

**Waters Environmental Geosciences Ltd.**

P.O. Box 69  
Lively, Ontario  
P3Y 1M2

Telephone (705) 692 - 0937  
Toll Free (888) 585 - 7805  
Facsimile (705) 692 - 0466  
e-mail waters@on.aibn.com



November 12, 2009

27-183b

North Bay - Mattawa Conservation Authority  
15 Janey Avenue  
North Bay, Ontario  
P1C 1N1

Attention: Francis Gallo  
Water Resources Specialist, Source Water Protection

Dear Francis,

**Technical Assessment Report  
Groundwater Risk Assessment  
Town of Mattawa**

**1.0 INTRODUCTION**

A Groundwater Vulnerability Analysis was carried out on the Town of Mattawa municipal well field by Waters Environmental Geosciences Ltd., and has been reported to the North Bay - Mattawa Conservation Authority under a separate cover (Waters' report No. 27-183b, dated November 12, 2009). The Groundwater Vulnerability Analysis followed the methodology of Guidance Module 3, while the present analysis reflects a combination of the methodologies outlined in Guidance Module 5 (Threats Inventory and Issues) and Guidance Module 6 (Water Quality Risk Assessment). This work was undertaken with the assistance of the North Bay - Mattawa Conservation Authority and the Town of Mattawa.

**2.0 ASSESSMENT METHODOLOGY OVERVIEW**

The goal of the present study is to assist the North Bay - Mattawa Conservation Authority in the development of a source water assessment report and associated protection plan, based on available information sources including consultations with the

public and other agencies. The study relies upon the interpretations presented in the companion document covering the Groundwater Vulnerability Analysis for the Mattawa well field, and carries forward with the assessment through a consideration of the potential groundwater quality issues and threats associated with the water supply system.

As identified in Guidance Module 5 (2006), a groundwater issue is a water quality problem that is documented and currently exists in the source water supply, or is a recognized problem that can reasonably be predicted to be a problem in the near future (based on an extrapolation of current trends in water quality at the source). The identification of a drinking water issue is based on documented evidence contained in municipal water quality monitoring reports, including information gathered in support of compliance monitoring activities by the Ministry of the Environment or in private consulting reports related to infrastructure maintenance work. The data assessment process also has a provision to consider drinking water concerns (identified through the public consultation process), which are potential drinking water issues which are believed to exist but for which data have not been collected or otherwise substantiated by monitoring (or other verification methods). A drinking water concern cannot be elevated to an “issue” status without verification.

The drinking water issues evaluation is focused on linking observed water quality problems to specific drinking water threats (if possible), so that the appropriate mitigation and management techniques can be applied to reduce or eliminate the issue. However, in some cases, the appearance of a drinking water issue may be due to natural sources (such as the underlying geological formations), which cannot be attributed to a specific anthropogenic (man-made) threat. Although naturally-occurring, these water quality problems are still listed as “issues” following the recommendations of the Guidance Module.

In contrast, a groundwater threat is a land use activity (either existing or historical), within the study area, which may cause a water quality issue to occur if managed improperly. In the present assessment, the study area was identified as being the well head protection area (WHPA) for the Mattawa well field and, within the WHPA, individual vulnerable areas were defined (Groundwater Vulnerability Analysis, 2009) based on site-specific hydrogeological conditions and distance from the municipal well intakes.

The identification of specific groundwater quality threats was based on inputs from several sources including published environmental and land-use databases (maintained, for example, by the Ministry of the Environment, Technical Standards and Safety Authority and the Municipality), field reconnaissance work by North Bay - Mattawa Conservation Authority staff, airphoto interpretation and land use mapping reviews. At the initial level of evaluation (or Tier 1 component of the overall Water

Quality Risk Assessment), the threats assessment focuses on developing an inventory (in spreadsheet format) which would be used to identify specific threats for which there is little supporting information and/or which pose a high risk to the drinking water source (i.e. the well head area).

Included in the documentation of the various drinking water threats is the identification of the contaminants of concern associated with each threat type, and the nature of the contaminant source (as either a point source, a non-point source or a corridor source).

In December, 2008, the Ministry of the Environment issued a publication entitled "Tables of Drinking Water Threats, Clean Water Act, 2006" in response to input received from several technical sessions and working groups held across the Province. The publication presented (via a "look-up" table of parameters) a means of carrying forward with the information gathered during the drinking water threats inventory. By combining the identified threats with the aquifer vulnerability scores of the Groundwater Vulnerability Assessment, each threat was subsequently assigned a priority as being either a "significant risk", "moderate risk" or "low risk". This technique simplified the overall assessment process, replacing the methodology outlined in the Guidance Module (2006), and provided a degree of standardization across the Province for the Risk Assessment studies.

One aspect of the threats inventory process that was retained in the present study was the need to consider "constructed preferential pathways" which may occur in each vulnerable area. These pathways comprise man-made constructions or open excavations which can allow contaminants to enter the underlying aquifer more easily than if the natural environment was not short-circuited by these constructions. In the Mattawa area, the typical pathways that may exist include abandoned private water well casings and abandoned geotechnical boreholes. These man-made constructions were considered in the present analysis, and are discussed in detail in the Groundwater Vulnerability Assessment (2009).

Finally, in recognition that the information considered in this assessment covers a range of sources (of varying levels of confidence), the study concluded with an assessment of the data and knowledge gaps, with the goal of assisting the North Bay - Mattawa Conservation Authority in subsequent data collection and continuous improvement activities.

### **3.0 DRINKING WATER ISSUES INVENTORY**

In order to assess the potential for any drinking water issues associated with the Mattawa municipal well field supply, contact was made with the Municipality (regarding historical water quality data) and the Ministry of the Environment (regarding any environmental orders or assessment reports on the water supply). Based on our

inquiries, there are currently only limited data available on the raw water quality associated with the two municipal wells in Mattawa.

Through discussions with the Ministry of the Environment (S. Ilersich), it is our understanding that there have been no potential issues associated with the Mattawa groundwater supply.

#### **4.0 DRINKING WATER THREATS INVENTORY**

The development of an inventory of drinking water threats within the WHPAs defined in the Groundwater Vulnerability Report (2009) was approached through several techniques.

Initially, a meeting was held with the North Bay - Mattawa Conservation Authority (in February, 2007) at which time Waters Environmental Geosciences Ltd. presented a workshop on environmental site reconnaissance techniques. The goal of the workshop was to provide training to staff on the various ways in which a site's environmental conditions could be visually assessed without entering onto a property. The main focus of the assessment was the identification of potential hydrocarbon fuel usage or storage, the potential for waste generation (or on-site temporary storage) and the potential for chemical sales (or temporary storage) within the WHPAs defined in the previous 2006 Municipal Groundwater Study. In order to structure the information (to be collected by North Bay - Mattawa Conservation Authority staff), a summary field sheet was prepared (Appendix A) to be used at each identified property location.

A component of the survey was the identification of private residential fuel oil tanks within the WHPA, which are un-recorded in the government (Technical Standards and Safety Authority) databases, yet which offer a potential threat to groundwater usage should a spill or accidental release occur. As well, general observations of the property conditions and potential for contaminant release (of any identified type) were documented, for potential cross-referencing to other published databases and records.

This work was subsequently performed by staff from the North Bay - Mattawa Conservation Authority in the spring of 2007, and the field survey sheets were compiled and collated at the Conservation Authority offices. No entry was made onto the properties, and the survey was based solely on visual evidence obtained from the vantage point of the municipal roadways. Waters Environmental Geosciences Ltd. was provided with a brief summary report of the field activities and a preliminary spreadsheet of the study findings, for inclusion into the present assessment report. In total, 162 parcels were assessed by this reconnaissance technique, with 25 confirmed storage tanks being noted and a further 40 tanks listed as "possible/uncertain".

