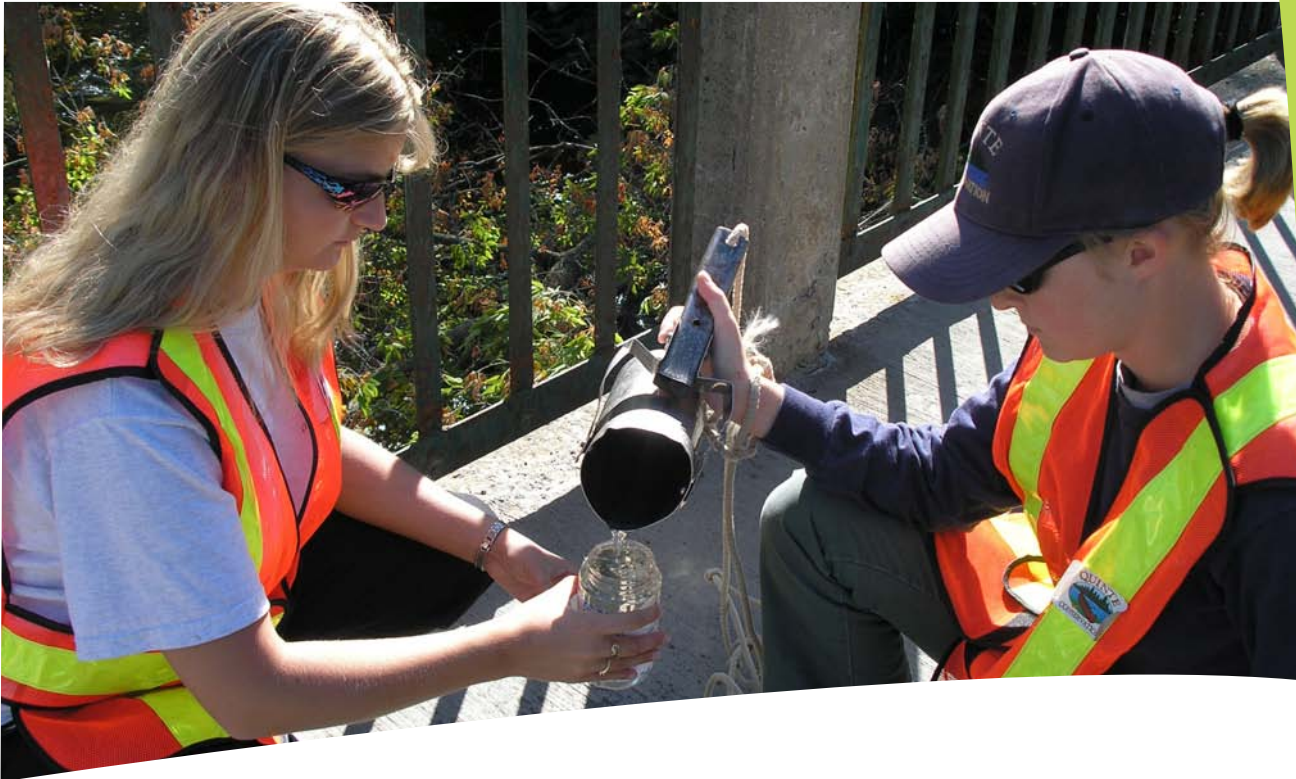




Water MONITORING



healthy environment healthy community healthy economy

Ontario Conservation Authorities are aware of the local concerns about the health of our water sources.

Public concerns include questions such as:

- What is our water quality like now?
- Is our water quality getting better or worse?
- How does water quality compare at different locations?

To provide you with answers, Quinte Conservation is working in partnership with the Ministry of the Environment (MOE) and other environmental agencies to implement

a series of Watershed Management Programs. There are three Water Monitoring Programs currently in progress:

- The Ontario Provincial Groundwater Monitoring Network
- The Ontario Provincial Water Quality Monitoring Network
- The Ontario Benthos Biomonitoring Network

The information gathered from these long-term water monitoring programs will be used to determine the overall conditions that exist throughout the Quinte Conservation watersheds.

ONTARIO PROVINCIAL GROUNDWATER MONITORING NETWORK (PGMN)

The PGMN is a network of almost 400 wells across 38 watersheds in Ontario that record data on groundwater 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.

The groundwater level readings are taken hourly and are stored in a datalogger for either manual or remote automated download. The downloaded data is maintained by the MOE and is made available for use by the partner conservation authorities.

Quinte Conservation will be purging and collecting groundwater samples from 31 observation wells. The samples will be tested for pesticides, metals, volatile organics, and general chemistry. The water quality samples collected are used to determine ambient groundwater conditions in Ontario.

ONTARIO PROVINCIAL WATER QUALITY MONITORING NETWORK (PWQMN)

The PWQMN is designed to collect water quality information from rivers and streams at strategic locations throughout Ontario on a monthly basis. Quinte Conservation has been participating in this program for more than 45 years and will continue to monitor water quality in the Moira River, Napanee Region, and the Prince Edward Region watersheds.

The water samples are sent to the MOE where they are analyzed for various general chemistry parameters such as metals, biochemical oxygen

demand, mercury, suspended solids, dissolved and total nutrients, turbidity and many others. Water quality information is continuously collected and assembled in the MOE database to represent the wealth of historic and current surface water quality.

ONTARIO BENTHOS BIOMONITORING NETWORK (OBBN)

The OBBN is an environmental tool designed to use benthic (bottom-dwelling) organisms as indicators of stream health. These bottom-dwellers can be seen with the naked eye (macro) and are without backbones (invertebrates).

Benthic macroinvertebrates are sensitive to environmental impacts and that is why their community structures are significant for determining the ecological health of aquatic ecosystems.



This Provincial program was co-operatively developed by Environment Canada Environmental Monitoring and Assessment Network (EMAN), Environment Canada National Water Research Institute (NWRI), and the Ontario Ministry of

the Environment (MOE). Quinte Conservation is participating in this program by sampling streams in all of the watersheds.

Other indicators of stream quality that will be monitored include: dissolved oxygen (mg/L), pH level, and conductivity (m S/cm). All of the information collected helps us to classify the conditions of the stream (e.g. excellent, very good, good, fair, fairly poor, poor, and very poor) and at a later date the condition of the various watersheds and sub-watersheds can be determined. By monitoring these sites long-term, the condition of the stream and/or watershed can be observed for dramatic changes such as degradation or improvement in the water quality.