

Quinte Region Source Protection Plan Primer

We need clean reliable drinking water sources for our health. Certain activities, when carried out near a drinking water source, can pose a threat to that water source. Ontario's *Clean Water Act, 2006* calls for Source Protection Plans to be developed in order to protect public water sources. The Plan for the Quinte Region was originally approved by the Ontario Ministry of the Environment and Climate Change in September 2014 with an effective date of January 1, 2015.

In 2019, the Quinte Region Source Protection Plan was amended to update the vulnerable area mapping to incorporate changes on the landscape. The amended Plan was approved on September 11, 2019 and policies within the newly amended areas have an effective date of September 16, 2019.

What are sources of drinking water?

In the Quinte Region, municipalities obtain water for municipal distribution and public use from both groundwater and surface water sources.

- ◆ **Groundwater** is drawn from **wells** drilled into an underlying aquifer, which is the water source.
- ◆ **Surface water** sources include lakes, rivers and bays such as the Bay of Quinte, Lake Ontario, Roblin Lake and the Napanee River. Surface water is drawn through **intakes** (pipes) in the surface water.

What is the Source Protection Plan?

The Quinte Region Source Protection Plan directs local efforts to protect and keep the sources of municipal water clean and plentiful. The Plan includes policies, developed in consultation with the local community, to address drinking water threats identified in the science-based Assessment Report.

The goal of the Source Protection Plan is to protect existing and future municipal drinking water sources in the Quinte Region and to ensure any activities identified as a significant drinking water threat cease to be a threat and that other activities do not become a significant threat to the water source.

Why Protect Source Water?

- ◆ to protect public health
- ◆ to avoid the cost and need to clean up contaminated water
- ◆ to reduce the cost of water treatment
- ◆ to eliminate the need to search for new drinking water sources when existing ones become contaminated or depleted
- ◆ to ensure a long-term supply of clean water
- ◆ to ensure an adequate supply for economic growth

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What is a significant drinking water threat activity?

Activities on the land and in the water near municipal wells and surface water intakes may adversely affect our drinking water sources. Significant threat activities may be activities that are presently being engaged in or they may be future, intended activities. The Province of Ontario identified 21 drinking water threats under the *Clean Water Act, 2006*. The types and number of existing threat activities and the vulnerable areas surrounding drinking water sources in the Quinte Region are identified in the Assessment Report. Fact sheets about significant threat activities in the Quinte Region are available at www.quintesourcewater.ca.

What is the Assessment Report?

The Assessment Report is a technical document based on science that has been approved by the Ministry of the Environment and Climate Change. It describes the vulnerable areas around each municipal drinking water system where spills, pollution and contamination could harm the source water. The Quinte Region Assessment Report is available at www.quintesourcewater.ca.

How was the Source Protection Plan developed?

The Plan was developed by a 21 member Source Protection Committee, formed in 2007. The committee has representatives from local municipalities, agriculture, business, the Mohawks of the Bay of Quinte and the public. The committee is supported in its work by technical, administrative and communications staff at Quinte Conservation. The source protection planning process is directed and funded by the Ontario Ministry of the Environment and Climate Change.

The development of the Plan included extensive public input and broad consultation. The Source Protection Committee used science-based information and knowledge provided through technical studies, working groups and the community to develop the Plan. More information about the committee is available at www.quintesourcewater.ca.

What are the 11 municipal drinking water systems in the Quinte Region?

Eleven drinking water systems in the Quinte Region serve about 50 % of the population or about 60,000 people.

Groundwater Wells: (municipality)

- ◆ Village of Deloro (Municipality of Marmora and Lake)
- ◆ Village of Madoc (Municipality of Centre Hastings)
- ◆ Village of Tweed (Municipality of Tweed)
- ◆ Peats Point (Prince Edward County)

Surface Water Intakes: (municipality)

- ◆ City of Belleville (City of Belleville)
- ◆ Hamlet of Point Anne (City of Belleville)
- ◆ Town of Deseronto (Town of Deseronto)
- ◆ Town of Picton (Prince Edward County)
- ◆ Village of Ameliasburgh (Prince Edward County)
- ◆ Village of Wellington (Prince Edward County)
- ◆ Napanee Backup water supply (Town of Greater Napanee)

What do the policies in the Plan call for?