A second assessment technique applied to the Mattawa WHPA was to engage the

services of a commercial database search consultant (Ecolog ERIS Ltd., Toronto). This work was completed in June, 2007, and focused on the WHPA outlined in the previous 2006 Municipal Groundwater Study (Waterloo Hydrologic Inc.) plus an additional 0.25 km search radius beyond the defined WHPA area.

The completed report is appended as Appendix B to this report. As indicated in the report, the database searches included several sources, and were listed as follows:

- abandoned mine information system
- certificates of approval
- ERIS historical searches
- Ontario Reg. 347 waste generators summary
- mineral occurrences
- pesticide register
- private fuel storage tanks
- retail fuel storage tanks
- Scott's manufacturing directory
- water well information system

The Ecolog database search (Appendix B) was considered to be complimentary to the reconnaissance work performed by the North Bay - Mattawa Conservation Authority. In total, 17 individual records were uncovered in the Ecolog search, and were included in the present study assessment.

As indicated, the above two assessment techniques were undertaken within the WHPAs previously identified in the 2006 Municipal Groundwater Study. In general, the area coverage was similar to the areas currently defined by the revised groundwater modelling of the present study (Groundwater Vulnerability Report, 2009). Areas of potential data gaps, where the Ecolog and Conservation Authority search areas did not overlap with the newer WHPAs (2009), were documented for future possible action.

The threats assessment involved the combination of the groundwater vulnerability mapping (contained in the Groundwater Vulnerability Analysis report, 2009) with each specified threat identified in the current assessment. This combination of information was performed on a spreadsheet format, and is presented as Appendix C.

As outlined in the Technical Rules (2008), the documentation of drinking water threats within the WHPA is restricted to those vulnerable areas that have a vulnerability score of 4 or higher (corresponding to an associated risk score of greater than 40)(Figure 1). In the present case, the vulnerability scores were all assigned as higher than this minimum value, because the WHPA was assessed as being highly vulnerable to surficial contamination.

Appendix C, therefore, presents 67 drinking water threats identified within the Mattawa well field WHPAs. As required in the Guidance Modules, the threats were individually assigned a threat classification within the definitions of significant, moderate or low. Based on the present assessment, there were no identified threats classified as “significant” within the Mattawa WHPAs. A total of 60 threats were identified as having a “moderate” classification, while 7 threats were identified as having a “low” classification.

## **5.0 DATA GAPS**

The present analysis was based on the information available at the time of reporting. Since ongoing land use changes are a characteristic of most municipalities, the suggested improvement to the database will be through periodic review and updating of the drinking water threats identified in Appendix C (for example, by an annual review).

As identified previously, the present analysis of groundwater quality issues suffered from a lack of detailed raw water chemistry results for each municipal well in the Mattawa well field. This information would have been of value in determining, for example, the possible source areas supplying each well intake. The lack of this information did not, and does not currently, compromise the safety aspects of this water supply (which we understand is being monitored in full compliance with Ministry of the Environment requirements).

From a scientific viewpoint, additional supplemental analysis of the water chemistry would be of benefit in tracking any long-term trends in water quality, for those parameters not mandated by the Certificate of Approval for the water system. As a suggestion, it is recommended that a complete water quality scan of the raw water characteristics (major ion analysis, heavy metals analysis, nutrient indicators and general water chemistry parameters) be undertaken annually, complimenting the analysis required by the Certificate of Approval.

Uncertainty scores were assigned to the various vulnerable areas in this assessment, being flagged as either “high” or “low”. In many instances, high uncertainties were assigned because of a lack of detailed subsurface information. In the interest of continuous improvement, as new subsurface data become available, it is recommended that they be periodically assessed against the current conceptual model of the local geological setting so that any anomalous information is corrected for future planning cycles.

Through dialogue with the Town of Mattawa, it was identified that an unknown number of residences within the WHPAs may still have operating on-site septic systems. It is our understanding that there is currently no municipal by-law which requires connection to the municipal sewer services. The existence of an in-ground septic system within the

WHPA-A or WHPA-B zones at Mattawa would be classified as a “significant” water quality threat, because of the high vulnerability characteristics of the underlying aquifer. Therefore, this data gap requires further investigation and documentation, so that the appropriate planning decisions can be identified by the Source Protection Committee.

## **6.0 SUMMARY**

This report presents the results of a groundwater risk assessment analysis for the Mattawa municipal well field. The assessment followed the methodology presented in the Guidance Module (2006) and Technical Rules (2008), and resulted in the identification of drinking water threats within each vulnerable area of the well head protection area (WHPA).

At the Tier 1 level of Water Quality Risk Assessment, the present threats assessment resulted in the development of an inventory (in spreadsheet format) of specific threats which relate to identified land uses, and pose a potential drinking water threat to the WHPA. Although for the current Source Protection Committee reporting purposes, only significant threats are to be carried forward into the current action planning analyses, the present report (following the methodology of the Guidance Documents) included an assessment of all three levels of risk to the WHPA.

In performing this assessment, every effort was made to use the best available data. Areas of uncertainty have been identified, in the anticipation that later planning cycles may be able to supplement the interpretations presented in this document via the process of continuous improvement.

We thank you for the opportunity of working with the North Bay - Mattawa Conservation Authority on this project.

Yours truly,

**WATERS ENVIRONMENTAL GEOSCIENCES LTD.**

Peter A. Richards, M.Sc., P.Eng.  
President

## **REFERENCES**

**Ministry of the Environment.** 2008. Tables of Drinking Water Threats, Clean Water Act, 2006, companion document to Technical Rules: Assessment Report, Clean Water Act, 2006

**Waterloo Hydrologic, Inc.** 2006. NBMCA Groundwater Study Report

**Waters Environmental Geosciences Ltd.** 2009. Technical Assessment Report, Groundwater Vulnerability Analysis, Town of Mattawa





# Pinpointing Your Environmental Risks

Environmental Risk Information Service



**Project Site:** Un-Named Site  
Rankin St  
Mattawa, ON

**Client:** Peter Richards  
Waters Environmental GeoSciences Ltd.  
P. O. Box 69  
261 9th Ave  
Lively, ON P3Y 1M2

**ERIS Project No:** 20070524010

**Report Type:** Custom Report - 0.25km Search Radius

**Prepared By:** Daniela Nigro  
[dnigro@ecologeris.com](mailto:dnigro@ecologeris.com)

**Date:** June 08, 2007

## DISCLAIMER AND COPYRIGHT NOTICE

The information contained in this report has been produced by EcoLog ERIS Ltd. using various sources of information, including information provided by Federal and Provincial government departments. Although EcoLog ERIS Ltd. has endeavoured to present you with information that is accurate, EcoLog ERIS Ltd. disclaims, except as set out below, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence or otherwise, and for any consequences arising therefrom. Liability on the part of EcoLog ERIS Ltd. is limited to the monetary value paid for this report. The report applies only to the address specified on the cover of this report, and any alterations or deviation from this description will require a new report. This report and the data contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein and does not constitute a legal opinion nor medical advice. This report is solely intended to be used to focus further investigation and is not intended to replace a full Phase 1 Environmental Site Assessment. No page of this report should be used without this cover page, this disclaimer and the project property identifier.

The contents of this Service are protected by copyright. Copyright in the Service is owned by EcoLog ERIS Ltd. Copyright in data obtained from private sources is owned by EcoLog ERIS Ltd. or its licensors. The Service and its contents may not be copied or reproduced in whole or in any substantial part without prior written consent of EcoLog ERIS Ltd.

