DRINKING WATER SOURCE PROTECTION
Our Actions Matter

Halton-Hamilton Source Protection Region

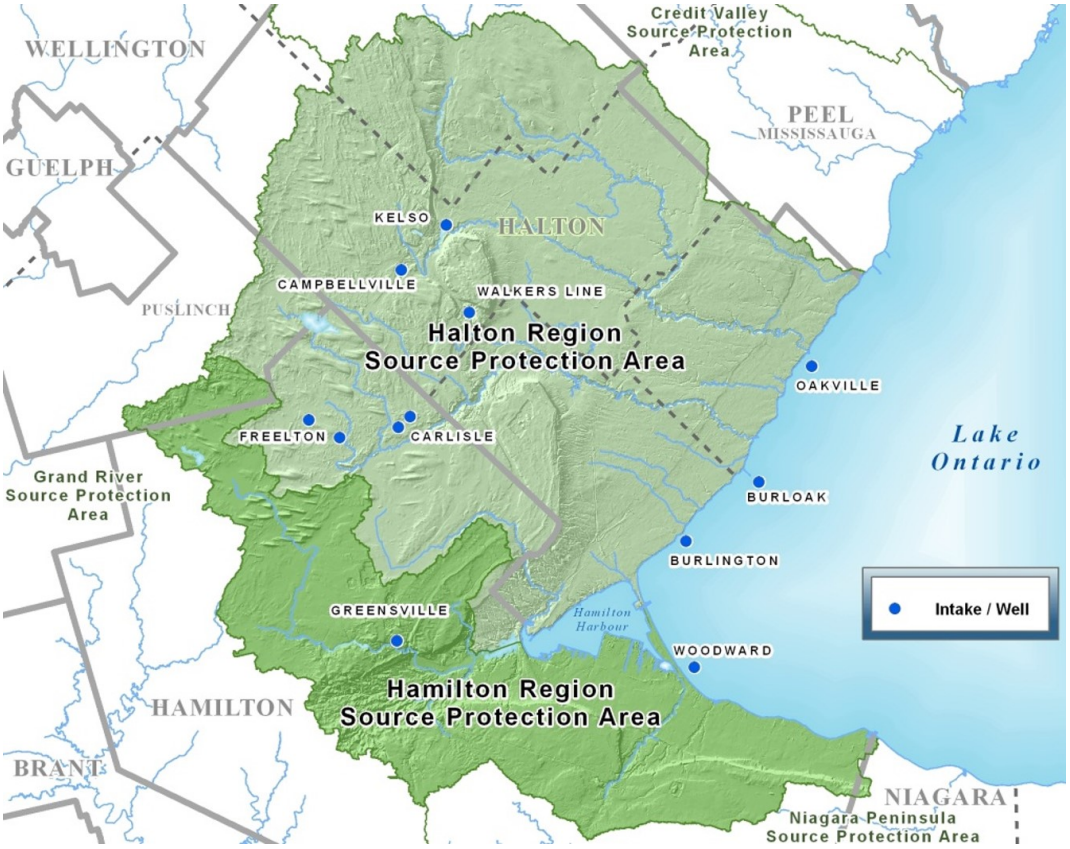
# Source Protection Annual Progress Report

## I. Introduction

This annual progress report briefly summarizes the progress made in implementing the source protection plans for the Halton Region and Hamilton Region Source Protection Areas, as required by the Clean Water Act, 2006 and its regulations. It highlights actions taken to protect the quality of the sources of our drinking water and to sustain them into the future.

The source protection plan is the culmination of extensive science-based assessments, consultation with the community, and collaboration with local stakeholders and the province. The implementation of the policies it contains ensures that activities carried out in the vicinity of municipal wells and lake-based water intakes will not pose significant risk to the water sources.

Thanks to the efforts of those responsible for implementing the policies, most of the policies have been implemented and many significant threat activities have been managed.




For more information about the drinking water source protection program in the Halton-Hamilton Source Protection Region, please visit our website at www.protectingwater.ca

# II. A message from your local Source Protection Committee

- ● **P : Progressing Well/On Target – The majority of the source protection plan policies have been implemented and/or are progressing.**
- ○ 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 prepared on implementation of the source protection plan for the Halton-Hamilton source protection region covering the period from December 31, 2015 to December 31, 2020, and summarizes its progress in the year 2020.

