

May 2016

## CROWE VALLEY SOURCE PROTECTION AREA – Overview

The Crowe Valley Source Protection Area (SPA) encompasses an area of approximately 2006 square kilometers and includes three sub watersheds: Beaver Creek, the Crowe River, and the North River systems.

The diverse physiography of the Crowe Valley includes numerous lakes connected by small streams, wetlands, as well as the following prominent physiographic features; the Precambrian Shield, the Dummer Moraine, Limestone Plains, Georgian Bay Fringe and a small portion of the Iroquois Plains.

Lakes and rivers play an important role in the Crowe Valley SPA. The Crowe River system flows into the Trent River, which empties into the Bay of Quinte at Lake Ontario. The natural flows are regulated by a system of dams and weirs operated within the Crowe Valley SPA specifically on the Crowe River and its tributaries. Dams are located at Wollaston Lake, Belmont Lake, Allan Mills, Marmora, Cashel Lake, Oak Lake, Paudash Lake, Cordova Lake, St. Ola Lake, Round Lake, Kasshabog Lake, Lasswade Lake, Steenburg Lake, Methuen Lake, and Crowe Bridge. Water levels are regulated for flood control, recreational,

and fish habitat requirements, and for flood control upstream to the Trent-Severn Waterway system. These dams work together to reduce the downstream threat to people's lives and property from the dangers of flooding due to ice jamming.

The majority of the population lives within small settlement areas of Cardiff, Coe Hill, Havelock, Marmora, and areas surrounding many of the major recreational lakes. There is high seasonal fluctuations in population in the rural areas due to tourism, recreation, and water related activities. About 85% of the area straddles the rugged terrain of the Canadian Shield and the other 15% covering the rolling farmlands of the south Paleozoic regions.

The drinking water sources in the Crowe Valley SPA include both groundwater and surface water sources. Wells are mostly drilled bedrock wells with some shallow dug or bored wells and drilled overburden wells in the glacial deposit areas in confined and unconfined aquifers.

In addition to the municipal supply systems, a number of communal wells exist across the area based on seasonal residences of camp grounds, trailer parks, and seasonal recreation facilities. The predominant sources of drinking water are rural private systems. Land uses that potentially affect drinking water supplies include urban areas, historic septs and industrial operations and former road salt applications.

Water systems located within the Crowe Valley SPA do not have similar stresses as major urbanized areas, with the exception of chloride. Nutrients, road salts, septic systems, and closed landfills or brownfields all potentially contribute to degradation in future water quality sources.



# MUNICIPALITIES

Municipalities within the Crowe Valley SPA encompasses 4 counties and 10 lower tier municipalities.

## Lower Tier

Municipality of Highlands East  
 Township of Faraday  
 Township of North Kawartha  
 Township of Havelock-Belmont-Methuen  
 Municipality of Marmora and Lake  
 Municipality of Trent Hills  
 Township of Stirling-Rawdon  
 Township of Wollaston  
 Township of Limerick  
 Township of Tudor and Cashel

## Upper Tier

Hastings County  
 Peterborough County  
 Haliburton County  
 Northumberland County



# MUNICIPAL WATER SUPPLY SUMMARY – Groundwater

Municipality	System Name	Background	# of Wells
Township of Havelock-Belmont-Methuen	Havelock +	The Havelock Well provides water to customers in the Havelock area and is designated to be a Large Municipal Residential System.	3
Municipality of Highlands East	Dyno Estates *	Dyno Estates Water Works has been designated to be a Small Municipal Residential System. This system has 15 private residential service connections.	1
	Cardiff/ Bicroft *	The Cardiff well supply provides water to Bicroft Station & Bicroft Heights Subdivision. There are a total of 236 homes, 2 churches, a public school, community centre, post office, fire hall, public works yard and strip mall within the Cardiff town site. There are a total of 20 private residences in the Bicroft Heights portion of the distribution system. The Cardiff Well Supply is designated a large Municipal Residential System.	1

### Summary of Technical Studies:

*Groundwater Vulnerability Analysis, Issues Evaluation and Threats Inventory, and the Tier 1 Water Quality Risk Assessment are being completed by Jagger-Hims Limited+ and XCG Consulting\*.*

