

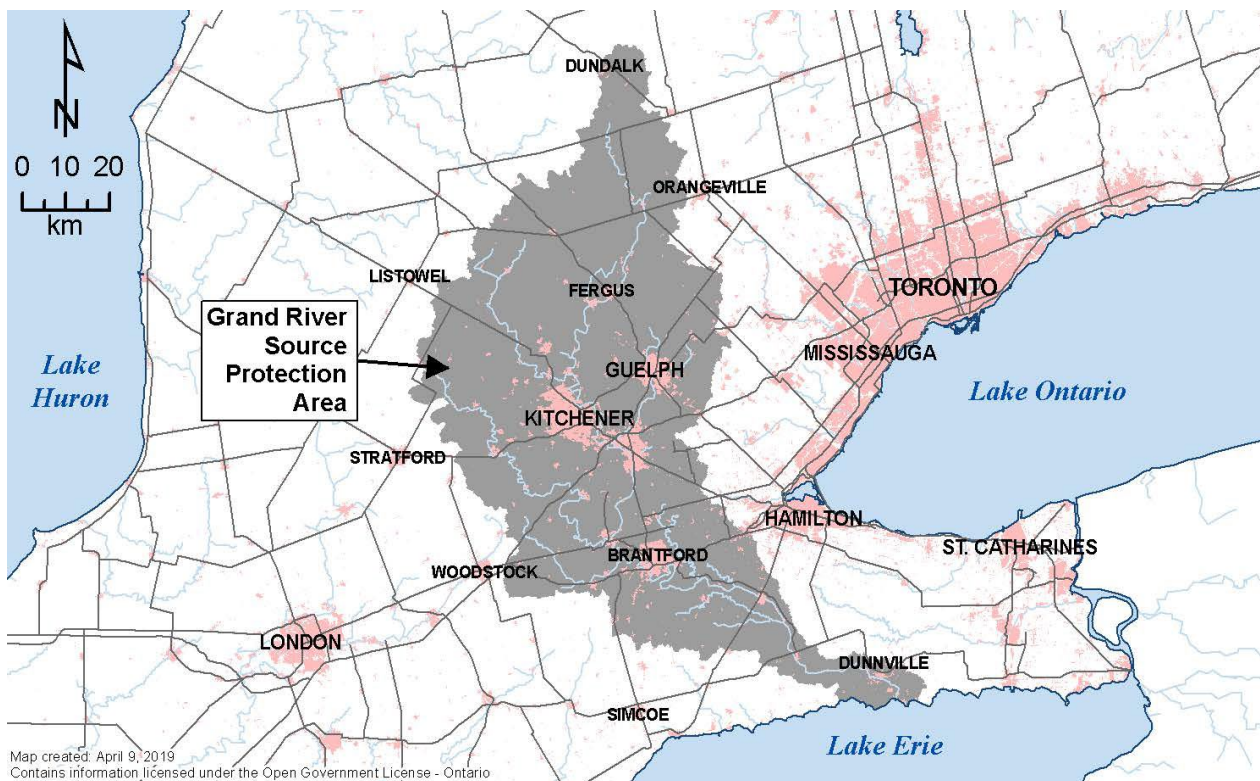
Grand River Source Protection Area Annual Progress Report 2023

I. Introduction

This annual progress report outlines the progress made in implementing our Source Protection Plan for the Grand River Source Protection Area, as required by the *Clean Water Act, 2006* and its regulations.

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 surface water intakes will not pose significant risk to the sources of our drinking water.

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



II. A message from your local Source Protection Committee

PS: Progressing Well/Short of Target – Implementation of the Source Protection Plan is progressing well but remains short of target on achieving plan objectives.

When the source protection plan came into effect in 2016, 7,449 Existing significant drinking water threats were identified. “Existing” threats are, in general terms, activities that were occurring on the landscape before the Source Protection Plan was approved. Since then, amendments to the Grand River Source Protection Plan in 2019, 2020, 2021, and 2022 have resulted in an increase to the number of Existing significant drinking water threats.

A total of 14,770 potential Existing significant drinking water threats have been identified in the Grand River Source Protection Area as of December 31, 2023. Of these, 2,332 threats have been determined through field verification to no longer exist because the activity was not actually engaged in after all, or is no longer engaged in, at a particular location. A total of 5,455 existing threats have been managed and no longer pose a significant risk to municipal drinking water sources.

All municipalities in our Source Protection Area have processes in place to ensure planning decisions conform to our Source Protection Plan and are managing or prohibiting new threats as appropriate. Of legally-binding plan policies that address significant drinking water threats, 99% are implemented, in progress, or implemented because policy outcome(s) have been evaluated and it is determined that no further action(s) is required.

The increase in the number of potential Existing threats in recent years has substantially increased the workload for municipalities. Municipalities have also experienced an increase in the number of development reviews that are required to be screened to identify and manage or prohibit new threats in accordance with source protection plan policies. Risk Management Officials continue to prioritize risk management measures as appropriate, but progress is slow.

