CTC Source Protection Region 2020 Annual Progress Report | 05/01/2021

I. Introduction

This annual progress report outlines the progress made in implementing our source protection plan for the Credit Valley, Toronto and Region, and Central Lake Ontario (CTC) Source Protection Areas, as required by the *Clean Water Act, 2006* and regulations, for the 2020 calendar year. Together, these source protection areas form the CTC Source Protection Region, as shown in the image below.

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 Province. 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.

II. A message from your local Source Protection Committee

- ● **P : Progressing Well/Short of Target – The majority of the protection plan policies have been implemented and/or are progressing well, but remains short of target in achieving the plan's objectives.**
- ○ S : Satisfactory – Some of the source protection plan policies have been implemented and/or are progressing.
- ○ L : Limited progress – A few of the source protection plan policies have been implemented and/or are progressing.

This is the fourth Annual Report on implementation of the Drinking Water Source Protection Program in the CTC Source Protection Region since the CTC Source Protection Plan (the Plan) took effect on December 31, 2015. All stakeholders responsible for implementation of policies in the Plan reported on their progress during the previous calendar year.

At the time the Plan was made effective in 2015, 10,583 significant drinking water threats were identified in the CTC Region. Since then, field verification has reduced that number to 6,077 significant threats. At the end of the current reporting period, only 362 (about 6%) significant threats remain to be addressed.

Further, 96% of legally-binding policies to address significant drinking water threats have been implemented and all municipalities in the CTC Region have established processes to ensure that land use planning decisions conform to the Plan. As a result, the CTC Source Protection Committee (Committee) determined that implementation of the Plan is progressing well overall.

However, the Committee expressed concern regarding the limited progress made in 2020 in negotiating risk management plans and inspecting septic systems. The COVID-19 pandemic constrained the ability of municipal staff to engage property and business owners and conduct site visits and inspections. With continued pandemic impacts, substantive effort will be required to complete an estimated 205 RMPs by the December 31, 2023 deadline.

Under the Plan, municipalities monitor and report on raw water quality from wells in vulnerable areas with known drinking water issues. The Committee also expressed concern regarding the results of monitoring conducted in 2020 that suggested increasing sodium and chloride concentrations or trends for some of the municipal wells with identified issues within the CTC Region.

For these reasons, the Committee concluded that progress in achieving the Plan's objectives falls short of target.

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 km^2 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 taking from the Credit River.

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 3.5 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. These are intended to address: 21 prescribed and 2 local types of 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 2020, most legally binding policies (96%) that address significant drinking water threats are implemented. Furthermore, approximately 94% of existing significant drinking water threats on the landscape 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 the 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 2020, 75% 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

L - Limited progress (COVID-19 pandemic limited progress in 2020)

Within the CTC Source Protection Region, there are 368 septic system inspections that are to be completed every five years to satisfy the requirements of the Mandatory Septic System Inspection Protocol. The first round of inspections was completed in 2017. The second round of mandatory inspections is required to be completed for most of these systems by 2022.

Due to the COVID-19 pandemic, municipal sewage inspection programs were put on hold or delayed in 2020; with only 1 septic system inspected. The inspection of this system confirmed it was functioning as designed and did not require maintenance.

4. Risk Management Plans

L - Limited progress (COVID-19 pandemic limited progress in 2020)

The COVID-19 pandemic significantly impacted the ability of Risk Management Officials to negotiate and establish RMPs throughout much of this reporting year. Pandemic related challenges included: field work constraints due to health and safety considerations requiring development of alternative processes, provincial lockdowns/restrictions coinciding with property and business owner availability, the increased burden to business owners, and the impact to staff recruitment affecting municipal capacity.

In 2020, 14 Risk Management Plans (RMPs) were established in the CTC, with an additional 43 Risk Management Plans in the process of being completed as of the end of the year. Overall, 118 Risk Management Plans are in place within the CTC Source Protection Region. A further 205 Risk Management Plans are required to be completed by the Dec. 31, 2023 deadline. The pandemic is expected to continue to affect risk management activities into 2021.