12 Concorde Place, Suite 800 Toronto, Ontario M3C 4J2  
Phone: (416) 510-5204 Fax: (416) 510-5133 Toll Free: 1-877-512-5204  
[www.ecologERIS.com](http://www.ecologERIS.com) [info@ecologERIS.com](mailto:info@ecologERIS.com)

# Table of Contents

Order Number: 20070524010  
Site Name: Un-Named Site  
Site Address: Rankin St Mattawa, ON  
Report Type: Custom Report, 0.25 km Search Radius

	<u>Section</u>
<b>Report Summary</b> <i>This outlines the number of records from each database that fall on the site, and within various distances from the site.</i>	i
<b>Site Diagram</b> <i>The records that were found within a specified distance from the project property (the primary search radius) have been plotted on a diagram to provide you with a visual representation of the information available. Sites will be plotted on the diagram if there is sufficient information from the database source to determine accurate geographic coordinates. Each plotted site is marked with an acronym identifying the database in which the record was found (i.e., WDS for Waste Disposal Sites). These are referred to as "Map Keys". A variety of problems are inherent when attempting to associate various government or private source records with locations. EcoLog ERIS has attempted to make the best fit possible between the available data and their positions on the site diagram.</i>	ii
<b>Site Profile</b> <i>This table describes the records that relate directly to the property that is being researched.</i>	iii
<b>Detail Report</b> <i>This section represents information, by database, for the records found within the primary search radius. Listed at the end of each database are the sites that could not be plotted on the locator diagram because of insufficient address information. These records will not have map keys. They have been included because they may be found to be relevant during a more detailed investigation.</i>	iv

	<u>Page</u>
Anderson's Waste Disposal Sites	1
Certificates of Approval	2
Ontario Regulation 347 Waste Generators Summary	3
Occurrence Reporting Information System	4
Retail Fuel Storage Tanks	5
Waste Disposal Sites - MOE 1991 Historical Approval Inventory	6
Water Well Information System	7

Appendix: Database Descriptions

# Report Summary

Order Number: 20070524010  
 Site Name: Un-Named Site  
 Site Address: Rankin St Mattawa, ON  
 Report Type: Custom Report, 0.25 km Search Radius

## Number of Mappable Records Surrounding the Site

Database	Selected	On-site	Within 0.25	0.25km to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	1	1
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
CA	Certificates of Approval	Y	1	2	2
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Register	Y	0	0	0
COAL	Coal Gasification Plants	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
EBR	Environmental Registry	Y	0	0	0
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	0	0
EIIS	Environmental Issues Information System	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Storage Tanks	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	4	5	5
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defence & Canadian Forces Fuel Storage Tanks	Y	0	0	0
NDSP	National Defence & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGW	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
ORIS	Occurrence Reporting Information System	Y	0	1	1
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PST	Private Fuel Storage Tanks	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	1	1

## Report Summary

Order Number: 20070524010  
Site Name: Un-Named Site  
Site Address: Rankin St Mattawa, ON  
Report Type: Custom Report, 0.25 km Search Radius

Database		Selected	On-site	Within 0.25	0.25km to 0.25km	Total
SCT	Scott's Manufacturing Directory	Y	0	0	0	0
SRDS	Wastewater Discharger Registration Database	Y	0	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	1	0	1
WWIS	Water Well Information System	Y	3	6	0	6
		TOTAL	8	17	0	17

The databases chosen by the client as per the submitted order form are denoted in the 'Selected' column in the above table. Counts have been provided outside the primary buffer area for cursory examination only. These records have not been examined or verified, therefore, they are subject to change.



Pinpointing Your Environmental Risks

12 Concorde Pl, Suite 800 North York, ON M3C 4J2  
416-510-5204

Project Property: Un-Named Site  
Rankin St  
Mattawa, ON

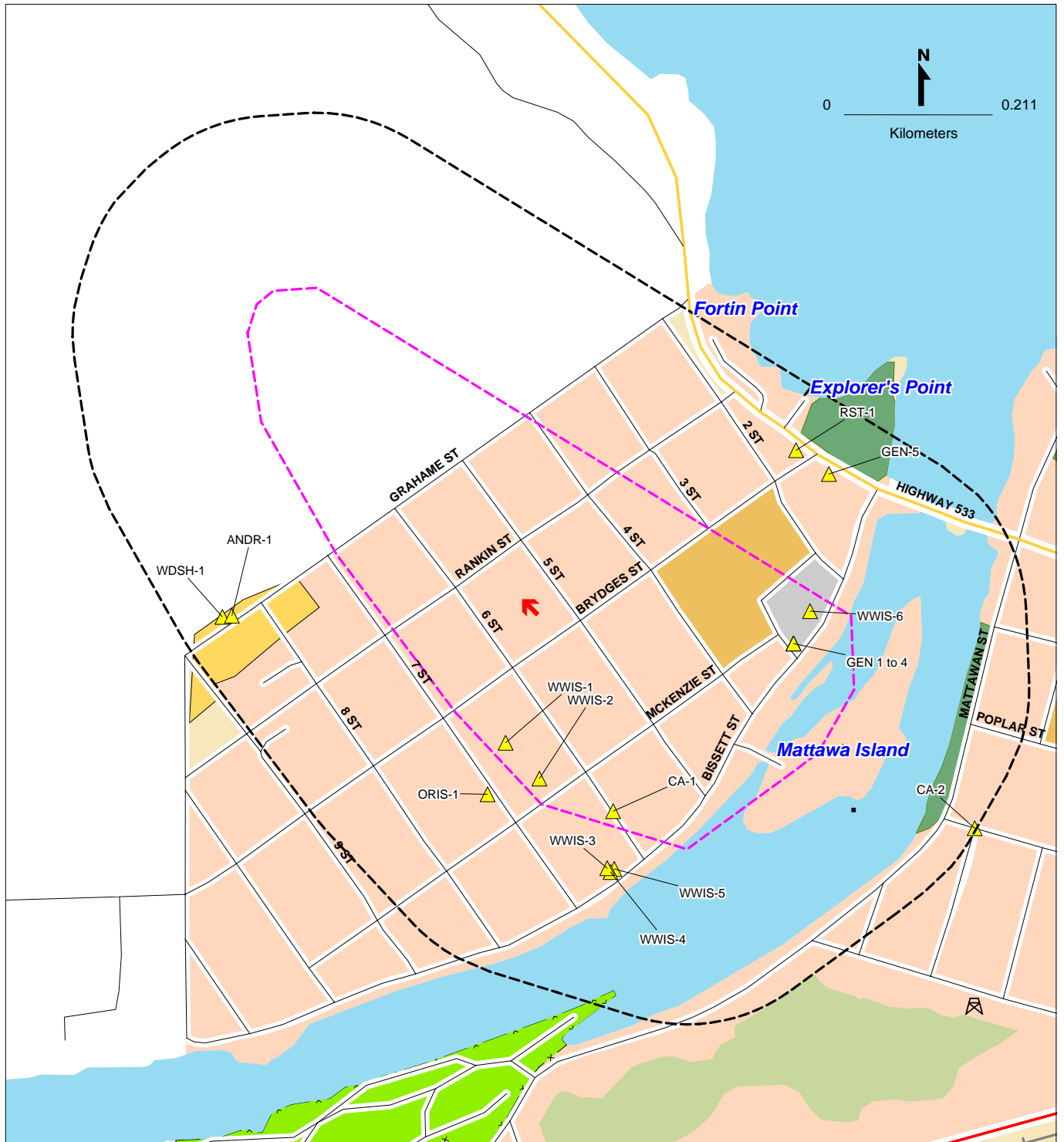
ERIS Project #: 20070524010

Date: JUN-08-2007

**LEGEND**

Project Property	<b>Landuse Classifications</b>
Database Location	Open Area
<b>Points of Interest</b>	Residential
Chimney	Commercial
Silo	Resource and Industrial
<b>Pipe &amp; Transmission Lines</b>	Government and Institutional
Pipeline	Parks and Recreational
Transmission Line	Waterbody
Transmission Tower	<b>Recreation</b>
Transformer Station	Golf Course/Driving Range
<b>Rail</b>	Park/Sports Field
Railway - Main	Other Recreation Area
Railway - Sidetrack	Sports/Race Track
Railway - Abandoned	Cemetery
Bridge	Campground
Tunnel	<b>Vegetation</b>
<b>Transportation - Other</b>	Wooded Area
Embankment	Orchard
Trail	Vineyard
Runway	<b>Industrial Resources</b>
<b>Hydrographic Features</b>	Conveyor
Permanent Waterway	Crane: Moveable
Intermittent Waterway	Crane: Stationary
Open Reservoir	Tank
Dyke/Levee	Rock Cut
Dam	Auto Wrecker
Breakwall	Lumber Yard
Wetland	Pit

**SITE DIAGRAM**



*This diagram is to be used solely for relative street location purposes. It may not accurately portray street or site positions.*

Note: Topographic information not available for entire area.