III. Our Watershed

The Grand River Source Protection Area (watershed) is the largest in southern Ontario, covering an area of approximately 6,800 square kilometers. The Grand River begins as a small stream in the Dufferin Highlands and travels about 300 kilometers before emptying into Lake Erie at Port Maitland.

A key feature of the watershed is its major moraine systems, including the Orangeville, Waterloo, and Paris and Galt moraines. The moraines have extensive sand and gravel deposits and their overburden aquifers provide groundwater for municipal and private use. The extensive sand and gravel deposits associated with the Norfolk Sand Plain yield substantial water supplies to local users. Bedrock aquifers, including the Gasport, Guelph, and Salina formations, are also an important source of water.

There are 39 municipalities and two First Nations communities within the Grand River Source Protection Area, with a total watershed population of about one million people. About 80% of the population live in the cities of Kitchener, Waterloo, Cambridge, Guelph and Brantford. The Grand River is home to the Six Nations of the Grand River and the Mississaugas of the Credit First Nation.

The residents of the Grand River watershed receive drinking water supplies from both private and municipal supplies. There are currently 44 municipal systems and one First Nation system in the Grand River Source Protection Area, including 7 surface water intakes and 216 wells. The watershed is also an intensive agricultural area. Agriculture remains the largest land use in the watershed with 61% of the total watershed area.

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

1. Source Protection Plan Policies and Addressing Significant Risks

P: Progressing Well/On Target

The Grand River Source Protection Plan includes 864 policies, across 14 municipal chapters, to address prescribed threats, protect sources of drinking water and monitor the progress of policy implementation.

Of legally-binding plan policies that address significant drinking water threats, 99% are implemented, in progress, or implemented because policy outcome(s) have been evaluated and it is determined that no further action(s) is required.

2. Municipal Progress: Addressing Risks on the Ground

P: Progressing Well/On Target

Within the Grand River Source Protection Area, 12 upper- and single-tier municipalities and 21 lower-tier municipalities have vulnerable areas where significant drinking water threat policies apply.

Planning departments and building officials are screening applications for locations within vulnerable areas where threats to drinking water sources are possible and source protection plan policies may apply. Municipalities within our Source Protection Area are also required to review and update their Official Plan to ensure it conforms with the Grand River Source Protection Plan the next time they undertake an Official Plan review under the Planning Act.

As of December 31, 2023, all of the upper- and single-tier municipalities have completed or are in the process of completing their Official Plan amendments. Of the lower-tier municipalities, 5 have reported that their Official Plan conformity is complete, while the remaining are not able to complete their review until the County or Regional Official Plan has been approved. Planned completion timelines are likely to be delayed as a result of the legislative changes introduced in the *More Homes Built Faster Act, 2022*.

3. Septic Inspections

P: Progressing Well/On Target

The Ontario Building Code requires that small sewage systems be inspected every five years through a mandatory on-site sewage system inspection program. In the Grand River Source Protection Area 1669 on-site sewage systems require inspections every five years in accordance with the Ontario Building Code.

Of the 742 systems that were required to be inspected in 2023, 622 (84%) of the inspections were completed. Of the systems that were inspected, results found 42% required minor maintenance work (e.g. lid replacement, etc.), and 12% required major maintenance work (e.g. tank replacement, etc.), with the majority of maintenance required for systems in Wellington County.

Municipalities are working with remaining landowners to obtain additional information needed. In some cases inspections have already been scheduled for 2024. Where landowners refuse entry compliance orders are being sought.

4. Risk Management Plans

PS: Progressing Well/Short of Target

The Grand River Source Protection Plan contains policies that require the development of Risk Management Plans to manage drinking water threat activities. Screening processes are in place at municipalities to ensure applications for future development are reviewed for potential threat activities and applicability of source protection policies.

As of December 31, 2023, a total of 437 Risk Management Plans are in place in the Grand River Source Protection Area. An additional 34 Risk Management Plans were previously agreed to but were later cancelled because the activity was no longer occurring or was no longer subject to Risk Management Plan policies following a Source Protection Plan amendment.

In 2023, 93 Risk Management Plans were agreed to, managing 112 significant drinking water threat activities on 123 properties throughout the Source Protection Area. An additional 279 Risk Management Plans were reported as in progress at the end of 2023.

Throughout 2023, 789 inspections were carried out for an activity requiring a Risk Management Plan. Two inspections in Oxford County found activities taking place without a required Risk Management Plan. None of the inspections found non-compliance with the contents of a Risk Management Plan. An additional 146 inspections were conducted for activities that are prohibited under section 57 of the Clean Water Act. One inspection in the Region of Waterloo found activities taking place on the landscape even though they were prohibited.

5. Provincial Progress: Addressing Risks on the Ground

P: Progressing Well/On Target

Ontario ministries are reviewing applications for new or amended and previously issued provincial approvals (e.g. Environmental Compliance Approvals issued 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 source 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. Provincial approvals are issued, denied, amended, or revoked to conform to plan policies. Where necessary, conditions are added to approvals to ensure that the activity does not pose a significant threat to sources of drinking water.

