

2023 Quinte Source Protection Area Annual Progress Report

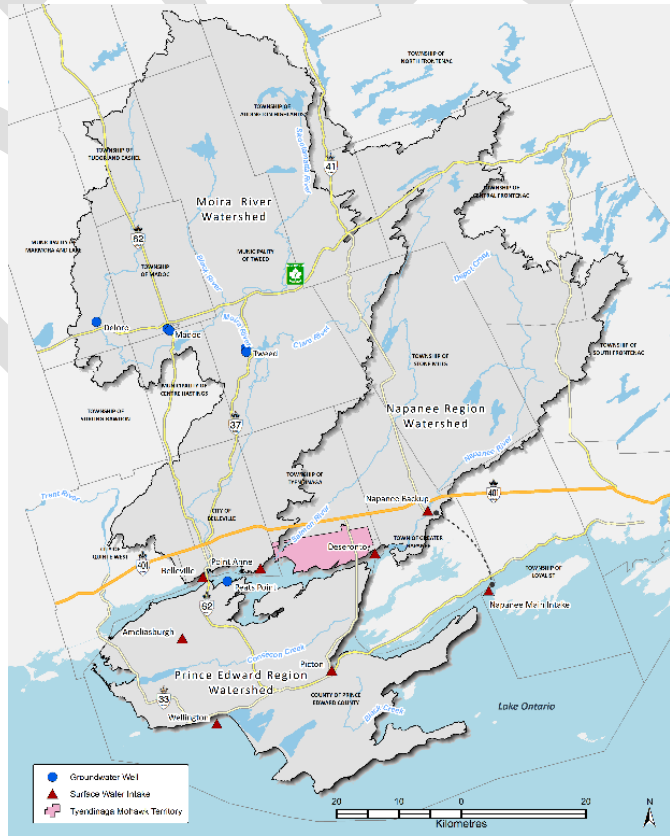
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I. Introduction

This annual progress report outlines the progress made in implementing the Quinte Region Source Protection Plan, as required by the Clean Water Act and regulations. Drinking water sources can be from surface water such as lakes and rivers, or groundwater from underground aquifers. Source protection focuses on protecting existing and future sources of municipal drinking water from overuse and contamination, thus ensuring an adequate supply of clean water for future generations.

Approximately half the population of the Quinte Source Protection Area is serviced by eleven (11) municipal drinking water systems within the watershed (shown on the map below).

This annual progress report highlights the implementation status in several key program areas throughout 2023. This report is written for submission to the Ministry of the Environment, Conservation and Parks as required, but it is also intended to inform the watershed residents, local municipalities, stakeholders, and other parties of progress made on implementation to date.



II. A message from your local Source Protection Committee

Overall Score: P – Progressing Well - The majority of the source protection plan policies have been implemented and/or are progressing.

The summarized objectives of the Quinte Region Source Protection Plan are to protect existing and future municipal drinking water sources and to ensure that for every area identified in the Assessment Report, where an activity is, or would be a significant drinking water threat, the activity ceases to be or never becomes a significant drinking water threat.

The Quinte Source Protection Committee arrived at evaluation scores based on a summary of information provided by Quinte Source Protection Authority staff in the Annual Progress Report Template and through materials presented at the March 20, 2024, Source Protection Committee meeting.

The Committee received regular updates from Quinte Source Protection Authority staff on the status of policy implementation since the Plan came into effect on January 1, 2015.

The scoring system provided by the Ministry of the Environment, Conservation and Parks in the Annual Progress Report Supplemental Form and Template assisted the Committee in evaluating the progress achieved related to the implementation of the Quinte Region Source Protection Plan. The Committee was able to assess progress made on the implementation of all 63 policies by considering how many policies are in a stage of implementation versus how many policies have had no progress made towards implementation to date. This assessment was accomplished through a review of each of the sections in this fifth annual report and with statistics provided by Quinte Source Protection Authority staff.

III. Our Watershed

The Quinte Source Protection Area is located in Eastern Ontario and covers an area of approximately 6,200 square kilometers. The Quinte Area consists of the Moira River Watershed covering 2,880 square kilometres, the Napanee Region comprising the Salmon and Napanee River Watersheds with a combined area of 1,955 square kilometres, and the Prince Edward County Region at 1,365 square kilometres. The Quinte Area is home to 18 municipalities and approximately 117,000 residents with the majority living in the southern portions of the Quinte watershed.

Approximately half of the watershed population live in towns and urban centres, such as the City of Belleville or the Town of Picton, and the remaining 51 percent live in rural areas. The northern areas are rugged and form part of the Precambrian Shield covering approximately 50 percent of the Area. The Shield is largely forested with many wetlands and small lakes and is sparsely populated. To the south of the Shield, the area is underlain by Paleozoic limestone bedrock with large areas of thin soil cover as well as some isolated areas of significant soil depth along the southwestern boundary of the Moira River Watershed. In the Prince Edward Region, the landscape is dominated by thin soil over limestone bedrock, with some areas of topographic relief provided by glacial deposits and bedrock escarpments.