The Plan contains a series of voluntary and mandatory policies that encourage good stewardship, require additional care or risk reduction measures where necessary, and in limited circumstances, prohibit certain activities.

Policies in the Plan address activities that do, or could, occur near the water sources. Some examples of activities that could pose a significant threat when undertaken close to a water source are:

- ◆ fuel handling and storage (including home heating oil and gas stations)
- ◆ sewage works (including private septic systems)
- ◆ handling and storage of toxic chemicals
- ◆ application, handling and storage of pesticides and commercial fertilizers
- ◆ spreading, handling and storage of manure or bio-solids
- ◆ application, storage and handling of road salt

What is in the Plan?

The Quinte Region Source Protection Plan sets out:

- ◆ 63 policies to address drinking water threats
- ◆ maps of the vulnerable areas surrounding each municipal drinking water system
- ◆ tables of the applicable policies in each vulnerable area
- ◆ the responsibilities and timing for implementation
- ◆ the source protection planning process
- ◆ the development of the plan
- ◆ a summary of consultation
- ◆ appendices

The Explanatory Document and Assessment Report are key components related to the Plan.

Where does the Source Protection Plan apply?

The Plan was written for the Quinte Source Protection Region, which is based on the jurisdiction of Quinte Conservation. This region includes the watersheds of the Moira, Napanee and Salmon Rivers and all of Prince Edward County; an area of about 6,200 square kilometres in eastern Ontario with about 117,000 people.

Most of the policies in the Plan apply in relatively small and very specific mapped vulnerable areas surrounding each municipal drinking water source. **Less than 1% of the total area of the Quinte Region is affected by policies that address significant drinking water threat activities.**

Where is the Source Protection Plan available?

The Source Protection Plan and related materials are published on the project website at www.quintesourcewater.ca.

How are the policies implemented?

Many of the policies will be implemented by municipalities. Other policies will be implemented by provincial ministries such as the Ministry of the Environment and Climate Change. Each policy specifies who is responsible for its implementation and also outlines the effective date, which varies depending on the policy, and may be when the plan takes effect or within several years.

Municipalities in the Quinte Region have designated Quinte Conservation as the provider of risk management services related to source water protection.

What are risk management services?

The Plan contains some policies that call for measures to manage the risk from some activities, and the prohibition of other activities where they present a significant threat in the most vulnerable areas surrounding a municipal drinking water system. Risk management services provided by Quinte Conservation will address these policies.

Quinte Conservation has three provincially trained and certified risk management officials. For more information visit www.quintesourcewater.ca or contact the risk management office at Quinte Conservation.

What is the Explanatory Document?

The Explanatory Document is a record of the policy development process, research and consultation. It explains how the Source Protection Committee arrived at the policies in the Source Protection Plan and provides the rationale for the policies.

Policies in the Plan and the policy explanations in the Explanatory Document are organized using the same policy numbers and names. The Explanatory Document may be viewed at www.quintesourcewater.ca.

Vulnerable Areas:

Highly Vulnerable Aquifers:

The entire Quinte Region is considered a highly vulnerable aquifer due to shallow soil conditions over fractured bedrock. Scientific data shows that contaminants carried by surface water can easily move through the thin soils and cracks and crevices in the bedrock into the underlying groundwater.

Significant Groundwater Recharge Areas: Typically, these are isolated areas of significant deposits of sand and gravel, found throughout the Quinte Region, where high volumes of water can move easily into the ground thereby recharging the groundwater.

Most of the policies in the Source Protection Plan focus on the following two types of vulnerable areas:

Wellhead Protection Areas: These are the areas above and below ground, surrounding a municipal well through which pollutants may move toward and reach the well. Land use activities in these areas have the potential to affect the quality of the water supplying the groundwater well.

Intake Protection Zones: These are the areas of land and water, that may be vulnerable to contamination, surrounding municipal intake pipes. Surface water (water from lakes, rivers and bays) is drawn in through the intake, or pipe, placed in the water body.