There are 98 Halton-Hamilton Source Protection Plan policies to address the 202 actual significant drinking water threats that have been identified as of December 31, 2020. Multiple bodies consisting of the municipalities within the source protection region as well as various provincial ministries and other agencies and stakeholders are responsible for their implementation.

In March 2020, a global pandemic was declared by the World Health Organization due to the unprecedented and life-threatening COVID-19 (coronavirus) disease. The pandemic caused major changes across all aspects of life. Ontario declared a state of emergency. Municipalities and other policy implementers adapted to the situation ensuring the safety of watershed residents and staff, while making progress in policy implementation towards the protection of municipal drinking water sources.

Approximately 88% of the significant drinking water threats have been addressed which has increased from 80% for 2019. As well, 100% of the policies are considered to be implemented, in progress or require no further action.

Based on the review of the annual progress reporting by the bodies implementing the plan, the Halton-Hamilton Source Protection Committee is pleased to see that 100% of the policies associated with the plan are effectively addressing significant drinking water threats and achieving the objectives of the Clean Water Act and that a ranking score of progressing well and on target is a fair assessment on its progress. The Committee mourned the loss of one of its original members, Glenn Powell, in fall 2020.

# III. Our Watershed

The Halton-Hamilton Source Protection Region is located at the western end of Lake Ontario and includes portions of the municipalities of the Cities of Hamilton, Burlington and Mississauga, the Regions of Halton, Peel and Niagara, the Towns of Milton, Halton Hills, Oakville and Grimsby, the County of Wellington and the Township of Puslinch. The region covers an area of 1,417 sq km of land and 720 sq km of Great Lakes waters.

Approximately 970,000 people make the source protection region their home and the region is expected to grow substantially over the next decades. The landscape is changing due to this growth and the source protection plan is in place to help guide this growth in a way that protects our vulnerable drinking water sources.

The Regional Municipality of Halton and the City of Hamilton own and operate municipal water systems within the source protection region. These systems include six intakes in Lake Ontario (Woodward (2), Burlington (2), Burloak and Oakville), three municipal well systems in Hamilton (Carlisle, Freelton and Greensville) and three municipal well systems in Halton Region (Kelso, Campbellville and Walkers Line). In addition, some homes and businesses within the source protection region are supplied water from municipal drinking water systems located in neighbouring areas. In total, these municipal water systems supply about 95 percent of the population within the source protection region with reliable, clean drinking water. About 92 percent of the population receive water from Lake Ontario and 3 percent receive groundwater. Outside the urban area, private wells and cisterns are relied on by the remaining 5 percent of the population. Private well systems and the natural environment use the same sources of water that, under the current program, the government seeks to protect for municipal supplies. In this way, maintaining a sustainable supply of clean water within the aquifers of Halton-Hamilton Source Protection Region and in Lake Ontario will benefit all residents and business operators.

Studies completed over the past few years have assessed the vulnerabilities and risks to the quality and quantity of the waters that supply the municipal wells and intakes from activities occurring on lands and in waters in their vicinity. Protection areas have been mapped and a plan developed to manage or prohibit certain activities within these areas. Follow-up assessments were completed for the Kelso, Campbellville and Greensville municipal well supplies when new data and more advanced modelling tools became available. All municipal wells have protection areas for threats to water quality, while only those where it was determined that the sustainability of the water source may be in question have protection areas for threats to water quantity. The municipal intakes in Lake Ontario also have protection zones for threats to water quality.

The source protection plan contains policies that require or request action from provincial ministries, federal departments, municipalities, conservation authorities, landowners, and stakeholders. This report summarizes actions taken in 2020 with tracking of implementation between December 31, 2015, when the plan took effect, and December 31, 2020.

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

## 1. Source Protection Plan Policies

The Halton-Hamilton Source Protection Committee included policies in their source protection plan to address prescribed threats, a local threat, actions thought to be necessary to protect sources of drinking water, and the monitoring of policy implementation. All monitoring policies are being followed and are no longer tracked for policy implementation. 100% of the 60 legally binding policies, the 20 policies that are non-legally binding but address significant threat activities, and the 18 general strategic policies are implemented, are in process, or have been considered and did not require further action.