Section ii

# Site Report

Order Number: 20070524010  
Site Name: Un-Named Site  
Site Address: Rankin St Mattawa, ON  
Report Type: Custom Report, 0.25 km Search Radius

FOR COMPLETE INFORMATION, REFER TO DETAIL REPORT

## Certificates of Approval

Map Key	Company Name	Address	City	Postal Code
CA-1	MATTAWA TOWN - STORMWATER PUMP STATION	SIXTH ST./MCKENZIE ST./BISSET	MATTAWA TOWN	

## Water Well Information System

Map Key	Company Name	Address	City	Postal Code
WWIS-1			MATTAWA TOWN	
WWIS-2			MATTAWA TOWN	
WWIS-6			MATTAWA TOWN	

## Ontario Regulation 347 Waste Generators Summary

Map Key	Company Name	Address	City	Postal Code
GEN-1	MATTAWA GENERAL HOSPITAL	P.O. BOX 78 215 THIRD STREET	MATTAWA	P0H 1V0
GEN-2	MATTAWA GENERAL HOSPITAL 25-086	P.O. BOX 78 215 THIRD STREET	MATTAWA	P0H 1V0
GEN-3	MATTAWA GENERAL HOSPITAL INC.	215 THIRD STREET	MATTAWA	P0H 1V0
GEN-4	MATTAWA GENERAL HOSPITAL	215 THIRD STREET	MATTAWA	P0H 1V0

## Detail Report

Order Number: 20070524010  
Site Name: Un-Named Site  
Site Address: Rankin St Mattawa ON  
Report Type: Custom Report, 0.25 km Search Radius

**If information is required for sites located beyond the selected address, please contact your ERIS representative.**

Anderson's Waste Disposal Sites

Certificates of Approval

Ontario Regulation 347 Waste Generators Summary

Occurrence Reporting Information System

Retail Fuel Storage Tanks

Waste Disposal Sites - MOE 1991 Historical Approval Inventory

Water Well Information System

## Anderson's Waste Disposal Sites

---

Map Key	Name	Facility	Location	City/Town	Known Active Decade	Reference #
ANDR-1	Mattawa Range J Dump Related Site(s)	Dump	within Mattawa, part wooded site, N of junction of Rankin St* & Ninth St*, 150m N of line of Rankin, 50m W of line of Ninth St, on Mattawa town limits	Mattawa	1970s	MOEE a530403

---



Certificates of Approval

Map Key	Company	Address	Certificate #	Application Year	Issue Date	Approval Type	Status	Application Type
CA-1	MATTAWA TOWN - STORMWATER PUMP STATION	SIXTH ST./MCKENZIE ST./BISSET MATTAWA TOWN	3-1147-92-	92	12/8/1992	Municipal sewage	Approved	
			<b>Client Name:</b> <b>Client Address:</b> <b>Client City:</b> <b>Client Postal Code:</b> <b>Project Description:</b> <b>Contaminants:</b> <b>Emission Control:</b>					
CA-2	MATTAWA TOWN	HURDMAN ST./DIVISION ST. MATTAWA TOWN	7-0273-96-	96	5/9/1996	Municipal water	Approved	
			<b>Client Name:</b> <b>Client Address:</b> <b>Client City:</b> <b>Client Postal Code:</b> <b>Project Description:</b> <b>Contaminants:</b> <b>Emission Control:</b>					
n/a	TOWN OF MATTAWA - MOE PROJ# 3-0409-01	BISSETT ST. PUMPING STATION MATTAWA TOWN	8-5013-92-	92	3/20/1992	Industrial air	Approved	
			<b>Client Name:</b> <b>Client Address:</b> <b>Client City:</b> <b>Client Postal Code:</b> <b>Project Description:</b> INSTALL DIESEL GEN-SET (X# 3-1115-91) <b>Contaminants:</b> Nitrogen Oxides, Sulphur Dioxide <b>Emission Control:</b> No Controls					
n/a	MATTAWA TOWN	BISSETT ST./FIFTH ST./2ND ST. MATTAWA TOWN	7-0201-91-	91	6/24/1991	Municipal water	Approved	
			<b>Client Name:</b> <b>Client Address:</b> <b>Client City:</b> <b>Client Postal Code:</b> <b>Project Description:</b> <b>Contaminants:</b> <b>Emission Control:</b>					

### Ontario Regulation 347 Waste Generators Summary

Map Key	Company	Address	SIC Code	SIC Description	Waste Code	Waste Description
GEN-1	MATTAWA GENERAL HOSPITAL	P.O. BOX 78 215 THIRD STREET MATTAWA POH 1V0	8611	GENERAL HOSPITALS	312	PATHOLOGICAL WASTES
				<b>Generator #:</b> ON0408100 <b>Approval Yrs:</b> 86,87,88,89,90		
GEN-2	MATTAWA GENERAL HOSPITAL 25-086	P.O. BOX 78 215 THIRD STREET MATTAWA POH 1V0	8611	GENERAL HOSPITALS	312	PATHOLOGICAL WASTES
				<b>Generator #:</b> ON0408100 <b>Approval Yrs:</b> 94,95,96		
GEN-3	MATTAWA GENERAL HOSPITAL INC.	215 THIRD STREET MATTAWA POH 1V0	622111	General (exc. Paediatric) Hospitals	261	PHARMACEUTICALS
				<b>Generator #:</b> ON0408100 <b>Approval Yrs:</b> 02,03,04,05	312	PATHOLOGICAL WASTES
GEN-4	MATTAWA GENERAL HOSPITAL	215 THIRD STREET MATTAWA POH 1V0	8611	GENERAL HOSPITALS	312	PATHOLOGICAL WASTES
				<b>Generator #:</b> ON0408100 <b>Approval Yrs:</b> 92,93,97,98,99,00,01		
GEN-5	T.L. SMITH FUNERAL HOME LTD.	274 FIRST STREET MATTAWA POH 1V0			312	PATHOLOGICAL WASTES
				<b>Generator #:</b> ON7837501 <b>Approval Yrs:</b> 02,03,04		

### Occurrence Reporting Information System

Map Key	Company	Address	Spill ID	Medium	Environmental Impact	Date of Occurrence	Nature of Impact
ORIS-1	PRIVATE RESIDENCE	230 SEVENTH ST FUEL STORAGE TANK MATTAWA TOWN	102433  <b>Synopsis:</b> <b>Cause:</b>	LAND	POSSIBLE  BACKENTRY-PRIVATE RES.: DIESEL FUEL TO PROPERTY, TO NEIGHBOR, QTY UKN UNKNOWN UNKNOWN	//	Multi Media Pollution
n/a	PUC	PUMPING STATION 4TH BISSETT STREET PUMPING STATION INVALID SITE ENTRY - PLEASE USE ANOTHER MATTAWA TOWN	39495  <b>Synopsis:</b> <b>Cause:</b>	WATER	POSSIBLE  PUC - 2500,000 L RAW SEWAGE TO MATAWA RIVER DUE TO PUMP MALFUNCTION. WASTEWATER DISCHARGE TO WATERCOURSE EQUIPMENT FAILURE	8/18/1990	Water course or lake
n/a	PUC	SEWER PUMPING STATION BISSETT ST. PUMPING STATION INVALID SITE ENTRY - PLEASE USE ANOTHER MATTAWA TOWN	45832  <b>Synopsis:</b> <b>Cause:</b>	WATER	POSSIBLE  MATTAWA PUC: UNTREATED SEWAGE BYPASS TO RIVER DUE TO PUMP FAILURE WASTEWATER DISCHARGE TO WATERCOURSE EQUIPMENT FAILURE	1/17/1991	Water course or lake

## Retail Fuel Storage Tanks

---

Map Key	Company	Address	Location ID	Expiry Date	Capacity (L)	Licence #	Facility:
RST-1	RON'S GARAGE	310 FIRST ST LOTS 8 & 9 MATTAWA	8602	1995-06-30	11000	0056065001	GASOLINE STATION - FS

**Description:**

### Waste Disposal Sites - MOE 1991 Historical Approval Inventory

\*\*Note: Status as of October 30, 1990.

