



**CTC Source Protection Committee Meeting**

**Agenda**

Meeting #01-2020, Part 2

April 29, 2020

1:30 P.M.

The meeting will be conducted via a video conference.

Members

Andrew Farr  
Chris Gerrits  
David Kentner  
Scott Lister  
Mahesh Patel  
John Presta  
Frank Quarisa  
Julie Abouchar  
Nicola Crawhall  
Robert Goodings  
Rosemary Keenan  
Peter Miasek  
Deon Bridge  
Dan Bunner  
Louise Foster  
Lee Gould  
Geoff Maltby  
Gary Mountain  
Maria Topalovic

Pages

1. **CALL TO ORDER**
2. **DISCLOSURE OF PECUNIARY INTEREST**
3. **CHAIR'S REMARKS**
4. **REVIEW OF AGENDA**

**5. MINUTES**

**5.1 Approval of Minutes of Meeting #3/19, held on October 8, 2019**

Appended separately

**5.2 Business arising from the minutes**

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April 15, 2020

**To:** Bill Thompson, Source Protection Program Manager  
South Georgian Bay Lake Simcoe Source Protection Region

**From:** Stacey Baker, Program Analyst  
Source Protection Programs Branch

**Re:** SPPB Technical Comments on the Golder Report for South Georgian Bay  
Lake Simcoe Section 34 Proposed Amendments for York Region (Aurora-  
Newmarket)

Thank you for the opportunity to review the Golder and Associates Technical Report *Yonge Street Aquifer Wellhead Protection Area Delineation Update* (February 2020) as well as the additional figures and rationale provided by York Region on April 2, 2020 as part of your consultation activities for South Georgian Bay Lake Simcoe's section 34 submission for York Region. The proposed amendments incorporate new technical work completed for the new Aurora Well 7 and the decommissioning of Newmarket Well 14 which is no longer in use. There are no proposed policy changes included in this amendment; all policies are currently approved by the Minister and will apply to the revised vulnerable areas. Please note that the Ministry previously provided technical comments during the pre-consultation period on December 10, 2019.

As discussed in our March 30, 2020 teleconference, the Source Protection Programs Branch (SPPB) technical staff have concerns with the approach and methodology used to update the Newmarket-Aurora wellhead protection area (WHPA). Upon reviewing the updated Assessment Report (AR) and the Golder Technical Report as well as the additional maps provided by York Region, SPPB staff do not support the approach and methodology for the following reasons:

- The municipality chose to delineate the WHPAs using a comprehensive 3-D groundwater flow model, hence, it is expected that the WHPAs delineation is based on the modelling results. The model results do not support the extended boundaries of the WHPAs.
- The uncertainty was addressed through the common practice of modifying the boundaries of the particle tracks by increasing the pathline lengths by 20% and rotating the pathlines by 5-degrees. Therefore, there is no scientific evidence to support to extend the WHPAs beyond this common practice.
- Extending the WHPAs delineation beyond what the modelling results and common practice support, increases the uncertainty of the delineation as there is no science to support the extension. This approach also questions the value of using a comprehensive groundwater flow model.

Given the above, the WHPA delineation should stop at the boundary of the 20% increase and 5 degree adjustments to the modelled particle tracks.

We understand that your proposed approach attempted to balance the efforts between the assessment of the model and adhering to the goals of source water protection. We are aware that significant time and resources have already gone into source water protection education and the negotiation of several Risk Management Plans (RMPs) and the new WHPA capture zone would result in the cancellation of approximately half of the RMPs in this area. It has been communicated to us that any reduction in WHPA size would adversely affect your ability to achieve the goal of maintaining the confidence of York Region residents and businesses and would undermine public confidence in source protection. The foundation of the *Clean Water Act* and a key principal of source protection is that our program is science-based. Vulnerable areas are delineated by models or other prescribed approaches outlined in the Director's Technical Rules using the best available science and information at the time and updated when required. Managing these discussions with impacted businesses and stakeholders can be challenging; however, they can be addressed through effective communication. Although time, resources and funds have been spent over the past few years, newly available science has a more accurate depiction of the vulnerable areas.

As the pre-consultation and public consultation periods on this amendment have already occurred, and the burden from RMPs or other policies is being reduced from what was consulted on previously, you have local discretion to consult with impacted stakeholders to advise them of reduced vulnerable areas from the previous public consultation period. No updated council resolutions are required and the source protection authority can determine the duration of consultation with the impacted stakeholders. Please see the link to our SharePoint site for the October 2019 guidance; section 6 includes a summary list of notifications which may be helpful.

If you have any additional questions or comments you would like to discuss, please reach out to myself or your liaison officer and we can set up a teleconference.

Sincerely,

**Stacey Baker**

Program Analyst, Source Protection Programs Branch

[Stacey.Baker@ontario.ca](mailto:Stacey.Baker@ontario.ca) (ph): 289-231-1905

Cc: Debbie Scanlon, Manager, Source Protection Approvals Section, SPPB  
Wendy Lavender, Manager, Source Protection Planning Section, SPPB  
Beth Forrest, Liaison Officer, SPPB  
Cynthia Doughty, Hydrogeologist  
George Jacoub, Hydrologist  
Jennifer Stephens, Project Manager, CTC

**From:** Simard,Andreanne,GUELPH,NWNA-CA T&P Corp Natural Res Mgmt  
<Andreanne.Simard@waters.nestle.com>  
**Sent:** Thursday, April 2, 2020 11:48 AM  
**Subject:** Nestle Draft Reports

I wanted to reach out and let you know that our 2019 Annual Reports have been finalized and can be found on our website at the following link: <https://www.nestle-waters.ca/en/sustainability>

Please don't hesitate to reach out if you have any questions or concerns related to these reports.

Sincerely,

Andreanne

**Andreanne Simard, Ph.D.**  
**Natural Resource Manager**  
**Nestlé Waters Canada**  
101 Brock Rd S  
Puslinch, ON N0B 2J0  
P: (519) 767-6422 / C: (519) 803-9704 / F: (519) 763-8156  
[Andreanne.Simard@waters.nestle.com](mailto:Andreanne.Simard@waters.nestle.com)

**From:** protection, source (MECP) <source.protection@ontario.ca>  
**Sent:** Wednesday, April 1, 2020 4:04 PM  
**Subject:** Risk Management Official/Inspector training May 2020 session- CANCELED

Due to low registrations, the Risk Management Official/Inspector training session set for May 4<sup>th</sup>, 2020 has been postponed to October 19<sup>th</sup> – 22<sup>nd</sup>, 2020.

