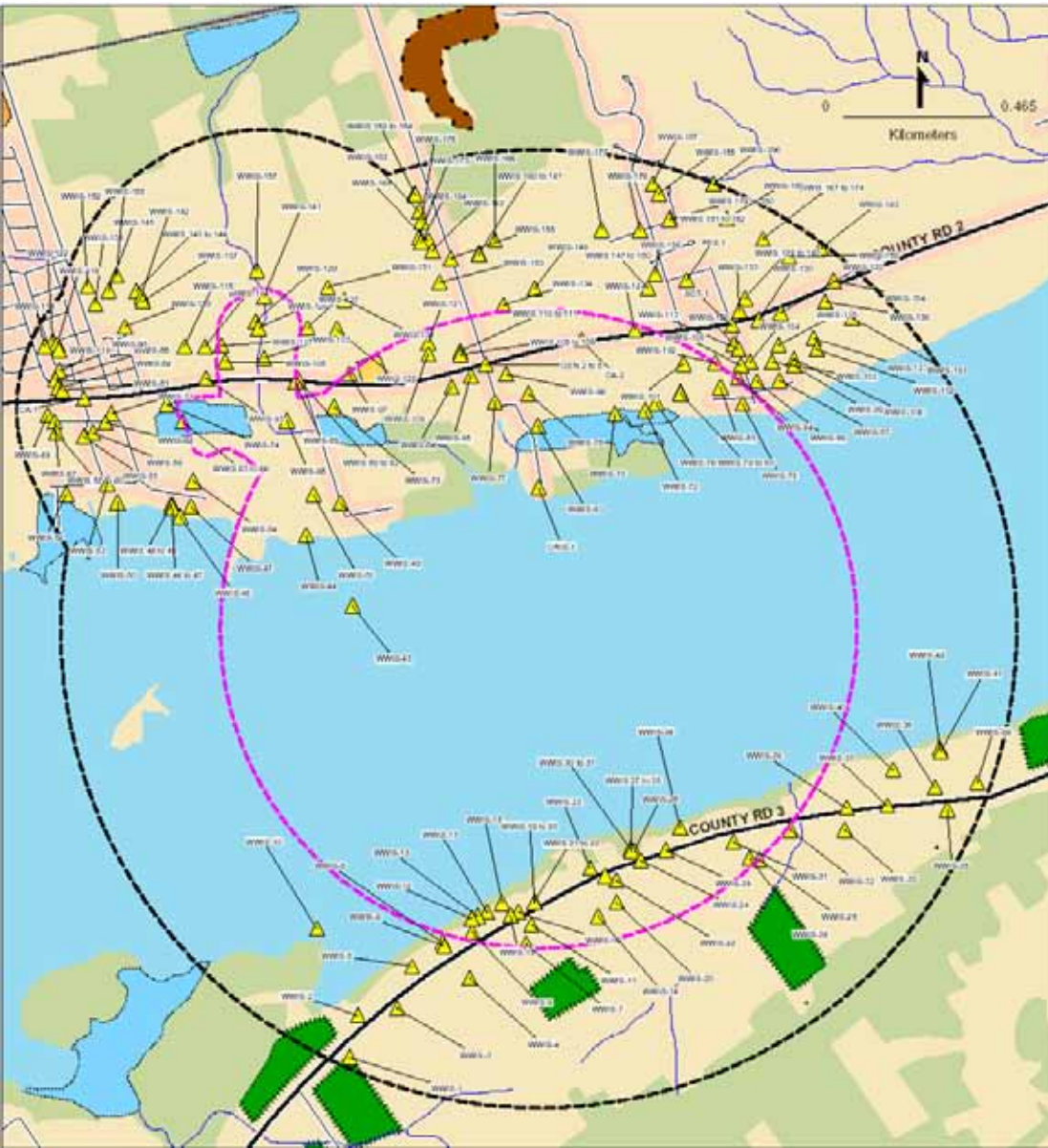
Trenton – Status for Identified

Significant Threats



- § No Conditions
- § 21 letters sent out, 10 initial phone calls made, 11 sites with no phone listing
- § Significant Threat ruled out on 3 parcels
- § ***No Significant Threats identified to date***
- § 18 sites requiring more follow-up
- § No sites requiring site visits yet

