

February 2008

OTONABEE-PETERBOROUGH SOURCE PROTECTION AREA – OVERVIEW

The Otonabee Region Conservation Authority (ORCA) is located within the Kawartha Lakes region of Ontario and encompasses the Otonabee, Indian and Ouse River watersheds, an area of approximately 1,951 square kilometers. For the purposes of drinking water source protection, an additional area of 1,414 square kilometers has been identified for the Otonabee-Peterborough Source Protection Area (SPA). This area includes the watersheds north of the Kawartha Lakes in Peterborough County; namely, Eels Creek, Sandy Creek, Mississauga River, Deer Bay, and Jack's Lake watersheds, as well as the Buzzard Creek watershed in Haliburton County. The total watershed area for the Otonabee-Peterborough Source Protection Authority is approximately 3,365 square kilometers.

The predominant physical features of the Otonabee-Peterborough SPA are: the Oak Ridges Moraine, Kawartha Lakes, Dummer Moraine, Peterborough Drumlin Fields and the karst

topography of the Indian River and Ouse River watershed areas.

The population within of the Otonabee-Peterborough SPA is estimated to be 143,205 with the majority of the population (55%) residing in the City of Peterborough (2001 census data). It is anticipated that the population within the SPA will grow at an average rate of 2.55 per cent per year to approximately 147,000 by 2012.

Within the Otonabee-Peterborough SPA, agriculture, forestry, recreation and urban development are the primary land uses. Agriculture accounts for approximately 40 percent of the land use, while forests/woodlands cover 48 percent, recreation/other is 10 per cent and urban areas cover 2 percent of the SPA.

Peterborough and Haliburton Counties are premiere recreation destinations within Ontario. The beauty of the Kawartha Lakes and the Trent-Severn Waterway as well as other inland river

systems provide visitors with a variety of recreational opportunities including cottaging, camping and boating. Seasonal residences (cottages), Crown land, and recreational areas used for camping and other activities dominate the northern portion of the SPA on the Canadian Shield, while agriculture and larger urban areas dominate the southern portion. Land ownership in the northern portion of the SPA is approximately 20% privately owned rural and 70% Crown land.

The main factors affecting water quality within the Otonabee-Peterborough SPA include nutrient loading, sedimentation and bacterial contamination. The main sources include storm sewer effluent, roadway run-off, industrial effluent,



agricultural run-off, sewage treatment plant and septic system effluent. There are data and knowledge gaps including surface and groundwater quality, actual quantities of water takings, groundwater/surface water interactions, and significant aquifer recharge areas, and a long-term monitoring system. While water quality for municipal drinking water sources is relatively good, contaminants pose future risks if monitoring and preventative measures are not continued and expanded.



MUNICIPALITIES

Lower Tier

Township of Asphodel-Norwood
 Township of Cavan Monaghan
 Township of Douro-Dummer
 Township of Galway-Cavendish and Harvey
 Township of Hamilton
 Township of Havelock-Belmont-Methuen
 Municipality of Highlands East
 Township of North Kawartha
 Township of Otonabee-South Monaghan
 Municipality of Port Hope
 Township of Smith-Ennismore-Lakefield
 Municipality of Trent Hills

Single

City of Kawartha Lakes
 City of Peterborough

Upper Tier

Regional Municipality of Durham
 Haliburton County
 Northumberland County
 Peterborough County

MUNICIPAL WATER SUPPLY SUMMARY – Surface Water

Municipality	System Name	Background	Source
Township of Smith-Ennismore-Lakefield	Lakefield	The Lakefield Water Treatment Plant serves a population of approximately 2,900. This facility has been designated a Large Municipal Residential System.	Otonabee River
City of Peterborough	Peterborough	The Peterborough Water Treatment Plant, owned and operated by the Peterborough Utilities Services Inc., serves the City, the development of Woodland Acres (Smith-Ennismore-Lakefield) and the Peterborough Airport (Cavan Monaghan). It is a Large Municipal Residential System and serves a population of approximately 77,500 (24,695 connections).	Otonabee River
Municipality of Trent Hills	Hastings	The Hastings water treatment plant supplies water to the Village of Hastings and the Trentview Subdivision and is a Large Municipal Residential System. This plant services a population of approximately 1,250 people.	Trent River

Summary of Technical Studies:

XCG Consulting is completing Issues Evaluation & Threats Inventory, and Tier 1 Water Quality Risk Assessment. Scheduled for completion – Spring 2008. XCG completed the Surface Water Vulnerability Analysis for these systems in 2006.