A new invitation with the registration details will be shared in early August 2020. You will be contacted at that time to see if you will still be attending.

If you have any questions or concerns, please email us at [source.protection@ontario.ca](mailto:source.protection@ontario.ca)

We apologize for any inconvenience this may cause.

Thank you,

**Pat Kinch**  
*Manager, Source Protection Programs Branch*  
**Land and Water Division, MECP**  
*40 St. Clair Avenue W. Toronto ON M4V 1M2*  
*W: 647-973-6983*  
[Pat.Kinch@Ontario.ca](mailto:Pat.Kinch@Ontario.ca)



**From:** [Forrest, Elizabeth \(MECP\)](#)  
**To:** [Jennifer Stephens](#)  
**Cc:** [Scanlon, Debbie \(MECP\)](#)  
**Subject:** RE: EXTENSION REQUEST: Annual Report Submission from Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Authorities  
**Date:** Monday, March 30, 2020 3:49:33 PM  
**Attachments:** [image001.png](#)

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Hi Jenn,

I know we already talked about this over the phone but I just wanted to formally acknowledge receipt of your extension request. We are working on a response and will send that out to you as soon as possible.

If you have any questions in the meantime related to this, please feel free to call or email me

Best regards,

**Beth Forrest**

647-204-6744

[elizabeth.forrest@ontario.ca](mailto:elizabeth.forrest@ontario.ca)

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**From:** Jennifer Stephens <Jennifer.Stephens@trca.ca>  
**Sent:** Thursday, March 19, 2020 8:05 AM  
**To:** Forrest, Elizabeth (MECP) <Elizabeth.Forrest@ontario.ca>  
**Subject:** EXTENSION REQUEST: Annual Report Submission from Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Authorities  
**Importance:** High

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Good Morning Beth:

On behalf of the CTC SPR Management Committee, please accept this request for a 1-month extension to the submission of the Annual Report on implementation of the CTC Source Protection Plan from Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Authorities until June 1, 2020.

Given the current pandemic situation surrounding Novel Coronavirus (COV-19) it will not be possible for the CTC Source Protection Committee to conduct its March 24, 2020 meeting in person for the health, safety, and wellbeing of Committee members and support staff from conservation authorities and partnering municipalities. Three Committee members, including the Chair of the Committee have traveled to Asia and the Caribbean. These Committee members are required to self-isolate for a period of 14 days upon their return to Canada, which restricts their ability to attend the Committee meeting. In addition, there are 4 members of the Committee who are considered 'vulnerable' and will not be able to attend an in-person meeting. Additional rationale for delaying

the submission of the Annual Report to June 1, 2020 include:

- There is no reference to holding a CTC Source Protection Committee meeting via webinar or teleconference in the approved Rules of Procedure. To hold a meeting in this fashion will require an amendment to the Rules and approval by the Toronto and Region Source Protection Authority.
- Source Protection Committee meetings are to be open to the public. Holding Committee proceedings via webinar will preclude the ability for the public to attend.
- A number of members of the CTC Source Protection Committee would be unable to participate in a webinar given their basic knowledge of computer use and internet speed in remote, rural areas.
- The Toronto and Region Conservation Authority has cancelled their Board of Directors meeting for March and might have to do the same in April 2020.
- Both Credit Valley and Central Lake Ontario Conservation Authorities are unsure of whether their Board of Directors meetings are likely to take place in early to mid-April 2020.

Assuming this request for an extension is granted, the CTC SPC meeting would take place in late April 2020 with approval from all three Source Protection Authorities in May 2020. Submission to the Source Protection Programs Branch would be by June 1, 2020. If the Province and Public Health officials advise to discontinue face-to-face meetings through the month of April, it may be necessary to ask for an additional extension.

I trust that this rationale and timeline is acceptable to the Source Protection Programs Branch. Please advise at your earliest convenience of whether this request has been approved.

Best regards,

Jennifer

Jennifer Stephens, M. Sc. Bio.  
Manager  
Source Water Protection | Policy Planning

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A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6 | [trca.ca](http://trca.ca)





**Deon Bridge**

Senior Environmental Advisor  
Environment Department  
Liquids Pipelines

tel 905 659 2080  
cell 587 338 4058  
deon.bridge@enbridge.com

**Enbridge Pipelines Inc.**

1430 6<sup>th</sup> Concession Road W, RR#2  
Branchton, Ontario  
N0B 1L0

March 17, 2020

File Number: E40002-05-2  
EL Number: 20-012

St. Clair Region Conservation Authority  
Ausable Bayfield Conservation Authority  
Upper Thames River Conservation Authority  
Grand River Conservation Authority  
Hamilton Conservation Authority  
Conservation Halton  
Credit Valley Conservation  
Toronto and Region Conservation Authority  
Central Lake Ontario Conservation  
Ganaraska Region Conservation Authority  
Lower Trent Conservation  
Quinte Conservation  
Cataraqui Region Conservation Authority  
South Nation Conservation  
Raisin Region Conservation Authority  
Niagara Peninsula Conservation Authority  
Long Point Region Conservation Authority

**Re: Offer to Consult on the Operation and Maintenance of Enbridge's Liquids Pipelines Facilities in Ontario**

As part of Enbridge Pipelines Inc.'s ("Enbridge") commitment to ongoing consultation and engagement with conservation authorities, Enbridge would like to extend an offer to meet and address any questions your organization may have with regards to the operation and maintenance of Enbridge's liquids pipelines facilities in Ontario.

Given the current situation with the Covid-19 virus, a face-to-face meeting may not be possible. I am willing to host a skype or teleconference meeting in place of a face-to-face meeting.

If your organization is interested in such a meeting, or has questions you would like answered, please contact me at the phone number or email address listed at the top of this letter.