The Quinte Source Protection Area has many significant surface water features which include the Napanee, Salmon, and Moira Rivers draining from the north into the Bay of Quinte (a connecting link to Lake Ontario) at the south. The Prince Edward Region is drained by several small drainage courses leading outward from inland towards either Lake Ontario or the Bay of Quinte. Surface water is an important resource in the Quinte Source Protection Area supplying seven municipal drinking water systems, namely Belleville, Point Anne, Deseronto, Napanee, Ameliasburgh, Picton, and Wellington.

Groundwater is also an important source of drinking water in the Quinte Source Protection Area supplying approximately 50 percent of the residents. Of these residents, the majority are on private wells, with approximately three percent on municipal groundwater systems. Groundwater is typically found in a shallow, unconfined fractured bedrock aquifer made up of either limestone or Precambrian rock. Well yields are typically low but sufficient for meeting residential demand. Four residential drinking water systems, Deloro, Madoc, Tweed, and Peats Point, draw from groundwater sources.

To develop the Quinte Region Source Protection Plan, a local committee with multiple stakeholders was created. This committee includes members representing municipalities in the watershed, the agricultural community, industry, businesses, government, and non-governmental organizations, as well as members of the public. The Source Protection Committee is supported by the Conservation Authority staff and Board of Directors, referred to as the 'Source Protection Authority' when undertaking source protection work. The Quinte Source Protection Authority is responsible for providing administrative and technical support to the committee and overseeing the source protection process.

To learn more, please visit www.quintesourcewater.ca to read the Quinte Region Assessment Report and the Quinte Region Source Protection Plan.

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

1. Source Protection Plan Policies and Addressing Significant Risks

Across the Quinte Source Protection Area, one hundred (100) percent of the legally binding policies are implemented, in progress, and/or have been evaluated and determined to require no further action.

Municipalities, Provincial Ministries, Risk Management Officials, and the Source Protection Authority continue to work hard to ensure threats are managed according to the timelines set out in the source protection plan. As a result of policies being continuously implemented across the Quinte watershed, over ninety-nine (99) percent of existing significant drinking water threats on the landscape have been addressed (i.e., eliminated, or managed).

The overall progress score on achieving source protection plan objectives across the Quinte Source Protection Area in this reporting period is:

P: Progressing Well/On Target - Most of the source protection plan policies have been implemented and/or are progressing well according to timelines in the Quinte Region Source Protection Plan.

2. Municipal Progress: Addressing Risks on the Ground

Eight (8) lower and single tier municipalities in the Quinte Source Protection Area have vulnerable areas where significant drinking water threat policies apply. Additionally, one (1) upper tier municipality acts as the Planning Act Approval Authority for its member lower tier municipalities.

Municipalities in the Quinte Source Protection Area are required to review and update their Official Plan to ensure they conform to the local source protection plan. This review is required to occur during the first instance of an Official Plan cyclical review under the Planning Act, following the source protection plan coming into effect. All nine (9) municipalities have amended or are in the process of amending their Official Plans to conform to the Quinte Region Source Protection Plan.

All municipalities (100%), that have sewage infrastructure in vulnerable areas, are reporting sewage infrastructure inspections and maintenance are occurring as required.

Finally, all municipalities (100%) have elected to delegate the responsibility for the Education and Outreach policy to the Source Protection Authority. The Source Protection Authority has ensured that materials are created, disseminated, and updated as required by Policy G-1-E&F: Education and Outreach.

The overall progress score on achieving the Quinte Region Source Protection Plan objectives in this reporting period is:

P: Progressing Well/On Target

3. Septic Inspections

When an on-site sewage system is functioning properly, contaminants from the system are greatly reduced or eliminated. The Ontario Building Code requires that all septic systems within highly vulnerable areas be included in a Mandatory On-site Sewage System Inspection Program. Under the program, inspections are required on a five (5) year cycle.

These inspections may be administered by the local Health Unit, municipality, or Conservation Authority. In the Quinte Source Protection Area, all municipalities with septic threats employ municipal staff to undertake these inspections. The Quinte Region Source Protection Plan contains a supporting policy, directing municipalities to complete these inspections, as required by the Ontario Building Code, and to prioritize these inspections based on the location and age of the septic systems.

Municipalities in the Quinte Source Protection Area have completed the initial round of inspections and are now in various stages of the second round of inspections. Two municipalities completed the second round of inspections in 2021. Of the twenty-nine (29) systems inspected in 2021, one hundred (100) percent are functioning as designed. The remaining municipalities have delayed the second round of inspections due to COVID-19 restrictions and/or staff capacity.