Map Key	Company	Address	Site No.	Region	County	Concession	Lot
WDSH-1		18-19 RANGE J MATTAWA	A530403	NORTHEAST	NIPISSING	RANGE J	18-19
			<b>Easting:</b>		675460		
			<b>Northing:</b>		5131625		
			<b>Zone:</b>		17		
			<b>Date Closed</b>		1973/12/31		
			<b>Status:</b>		CLOSED		
			<b>Classification:</b>	A5 - POTENTIAL HUMAN IMPACT-URBAN MUNICIPAL/DOMESTIC WASTE - CLOSED 10-20 YRS			
			<b>%CommercialWste:</b>	n/a			
			<b>%DomesticWste Rec:</b>	n/a			
			<b>%LiquidWste Rec:</b>	n/a			
			<b>%HazardousWste Rec:</b>	n/a			
			<b>%Non-haz.Wste Rec:</b>	n/a			
			<b>%Sewage/Sludge Rec:</b>	n/a			
			<b>%Other Wste Rec:</b>	n/a			

### Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality
WWIS-1		MATTAWA TOWN	4300588				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b> 675865.5 <b>Northing Nad83:</b> 5131675 <b>Zone:</b> 17 <b>Utm Reliability:</b> unknown utm <b>Construction Date:</b> 4/9/1956 <b>Primary Water Use:</b> NOT USED <b>Secondary Water Use:</b> <b>Well Depth (ft):</b> 86 <b>Pump Rate (gpm):</b> <b>Static Water Level (ft):</b> 20 <b>Flow Rate (gpm):</b> <b>Clear/Cloudy:</b> <b>Specific Capacity:</b> 0 <b>Final Well Status:</b> TEST HOLE <b>Construction Method:</b> ROTARY (CONVENT.) <b>Flowing (y/n):</b> 0 <b>Elevation (ft):</b> 545 <b>Elevation Reliability:</b> Unknown elevation <b>Depth to Bedrock (ft):</b> <b>Overburden/Bedrock:</b> Overburden <b>Water Type:</b> FRESH <b>Casing Material:</b> STEEL					
WWIS-2		MATTAWA TOWN	4300583				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b> 675915.5 <b>Northing Nad83:</b> 5131625 <b>Zone:</b> 17 <b>Utm Reliability:</b> unknown utm <b>Construction Date:</b> 5/9/1958 <b>Primary Water Use:</b> NOT USED <b>Secondary Water Use:</b> <b>Well Depth (ft):</b> 78 <b>Pump Rate (gpm):</b> <b>Static Water Level (ft):</b> 20 <b>Flow Rate (gpm):</b> <b>Clear/Cloudy:</b> <b>Specific Capacity:</b> 0 <b>Final Well Status:</b> TEST HOLE <b>Construction Method:</b> ROTARY (CONVENT.) <b>Flowing (y/n):</b> 0 <b>Elevation (ft):</b> 545 <b>Elevation Reliability:</b> Unknown elevation <b>Depth to Bedrock (ft):</b> <b>Overburden/Bedrock:</b> Overburden <b>Water Type:</b> FRESH <b>Casing Material:</b>					

### Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality
WWIS-3		MATTAWA TOWN	4300579				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b> 676015.5 <b>Northing Nad83:</b> 5131500 <b>Zone:</b> 17 <b>Utm Reliability:</b> unknown utm <b>Construction Date:</b> 10/25/1949 <b>Primary Water Use:</b> MUNICIPAL <b>Secondary Water Use:</b> <b>Well Depth (ft):</b> 78 <b>Pump Rate (gpm):</b> 350 <b>Static Water Level (ft):</b> 21 <b>Flow Rate (gpm):</b> <b>Clear/Cloudy:</b> CLEAR <b>Specific Capacity:</b> 175 <b>Final Well Status:</b> TEST HOLE <b>Construction Method:</b> BORING <b>Flowing (y/n):</b> 0 <b>Elevation (ft):</b> 540 <b>Elevation Reliability:</b> Unknown elevation <b>Depth to Bedrock (ft):</b> <b>Overburden/Bedrock:</b> Overburden <b>Water Type:</b> UNKNOWN <b>Casing Material:</b> STEEL					
WWIS-4		MATTAWA TOWN	4300580				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b> 676020.5 <b>Northing Nad83:</b> 5131495 <b>Zone:</b> 17 <b>Utm Reliability:</b> unknown utm <b>Construction Date:</b> 7/27/1956 <b>Primary Water Use:</b> MUNICIPAL <b>Secondary Water Use:</b> <b>Well Depth (ft):</b> 85 <b>Pump Rate (gpm):</b> 17 <b>Static Water Level (ft):</b> 18 <b>Flow Rate (gpm):</b> <b>Clear/Cloudy:</b> CLEAR <b>Specific Capacity:</b> 34 <b>Final Well Status:</b> WATER SUPPLY <b>Construction Method:</b> CABLE TOOL <b>Flowing (y/n):</b> 0 <b>Elevation (ft):</b> 540 <b>Elevation Reliability:</b> Unknown elevation <b>Depth to Bedrock (ft):</b> <b>Overburden/Bedrock:</b> Overburden <b>Water Type:</b> FRESH <b>Casing Material:</b> STEEL					

### Water Well Information System

Map Key	Company	Address	Well Id	Lot	Concession	Concession Name	County	Municipality
WWIS-5		MATTAWA TOWN	4300581				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b>			676025.5		
			<b>Northing Nad83:</b>			5131500		
			<b>Zone:</b>			17		
			<b>Utm Reliability:</b>			unknown utm		
			<b>Construction Date:</b>			7/10/1958		
			<b>Primary Water Use:</b>			NOT USED		
			<b>Secondary Water Use:</b>					
			<b>Well Depth (ft):</b>			87		
			<b>Pump Rate (gpm):</b>			101		
			<b>Static Water Level (ft):</b>			17		
			<b>Flow Rate (gpm):</b>					
			<b>Clear/Cloudy:</b>			CLEAR		
			<b>Specific Capacity:</b>			0.4		
			<b>Final Well Status:</b>			TEST HOLE		
			<b>Construction Method:</b>			BORING		
			<b>Flowing (y/n):</b>			0		
			<b>Elevation (ft):</b>			540		
			<b>Elevation Reliability:</b>			Unknown elevation		
			<b>Depth to Bedrock (ft):</b>					
			<b>Overburden/Bedrock:</b>			Overburden		
			<b>Water Type:</b>			FRESH		
			<b>Casing Material:</b>			STEEL		
WWIS-6		MATTAWA TOWN	4300582				NIPISSING	MATTAWA TOWN
			<b>Easting Nad83:</b>			676295.5		
			<b>Northing Nad83:</b>			5131875		
			<b>Zone:</b>			17		
			<b>Utm Reliability:</b>			unknown utm		
			<b>Construction Date:</b>			4/25/1958		
			<b>Primary Water Use:</b>			NOT USED		
			<b>Secondary Water Use:</b>					
			<b>Well Depth (ft):</b>			48		
			<b>Pump Rate (gpm):</b>					
			<b>Static Water Level (ft):</b>			7		
			<b>Flow Rate (gpm):</b>					
			<b>Clear/Cloudy:</b>					
			<b>Specific Capacity:</b>			0		
			<b>Final Well Status:</b>			TEST HOLE		
			<b>Construction Method:</b>			CABLE TOOL		
			<b>Flowing (y/n):</b>			0		
			<b>Elevation (ft):</b>			540		
			<b>Elevation Reliability:</b>			Unknown elevation		
			<b>Depth to Bedrock (ft):</b>					
			<b>Overburden/Bedrock:</b>			Overburden		
			<b>Water Type:</b>			FRESH		
			<b>Casing Material:</b>					