Sincerely,

Deon Bridge  
Senior Environmental Advisor

Cc: Vik Kohli, Brent Bullough

Via email: [Elizabeth.Forrest@ontario.ca](mailto:Elizabeth.Forrest@ontario.ca)

January 20, 2020

Elizabeth Forrest  
Liaison Officer  
Source Protection Programs Branch, Lands and Waters Branch  
Ministry of the Environment, Conservation and Parks  
40 St. Clair Avenue West  
Toronto, ON M4V 1L5

Dear Ms. Forrest:

**RE: AMENDMENTS TO THE CREDIT VALLEY – TORONTO AND REGION – CENTRAL LAKE ONTARIO  
(CTC) SOURCE PROTECTION PLAN**

**Notification of Consultation Pursuant to Sections 34(3) of the *Clean Water Act, 2006* and  
*Ontario Regulation 287/07***

**Written Comments due by Thursday, February 20, 2020**

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The Toronto and Region Source Protection Authority (TRSPA) is proposing amendments to the Credit Valley – Toronto and Region - Source Protection Plan under Section 34 of the *Clean Water Act, 2006*. These amendments will incorporate new technical work completed at the Town of Aurora Well 7 and remove the Town of Newmarket Well 14 since it is no longer in use. Over the past several months, Toronto and Region Conservation Authority staff have been working with York Region staff to finalize these amendments.

The purpose of this correspondence is to inform the Ministry of the Environment, Conservation and Parks of the public consultation period which began last Thursday, January 16, 2020 and the opportunity to submit written comments regarding the proposed amendments to the CTC Source Protection Plan. This correspondence is a follow-up to an earlier Pre-Consultation Notice sent out on October 30, 2019 concerning the same amendment package. The public consultation period will extend from **January 16, 2020 through February 20, 2020**.

**BACKGROUND**

Section 34 of the *Clean Water Act, 2006* provides a Source Protection Authority (SPA) with the option to propose amendments to the source protection plan. As part of the Section 34 process, SPAs are required by the Province to inform the public of the proposed changes during **public consultation**. The public consultation period is to take place for a minimum duration of 35 days.

During the public consultation period, the proposed amendments will be available to view online at the CTC Source Protection Region [website](#). The proposed amendments may also be viewed during regular

Ms. Elizabeth Forrest  
 Source Protection Programs Branch, MECP  
 January 20, 2020

business hours at the Lake Simcoe Region Conservation Authority (120 Bayview Parkway, Newmarket) and Toronto and Region Conservation Authority (101 Exchange Avenue, Vaughan) Offices. A Notice of this Public Consultation will be published in three newspapers (The Newmarket Era, The East Gwillimbury Express, and The Aurora Banner) on January 16<sup>th</sup> and available online at [www.ourwatershed.ca](http://www.ourwatershed.ca) and [www.ctcswp.ca](http://www.ctcswp.ca) to inform the public of the amendments and request written comments to be submitted by the consultation deadline.

## IMPACT ON THE MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS

The only policy in the [CTC Source Protection Plan](#) which would be impacted by this proposed amendment is SAL-11 (The application of road salt). With the Town of Aurora Well 7 becoming operational, the WHPA-D now extends into the Toronto and Region Source Protection Area. The Ministry would be responsible for the implementation of SAL-11 within the WHPA-D for the Town of Aurora Well 7.

| Threat Reference | Policy Reference   |
|------------------|--|
| Road Salt        | <p style="text-align: center;">SAL-11</p> <p><b>Specify Action</b></p> <p>Where the application of road salt is, or would be, a moderate or low drinking water threat, the Ministry of the Environment and Climate Change in consultation with other provincial ministries and municipal associations should promote best management practices for the application of road salt, to protect sources of municipal drinking water in any of the following areas:</p> <ul style="list-style-type: none"> <li>• WHPA-A (VS = 10) (existing, future); or</li> <li>• WHPA-B (VS ≤ 10) (existing, future); or</li> <li>• WHPA-C (existing, future); or</li> <li>• WHPA-D (existing, future); or</li> <li>• WHPA-E (VS ≥ 4.5 and &lt;9) (existing, future); or</li> <li>• HVA (existing, future); or</li> <li>• SGRA (VS ≥ 6) (existing, future).</li> </ul> |

## NEXT STEPS

Once the public consultation period ends on **February 20, 2020**, written comments will be reviewed and if necessary, changes will be made to the Toronto and Region Assessment Report text and mapping. The amendments will then be received by the Toronto & Region Source Protection Authority for endorsement and authorization to submit the documents to the Ministry of the Environment, Conservation and Parks. Lastly, the proposed amendments will be considered by the Minister for approval.

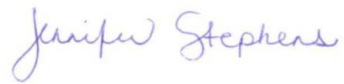
## REQUEST FOR WRITTEN COMMENTS

At this time, we welcome any additional feedback on the proposed amendments in writing. These comments can be sent via email to [Don.Ford@trca.ca](mailto:Don.Ford@trca.ca) by **5:00 pm** on **Thursday, February 20, 2020**. If you require further information or have any questions concerning this correspondence, please do not hesitate to contact Don Ford (416-661-6600, Ext. 5369).

Ms. Elizabeth Forrest  
Source Protection Programs Branch, MECP  
January 20, 2020

Thank you, in advance, for your continued support and participation in efforts to protect our sources of drinking water.

Best regards,



Jennifer Stephens  
Program Manager, CTC Source Protection Region

cc: Don Ford, Senior Manager, Toronto and Region Conservation Authority ([Don.Ford@trca.ca](mailto:Don.Ford@trca.ca))  
Laurie Nelson, Director, Toronto and Region Conservation Authority ([Laurie.Nelson@trca.ca](mailto:Laurie.Nelson@trca.ca))  
Source Protection Programs Branch ([sourceprotection@ontario.ca](mailto:sourceprotection@ontario.ca))

**Enclosures:**

**Attachment 1:** Notice – Public Consultation on Amendments to Approved CTC Source Protection Plan

**Attachment 2:** List of Proposed Amendments to the Toronto and Region Assessment Report

**Attachment 3:** Responses to MECP Pre-Consultation Comments

**Attachment 4:** Consultation Summary Document - Outlines text and revised figures from the Toronto and Region Assessment Report which have changed as a result of the new Aurora well becoming operational.

# NOTICE OF PUBLIC CONSULTATION

## Amendments to the Approved Credit Valley – Toronto and Region – Central Lake Ontario (CTC) Source Protection Plan

January 16 – February 20, 2020



The Approved CTC Source Protection Plan (2015) identifies and evaluates water quality and quantity threats to municipal sources of drinking water. The Plan requires the action of multiple stakeholders and property owners to protect the water supplying municipal drinking water systems.

This amendment involves the addition of a new municipal drinking water supply well in Aurora and the removal of a municipal supply well in Newmarket, resulting in an expansion of vulnerable areas into the Toronto and Region Source Protection Area.

