

2021 Quinte Source Protection Annual Progress Report

05/01/2022

I. Introduction

This annual progress report outlines the progress made 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 Region 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. 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. This 2021 annual progress report highlights the implementation status in several key program areas.



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 Region Source Protection Committee arrived at evaluation scores based on a summary of information provided by Quinte Region Source Protection Authority staff in the Annual Progress Report Template and through materials presented at the March 24, 2022 Source Protection Committee meeting.

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

III. Our Watershed

The Quinte Region Source Protection Area is in Eastern Ontario and covers an area of approximately 6,200 square kilometers. The Region 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 Region is home to 21 municipalities and approximately 117,000 residents with the majority living in the southern portions of the Quinte watershed.

Approximately half of the population of the Region lives in town and urban centres, such as the City of Belleville or the Village of Deloro, 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 Region 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 a number of 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 Region Source Protection Area providing supply to 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 Region Source Protection Area providing supply to 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 region, 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 Region 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 Region 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 Region, over ninety-three (93) 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 Region 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 time-lines 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 Region 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 source protection plans for our region.

All municipalities (100%) have elected to delegate 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.

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 Region 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 location and age of septic systems.

Municipalities in the Quinte Region Source Protection Area have completed the initial round of inspections and the majority are in progress with the second round of inspections. Some municipalities have delayed inspections planned for 2021 due to COVID-19 restrictions. Two municipalities completed the second round of inspections in 2021. Of the twenty-nine (129) systems inspected, one hundred (100) percent are functioning as designed.

In the initial round of inspections, of the one hundred seventy-one (171) systems inspected, ninety-six (96) percent are functioning as designed. The remaining four (4) percent required maintenance work, e.g., pump out or tank replacement, and are reported to now be functioning as designed.

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 Region 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, no 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-two (72) risk management plans have been established.

Seventeen (17) inspections were carried out by a Risk Management Inspector for prohibited or regulated activities during the 2021 calendar year. All activities were found to be in compliance with source protection plan policies.

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, seventy-five (75) Section 59 notices were issued. Since the plan took effect, four hundred fifty-one (451) Section 59 notices have been issued. The process to screen development applications is reported to be working well for all municipalities (100%).

Although limited progress was made over the calendar year, over eighty-five (85) percent of all required risk management plans have been negotiated to date and thus 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 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 1-3 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 region.

Within the reporting year, fourteen (14) prescribed instrument applications within Quinte Source Protection Area's vulnerable areas were reviewed by various provincial ministries. None (0) of these applications were found to be significant drinking water threats.

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

A number of education and outreach initiatives were undertaken in 2021.

Several social media campaigns were launched. Quinte staff participated in the Conservation Ontario led working group to develop a Winter Social Media Campaign. The group prepared an exciting campaign, 'Winter Wednesdays', which was shared with all source protection areas and regions across the province. The posts were filled with tips, good practices and 'did you knows'. Internally, communications staff created additional posts to supplement the Conservation Ontario posts. Staff drafted 18 posts focused specifically on road salt/winter chemicals/winter hazards.

To accompany the winter social media campaign, a Road Salt & Winter Hazards brochure was created. The brochure is on the website under Education and Outreach Resources.

A fall social media campaign was launched to cover the following themes: World Water Week, World Rivers Day, UN World Toilet Day, Agriculture (offseason) and Fall maintenance activities. The campaign consisted of a total 15 social media posts, commencing August 23 to celebrate World Water week.

A province-wide road sign awareness campaign was developed in the fall of 2021 in collaboration with Conservation Ontario. The campaign sought to advance awareness of the Drinking Water Protection Zone Signs using a variety of methods. The kickoff for the campaign was the week of October 4th, the week before Thanksgiving- targeting the audience travelling around looking at fall leaves. The campaign ran for 3 weeks and consisted of the release of a DWSP Road Sign Story map with an interactive web page which includes municipal road sign locations and links back to the Source Protection Area/Source

Protection Region or drinking water system information, a dedicated song and accompanying music video), a Drinking Water Source Protection Road Sign Banner for email signatures and daily social media posts. This campaign finished with a public announcement from Minister of the Environment, Minister Piccini.

Quinte Conservation developed a new 10-year Strategic Plan in 2021. The Strategic Plan was developed by staff, board members and various stakeholders. Throughout the development process, stakeholders from a variety of organizations highlighted the importance of source water protection. The Plan's purpose is to create a strategic direction that aligns with Quinte Conservation's core mandate and operating principles. The plan will drive the organization forward in proactively responding to changing environments and continuing to improve the services, including source water protection, provided under the core mandate to advance watershed knowledge and collective actions to strengthen our natural ecosystems. Following this new strategic direction, Quinte Conservation will continue building the tools needed to carry on the important work of protecting drinking water sources and the entire Quinte watershed, while supporting the people who live, work, and play here so that there is a sustainable future for everyone.

7. Source Protection Plan Policies: Summary of Delay

2021 proved to be another challenging year to implement Part IV responsibilities. Due to COVID-19, site visits related to risk management plan negotiations were extremely difficult to schedule. Risk Management Inspectors used drive-bys and phone calls to check in on some risk management plans but implementation and inspections were delayed significantly. The Quinte Risk Management Office has created a schedule for the calendar year, has prioritized outstanding risk management plans required, and is prepared to increase both inspections and negotiations in the 2022 calendar year to ensure all outstanding risk management plans are completed by the end of 2022.

Despite the challenges with on-site work, development applications did not slow, and seventy-five (75) Section 59 Clearances Notices were issued. No applications were denied due to prohibition, while a few resulted in new risk management plans being negotiated. The majority allowed development to proceed as proposed.

Some 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 a 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 Region 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. 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.

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

For more information about Drinking Water Source Protection and what the Quinte Region has been doing to address threats and implement the source protection plan visit

www.quintesourcewater.ca