## Appendix: Ontario Database Descriptions

EcoLog Environmental Risk Information Services Ltd can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to EcoLog ERIS at the time of update. **Note:** Databases denoted with “\*” indicates that the database will no longer be updated. See the individual database descriptions for more information.

### **Federal Government Source Databases:**

### **Diagram Identifier:**

#### **Environmental Effects Monitoring 1992-2004**

**EEM**

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

#### **Environmental Issues Inventory System 1992-2001**

**EIIS**

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

#### **Federal Convictions 1988-Jan 2002**

**FCON**

Environment Canada maintains a database referred to as the “Environmental Registry” that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

#### **Contaminated Sites on Federal Land June 2000-2005**

**FCS**

The Treasury Board of Canada Secretariat maintains an inventory of all known contaminated sites held by various Federal departments and agencies. This inventory does not include properties owned by Crown corporations, but does contain non-federal sites for which the Government of Canada has accepted some or all financial responsibility. All sites have been classified through a system developed by the Canadian Council of Ministers of the Environment. The database provides information on company name, location, site ID #, property use, classification, current status, contaminant type and plan of action for site remediation.

#### **Fisheries & Oceans Fuel Tanks 1964-Sept 2003**

**FOFT**

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

#### **Indian & Northern Affairs Fuel Tanks 1950-Aug 2003**

**IAFT**

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

**National Analysis of Trends in Emergencies System (NATES) 1974-1994\***

**NATE**

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

**National Defence & Canadian Forces Fuel Tanks Up to May 2001**

**NDFT**

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. Please note that due to the September 2001 terrorist attack, new National Security protocols have prohibited any release of updates to this database.

**National Defence & Canadian Forces Spills March 1999-Feb 2005**

**NDSP**

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

**National Defence & Canadian Forces Waste Disposal Sites 2001, 2003**

**NDWD**

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

**National Environmental Emergencies System (NEES) 1974-2003**

**NEES**

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets – or Trends – which dates from approximately 1974 to present. **NEES Trends** is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

**National PCB Inventory 1988-June 2004**

**NPCB**

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites.

**National Pollutant Release Inventory 1993-2005**

**NPRI**

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers of 178 specified substances.

**Parks Canada Fuel Storage Tanks 1920-Jan 2005**

**PCFT**

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

**Transport Canada Fuel Storage Tanks 1970- May 2003**

**TCFT**

Within the provinces of BC, MB, NB, NF, ON, PE, and QC; Transport Canada currently owns and operates 90 fuel storage tanks. Our inventory provides information on the site name, location, tank age, capacity and fuel type.

**Provincial Government Source Databases:**

**Abandoned Aggregate Inventory Up to Sept 2002**

**AAGR**

The MAAP Program maintains a database of all abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.

**Aggregate Inventory Up to May 2005**

**AGR**

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. Please note that the database is only referenced by lot\concession and city/town location. The databases provides information regarding the registered owner/operator, location, status, licence type, and maximum tonnage.

**Abandoned Mines Information System 1800- 2005**

**AMIS**

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

**Certificates of Approval 1985-Sept 2002**

**CA**

This database contains the following types of approvals: Certificates of Approval (Air) issued under Section 9 of the Ontario EPA; Certificates of Approval (Industrial Wastewater) issued under Section 53 of the Ontario Water Resources Act ("OWRA"); and Certificates of Approval (Municipal/Provincial Sewage and Waterworks) issued under Sections 52 and 53 of the OWRA.

**Coal Gasification Plants 1987, 1988\***

**COAL**

This inventory of all known and historical coal gasification plants was collected by the Ministry of Environment. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, landuse, soil condition, site operators/occupants, site description, and potential environmental impacts. This information is effective to 1988, but the program has since been discontinued.

**Compliance and Convictions 1989-2003**

**CONV**

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

**Drill Holes 1886-2005****DRL**

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

**Environmental Registry 1994-July 2003\*****EBR**

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, licence, or certificate of approval to release substances into the air or water; these are notified on the registry.

**Ontario Regulation 347 Waste Generators Summary 1986-2005****GEN**

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

**Mineral Occurrences 1846-Oct 2004****MNR**

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the planimetric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

**Non-Compliance Reports 1992(water only), 1994-2005****NCPL**

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

**Ontario Oil and Gas Wells 1800-Oct 2006****OOGW**

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. Information available for all wells in the ERIS database include well owner/operator, location, permit start date, well cap date, licence number, status, depth and the primary target (rock unit) of the well being drilled.

**Ontario Inventory of PCB Storage Sites 1987-Oct 2004****OPCB**

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

**Ministry Orders 1995-1996**

**ORD**

Control Orders/Documents are enforcement actions issued by the Ministry of the Environment to deal with environmental violations. They clarify and allocate individual/joint liability when issuing clean-up orders for contaminated sites.

**Occurrence Reporting Information System 1988-2002**

**ORIS**

This database identifies sources, effects/actions and approximate locations of spills and occurrences within Ontario. The locations identified on the locator diagram refer to the facility responsible for the spill. The actual location of the spill can be derived from the descriptions provided in the detailed report.

**Pesticide Register 1988-Oct 2006**

**PES**

The Ontario Ministry of Environment maintains a database of all manufacturers and vendors of registered pesticides.

**Private Fuel Storage Tanks 1989-1996\***

**PST**

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

**Ontario Regulation 347 Waste Receivers Summary 1986-2005**

**REC**

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address. This information is a summary of all years from 1986 including the most currently available data.

**Record of Site Condition 1997-Sept 2001**

**RSC**

The Record of Site Condition (RSC) provides a summary of the final environmental condition of a site, once an environmental site assessment and/or restoration approach has been undertaken. The database provides information on the site restoration approach used (Background, Generic, Site Specific Risk Assessment), location of contaminated site, whether contamination extends past 1.5m from the surface thereby requiring "stratified restoration", soil type, and the date when RSC was submitted/acknowledged/ responded to by the Ministry of the Environment. A site restoration approach involves the use of soil and groundwater quality criteria, which have been developed to provide protection against adverse effects to human/ecological health and the natural environment. These criteria may be applied to agricultural, residential/parkland, industrial/commercial land uses; as well as potable (source of drinking water) and nonpotable groundwater use.

**Wastewater Discharger Registration Database 1990-1998**

**SRDS**

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

**Waste Disposal Sites - MOE CA Inventory 1970-Sept 2002**

**WDS**

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

**Waste Disposal Sites - MOE 1991 Historical Approval Inventory Up to Oct 1990\***

**WDSH**

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

**Water Well Information System 1955-2006**

**WWIS**

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. Geographic coordinates are reliable according to the given percentage. Wells that are identified with lot and concession only are available upon request and would be provided as a separate report.