Hard copies of the Proposed Amended CTC Source Protection Plan, including the Toronto and Region Assessment Report can be viewed during regular office hours at the following locations:

Toronto and Region Conservation Authority – 101 Exchange Avenue, Vaughan, ON  
Lake Simcoe Region Conservation Authority - 120 Bayview Parkway, Newmarket, ON

The documents are also available on-line at: [www.ctcswp.ca](http://www.ctcswp.ca) and [www.ourwatershed.ca](http://www.ourwatershed.ca)

Comments must be submitted in writing and are requested by 5:00 pm on **Thursday, February 20, 2020** addressed to:

Don Ford, Senior Manager, Hydrogeology and Source Water Protection  
E-mail: [Don.Ford@trca.ca](mailto:Don.Ford@trca.ca)  
Mail: 101 Exchange Avenue, Vaughan, ON L4K 4R6

For further information, please contact [Don.Ford@trca.ca](mailto:Don.Ford@trca.ca) or 416-661-6600 Ext. 5369.



**CTC Source Protection Region**

Toronto and Region Source Protection Authority

# Toronto and Region Assessment Report

## NOTICE OF AMENDMENTS

Amendments to this document, made under Ontario Regulation 287/07, Section 34, following its approval in July 2015 and first amendment (March 2019), are summarized in the table below.

**DATE AMENDMENTS POSTED: Thursday, January 16, 2020**

| No. | Section of Toronto and Region Assessment Report | Brief Description of Proposed Amendment                            | Estimated Timing to Submit Proposed Amendment to the Ministry of the Environment, Conservation and Parks |
|-----|---|--|--|
| 1.  | Preface, Figure ES.7                            | Update figure to include WHPA-D for Aurora Well PW7.               | May 2020   |
| 2.  | Chapter 4, Section 4.2                          | Addition of reference to Newmarket - Aurora Wellfield.             |  |
| 3.  | Chapter 4, Figure 4.5                           | Update figure to include WHPA-D for Aurora Well PW7.               |  |
| 4.  | Chapter 4, Section 4.4                          | Addition of reference to Newmarket - Aurora Wellfield.             |  |
| 5.  | Chapter 4, Figure 4.24                          | Wellhead Protection Area mapping for Aurora Well PW7.              |  |
| 6.  | Chapter 4, Figure 4.25                          | Intrinsic Vulnerability mapping for Aurora Well PW7.               |  |
| 7.  | Chapter 4, Figure 4.26                          | Vulnerability Scoring for Aurora Well PW7.                         |  |
| 8.  | Chapter 4, Table 4.5                            | Uncertainty - Addition of Newmarket - Aurora Wellfield.            |  |
| 9.  | Chapter 5, Section 5.5.2                        | Statement that no significant drinking water threats in WHPA-D.    |  |
| 10. | Chapter 7                                       | Update Bibliography to include new reference to foundation report. |  |
| 11. | Appendix D, Section D2-1                        | Update section to include Aurora Drinking Water System.            |  |
| 12. | Appendix D, Table D2-1                          | Update table with new technical report.                            |  |
| 13. | Appendix D, Section D2-5                        | Update Reference List to include new foundation report.            |  |
| 14. | Appendix E, Section 4.3.5                       | Addition of Newmarket – Aurora Wellfield.                          |  |

