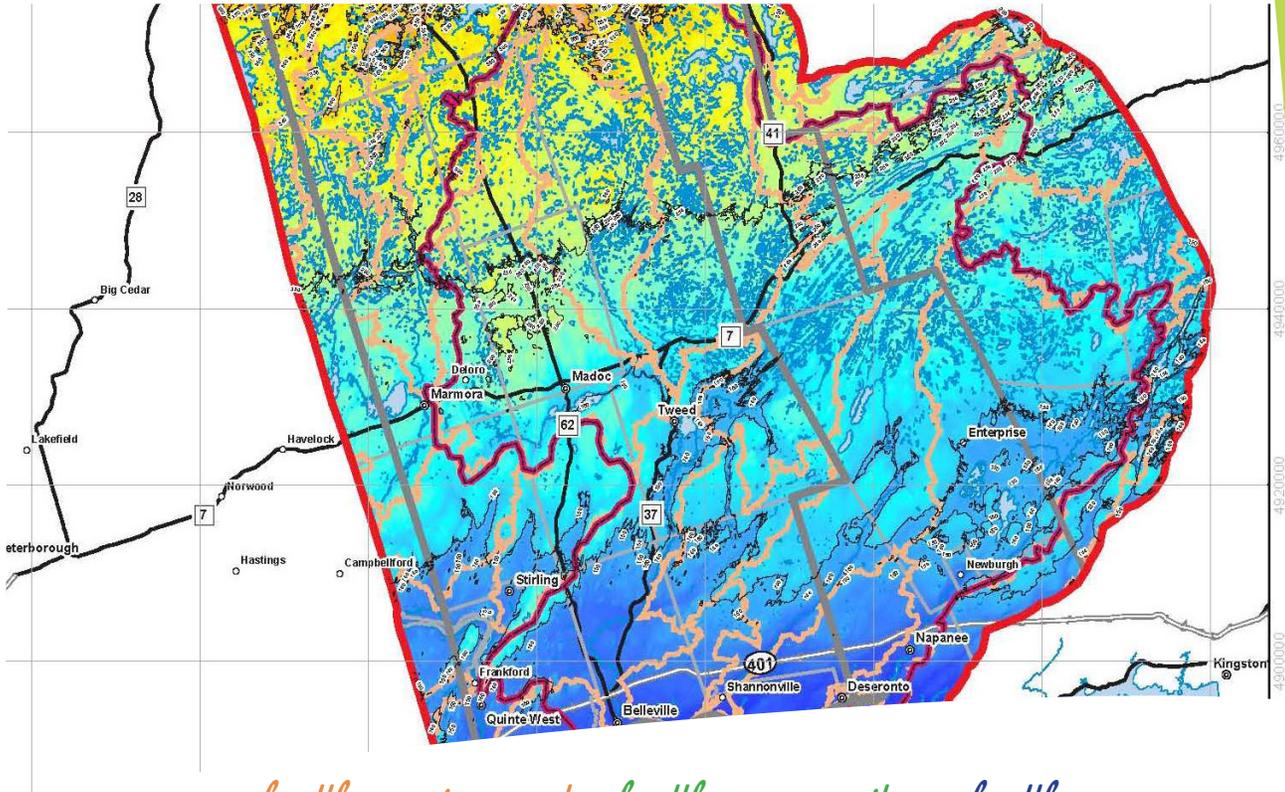


Groundwater STUDY



healthy environment healthy community healthy economy

Quinte Conservation acted as project manager for this important study involving ten municipalities with funding from the Ontario Ministry of the Environment.

REGIONAL GROUNDWATER STUDIES ARE PART OF THE ONTARIO GOVERNMENT'S CONTINUING EFFORTS TO IMPROVE WATER QUALITY, AND PROTECT BOTH PUBLIC SAFETY AND WATER QUALITY AT THE SOURCE, ALL COORDINATED AS PART OF OPERATION CLEAN WATER. QUINTE CONSERVATION ACTED AS PROJECT MANAGER FOR THE STUDY IN THIS REGION.

WHAT IS GROUNDWATER?

Groundwater exists almost everywhere underground in the spaces between particles of rock and soil or in crevices and cracks in the rock. Much of the earth's fresh water is found in these spaces, usually within 100 metres of the surface. The Quinte Region Groundwater Study will help us to understand and protect local groundwater resources.