There were 101 inspections carried out in 2020 by a Risk Management Inspector for prohibited or regulated activities; the most inspections completed in any year to date. There was 100% compliance for Risk Management Plans 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 Source Protection 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 Source Protection Plan. Where necessary, conditions are added to provincial approvals to ensure that an activity does not pose a significant threat to sources of drinking water.

By December 2018, the province had completed their review of all previously issued approvals where the activity could have resulted in a significant threat within the CTC. Through 2020, provincial ministries continue to review applications for new or amended approvals for conformity with the CTC Source Protection Plan.

6. Source Protection Awareness and Change in Behaviour

Municipalities and conservation authorities 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.

In 2020, the pandemic limited some approaches to spreading source protection awareness, however 2020 efforts included:

- Orangeville added 5 new drinking water protection zone road signs and continued education and outreach efforts to: raise awareness of source protection; promote salt use best management practices; and notify residents and property owners about sodium and chloride impacted drinking water sources.
- Municipal staff working on the Waterloo-Wellington Children's Water Festival pivoted to assisting in the development of a series of grade-specific online educational videos that showcase the importance of water through curriculum related activities.
- A financial incentive program was established by a municipality to encourage homeowners to purchase efficient water softeners to reduce salt use.
- Education and outreach materials encouraging adoption of low impact development (LID) practices were developed and distributed throughout a municipality.

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 remains in progress and is anticipated in 2021.

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 execution varies across the source protection region.

8. Source Water Quality: Monitoring and Actions

Fourteen drinking water issues have been identified at 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 water quality concentrations and trends.

Monitoring will help determine if implementation of Plan polices is improving the raw water quality for these systems, however further data is still needed. On the ground actions, education and monitoring efforts are continuing to try to improve these raw water quality trends.

An assessment of the 2020 status of the identified water quality issues is provided below:

Orangeville Drinking Water System (5 municipal wells)

- Sodium: Well 6 - A decreasing trend/concentration has been observed.
- Sodium: Wells 9A, 9B - An increasing trend/concentration has been observed.
- Chloride: Well 6 - A decreasing trend/concentration has been observed.
- Chloride: Wells 9A, 9B, 10, 11 - An increasing trend/concentration has been observed.

Acton Drinking Water System (2 municipal wells)

- Nitrates: Davidson Wells 1 and 2 - No change in trend/concentration.

Georgetown Drinking Water System (3 municipal wells)

- Chloride: Cedarvale Wells 1, 4, and 4A - No change in trend/concentration.

Inglewood Drinking Water System (1 municipal well)

- Pathogens: Well 2 - This well was disconnected in 2020 and is planned for decommissioning in 2021; therefore the municipality has discontinued monitoring this issue there.

9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for our assessment reports.

10. More from the Watershed

Despite the impacts of the pandemic in 2020, implementation of policies to protect drinking water sources across the CTC resulted in several other noteworthy accomplishments, including the following:

- The Lake Ontario Collaborative Group's (Policy LO-G-3) Lake Ontario Water Quality Forecasting System provides Water Treatment Plant operators with better understanding of lake currents in the event of a significant spill.
- Orangeville adopted a Water Conservation Plan (Policy DEM-4); committing them to water conservation initiatives to help reduce water use.
- Wellington County updated their Emergency Response Procedures to reference source water protection mapping and notification procedure to involve the Risk Management Official if needed.
- In Erin, a Drinking Water Threat Disclosure Report was developed for municipal wellhead protection areas where significant drinking water threats are possible; resulting in useful report submissions.
- Across the CTC, remote or virtual work procedures were developed to support risk management policy implementation.

For more information about source protection implementation in the CTC Source Protection Region, please see our story map, which is available on our website: https://ctcswp.ca/