MUNICIPAL WATER SUPPLY SUMMARY – Groundwater

Municipality	System Name	Background	# of Wells
Township of Galway Cavendish and Harvey	Buckhorn Lake Estates *	Buckhorn Lakes Estates Municipal system is designated as Small Residential Drinking Water System. It serves approximately 84 residential units.	1
	Alpine/ Pirates Glen *	In 2003, the upgraded Alpine/Pirates Glen Well Supply began servicing the Alpine Village and Pirates Glen subdivisions. There are approximately 113 homes in Alpine Village and approximately 87 homes in Pirates Glen	2
Township of Otonabee-South Monaghan	Elgeti Subdivision *	Elgeti Subdivision Well Supply services the Elgeti and Crystal Springs Subdivision. The facility is designated a Small Municipal Residential system and provides water to 102 service connections. The system draws its water from one main well with one well used as a standby.	2
	Keene Heights Subdivision *	Keene Heights supply has been designated a Small Municipal Residential System and services 37 households in the Keene Heights Subdivision. Previously, the water supply consisted of 4 wells but 3 have been abandoned.	1
Township of Cavan Monaghan	Millbrook *	Millbrook Well Supply provides drinking water to a connected population of 1,299 residents.	3
	Fraserville Lansdowne Site (planned) *	The Township has completed a Master Plan under the Municipal Environmental Assessment Process for the establishment of these wells. The Lansdowne site is located on Lansdowne St. in Peterborough. The Leahy site is located at Conc. 8, Pt Lot 17 (east pt.) & will service lands south of Highway 115 near Fraserville.	
	Fraserville Leahy Site (planned) *		
Municipality of Asphodel Norwood	Norwood *	Norwood Municipal System is designated as a Large Residential Drinking Water System. It serves approximately 1,700 people. The municipal wells are located in the Norwood Esker that is also used as an aggregate supply.	3
City of Kawartha Lakes	Birch Point Estates +	Birch Point Estates & Highview Acres are served by the Birch Point System through an interconnecting water main. Birch Point Estates consists of 71 residential lots (estimated pop. – 190); Highview Acres Subdivision consists of 73 residential lots (estimated pop. – 204). This amalgamated system is now classified as a Large Municipal Residential Drinking Water System.	2
	Pinewood +	Pinewood Subdivision consists of 178 private residences constructed in four phases between 1971 and 1982 with an estimated population of 640 persons. The City provides municipally-treated water, but homeowners are responsible for operation & maintenance of their septic systems. One well is used as the lead production supply.	3

Summary of Technical Studies:

Groundwater Vulnerability Analysis, Issues Evaluation & 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.

XCG completed Groundwater Vulnerability Analysis for Norwood & Buckhorn Lake Estates Well Supplies in 2006.

For more information

TRENT CONSERVATION COALITION SOURCE PROTECTION REGION
www.trentsourceprotection.on.ca

Otonabee-Peterborough Source Protection Area

c/o Otonabee Conservation, 250 Milroy Drive, Peterborough, ON K9H 7M9

Meredith Carter, Manager, Environmental Services 705-745-5791 ext. 223 mcarter@otonabee.com

or

Trent Conservation Coalition Source Protection Region

c/o Lower Trent Conservation, 714 Murray St., R.R. #1, Trenton, ON K8V 5P4

Glenda Rodgers, Source Protection Manager 613-394-3915 ext. 216 glenda.rodgers@ltc.on.ca