*Scheduled for completion – Spring 2008.*



# MUNICIPAL WATER SUPPLY SUMMARY – Surface Water

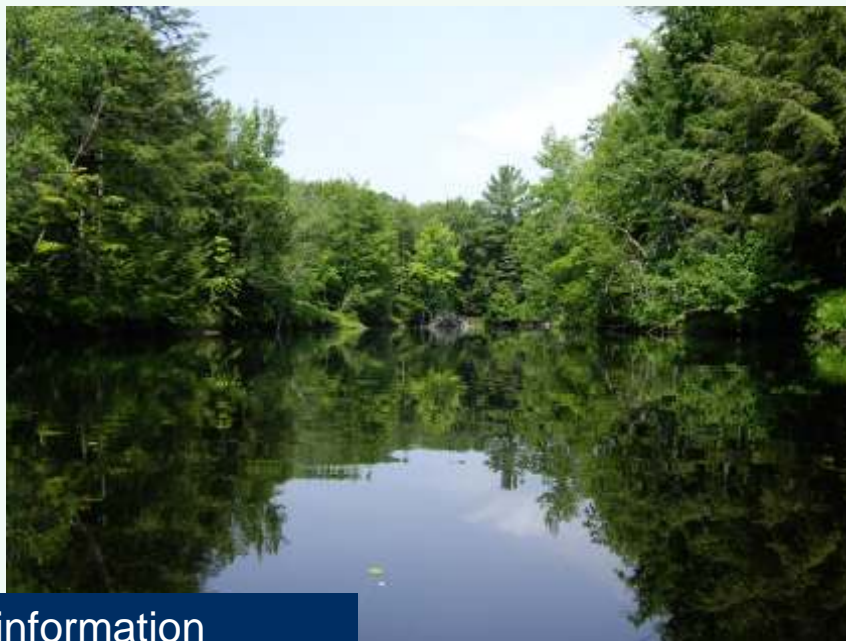
Municipality	System Name	Background	Source
Municipality of Marmora & Lake	Marmora	The Marmora Water Treatment Plant is owned by the Municipality of Marmora & Lake and operated by the Ontario Clean Water Agency. It supplies drinking water to the Municipality which has a population of approximately 1300. It is a Large Municipal Residential System and has a maximum daily capacity is 2000 m <sup>3</sup> /day.	Crowe River

## **Summary of Technical Studies:**

XCG Consulting is completing Issues Evaluation and Threats Inventory, and the Tier 1 Water Quality Risk Assessment.

Scheduled for completion – Spring 2008.

XCG completed the Surface Water Vulnerability Analysis for these systems in 2006.



For more information

TRENT CONSERVATION COALITION SOURCE PROTECTION REGION  
[www.trentsourceprotection.on.ca](http://www.trentsourceprotection.on.ca)