In 2023, Ontario ministries reported that 22 applications for prescribed instruments underwent a detailed review for source protection. In total, four prescribed instruments were issued where the significant drinking water threat is managed through conditions, including: 1 Permit to Take Water, 1 Environmental Compliance Approval for wastewater/sewage works, 1 Non-Agricultural Source Material (NASM) Plan, and 1 Nutrient Management Strategy. The remainder were determined not to be governing significant drinking water threat activity.

The Grand River Source Protection Plan set out a timeline of 3 years to complete the review and make any necessary changes to previously issued approvals. The Ministries have reported 100% completion of previously issued Provincial approvals in the Grand River Source Protection Area and have a review protocol in place to screen all new applicable approval applications. In 2023, the Ministries reported two newly identified Existing prescribed instruments that were subject to source protection policies in the Grand River Source Protection Area. One Nutrient Management Strategy was amended or replaced (no additional conditions were required). As of December 31, 2023, a decision was pending on one Environmental Compliance Approval for wastewater/sewage works.

6. Source Protection Awareness and Change in Behaviour

To raise awareness about the protection of local drinking water sources, municipalities across the Grand River Source Protection Area have installed a total of 331 drinking water protection signs on municipal roads and trails surrounding vulnerable areas. In addition, 14 signs have been installed on Provincial highways since the Source Protection Plan came into effect in 2016.

Municipalities, Conservation Authorities and other implementing bodies within the Grand River Source Protection Area work with landowners and business owners to help protect our sources of drinking water. Municipalities across the Lake Erie Source Protection Region have established education and outreach programs, which contribute to enhancing awareness of source water protection.

Examples of efforts to build awareness include:

- Training for municipal staff on how source protection relates to municipal planning, building, sewage, roads, and risk management operations.
- Development reviews and inspections continue to provide proponents with educational material about threats present, review process, source protection plan policies, and property specific mapping.
- Where necessary, stickers and metal tags were provided to proponents listing the Spills Action Centre number and that their location is located within a vulnerable area for municipal wells.
- Outreach to winter maintenance contractors
- Hosted Septic Social events in support of mandatory septic inspection program
- Education and outreach at Children's Water Festival, World Toilet Day, World Water Day, Fall Fairs, and other community and school events.
- Ongoing updates to municipal websites, brochures, fact sheets, etc.
- Social media and local newspaper outreach, including topics such as water conservation, road salt and fertilizer use.
- Promoting source water protection best practices through education and outreach to owners of non-municipal drinking water systems.

7. Source Protection Plan Policies: Summary of Delays

No progress has been made for one legally-binding policy that came into effect in 2022. The policy is directed at the Region of Waterloo and local municipalities, requiring them to review and amend their Official Plan and/or study requirements to ensure any consumptive water taking associated with a development application does not impact the sustainability of the Township of Centre Wellington municipal water supplies and ensure any study associated with a development application is required to be submitted as part of a complete application. Region staff have not yet completed a review of Official Plan policies for water taking in the WHPA-Q due to the uncertainty regarding the status of the Region Official Plan status beyond 2024.

8. Source Water Quality: Monitoring and Actions

As of December 31, 2023, there are 12 drinking water systems in the Grand River Source Protection Area with identified drinking water Issues (i.e. chloride, nitrate, sodium, and trichloroethylene).

Nitrate Issues have been identified in the County of Brant, City of Guelph, and Region of Waterloo with a decreasing concentration/trend reported for most wellfields. TCE Issues have been identified in the Township of Centre Wellington, City of Guelph, and Region of Waterloo with no change in concentration/trend reported for most wellfields. Chloride and/or Sodium Issues have been identified in the Township of Centre Wellington, Township of Guelph/Eramosa, and Region of Waterloo with an increasing concentration/trend reported for most wellfields. Issue Contributing Areas (WHPA-ICAs) have been delineated for all Grand River SPA Issues with the exceptions of the identified Chloride and Sodium Issues at the Rockwood Well Supply.

Municipalities continue to implement risk management strategies to address threat activities associated with an Issue/WHPA-ICA. All municipalities have monitoring and treatments systems in place to ensure that municipal drinking water meets the requirements of the *Safe Drinking Water Act, 2002*. Municipalities have used the results of ongoing monitoring to determine where further investigation is needed and to conduct assessments to identify sources and/or explain concentration variability. Over time, appropriate monitoring will help determine if implementation of plan policies and other actions are improving raw water quality for these systems.

9. Science-based Assessment Reports: Work Plans

An order was received from the Ministry in June 2020 providing for a comprehensive review and update to the Grand River Assessment Report and Source Protection Plan (Plan) under Section 36 of the Clean Water Act.

Examples of tasks in the workplan include incorporation of:

- Growth and infrastructure changes (e.g. new drinking water supply wells)
- Technical Rule changes
- Transport pathway updates
- Results of environmental monitoring programs (e.g. review of monitoring data to evaluate existing or the potential for Issues identified at municipal drinking water wells)

The Plan update is currently underway and is expected to be submitted to the Ministry for approval in 2025.

10. More from the Watershed

To learn more about the Grand River Source Protection Area, visit the [Lake Erie Source Protection website](#).