**Private Source Databases:**

**Anderson's Waste Disposal Sites 1930-2004**

**ANDR**

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the *Ontario MOE Waste Disposal Site Inventory*, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. *Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.*

**Automobile Wrecking & Supplies 2001-Feb 2007**

**AUWR**

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

**Commercial Fuel Oil Tanks 1948-Sept 2006**

**CFOT**

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with TSSA. This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

**Chemical Register 1992, 1999-Feb 2007**

**CHEM**

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

**ERIS Historical Searches 1999-2006**

**EHS**

EcoLog ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

**Canadian Mine Locations 1998-2005**

**MINE**

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

**Oil and Gas Wells Oct 2001-2006**

**OGW**

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickles' database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at [www.nickles.com](http://www.nickles.com).

**Canadian Pulp and Paper 1999, 2002, 2004, 2005**

**PAP**

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

**Retail Fuel Storage Tanks 1989-Feb 2007**

**RST**

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of licensed retail fuel outlets. The MCCR no longer collects this information. Current information is now collected from private sources. This database includes an inventory of retail fuel outlet locations that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

**Scott's Manufacturing Directory 1992-Jan 2007**

**SCT**

Scott's Directories is a data bank containing information on over 70,000 manufacturers in Ontario. Even though Scott's listings are voluntary, it is the most comprehensive database of Ontario manufacturers available. Information concerning a company's address, plant size, and main products are included in this database. This database begins with 1992 information and is updated annually.

**Anderson's Storage Tanks 1915-1953\***

**TANK**

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. *Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.*

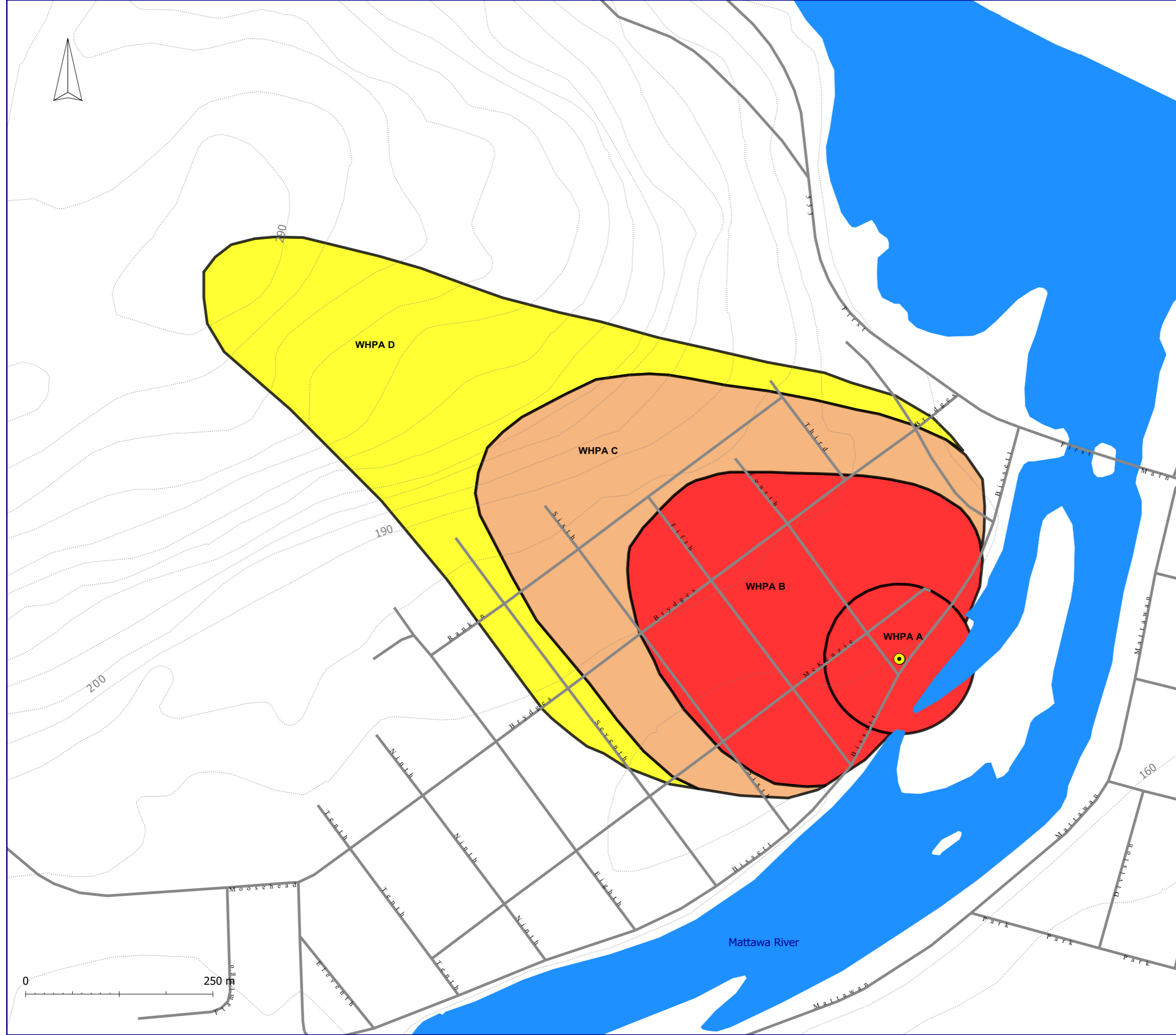
**Appendix C**  
**Drinking Water Threats Inventory - Mattawa WHPA**

WHPA	Vulnerability Score	Uncertainty Score	Threat Location ID	Threat Description	Source Type	Confirmation Code	Threat Classification	Table 1 or Table 2 Reference No.
A	10	low	A1	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			A2	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			A3	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			A4	municipal sewer line to lagoons from the east shore Mattawa R.	point		3 moderate	887, 1957
			A5	sanitary sweage transmission line	point		3 moderate	887, 1957
B	10	high	B1	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B2	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B3	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B4	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B5	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B6	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B7	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B8	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B9	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B10	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B11	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B12	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B13	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B14	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B15	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B16	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B17	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B18	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B19	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B20	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B21	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B22	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B23	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B24	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B25	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B26	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B27	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B28	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B29	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B30	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272
			B31	petroleum storage (above ground tank > 250 L and <2500 L)	point		2 moderate	272
			B32	petroleum storage (above ground tank > 250 L and <2500 L)	point		5 moderate	272



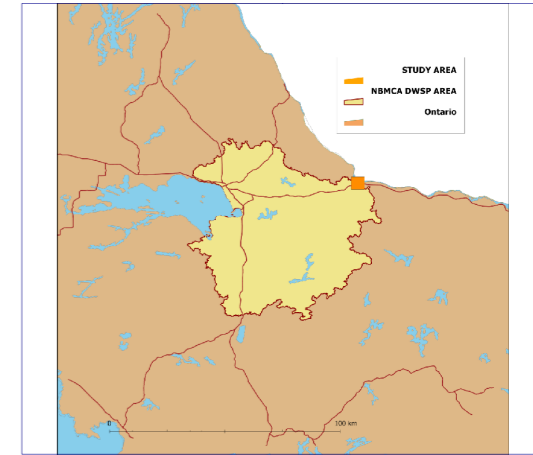
WHPA	Vulnerability Score	Uncertainty Score	Threat Location ID	Threat Description	Source Type	Confirmation Code	Threat Classification	Table 1 or Table 2 Reference No.
			B33	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			B34	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			B35	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			B36	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			B37	municipal sewer line to lagoons from the east shore Mattawa R.	point	3	moderate	887, 1957
			B38	sanitary sweage transmission line	point	3	moderate	887, 1957
C	8	high	C1	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C2	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C3	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C4	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C5	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C6	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C7	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C8	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C9	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C10	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C11	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C12	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C13	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C14	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C15	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	moderate	272
			C16	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	moderate	272
			C17	sanitary sweage transmission line	point	3	moderate	887, 1957
D	6	high	D1	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	low	272
			D2	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	low	272
			D3	petroleum storage (above ground tank > 250 L and <2500 L)	point	2	low	272
			D4	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	low	272
			D5	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	low	272
			D6	petroleum storage (above ground tank > 250 L and <2500 L)	point	5	low	272
			D7	sanitary sweage transmission line	point	3	low	887, 1957