## **Crowe Valley Source Protection Area**

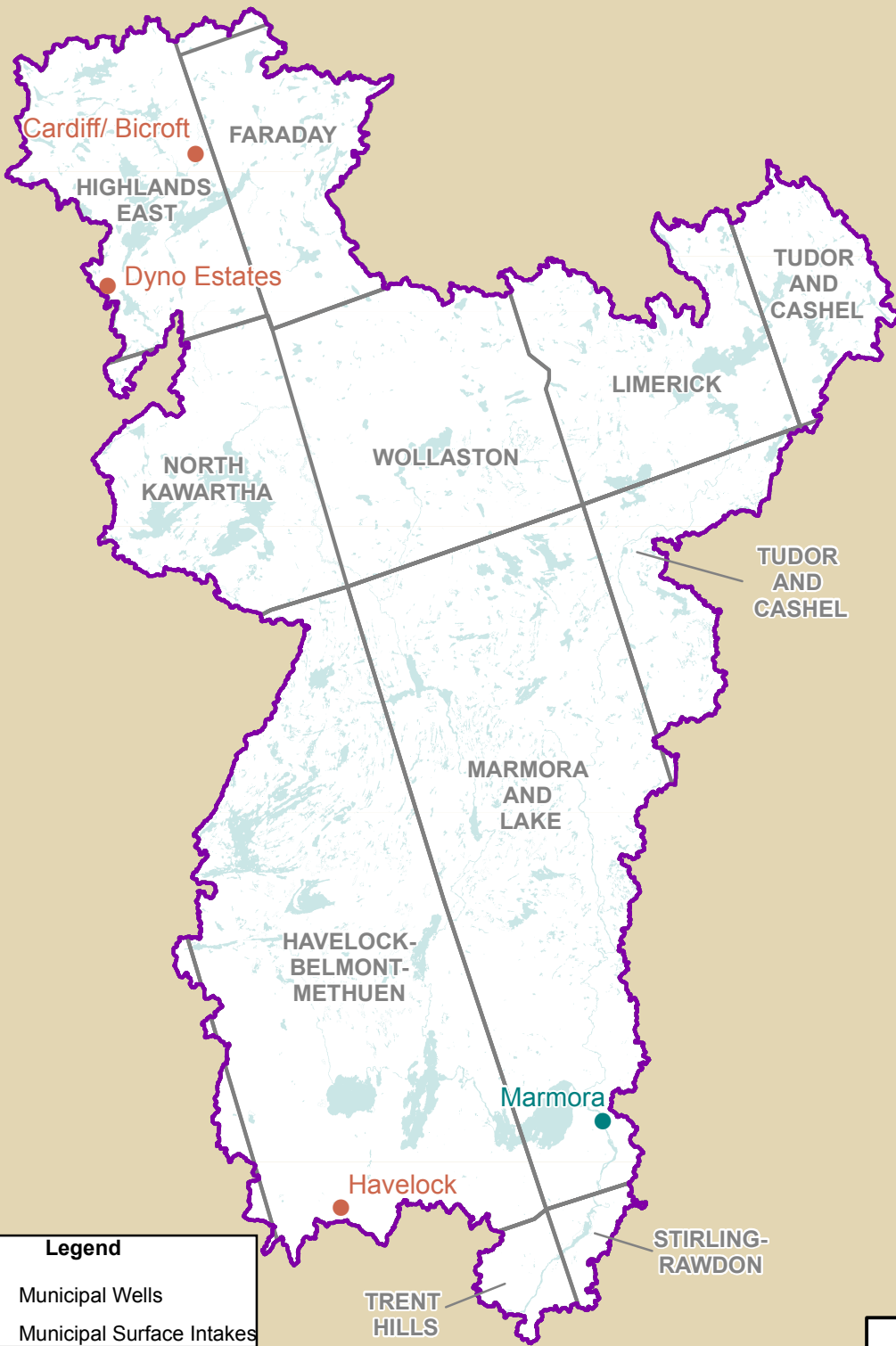
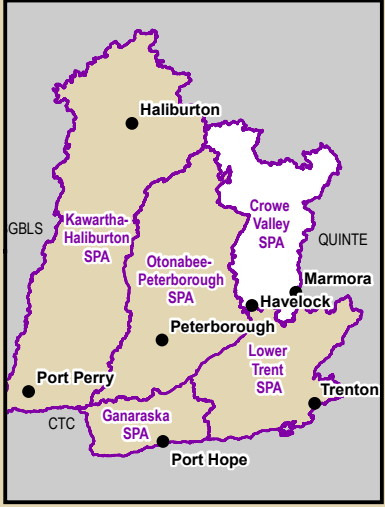
C/o Crowe Valley Conservation Authority, Box 416, 70 Hughes Ln, Marmora, ON K0K 2M0  
Vicki Woolfrey, Source Protection Specialist & RMO Vicki.Woolfrey@crowevalley.com  
Neil McConkey, Water Technician swp@crowevalley.com 613- 472-3137

or

## **Trent Conservation Coalition Source Protection Region**

c/o Lower Trent Conservation, 714 Murray St., R.R. #1, Trenton, ON K8V 5P4  
Chris Wilkinson, Source Protection Project Coordinator  
613-394-3915 ext. 246 Chris.Wilkinson@ltc.on.ca





**Legend**

- Municipal Wells
- Municipal Surface Intakes