

Source Protection Annual Progress Report 2024

I. Introduction

Source protection plans are created under the *Clean Water Act, 2006*. This annual report summarizes the progress made by December 31, 2024 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

This is the eighth 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 2024.

Eighty-nine% of the legally binding policies 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 6,079 significant threats. There are 175 significant drinking water threats that remain to be addressed, almost all of these within the Credit River Watershed. Furthermore, 98% of existing significant drinking water threats have been addressed through policy implementation or removed through threats verification.

Approximately 73% of the required risk management plans (RMPs) have been established to address significant threats. Three municipalities (Halton Region, Town of Erin, Town of Orangeville) with outstanding risk management plans made good progress on RMP establishment in 2024, but will need continued strong efforts to achieve the 2025 deadline for completion of RMPs to address existing significant threats.

In 2024, 27 mandatory septic system inspections were completed. Two municipalities (Town of Whitchurch-Stouffville, City of Vaughan) collectively identified 29 overdue septic inspections as of the conclusion of 2024, and are taking steps to have those systems come into compliance.

Sodium and chloride concentrations in the raw water from municipal wells with identified issues in the drinking water systems for Orangeville and Georgetown continued to show increases in 2024. The CTC Region continued its collaboration with municipalities and the Oak Ridges Moraine Groundwater Program on how to improve reporting of rising sodium and chloride concentrations across the CTC.

As a result, the Committee concluded that implementation of the Plan has....

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, 66 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 that draw 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

Grade:

There are 129 policies in the CTC Source Protection Plan. The policies address: 22 types of threats prescribed in regulation and 1 type of local drinking water threat; other actions considered necessary to protect drinking water sources; and implementation monitoring. Some policies are implemented by a single stakeholder, others by multiple stakeholders.

As of the end of 2024, 89% of legally binding policies and 91% of non-legally binding policies that address significant drinking water threats have been implemented, and the rest are in progress, or have been considered and did not require further action. Fifty-eight percent of policies addressing moderate and low threats have been implemented and the rest are in progress. Furthermore, approximately 98% of existing significant drinking water threats have been addressed (i.e., eliminated or managed).

2. Municipal Progress: Addressing Risks on the Ground

Grade:

It is a requirement that municipalities ensure their Official Plan (OP), and where appropriate Zoning by-law, conforms with the CTC Source Protection Plan. As of December 31, 2024, 97% of municipalities in CTC Source Protection Region have completed or are in the process of completing their OP conformity exercise. With regards to Zoning By-laws, 74% of municipalities have completed or are in the process of completing their conformity exercise.

3. Septic Inspections

Grade:

Within the CTC Region, 279 septic systems are expected to be inspected every 5 years to satisfy the requirements of the Ontario Building Code.

In 2024, 27 inspections were completed, representing 10% of the total inspections required over the 5-year cycle. Of the systems inspected in 2024, 78% did not require any maintenance work, while 11% required minor maintenance. Eleven percent required major maintenance.

Two municipalities identified 29 overdue septic inspections as of the conclusion of 2024, and are taking steps for those systems to come into compliance.

4. Risk Management Plans

Grade:

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, 206 RMPs are in place within the CTC. Twenty-seven of these RMPs were successfully established in 2024. An additional 58 RMPs are in the process of being negotiated as of the end of the 2024.

There remain 78 RMPs to be negotiated to address significant threats, with 60 of these required in Halton Region, and the Towns of Orangeville and Erin and having a 2025 deadline for completion. Strong efforts by these three municipalities are required to achieve their end of 2025 deadline for completion of RMPs to address existing significant threats.

There were 160 inspections carried out in 2024 by Risk Management Inspectors for prohibited or regulated activities. There was 100% compliance with RMPs and prohibited activities that were inspected.

5. Provincial Progress: Addressing Risks on the Ground

Grade:

Ontario ministries review applications for new or amended provincial approvals (i.e., Prescribed Instruments, such as Environmental Compliance Approvals (ECAs) 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. Where necessary, conditions are added to approvals to ensure that the activity does not pose a significant threat to sources of drinking water.