Due to the varying progress of municipalities to complete the second round of inspections, the Quinte Source Protection Authority decided the overall progress score on achieving source protection plan objectives in this reporting period is:

P: Progressing Well/On Target

4. Risk Management Plans

A risk management plan is a document that outlines the measures required to address an activity that has the potential to contaminate drinking water. These measures manage the risk associated with the activity so that all threats to drinking water are properly managed. A Risk Management Official (RMO) works with the person engaging in the threat activity to decide on the necessary components of the risk management plan. All municipalities in the Quinte Source Protection Area have delegated the responsibility of Risk Management Officials and Inspectors to Quinte Conservation. Risk Management Officials are the implementing body for thirty-three (33) of the policies in the Quinte Region Source Protection Plan and utilize prohibition, risk management plans, and restricted land uses, all tools under Part IV of the Clean Water Act, to manage existing and future significant drinking water threats.

In the previous calendar year, three (3) risk management plans were established in the Quinte Source Protection Area. Since the Quinte Region Source Protection Plan took effect in 2015, a total of seventy-eight (78) risk management plans have been established. The Risk Management Official was also able to verify that nine (9) of the remaining properties identified as needing a risk

management plan did not have any significant threat activities occurring on the property, therefore an exemption notice was issued to the property owner.

Risk Management Officials are also responsible for reviewing building and planning applications in vulnerable areas, to ensure no new significant threats are created. Once there is confirmation that no new threats will be created, the Risk Management Official issues a Section 59 clearance notice. In the previous calendar year, thirty-five (35) Section 59 notices were issued. Since the plan took effect, five hundred and four (539) Section 59 notices have been issued. The process of screening development applications is reported to be working well for all municipalities (100%).

The overall progress score on achieving source protection plan objectives in this reporting period is:

P: Progressing Well/On Target

5. Provincial Progress: Addressing Risks on the Ground

Ontario ministries (e.g., Ministry of Transportation, and Ministry of the Environment, Conservation and Parks) are responsible for reviewing previously issued 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 the Quinte Region Source Protection Plan to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals are being amended or revoked where necessary to conform to plan policies.

Provincial ministries are identified as the implementing body in eight (8) provincial approval policies in the Plan to address existing activities that pose a significant risk to sources of drinking water. Policies in Quinte's plan set out a timeline of one to three years to complete the review and make any necessary changes. The ministries have reported full completion (100%) of the review of previously issued provincial approvals in the source protection area.

Within the reporting year, forty-five (45) hauled sewage disposal site Environmental Compliance Approval (ECA) applications were submitted to the Ministry of the Environment, Conservation and Parks. All applications underwent screening and it was determined thirty-six (36) out of forty-five (45) applications were sites located within Source Protection Regions/Areas, three (3) in the Quinte Area. None were determined to be significant drinking water threat activity.

The overall progress score on achieving source protection plan objectives in this reporting period is:

P: Progressing Well/On Target

6. Source Protection Awareness and Change in Behaviour

There is one (1) education and outreach policy within the Quinte Region Source Protection Plan. This was purposely placed as the first policy within the plan to recognize the importance of

education and outreach to the success of the Plan. All eight (8) municipalities required to implement this policy collaborate on their education and outreach initiatives and one hundred (100) percent reported implementation of this policy. These initiatives include resources on the quintesourcewater.ca website, a series of brochures and fact sheets for a variety of stakeholders including watershed residents, well and borehole drillers, real estate professionals, etc., and outreach via social media.

Drinking Water Protection Zone road signs were identified as an effective tool for raising awareness of the Drinking Water Source Protection program. These signs alert travelers to the vulnerable areas and are intended to prompt spill reporting and response and to encourage good stewardship practices. The first road sign in Ontario was installed in 2015 in the Town of Greater Napanee. To date, eight (8) signs have been installed on provincial highways and thirty-three (33) signs on municipal roads, where required by policies in the Quinte Region Source Protection Plan. The erection of these forty-one (41) signs equals full (100 %) implementation by all municipalities, as well as the Ministry of Transportation.

Quinte Conservation shared several social media campaigns through Facebook, Twitter/X, Instagram, and LinkedIn in 2023 including:

1) *Source Water Protection: Back to Basics*

- This campaign highlighted the basic foundations of the drinking water source protection program. The campaign ran from April 12 – May 10 and was developed by a “back to basics” working group led by Conservation Ontario.

2) *Best Practices*

- This broad campaign focused on raising awareness and supporting the implementation of the Best Practices for Source Water Protection guidance and steps that residents can take to protect their private drinking water systems. The campaign ran from May 17 – July 5 and was co-developed by Quinte Conservation and Conservation Ontario staff.

3) *Summer/Fall Campaign*

- This eight-week social media campaign is based on seasonal messaging of the drinking water source protection program. The campaign consists of eight social media posts between August 23 and October 11 and was developed by Conservation Ontario.

