

1 WHAT IS SOURCE WATER PROTECTION?

In order to understand what a Source (water) Protection Plan is one must first understand the basic term upon which it is derived. Source water is any untreated water found in rivers, lakes and underground aquifers which is used for the supply of raw water for municipal drinking water systems. Source water protection is the action taken to protect that raw source of municipal drinking water from overuse and contamination.

1.1 WHAT IS A SOURCE PROTECTION PLAN?

A Source Protection Plan (SPP) is a strategy and suite of policies developed by residents, businesses and the municipalities within a watershed or series of watersheds, which outlines how water quality and quantity for municipal drinking water systems will be protected.

A Source Protection Plan sets out policies to:

- safeguard human health;
- ensure adequate safe, clean water is available; and
- protect current and future sources of municipal drinking water from significant threats.

A watershed is the area of land where all of the water that drains off of it goes into the same body of water (i.e., lake, ocean). Its boundaries are defined by ridges of high land.

The SPP is based on a foundation of scientific knowledge.

But there is more than science to the SPP. It is, in large part about land use and the impact of that land use on drinking water quality and quantity.

The chapters that follow provide a more detailed history around source protection planning in Ontario, information about the Credit Valley-Toronto and Region-Central Lake Ontario (CTC) Source Protection Region, and the policy development process. Chapter 10 of this document outlines the proposed policies developed to protect municipal drinking water supplies.

1.2 WALKERTON, THE CATALYST FOR SOURCE WATER PROTECTION IN ONTARIO

In May 2000, heavy rains washed *Escherichia coli* (*E. coli*) bacteria into a well that provided water to the municipal water system in the small town of Walkerton, Ontario. A series of human and mechanical failures allowed the bacteria to get through the treatment system and into the municipal water supply. As a result, seven people died and more than 2,300 became ill. The tragedy received international

attention and instigated a public inquiry, led by Justice Dennis O'Connor of the Supreme Court of Ontario. Justice O'Connor's investigation resulted in two reports, with 121 total recommendations, released in early 2002.

The best way to achieve a healthy public water supply is to put in place multiple barriers that keep water contaminants from reaching people.

- Justice Dennis O'Connor

He identified five parts to the multi-barrier system:

- 1 source water protection
- 2 adequate treatment
- 3 a secure distribution system
- 4 proper monitoring and warning systems
- 5 strategic responses to adverse conditions

With the exception of source water protection, four of the five barriers relate directly to 'end of pipe' municipal water treatment systems. The government's response to put in place these four barriers was by implementing new legislation: the *Safe Drinking Water Act, 2002* and the *Sustainable Water and Sewage Systems Act, 2002*.

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Justice O'Connor felt that the first barrier in the multi-barrier system, source water protection, had to be addressed differently. He saw it as a local planning process to be done, "as much as possible at a local (watershed) level by those who will be most directly affected (municipalities and other affected local groups)." He outlined a broad framework for a Source Protection Plan. Justice O'Connor recommended protecting municipal water supplies on a watershed basis, an area of land where all surface water drains into the same lake or river. Groundwater and surface water systems are linked and activities upstream can affect water downstream, regardless of political boundaries. Thus, developing a SPP on a watershed basis made economic and scientific sense. This recommendation led the Province of Ontario to embark on the development of the *Clean Water Act, 2006*.

1.3 THE CLEAN WATER ACT

The *Clean Water Act, 2006 (CWA)* introduced a new level of protection for Ontario’s drinking water resources that focuses on protecting water before it enters the municipal drinking water treatment system. The *CWA* established a locally driven, science-based, multi-stakeholder process to protect municipal residential drinking water sources and designated private drinking water sources. This process is meant to promote the shared responsibility of all stakeholders to protect local sources of drinking water from threats to both water quantity and water quality.

The *Clean Water Act, 2006* is not designed to protect all of the province’s water resources. The *CWA* has a more narrow focus – sources of water that have been designated by a municipality as being a current or future source of residential municipal drinking water for the community. The *Ontario Water Resources Act, 1990* and the *Environmental Protection*

Act, 1990 and other provincial and federal laws remain the chief vehicles for protecting the quality and quantity of Ontario’s water resources; the *CWA* and the source protection planning process it establishes, provides additional protection to select sources of water.

Prior to the Walkerton tragedy, the Province focused on protecting water resources on the basis of the resources’ ecological and recreational values, not on the basis of the critical public health goal of maintaining secure water supplies for public consumption. The *CWA* puts the goal of public health protection and preserving present and future sources of drinking water front and centre.

The *Clean Water Act, 2006* has a more narrow focus than other rules governing water resources. This legislation is dedicated to sources of water that have been designated by a municipality as being a current or future source of residential municipal drinking water.

1.4 PRIVATE DRINKING WATER SYSTEMS

Maintaining safe and secure private drinking water systems is the responsibility of homeowners, institutions and businesses that own their water systems and are regulated separately under the *Safe Drinking Water Act, 2002* and the *Health Protection and Promotion Act, 1990*. Private drinking water systems can be included in a SPP if a municipality expressly designates a private system, for example, if there is a known concern with a private drinking water source. The Minister of the Environment and

Climate Change also has the authority to designate a private drinking water system for inclusion into a SPP. During this round of source protection planning, the only designated system added in the CTC Source Protection Region is owned and operated by the Region of Durham serving an industrial park in the Township of Uxbridge.