Policies are in place to manage or prohibit activities that may be proposed to occur within vulnerable areas that could pose a risk to the quality or quantity of sources of drinking water, and for activities that are currently ongoing. Some of each policy type (binding, non-binding, strategic) are yet to be fully implemented but 88% of the existing significant threats have been managed.

Based on a continued advancement of source protection plan implementation in 2020, the progress score given for overall plan implementation status is P: Progressing well.

# 2. Municipal Progress: Addressing Risks on the Ground

There are 12 municipalities within the Halton-Hamilton Source Protection Region but policies are directed at eight to address significant, moderate and low threat activities outlined in the source protection plan. These policies primarily require municipalities to update planning documents, update education and outreach programs or initiate new ones to include source protection messaging, consider the offering of incentives to have work required to protect water sources completed in a timely manner, to update spill response and salt management plans, to reduce water consumption to sustain supplies and to ultimately ensure all municipal decisions and actions protect drinking water sources.

Implementation of the source protection plan policies by the municipalities has progressed safely in 2020, in the face of the COVID-19 global pandemic. All policies targeting significant threat activities are in progress or implemented. Risk management plans are required to be established by December 31, 2021, based on a one-year extension granted by the province of Ontario upon request by the the Halton-Hamilton Source Protection Region in fall 2020. Halton Region, the City of Hamilton and the Township of Puslinch are working on these.

Official plan conformity exercises have been completed by the City of Hamilton, County of Wellington and the Township of Puslinch. Halton Region, and the Towns of Milton and Oakville, have begun their conformity exercises while Halton Hills as not yet started. The recently approved Burlington Official Plan, 2020, contains policies that recognize the Source Protection Plan, and various parts of the Official Plan are under appeal.

The source protection plan also includes general strategic policies that all 12 municipalities are requested to implement to protect the quality and/or quantity of source water. Actions are requested to limit the flow of contaminants through transport pathways, to collect climate data to better inform studies and assess changes, to educate the public about the potential issues with the importation of fill, to update spill prevention and emergency response plans, and reach out to those that transport dangerous goods near wells and intakes. Although voluntary, most municipalities are working on or have implemented these policies.

The municipalities have made great progress in 2020 toward implementing all their policies and are given a progress score of P: Progressing well.

# 3. Septic Inspections

The Ontario Building Code requires that small sewage systems be re-inspected every five years through a mandatory minimal program or a discretionary more advanced program. The City of Hamilton and the Town of Milton established inspection programs in 2016 and owners of properties within the wellhead protection areas where sewage systems could be a significant threat received letters to have third party contractors complete the inspection and to submit the required certificate to the municipality following completion of any required works.

The Greensville well system was expanded in 2019 and the protection area was re-delineated. The total number of properties within the Kelso, Campbellville, Carlisle, Freelton and Greensville areas, now included in the sewage reinspection program is 126, after field verification has removed one. Of these, 110 (87%) have been inspected. Only 2 needed major repairs, while 74 needed minor repairs. The inspection program included outreach materials about proper care and use of septic systems that also satisfied the requirements of an education and outreach policy.

A progress score of P: Progressing well is given to the municipal sewage re-inspection programs.

# 4. Risk Management Plans

Screening processes are in place within the planning and building departments of the municipalities to ensure applications for future development are reviewed appropriately for potential threat activities and source protection policy application. Applicants with properties where significant threats are possible must receive a notification from the risk management official that no plan policies apply and the planning and permitting processes may proceed. A total of 10 notices were issued in 2020 by the City of Hamilton (6), Halton Region (3) and the Township of Puslinch (1).

Risk management officials and inspectors continued to safely verify and inspect threat activities occurring in the region in 2020, following physical distancing and other safety measures put into place in Ontario due to the COVID-19 pandemic. One significant threat activity of the handling and storage of dense non aqueous phase liquids (DNAPL) was added. While the pandemic posed challenges in interacting with landowners for several months in 2020, the establishment of risk management plans is well underway due to the efforts of municipal risk management officials. One risk management plan was negotiated and established by Halton Region. The remaining few risk management plans must be in place by December 31, 2021.