NOTES a) vulnerability score was obtained from Figure 4 of the Groundwater Vulnerability Assessment report  
b) uncertainty score was obtained from Figure 6 of the Groundwater Vulnerability Assessment report  
c) source type is either point source, non-point source or corridor source  
d) confirmation code was (1) for ECOLOG database search, (2) for NBMCA field reconnaissance survey, (3) for airphoto / map / GIS interpretation, (4) for on-site interview with owner and (5) for unconfirmed  
e) threat classification is either low, moderate or significant, or none (if the risk score <40)  
f) Table 1 / Table 2 Drinking Water Threat reference number refers to the December 12, 2008 Table of Drinking Water Threats



**FIGURE 2-1:  
TOWN OF MATTAWA**

**Wellhead  
Vulnerability Scores**



**LEGEND**

- Wells
- Roads
- Rail
- Water Features**
- Waterbody Segment
- Stream
- Vulnerability Scores (WHPA)**
- 10
- 8
- 6

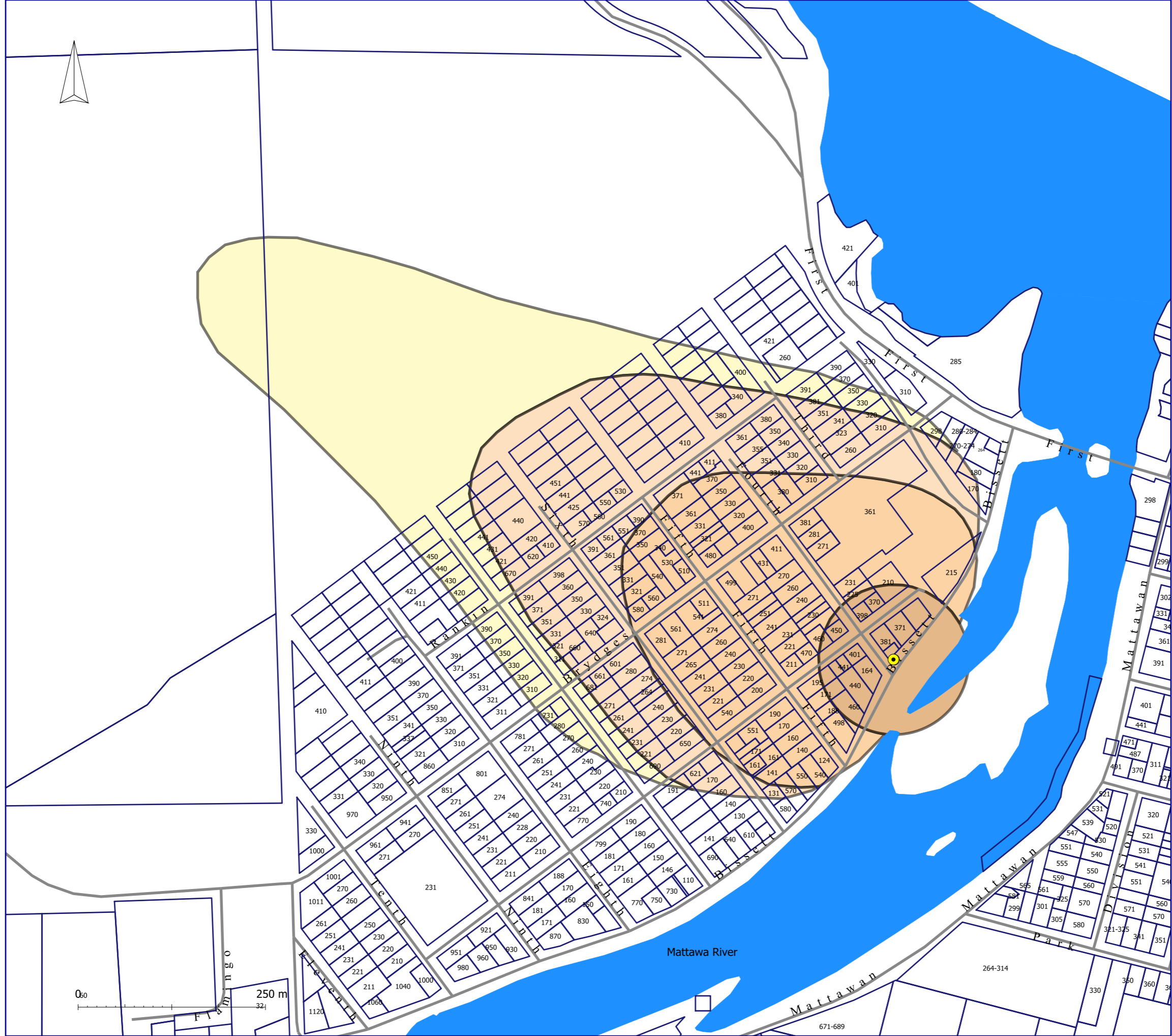
This publication was produced by:  
GIS/Data Specialist  
North Bay-Mattawa Conservation Authority,  
15 Janey Avenue, North Bay, ON P1C 1N1. Telephone: (705) 475-5420

Data supplied under Licence by Members of the Ontario Geospatial Data Exchange.

© 2009 Queen's Printer of Ontario  
Map Produced in Co-Operation with the Province of Ontario and Conservation Ontario

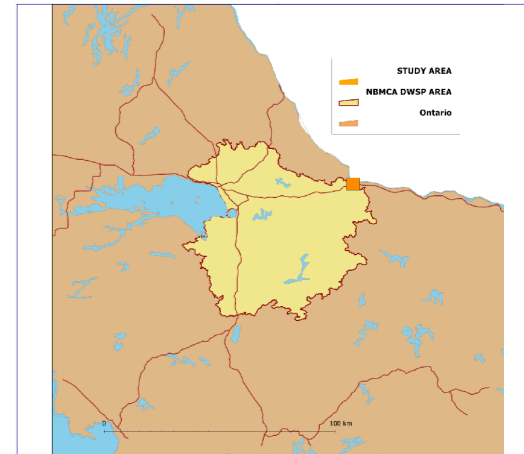
This map is illustrative only. Do not rely on it as being a precise indicator of routes, location of features, nor as a guide to navigation. The NBMCMA shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

Published November, 2009  
Map Projection & Datum: NAD83 UTM Zone 17N



**FIGURE 2-2:  
TOWN OF MATTAWA**

**Wellhead Protection Area and  
Parcel Index Map**



**LEGEND**

- Wellhead Protection Area**
  - WHPA D
  - WHPA C
  - WHPA B
  - WHPA A
- Powassan Wells**
  - Wells
- Roads**
  - Lines
- Railway Drawing**
  - Lines
- Water Body**
  - Waterbody Segment
  - Wetland Area, Permanent
- Water Course**
  - Stream

This publication was produced by:  
GIS/Data Specialist  
North Bay-Mattawa Conservation Authority,  
15 Janey Avenue, North Bay, ON P1C 1N1. Telephone: (705) 475-5420

Data supplied under Licence by Members of the Ontario Geospatial Data Exchange.

© 2009 Queen's Printer of Ontario  
Map Produced in Co-Operation with the Province of Ontario and Conservation Ontario

This map is illustrative only. Do not rely on it as being a precise indicator of routes, location of features, nor as a guide to navigation. The NBMA shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

Published November, 2009  
Map Projection & Datum: NAD83 UTM Zone 17N