

CTC Source Protection Region 2021 Annual Progress Report

I. Introduction

Source protection plans are created under the *Clean Water Act, 2006*. This annual report summarizes the progress made by December 31, 2021 in implementing the source protection plan for municipal drinking water systems in the Credit Valley, Toronto and Region, and Central Lake Ontario (CTC) Source Protection Region.

Protecting the sources of our drinking water is the first step in a multi-barrier approach to safeguard the quality and quantity of our water supplies. The source protection plan is the culmination of extensive science-based assessment, research, consultation, and collaboration with local stakeholders and the provincial government. When policies in the plan are implemented it ensures that activities carried out near municipal wells and lake-based intakes will not pose significant risk to drinking water supplies.

We acknowledge and recognize the efforts made by municipalities, stakeholders and the CTC Source Protection Committee in the development and implementation of the Source Protection Plan.



II. A message from your local Source Protection Committee

P : Progressing Well/but Short of Target – The majority of the source plan policies have been implemented and/or are progressing; but some fall short of target.

This is the fifth Annual Report on implementation of the CTC Source Protection Plan (Plan) since it took effect on December 31, 2015. All stakeholders responsible for Plan policy implementation reported on their progress in 2021.

Most of the legally binding policies (96%) that address significant drinking water threats are implemented in the CTC Region. All municipalities have established processes to ensure that land use planning decisions conform to the Plan.

At the time the Plan came into effect in 2015, over 10,000 significant drinking water threats were identified in the CTC Region. Since then, field verification has reduced that number to 6,195 significant threats. Only 325 existing significant drinking water threats remain to be addressed, of these 322 are within the Credit River Watershed. Since 95% of significant threats have been addressed, the CTC Source Protection Committee determined that implementation of the Plan is progressing well overall.

However, the Committee expressed concern that fewer than half of the required risk management plans (RMPs) had been established to address significant threats and noted that it is unlikely that all municipalities will achieve the 2023 deadline for completion of RMPs. The COVID-19 pandemic has constrained the ability of municipalities to engage property and business owners and conduct site visits and septic system inspections.

Further, water quality analysis suggests increasing sodium and chloride concentrations in the raw water from most of the municipal wells with identified issues in the drinking water systems for Orangeville and Georgetown.

As a result, the Committee concluded that implementation of the Plan is progressing well, but remains short of target.

The Committee will continue to work with source protection authority and municipal staff to review source protection plan policies requiring RMPs and identify ways to advance RMP completion.

III. Our Watershed

To learn more, please read our assessment report(s) and source protection plan(s).

The CTC Source Protection Region contains over 25 large and small watersheds and spans over 3,800 km² of land, from the Oak Ridges Moraine in the north to Lake Ontario in the south. The region contains portions of the Niagara Escarpment, Oak Ridges Moraine, Greenbelt, Lake Ontario, and the most densely populated area of Canada. The CTC Source Protection Region includes 25 local municipalities and eight single tier, regional or county municipalities, 64 municipal supply wells, and 16 municipal surface water intakes in Lake Ontario. The region is complex and diverse in terms of geology, physiography, population, and development pressures. There are many, often conflicting, water uses including, drinking water supply, recreation, irrigation, agriculture, commercial and industrial uses, and ecosystem needs.

The Credit Valley Source Protection Area is formed by one main watercourse, the Credit River, and a number of smaller Lake Ontario tributaries. Nearly 1500 km of streams and creeks empty into the Credit River including Black Creek, Silver Creek, West Credit River, Shaw's Creek, East Credit River, Fletchers Creek, Caledon Creek, and several others. There are thirteen municipal water systems operating in the source protection area, two are surface water based – accessing Lake Ontario as the source; the remainder are groundwater-based. There are no municipal drinking water sources taking from the Credit River. About 1 million people make the Credit watershed their home.