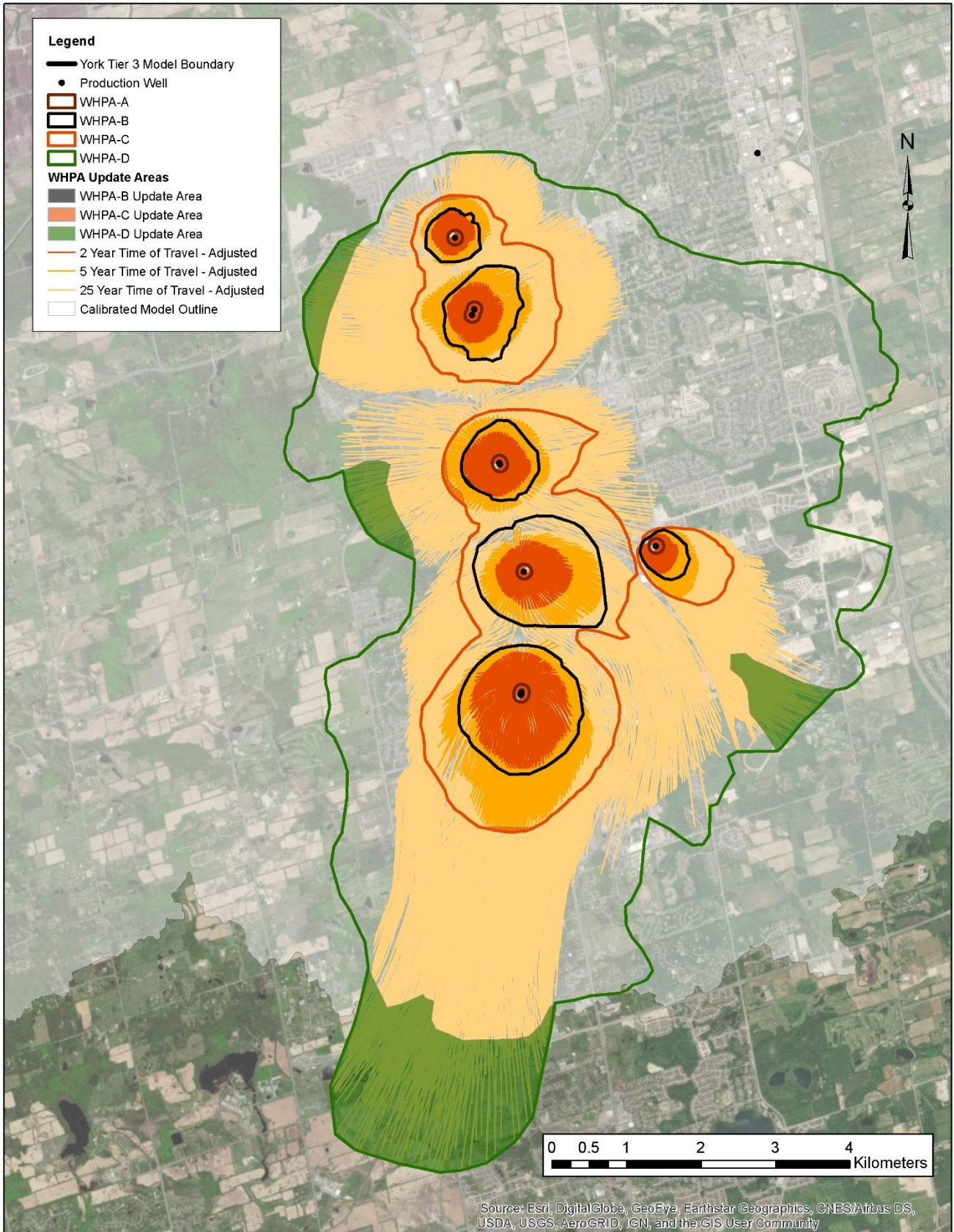


**Attachment 3: Responses to MECP Pre-Consultation Comments**

**Comments from Stacey Baker, Received Dec. 10, 2019; Angelune Deslauriers, Received Dec. 11, 2019**

| Comment  | Response   |
|--|--|
| <p>Just a reminder that the source protection plan must include a summary of the consultation activities undertaken for the amendments to the Assessment Report and/or Source Protection Plan, even if all previously approved policies would apply to the new vulnerable areas.</p>   | <p>Once the public consultation period is complete, the CTC Source Protection Plan and Explanatory Document will be edited to reference the consultation activities associated with this third amendment.</p>  |
| <p>Please give some consideration if it would be appropriate to edit the timing of implementation for certain existing threat policies as a result of these amendments.</p>  | <p>Only moderate and low drinking water threats are possible in the WHPA-D. The corresponding policies in the CTC Source Protection Plan which apply to such threats are already being implemented by municipalities impacted by this amendment. Therefore, there are no implementation timelines to consider.</p>   |
| <p>Consider whether it would be appropriate for the source protection plan to include edits to any transition provisions.</p>  | <p>The text of the transition provision in the CTC Source Protection Plan will be reviewed as part of the fourth amendment expected to be complete in Q3 of FY 2020-2021. The transition provision would have no impact on this amendment given that there are no significant drinking water threats.</p>  |
| <p>Additional justification should be provided for using the maximum permitted water taking rates for all the production wells instead of the daily average water taking rate (i.e., less than half the maximum permitted rate). The delineation report suggests this is a conservative approach to capture the peak demand period. However, the model simulates pumping at the maximum peak demand in perpetuity rather than during an annual short-term peaking period. Furthermore, even during the peaking period, the maximum permitted rate cannot be pumped continuously as the daily average permitted rate during the peaking period is lower than the maximum permitted rate (i.e., about 25% lower). The simulation of the maximum permitted water taking</p> | <p><b><u>York Region Response:</u></b><br/>                     The pumping rates applied for the 2019 WHPA delineation (Aurora and Newmarket) reflect the maximum permitted water taking rates (peak demand period); this is the same methodology applied in the previous WHPA delineation completed by Earthfx and Azimuth (2007) and accepted by the MECP in the approved Assessment Reports.</p> <p>While pumping all Yonge Street Aquifer (YSA) production wells at their maximum permitted water taking rate exceeds the daily average water taking rate of the permit, this conservative approach allows for operational flexibility to account for unforeseen operational changes over time. Furthermore, the interconnected YSA system is comprised of 18 production wells and communities are serviced by a blended groundwater and lake-based water supply system, therefore there are many combinations of servicing scenarios that can be implemented. One such example: maximum pumping, of any given well, may be required (for a prolonged duration) to meet water supply demand if other YSA wells are offline due to operational maintenance or other requirements. In such an example, it is possible to have one or multiple wells, within the interconnected YSA system, operate at maximum permitted rates and not exceed the allowable annual total taking of the permit.</p> |

|  |   |
|--|---|
| <p>rates for all production wells in perpetuity appears to be an unrealistic scenario since permit conditions prevent this from occurring.</p>   | <p>The applied WHPA delineation rates are intended to provide adequate source protection measures to account for a variety of well operation scenarios, which may occur now and into the future.</p> <p><b>References:</b><br/>Earthfx and Azimuth Environmental Consulting Inc. (2007, Revised in 2009). Vulnerability Assessment and Scoring of Wellhead Protection Areas Regional Municipality of York.</p>  |
| <p>On the early engagement teleconference on August 1, 2019, York Region mentioned that the updated Newmarket-Aurora wellhead protection area (WHPA) was extended to match the existing WHPA in some areas; however, there was no discussion of this within the report. The rationale for extending the WHPA when the updated model suggests the WHPA is smaller in some areas should be provided. Additionally, a figure comparing the existing and updated modelled WHPAs should be provided to show where the updated WHPA was extended to match the existing WHPA.</p> | <p><b>York Region Response :</b><br/>On the teleconference (August 1, 2019), York Region indicated that where the adjusted particle pathlines were ‘short’ of the original WHPA extent, the original WHPA extent was applied. This rationale was to account for uncertainty related to effective porosity and hydraulic conductivity applied within the numerical groundwater flow model. As with every numerical model, the hydrostratigraphic structure, assigned material properties, and applied boundary conditions are an interpretation of the three-dimensional flow system based on available data and professional judgement. The validity and accuracy of the model is dependent on the quality and quantity of available data relative to the complexity of the three-dimensional system; therefore, some element of uncertainty will always exist when modelling groundwater flow systems in a complex setting such as this. Since the ultimate goal of the WHPA delineation is to safeguard drinking water supplies, a conservative approach is warranted to ensure adequate protection measures are implemented.</p> <p>The attached figure (Figure 17) illustrates the extent of the original and new WHPAs with the particle pathlines overlain. Please note that the ‘shaded areas’ were not part of the original WHPAs, i.e., they represent the extended shape of the new WHPAs. Also note that this figure is in DRAFT form, and will be part of the Golder report once finalized.</p> |
| <p>Pre-consultation Summary: Yonge Street Aquifer (YSA) Water Supply System – Aurora Well PW7</p> <p>Page 11 - Section E4.3.5 Newmarket – Aurora: The third sentence should be edited to ‘extends’.</p>  | <p>Correct. The text has been edited accordingly.</p>   |
| <p>Notice of Amendments – Toronto and Region Assessment Report</p> <p>Title for second column in the table references the Credit Valley Assessment Report. Should it say the Toronto Region Assessment Report?</p>   | <p>Correct. The table has been edited accordingly.</p>  |



CLIENT  
York Region

**DRAFT**

PROJECT  
Yonge Street Aquifer Groundwater Model Calibration

|            |            |            |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2019-08-06 |
|            | PREPARED   | JER        |
|            | DESIGN     | JER        |
|            | REVIEW     |            |
|            | APPROVED   |            |