Based on the progress made in 2019, the progress score given for the development of risk management plans is P: Progressing well.

# 5. Provincial Progress: Addressing Risks on the Ground

Provincial ministries, including MECP, MNRF, MMAH, MTO and OMAFRA, are responsible for the implementation of source protection policies included in the Halton-Hamilton Source Protection Plan that use prescribed instruments to reduce the risk of significant threat activities or to inform decision makers, collect and share data and lessons learned with others, or provide incentives to advance policy implementation.

The MECP performed general agricultural inspections for two activities in the Halton Region source protection area in the fiscal year 2019-20. They deemed both activities to not pose a threat to municipal drinking water sources. A general agriculture inspection could include an assessment of multiple activities and components linked to the management of agricultural source material and non-agricultural source material.

For instruments not approved by OMAFRA, the approvals process is revised to delegate the letter of conformity preparation to a certified person. Further, OMAFRA has revised the training of certified nutrient management planners to include source water protection. Guidance has been developed for Risk Management Officials, farmers and certified individuals that prepare Nutrient Management Plans to use to help determine if a prescribed instrument conforms to the significant drinking water threat policies. They are available at https://www.nutrientmanagement.ca/resources/source-water-protection/. Some training was also delivered by OMAFRA to certified preparers on requirements and responsibilities of incorporating source water protection into prescribed instruments (nutrient management plans included).

Relevant provincial ministry staff continue to be trained or have their training refreshed on the source protection program, recent amendments to the Technical Rules, and annual reporting requirements. The Provincial Government has made the responsibilities of the source protection authorities under the Clean Water Act mandatory services and this has raised awareness and ensured that source protection planning is incorporated into government business.

Provincial ministries are given a progress score of P: Progressing well.

# 6. Source Protection Awareness and Change in Behaviour

Town of Halton Hills has started working with Halton Region staff on implementing salt management plans on Town-owned properties. This is an ongoing process.

Halton Region successfully established a Risk Management Plan with Suncor Energy for the handling and storage of fuel at both the active terminal site and off-loading dock in Lake Ontario.
Two road signs were installed by the 401 highway in the Kelso wellhead protection area.

Town of Milton has developed a work program for implementation of SPP into new Official Plan.

Due to the provincial Emergency, some activities/events were modified to a digital/online version. The City of Hamilton participates actively in promoting Education and Outreach programs with a Source Water Protection component: e.g.: Children's Water Festival; World Toilet Day; World Water Day. The City partners with CAs to provide financial assistance to residents to decommission wells; disposal of hazardous materials, etc. The City declared a Climate Change Emergency. Council approved a plan to reduce GHGs and increase resilience of municipal infrastructure and the community. Emergency response exercise done to respond to spill scenario near municipal intake.

County of Wellington conducted education and outreach efforts. A virtual training session was run for municipal staff. Four newspaper ads were run on water conservation, road salt and changes to the SPPs. Staff attended 4 public meetings on SPP updates and Centre Wellington Tier 3 Community Liaison Group. Development reviews and limited inspections included educational material for proponents on threats, process and mapping. Maintained, updated website www.wellingtonwater.ca, 10 fact sheets posted etc. Social media posted or re-shared. The Waterloo-Wellington Children's Groundwater Festival in-person event was cancelled, but staff pivoted to online videos about activity centres (www.wwcgf.com). During the Official Plan amendment (OPA), it was decided to require a Drinking Water Threat Disclosure Report in municipal wellhead protection areas where significant threats may be present. This was in response to Halton-Hamilton SPR policies and due to existing OP policies since 2008. Since adoption of the OPA 98, there have been numerous submissions related to this requirement.

# 7. Source Protection Plan Policies: Summary of Delays

In 2020 Halton-Hamilton region achieved the milestone of 100% of the source protection plan policies that directly address significant drinking water threats as either implemented, in progress or considered and further actions are not required. In 2021, we expect to move closer to full implementation with the deadline for negotiated risk management plans approaching (December 31, 2021).