The Toronto and Region Source Protection Area comprises numerous watersheds, plus their collective Lake Ontario waterfront shorelines, to incorporate portions of six upper-tier and 15 lower-tier municipalities. The nine major watersheds are Carruthers, Duffins, Etobicoke, Highland, Mimico, and Petticoat Creeks, and also the Don, Humber and Rouge Rivers. More than 5 million people live within the source protection area with the population expected to grow significantly in the years to come. There are ten municipal water systems operating in the source protection area, five are surface water based – accessing Lake Ontario as the source; the remainder are groundwater-based.

The Central Lake Ontario Source Protection Area is fully contained within the Regional Municipality of Durham. There are numerous watersheds within its boundaries, with the five major watersheds originating at the Oak Ridges Moraine. These major watersheds are Lynde, Oshawa, Farewell, Bowmanville, and Soper Creeks. There are no municipal wells within the source protection area; all municipal drinking water comes from Lake Ontario. There are three municipal drinking water systems: Whitby, Oshawa, and Bowmanville.

IV. At a Glance: Progress on Source Protection Plan Implementation

1. Source Protection Plan Policies

P : Progressing Well/On Target

There are 129 policies in the CTC Source Protection Plan. The policies address: 21 types of threats prescribed in regulation and 2 types of local drinking water threats, other actions considered necessary to protect drinking water sources, and monitoring of implementation. Some policies are implemented by a single stakeholder, others by multiple stakeholders.

As of the end of 2021, most legally binding policies (96%) that address significant drinking water threats are implemented. Furthermore, about 95% of existing significant drinking water threats have been addressed (i.e., eliminated or managed).

2. Municipal Progress: Addressing Risks on the Ground

P : Progressing Well/On Target

Municipalities in our source protection region are required to review and update their Official Plans to ensure they conform with local source protection plans the next time they undertake an Official Plan review under the *Planning Act*. Municipalities in the CTC Source Protection Region are also amending their Official Plans as required to conform with the Growth Plan for the Greater Golden Horseshoe, 2020. The Growth Plan requires that all upper tier municipalities complete their review by summer 2022 and lower tier municipalities by summer 2023.

As of December 2021, 81% of municipalities within the CTC have completed or are in the process of completing their conformity exercise with the CTC Source Protection Plan.

3. Septic Inspections

S : Satisfactory

Within the CTC Region, 300 septic systems are expected to be inspected every 5 years to satisfy the requirements of the Ontario Building Code. In 2021, 64 inspections were completed, representing 21% of the total inspections required over the 5-year cycle.

Some municipal septic inspection programs were delayed in 2020 and 2021 because of the COVID-19 pandemic. Two hundred and thirty-one inspections (or 77%) remain to be completed by the end of 2022, the final year of the 5-year inspection cycle.

Of the systems inspected in 2021, 95% did not require any maintenance work, while 5% required minor maintenance. None required major maintenance.

4. Risk Management Plans

L : Limited progress (COVID-19 pandemic limited progress in 2021)

The CTC Source Protection Plan contains policies that require the development of Risk Management Plans (RMPs) to manage some drinking water threats.

Screening processes are in place at municipalities to ensure applications for future development are reviewed appropriately for potential threat activities and source protection policy application.

Overall, 150 RMPs are in place within the CTC. Eleven of these RMPs were established in 2021, with an additional 29 RMPs in the process of being completed as of the end of the year. As was the case in 2020, progress on RMPs was affected by pandemic related restrictions and challenges.

An estimated 205 RMPs remain to be negotiated to address existing significant threats, with 198 of these required to be in place by the end of 2023. As building relationships and negotiating RMPs with business and property owners is a time-consuming process, it is unlikely that all municipalities in the CTC Region will achieve the 2023 deadline for completion of RMPs.

There were 113 inspections carried out in 2021 by a Risk Management Inspector for prohibited or regulated activities; the most inspections completed in any year to date. There was 100% compliance with RMPs and prohibited activities that were inspected.

5. Provincial Progress: Addressing Risks on the Ground

P : Progressing Well/On Target

Ontario ministries review applications for new or amended provincial approvals (i.e., prescribed instruments, such as environmental compliance approvals under the *Environmental Protection Act*) where they have been identified as a tool in our plan to address activities that pose a significant risk to sources of drinking water. The Province has established Standard Operating Policies to ensure that approvals take into account the science generated through the Drinking Water Source Protection Program and policies in the plan. Where necessary, conditions are added to approvals to ensure that the activity does not pose a significant threat to sources of drinking water. The Ministries have reported 100% completion of previously issued provincial approvals in our source protection region.