TITLE  
Figure 17 – Adjusted Time-of-Travel Pathlines

PROJECT No.  
1661374

Rev.  
1



CTC Source Protection Region



## Public Consultation Summary

### Yonge Street Aquifer (YSA) Water Supply System – Aurora Well 4

Technical Work Completed to comply with requirements under the *Clean Water Act, 2006*

January 16 – February 20, 2020

**PUBLIC CONSULTATION**  
**SUMMARY OF PROPOSED AMENDMENTS TO THE**  
**CTC SOURCE PROTECTION PLAN (INCLUDING TORONTO AND REGION ASSESSMENT REPORT)**

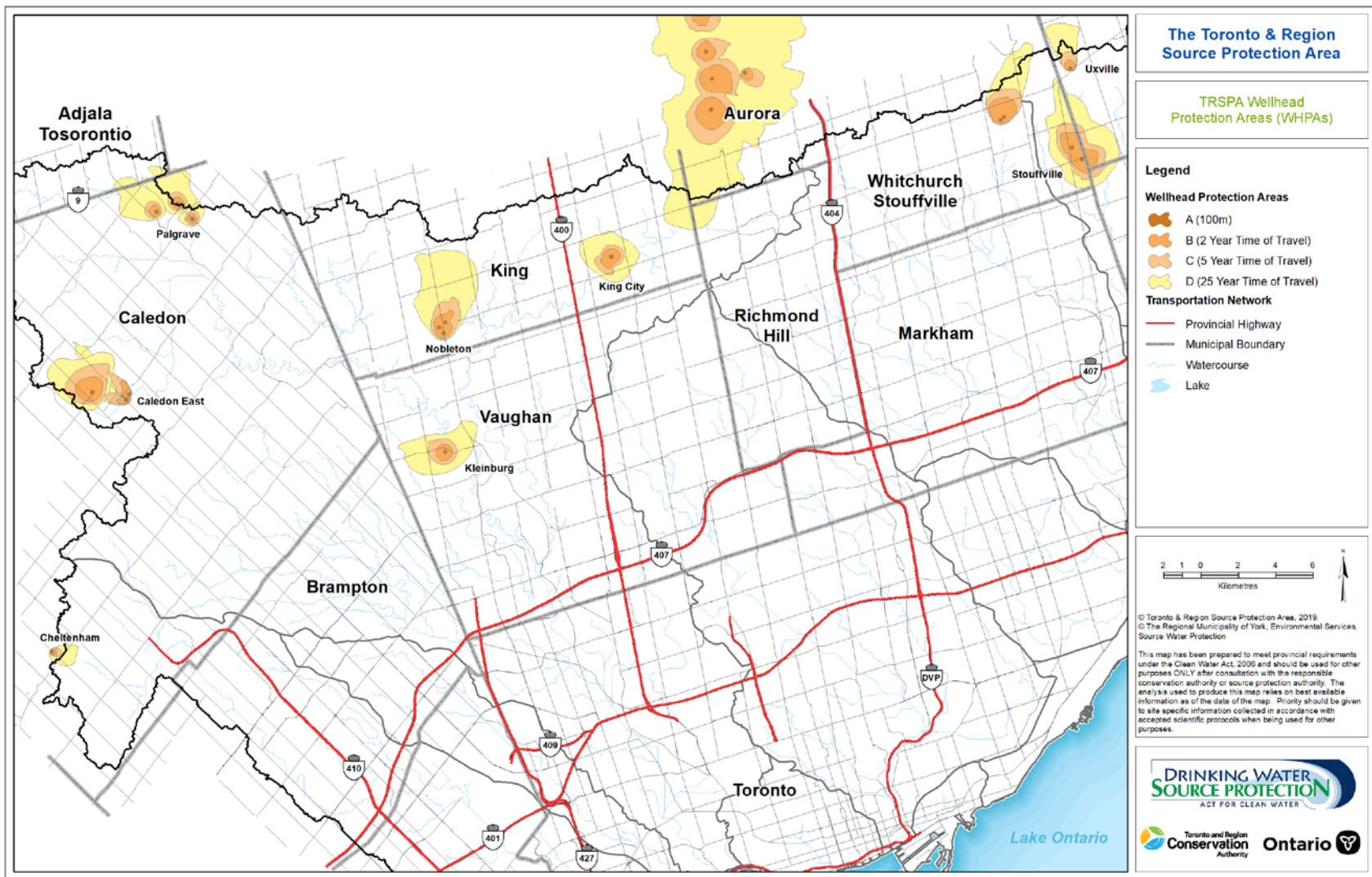
**Pursuant to Section 34 of Ontario Regulation 287/07 of the Clean Water Act, 2006**

**January 16 – February 20, 2020**

The Yonge Street Aquifer (YSA) Well Capacity Restoration Environmental Assessment identified a new well location in the Town of Aurora aimed at recovering lost well capacity due to aging infrastructure and water quality issues within the existing YSA well system. In 2016, a new production well was constructed in Aurora (Aurora PW7). A production well in Newmarket (Newmarket PW14) has had performance and water quality issues over the past few years and will be removed from the system for these reasons.

Although the existing maximum permitted water taking rates for the other YSA wells, and the overall YSA maximum permitted capacity will remain the same, the changes in water takings will alter the existing Aurora and Newmarket Wellhead Protection Areas (WHPAs). Although Aurora PW7 and Newmarket PW14 are over 5 kilometres from the Toronto and Region Source Protection Area (TRSPA), the changes do result in a small extension of the WHPA-D into TRSPA.

Per Section 34 of Ontario Regulation 287/07 of the *Clean Water Act, 2006*, this document summarizes the sections of the Assessment Report and mapping which have changed to reflect the proposed amendments (highlighted in yellow) listed in the attached Notice.



Figures ES:7; 4.5: Wellhead Protection Areas in the Toronto and Region Source Protection Area

## CHAPTER 4 – ASSESSING VULNERABILITY OF DRINKING WATER SOURCES

### 4.2 GROUNDWATER VULNERABILITY - WELLHEAD PROTECTION AREAS (WHPAs)

The groundwater-based municipal supplies in the TRSPA are currently delivered through ~~seven~~ six active drinking water systems which have a total of 20 wells. In addition, the Aurora-Newmarket groundwater-based municipal system is located outside of the TRSPA, but the combined WHPA-D for these wells extends into the TRSPA.