The general, strategic policies in the source protection plan are also 100% implemented, in progress or considered and further actions are not required. Through the Section 36 comprehensive updates to the source protection plan in 2021, discussions with policy implementers are underway to streamline non legally binding strategic policies, and options will be discussed by the Halton-Hamilton source protection committee.

# 8. Source Water Quality: Monitoring and Actions

The Cedarvale well field is located in Georgetown, part of Halton Hills, and its protection areas for quality and quantity extend slightly into the Halton Region Source Protection Area. Well numbers 1A, 4 and 4A in this well field have rising trends in chloride concentrations and an issue contributing area has been delineated. The CTC Source Protection Committee identified the need for chloride management measures and the Halton-Hamilton Source Protection Committee included policies in their plan to manage or prohibit the storage and application of road salt and the storage of snow.

Halton Region reported that the chloride concentration trends at the wells have not changed since reporting began in 2016. However, it is acknowledged that it will take time for the benefits of the implementation of associated policies to be realized.

Halton Region also identified elevated or rising chloride concentrations in the source water of the Campbellville well field. To better understand the sources of the chlorides, Halton Region constructed six groundwater monitoring wells in the Campbellville area in 2019. These wells will be integrated into Halton Region's existing groundwater monitoring program and further assessment of water quality issues will be completed once data are collected and analyzed.

# 9. Science-based Assessment Reports: Work Plans

A work plan to undertake a comprehensive review and update of the source protection plan and assessment reports directed technical work in 2020. A copy of the work plan is available at www.protectingwater.ca.

# 10. More from the Watershed

The Halton-Hamilton Source Protection Plan includes policies that are strategic in nature and implementers are requested, rather than required, to implement them. The response to these policies has been good and the drinking water sources of the source protection region are better protected because of their implementation. Local municipalities report that relationship building with private companies is ongoing, as is training of staff and discussions on incorporating source protection principals into winter maintenance plans, spill response plans, and official plan updates.

Furthermore, local municipalities have recognized the importance of the protection of the quality and quantity of water sources through integration with other initiatives. Well decommissioning programs are offered to reduce pathways for contaminants to reach the aquifers from which drinking water is taken. Children's water/groundwater festivals help inform families of the need to protect water and how to do it. Municipal capital projects such as the Woodward Avenue Wastewater Treatment Plant upgrade in Hamilton, the remedial action plan activities in Hamilton Harbour, cross-connection and downspout disconnection programs in many municipalities, manhole and sewer lining to prevent sewage leakage in Peel Region, and the installation of oil/grit separator chambers in existing storm sewer systems to improve the quality of the water discharging to Lake Ontario from Oakville will all produce positive outcomes for the protection of drinking water sources.

The MTO continues to manage the use of road salt on highways by ensuring that contractors are trained and conform to the Salt Management Plan which includes best available winter maintenance practices with consideration to local environmental protection including drinking water sources. Best practices include pre-wetted/pre-treated road salt and direct liquid application, electronic spreader controls, and the Road and Weather Information Stations for monitoring and forecasting winter weather and highway conditions. The MECP spill response and notification procedures have been updated to consider source protection vulnerable areas. If a spill has the potential to impact a water treatment plant, the plant is notified along with any other affected parties. Within the cities Hamilton, Burlington and Oakville, a total of 216 spills were reported to the Spills Action Centre in 2020.

The Climate Change Vulnerability Assessment Tool has been developed by a multi-stakeholder process coordinated by Conservation Ontario with the assistance of Conservation Authorities including Conservation Halton, an Academics Advisory Group and a Steering Committee with representatives from Engineers Canada, MECP, CO, etc. to apply a climate change lens to municipal drinking water source quality risk assessments. This Tool was shared with municipalities and source protection authorities and committees in June 2020 and training was held in Winter 2020 for users.

Although we saw a global pandemic begin in March 2020, the Halton-Hamilton source protection region, source protection committee and policy implementers showed resiliency by moving to online resources (such as factsheets) and tools (such as social media) in order to continue drinking water source protection. The committee's Mission Statement and guiding values were updated, the source protection region website was updated and landowner and prospective applicant inquiries about the program and policies increased. The committee mourned the loss of one of its original members, Glenn Powell, in fall 2020.