In 2024, ministries reported conducting detailed review of ten new applications within CTC: two Fuel Handling/Storage, three Permits To Take Water, three Wastewater/Sewage Works and two Aggregate Licences. Three Permits To Take Water and two Wastewater/Sewage Works were determined to be significant drinking water threats and had conditions included within the instrument to manage the threat. CTC Source Protection Authority staff have reviewed these instruments and have not found specific CTC Source Protection Plan related conditions.

In 2024, one existing aggregate licence was determined to have an existing significant threat associated with it in the CTC. MNR staff are working with CVSPA staff and the Licensee to ensure that this Aggregate License is in compliance with source protection policy requirements.

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 and their annual reporting requirements.

Additional annual reporting detail being provided by the Province would allow SPA staff to better determine whether Prescribed Instrument policies are being implemented as intended by the CTC Source Protection Plan.

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. Municipalities across the CTC have established education and outreach programs, which contribute to enhancing awareness of source water protection. Examples of 2024 efforts to build awareness include:

- Source water protection social media posts on Facebook reached 1,600 followers for the Township of Amaranth page.
- The Town of Orangeville advanced a number of water conservation initiatives in 2024, including: an incentivized rain barrel program that sold 158 rain barrels; toilet and water softener rebate programs that offer residential incentives to replace older inefficient models; a water meter upgrade program; and a new water conservation by-law
- Wellington County was a co-sponsor for the Waterloo-Wellington Children's Groundwater Festival where over 6000 students and teachers registered for the 6-day event.
- York Region is continuing its sodium and chloride research and mitigation pilot project in Stouffville.
- The Lake Ontario Collaborative Group (Peel/Toronto/Durham) developed an intermunicipal notification procedure to define the municipality responsible for gathering information, running the model, and providing updates to neighbouring municipalities during a spill event.
- SPA staff have been continuing to work with municipal partners on a multi-phase water quality assessment project, including collaboration with the Oak Ridges Moraine Groundwater Program to develop a publicly available automated water quality status and trend analysis tool.

7. Source Protection Plan Policies: Summary of Delays

A number of policies associated with meeting a 2025 deadline for implementation of outstanding Risk Management Plans to address existing threats, remain in progress for three municipalities.

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-12, SAL-13, DNAP-3, OS-3) are non-legally binding, their implementation status varies across the CTC Source Protection Region.

Official Plan and By-Law Zoning updates to conform with the CTC Source Protection Plan continue to be undertaken as these documents are updated.

8. Source Water Quality: Monitoring and Actions

Thirteen drinking water issues exist at municipal production wells in three drinking water systems in our Source Protection Region. The Source Protection Plan requires that these municipalities establish more frequent sampling of raw groundwater at these wells to help further characterize concentrations and trends.

Analysis of current Issues are based on the Oak Ridges Moraine Groundwater Program automated water quality status and trend analysis reporting tool and approved issue identification criterion (<https://www.ctcswp.ca/source-protection-plan/the-ctc-source-protection-plan/water-quality-trend-analysis>).

In the Orangeville Drinking Water System (DWS), five wells have an existing chloride Issue (6, 9A, 9B, 10, and 11) and three wells have a sodium Issue (6, 9A, and 9B). Each of the wells with a chloride Issue showed an increasing trend in concentrations for the current monitoring period. Each of the wells with a sodium Issue showed an increasing trend in concentration for the current monitoring period.

In the Acton DWS, two wells (Davidson 1 and 2) have an existing nitrate Issue. Statistical analysis suggests seasonal variability in nitrate concentrations, however a stable and/ or decreasing trend is displayed for the current monitoring period.

In the Georgetown DWS, three wells have an existing chloride Issue (Cedarvale 1A, 4 and 4A). Each of the wells with a chloride Issue showed an increasing trend in concentrations for the current monitoring period.

Over time, appropriate monitoring will help determine if implementation of Plan policies and other actions are improving the raw water quality for these and other municipal water sources. All municipalities have monitoring and treatment systems in place to ensure that municipal drinking water meets the requirements of the *Safe Drinking Water Act, 2002*. Further assessment to improve water quality trend analysis across the CTC Region will continue in 2025.

9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for our assessment report(s).

Review of the 2021 Technical Rules is ongoing and 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*.

In 2024, the CTC continued work on updated water quality trend analysis and issues identification methods.

10. More from the Watershed

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