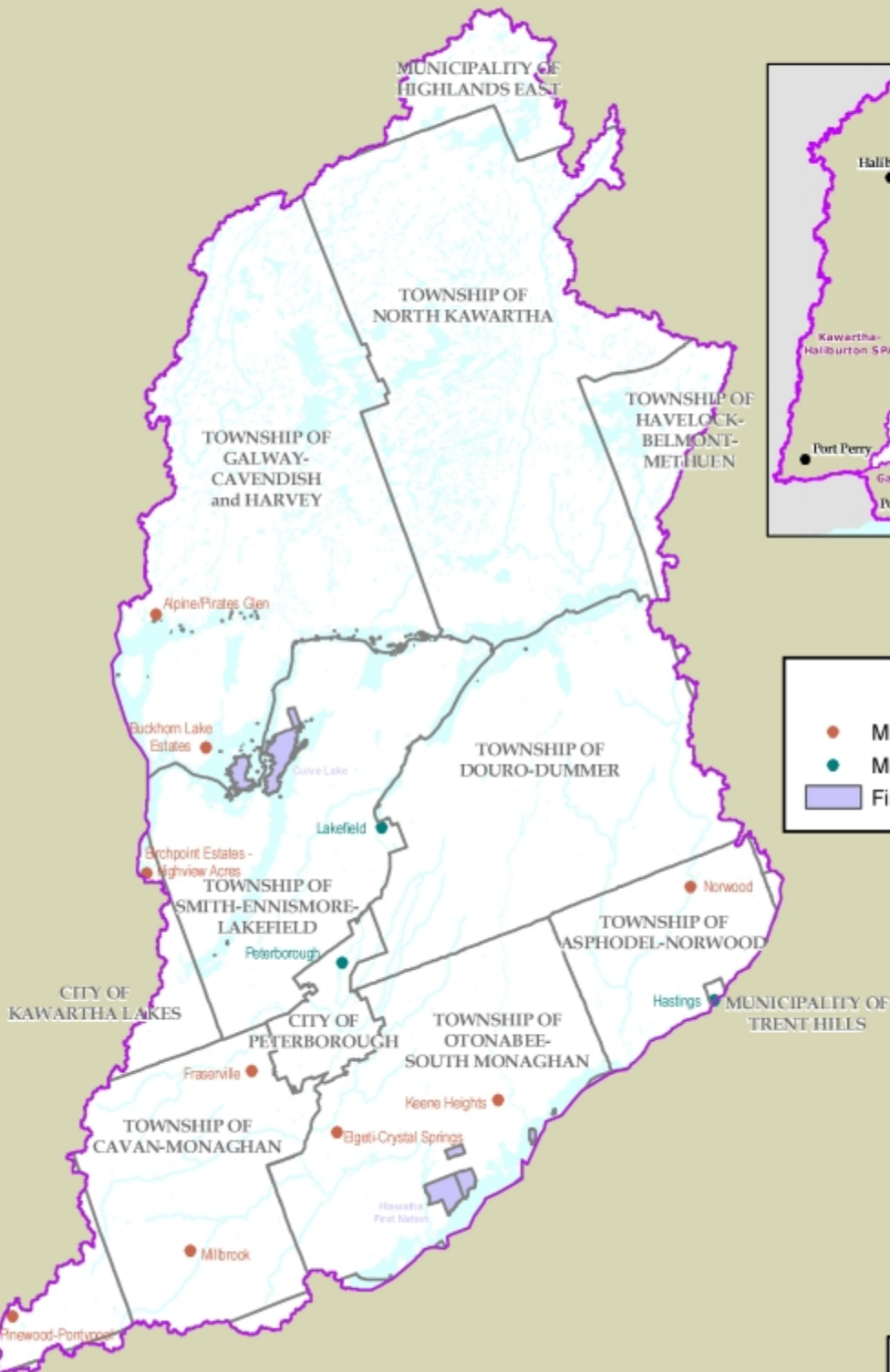


MAP – OTONABEE-PETERBOROUGH SOURCE PROTECTION AREA

DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

TRENT CONSERVATION COALITION
SOURCE PROTECTION REGION

Otonabee - Peterborough Source Protection Area



Legend

- Municipal Wells
- Municipal Surface Intakes
- First Nation Community