WHY STUDY OUR GROUNDWATER?

Groundwater is an unseen and precious resource that we know little about. It has become a topic of interest over the last several years. Recent drought, concerns about contamination of drinking water sources, and controversy over both water taking permits and the location of new development means this new study of groundwater resources in the Quinte region is both timely and topical.

WHAT ELSE ARE WE DOING TO LEARN MORE ABOUT OUR GROUNDWATER?

Quinte Conservation also participates in the Provincial Groundwater Monitoring Network. Data collected through this network will complement information gathered in the study and contribute to improved understanding and protection of our groundwater resources.

WHO IS INVOLVED IN THE STUDY AND WHAT WAS THE COST?

Quinte Conservation agreed to serve as the project manager for the study at a Fall 2002 meeting of interested municipalities and agencies. Quinte Conservation worked closely with the Ontario Ministry of the Environment throughout the project. The groundwater study involved ten local municipalities and had a budget of \$275,000. Eighty-five percent of the study cost was provided by the Ontario Ministry of the Environment. The remaining 15% cost was divided among the participating municipalities. The study area included: The Corporation of the County of Prince Edward, City of Belleville, Township of Stone Mills, Municipality of Centre Hastings, Municipality of Tweed, Township of Tyendinaga, Municipality of Hastings Highlands, Town of Bancroft, Township of Madoc and Township of Carlow/Mayo.

WHAT DID MUNICIPALITIES RECEIVE?

Municipalities involved in the study received information that they can use, not just another report for the shelf. Municipalities received an executive summary of the main report, a planning strategy to implement groundwater protection measures that will be specific to their municipality, and maps of the entire study area showing details about groundwater resources including direction of groundwater flow, areas of contamination hazard and sensitive recharge and discharge areas. Part of the overall study included individual wellhead protection studies for five municipal wells; two Centre Hastings wells that supply the Village of Madoc; two wells in the Municipality of Tweed that supply the Village of Tweed and a well in northern Prince Edward County that serves 18 private homes.

HOW WILL THIS STUDY BENEFIT OUR REGION?

The study is expected to lead to improved conservation and protection of drinking water sources as it will provide an understanding of groundwater resources, an inventory of contaminant sources, an overall survey of groundwater use, and an action plan to protect groundwater resources. The study will assist municipalities in making informed and improved land use planning decisions relating to development, agriculture, and sewage and waste disposal. It will also provide support data for drought response, wellhead protection and aquifer classification and assist in understanding areas where complex groundwater and surface water interactions exist.

WHEN WAS THE STUDY COMPLETED?

A request for proposals was issued in February, 2003. The study was completed in 2004 and is now available for download at www.quinteconservation.ca.

ARE THERE OTHER STUDIES LIKE THIS IN ONTARIO?

Yes, groundwater studies have been completed in many regions of Ontario. Similar studies were undertaken to the east, west and northeast in the Cataraqui Region, Lower Trent Region and Mississippi Valley watershed areas, respectively. Regional groundwater studies are part of the Ontario Government's continuing efforts to improve water quality, and protect both public safety and water quality at the source, all coordinated as part of Operation Clean Water. The Quinte Region Groundwater Study was part of \$15 million in funding allocated for municipal groundwater studies – the largest single investment in groundwater source protection in the province's history. More information is available about Operation Clean Water on the Ministry of the Environment web site.

WHAT IS THE PROVINCIAL GROUNDWATER MONITORING NETWORK (PGMN) AND HOW DOES IT FIT IN WITH THE STUDY?

The PGMN is a network of almost 400 wells across the province that record data on water quality and quantity. The data collected will assist in determining groundwater quality and aquifer extents across the province with the goal of assuring safe drinking water supplies and will complement knowledge gained through the regional groundwater studies. The network will also provide an early warning system for changes in water levels caused by climate conditions or human activities and information on regional trends in groundwater quality. When the last few local wells are instrumented in early 2003, there will be 11 wells in the Moira River watershed, 11 in Prince Edward County and 9 in the Napanee Region watershed area for a total of 31 wells within Quinte Conservation's area of jurisdiction. Ontario's Conservation authorities are working closely with the Ministry of the Environment on this project that will monitor and collect data from approximately 400 wells across 38 watersheds in Ontario.



GROUNDWATER
MONITORING WELL