Provincial ministries also consider source protection vulnerability when prioritizing sites for planned or proactive inspections. Ministry staff continue to receive training on the source protection program, their annual reporting requirements, and recent amendments to the Director's Technical Rules.

6. Source Protection Awareness and Change in Behaviour

Municipalities, conservation authorities and other implementing bodies within the CTC Source Protection Region work with landowners and business owners to help safeguard our sources of drinking water. All municipalities across the CTC have established education and outreach programs, which contribute to enhancing awareness of source water protection. Examples of 2021 efforts to build awareness include:

- Wellington County collaborated with a neighbouring municipality on a virtual Children's Water Festival in May, that drew participation from 178 schools.
- Peel Region and Credit Valley Conservation are using their Rural Water Quality Program to support implementation of agricultural Risk Management Plans.
- The City of Pickering produced two videos in 2021 about water resources protection as part of its Litter and Plastics Challenge: Every Piece Counts campaign.
- Peel Region supported landowners in the decommissioning of 35 unused private wells through their Private Well Abandonment Program in 2021, eliminating potential transport pathways for contaminants to reach aquifers.
- Peel Region initiated a Pilot Program for use of winter maintenance best management practices at the Region's municipal wells.
- York Region supplied spill kits to businesses in source protection vulnerable areas
- The Lake Ontario Collaborative Group partners (Peel, Toronto, Durham) continued to develop the Lake Ontario Hydrodynamic and Water Quality Forecasting System, including the addition of new monitoring stations and modelling solutions, as well as updating spills notification protocols.

7. Source Protection Plan Policies: Summary of Delays

The development of a Joint Municipal Water Supply Management Model (policy DEM-6) for several area municipalities within Dufferin County is nearing completion as 3 of 4 municipal councils passed resolutions to execute the agreement.

Provincewide, all Source Protection Plans were required to include policies to address significant drinking water threats. The CTC Source Protection Committee chose to also include policies to address moderate and low drinking water threats. These moderate and low drinking water threat policies relate to the application of road salt, the handling and storage of certain chemicals and provision of education and outreach materials. Since the implementation of these moderate and low threat policies (SAL-10, SAL-12, SAL-13, DNAP -3, OS -3, GEN-8) is non-legally binding, their implementation status varies across the source protection region.

8. Source Water Quality: Monitoring and Actions

Fourteen drinking water issues have been identified at wells in four drinking water systems in our Source Protection Region. For these drinking water systems, the Source Protection Plan requires that the municipality establish more frequent raw water quality monitoring to help further characterize concentrations and trends. All municipalities have monitoring and treatment systems in place to ensure that municipal drinking water meets the requirements under the *Safe Drinking Water Act, 2002*.

In the Orangeville Drinking Water System, five wells have been identified with chloride issues and three wells with sodium issues. While chloride concentrations in two of the wells continue to rise, levels in three of the wells appear to have stabilized over the last few years. Sodium concentrations in most of the affected wells are increasing.

In the Acton Drinking Water System, two wells have been identified with nitrate issues. Nitrate concentrations appear to be stable or increasing slightly.

In the Georgetown Drinking Water System, three wells have been identified with chloride issues and concentrations are increasing.

A pathogen issue was previously identified at 1 well in the Inglewood Drinking Water System. This well was decommissioned in 2021 and is no longer used as a source of drinking water.

Over time, monitoring will help determine if implementation of Plan polices and other actions are improving the raw water quality for these systems.

9. Science-based Assessment Reports: Work Plans

The Source Protection Committee is guiding a multi-year comprehensive review and update of the CTC Source Protection Plan and Assessment Reports under s.36 of the *Clean Water Act, 2006*.

10. More from the Watershed

To learn more about our source protection region, visit our website at <https://ctcswp.ca/>