Mapping of WHPAs has been completed by consultants working for the respective regional municipalities and then peer reviewed by consultants under the direction of the CTC SPC. The WHPAs have been mapped for all of the following 20 municipal wells in the TRSPA watersheds jurisdiction:

- Caledon East (3 wells);
- Palgrave (3 wells);
- Nobleton (3 wells);
- Kleinburg (2 wells);
- King City (2 wells);
- Whitchurch-Stouffville (5 wells); and
- Uxville (2 wells).

In 2019, York Region conducted a wellhead protection study for Aurora PW7, located at the Aurora PW5 site, located immediately outside of the TRSPA.

### 4.4 YORK REGION – TOWNS OF NOBLETON, KLEINBURG, KING, AND WHITCHURCH-STOUFFVILLE

#### 4.4.1 Geological Setting

York Region operates four groundwater-based municipal drinking water supplies within the TRSPA. These systems include:

- Nobleton (3 wells);
- Kleinburg (2 wells);
- King City (2 wells); and
- Whitchurch-Stouffville (5 wells).

These systems are located in the headwaters of the Humber River System, with the exception of Whitchurch-Stouffville, which is in the headwaters of both the Rouge River and Duffins Creek watersheds. All of the wells are screened in the overburden, with depths ranging up to 100 m below grade. Further details on the setting for each wellfield are provided below.

York Region also operates two groundwater-based municipal drinking water supplies immediately adjacent to the TRSPA where the wellhead protection area extends into the TRSPA. These systems include:

- Aurora (7 wells); and
- Newmarket (5 wells).

These systems are located in the East Holland watershed.

#### 4.4.7 Newmarket - Aurora WHPA Delineation and Vulnerability Scoring

In 2016, a new production well was constructed in Aurora (Aurora PW7) to recover lost well capacity due to aging infrastructure and water quality issues within the existing Yonge Street Aquifer (YSA) well system. In addition, a production well in Newmarket (Newmarket PW14) has had performance and water quality issues over the past few years and will be removed from the system for these reasons. Although the existing maximum permitted water taking rates for the other YSA wells, and the overall YSA maximum permitted capacity will remain the same, the changes in water takings will alter the existing Aurora and Newmarket Wellhead Protection Areas (WHPAs).

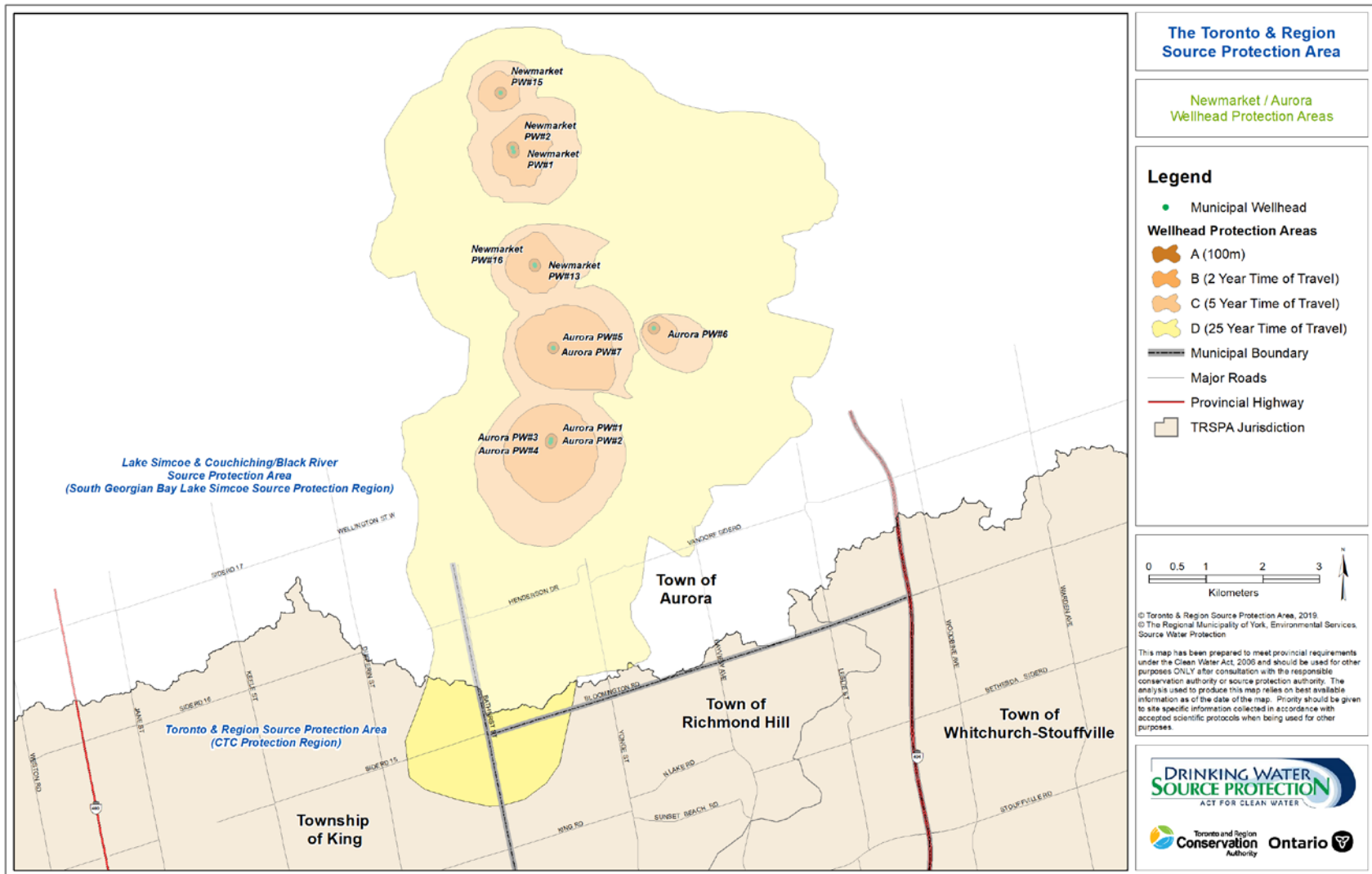
In 2013, Phase 1 of the York Tier 3 Water Budget study was developed and designed in accordance with the *Clean Water Act, 2006*, and the *Technical Rules* (November 2009). In 2019, the 2013 regional groundwater flow model went through a re-calibration process, within the YSA footprint, to reflect new data collected as part of the detailed hydrogeological investigation (AECOM, 2017).