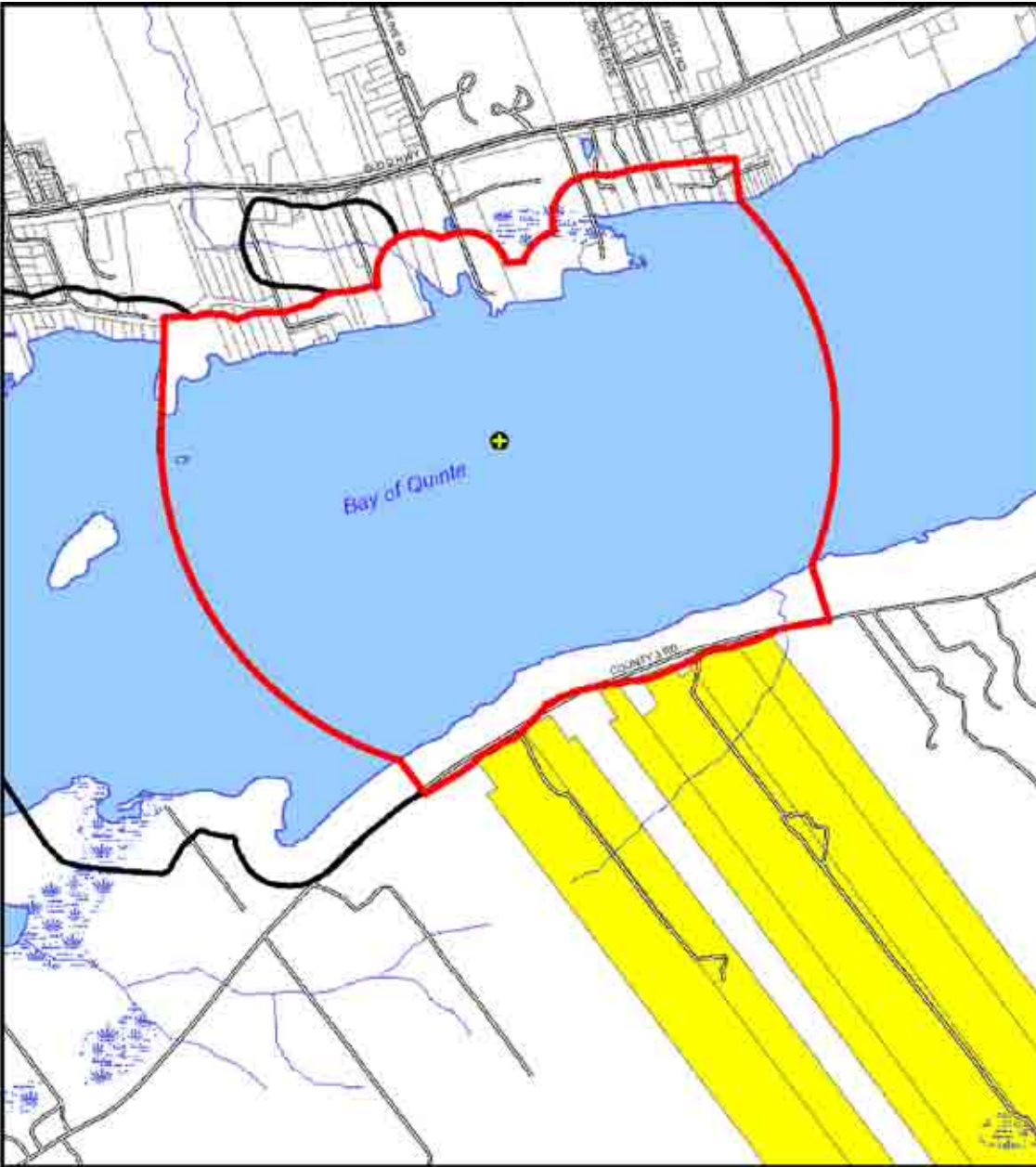
Bayside – Database Review



- § Automobile Wrecking & Supplies (AUWR) – 2 record
- § Ontario Regulation 347 Waste Generators Summary (GEN) – 5 records
- § Occurrence Reporting Information System (ORIS) – 1 records
- § Pesticide Register (PES) – 1 records
- § Scott's Manufacturing Directory (SCT) – 1 record
- § Water Well Information System (WWIS) – 187 records

Bayside – Potentially Significant

Threats



§ 6 Parcels
Identified for
Additional
Information

§ IPZ-1 Vulnerability
Score = 8

§ IPZ-2 Vulnerability
Score = 6.4

Bayside – Status for Identified Significant Threats



- § No Conditions
- § 6 letters sent out, 6 initial phone calls made
- § Significant Threat ruled out on 3 parcels
- § *Significant Threats identified on 1 parcel to date*
- § 2 sites requiring more follow-up
- § No sites requiring site visits yet