Quinte Conservation developed and ran the first [Quinte Conservation Drinking Water Protection Contest](#) in 2023. The contest challenged grades seven (7) and eight (8) students in the Quinte Area to create a thirty (30) second radio ad about ways people can protect sources of drinking water. The grand prize for the contest included a free field trip to the Gerry O’Connor Water Treatment Plant, a pizza lunch, and a [Water Ranger’s Education Testkit](#) for the entire class. Additionally, the winning student(s) had the opportunity to tour and produce their radio ad at a local radio station (91X FM), and have their ad played on the radio for several months. The second-place winners received an educational workshop from Let’s Talk Science about drinking water and its properties (i.e. temperature, conductivity, pH, and dissolved oxygen).

The contest reached over eighty (80) students in the Algonquin and Lakeshore Catholic District School Board and the Hastings Prince Edward District School Board. The winning radio ads came

from St. Carthagh from Tweed, Ontario (first place) and Sacred Heart in Marmora, Ontario (second place). Due to the success of this contest, Quinte Conservation is hopeful to run the contest again.

Quinte Conservation has worked with Cataraqui, Lower Trent, and Rideau Valley Conservation Authority staff to develop the [Drinking Water Wise Webinars](#). The webinars discuss the importance of protecting private drinking water systems by inviting experts to speak about a variety of topics including Harmful Algal Blooms, Well Care 101, and Septic Systems 101. Over 400 people registered for the webinars provided in 2023 and the recordings of the webinars have been viewed over 400 times on YouTube. Additionally, the Ontario Groundwater Association has requested to use the webinar series as a training resource for their members and for the public.

The overall progress score on achieving source protection awareness in this reporting period is:

P : Progressing Well/On Target

7. Source Protection Plan Policies: Summary of Delay

A few of the non-legally binding policies have not yet been implemented or implementing bodies have reported 'limited progress' on their implementation status as resources were used to implement the legally binding significant threat policies initially. Source Protection Authority staff will continue to work with these bodies to collect information and to support those who are working to implement these policies.

8. Source Water Quality: Monitoring and Actions

A contaminant is defined as a water quality issue when the contaminant is present at a level of concern or showing an upward trend, results from human activity, and threatens the municipal drinking water source. The issue contributing area (ICA), as defined in the Quinte Region Source Protection Plan is an area of land or water within a vulnerable area where activities could contribute to the water quality issue(s). These activities are classified as significant threats to drinking water.

Issues were identified at the Village of Madoc's municipal drinking water system in Centre Hastings. These issues include E. coli, Total Coliform, and Organic Nitrogen. For the Village of Madoc wells, this area is a 30-metre setback from watercourses and wetlands within the WHPA E and F. Due to the proximity of the wells to the northern neighbouring municipality, the Issues Contributing Area falls within the Municipality of Centre Hastings and the Municipality of Madoc Township. In response to these issues, the municipalities engaged in the following activities:

- Reported annually on the implementation of policies to address the issues to the Quinte Source Protection Authority.
- Monitored the issues through raw samples collected at the municipal drinking water system.
- Completed two rounds of septic inspections in the ICA, and any necessary upgrades/replacements (these upgrades/replacements were only necessary in the first round of inspections).

- Completed Education and Outreach activities related to sewage threats and agricultural activities.
- The Municipality of Centre Hastings has installed a new municipal well to replace one of the existing wells that experiences quality and quantity issues.

Raw water samples show Organic Nitrogen results are improving. Since 2013, only one (1) sample from each well showed an exceedance of Organic Nitrogen above the provincial operational guideline. E. coli and Total Coliform remain elevated in raw water results but are starting to show a decreasing trend. Because these wells are both groundwater under the direct influence of surface water (GUDI), it is anticipated some level of these parameters will exist in the raw water samples. Additionally, as the new well is in a different aquifer, it is anticipated that results will be positively affected. Due to limited data from the new well, combined with a slight decreasing trend in issues, the raw water data will continue to be monitored to aid the Committee in future decision-making.

9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for the Quinte Region Assessment Report.

10. More from the Watershed

The Quinte Source Protection Committee is in the process of completing a Section 36 Amendment to our Source Protection Plan and Assessment Report under the Clean Water Act. The Quinte Region Source Protection Plan has been in effect since January 1st, 2015, and contains policies that help manage threats to drinking water near municipal wells and intakes. The changes to existing policies are required to improve policies and adapt to the new Ministry of Environment, Conservation and Parks technical rules. Part of this Amendment will include a Public Consultation phase, where we will ask the landowners to provide feedback and ask questions about our proposed changes.

For more information about Drinking Water Source Protection and what the Quinte Source Protection Authority has been doing to address threats and implement the source protection plan visit www.quintesourcewater.ca