In general, the 2019 and 2007 WHPAs are similar in size and shape with a few minor differences. Adjustments resulted in an approximate 1.8 km long extension of the WHPA-D in the southwest direction (towards Bathurst St., between 15th Sideroad and King Road) into TRSPA. Adjustments to the WHPAs reflect minor updates in time-of-travel estimates and simulated flow directions as a result of the local model re-calibration effort. The resultant WHPA map is shown on **Figure 4.24**, while the mapping of vulnerability is shown on **Figure 4.25**. The map showing the vulnerability scores for the Newmarket – Aurora wellfield is shown on **Figure 4.26**.

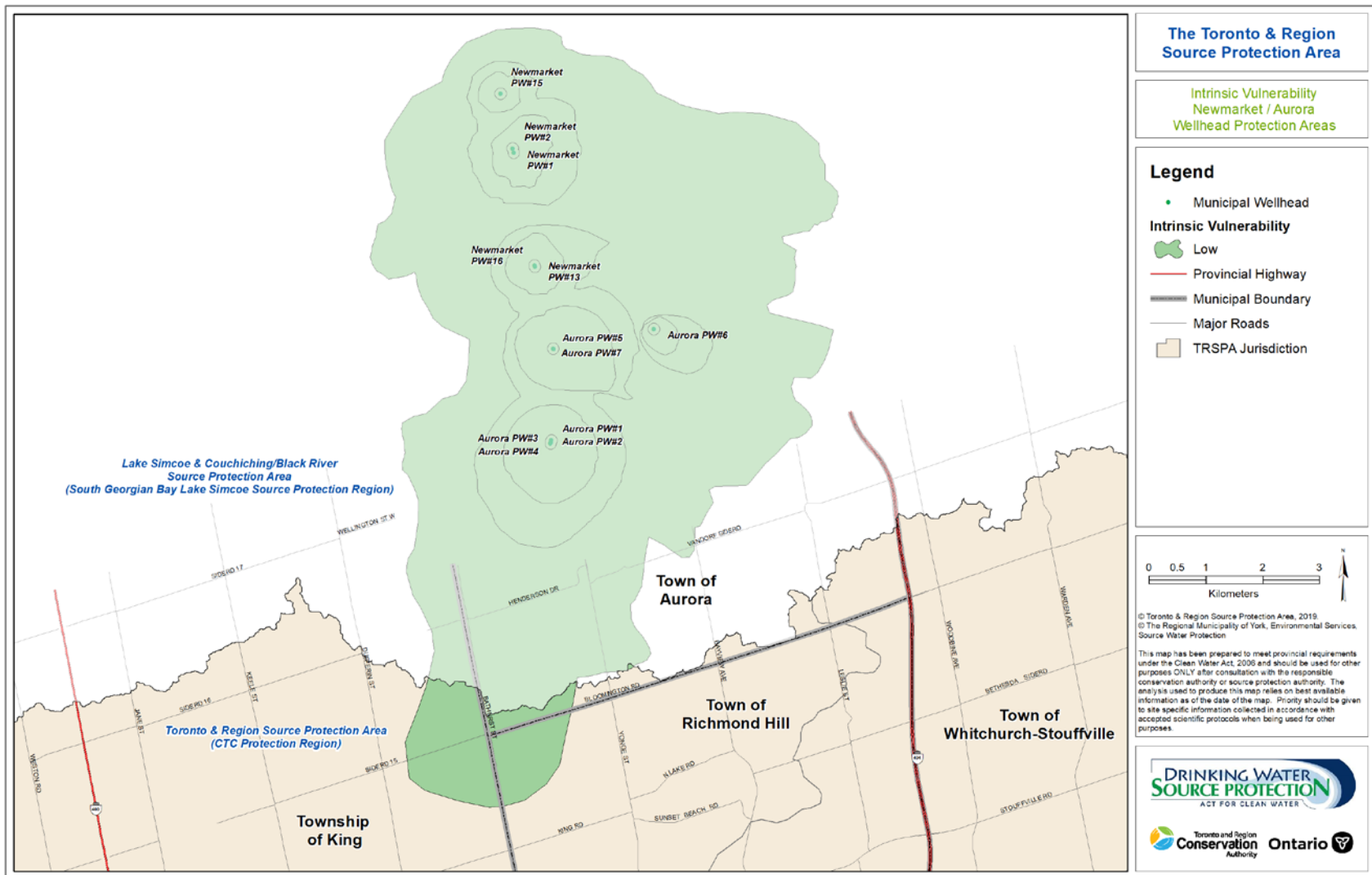
| Well                   | Uncertainty Type                      | WHPA-A     | WHPA-B     | WHPA-C     | WHPA-D     |
|------------------------|---------------------------------------|------------|------------|------------|------------|
| Nobleton               | Delineation of WHPA                   | Low        | Low        | Low        | Low        |
|                        | Vulnerability Scoring                 | Low        | Low        | Low        | Low        |
|                        | <b>Overall – Vulnerability Scores</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> |
| Kleinburg              | Delineation of WHPA                   | Low        | Low        | Low        | Low        |
|                        | Vulnerability Scoring                 | Low        | Low        | High       | Low        |
|                        | <b>Overall – Vulnerability Scores</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> |
| King City              | Delineation of WHPA                   | Low        | Low        | Low        | Low        |
|                        | Vulnerability Scoring                 | Low        | Low        | Low        | Low        |
|                        | <b>Overall – Vulnerability Scores</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> |
| Whitchurch-Stouffville | Delineation of WHPA                   | Low        | Low        | Low        | Low        |
|                        | AVI computation                       | Low        | Low        | Low        | Low        |
|                        | <b>Overall – Vulnerability Scores</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> |
| Aurora                 | Delineation of WHPA                   | Low        | Low        | Low        | Low        |
|                        | AVI computation                       | Low        | Low        | Low        | Low        |
|                        | <b>Overall – Vulnerability Scores</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> | <b>Low</b> |

**Table 1: Uncertainty Assessment - York Region**





**Figure 4.24: Wellhead Protection Areas (WHPAs) – Yonge Street Aquifer (YSA) Water Supply System – Aurora**



**Figure 4.25: Groundwater Vulnerability of WHPAs — Yonge Street Aquifer (YSA) Water Supply System – Aurora**

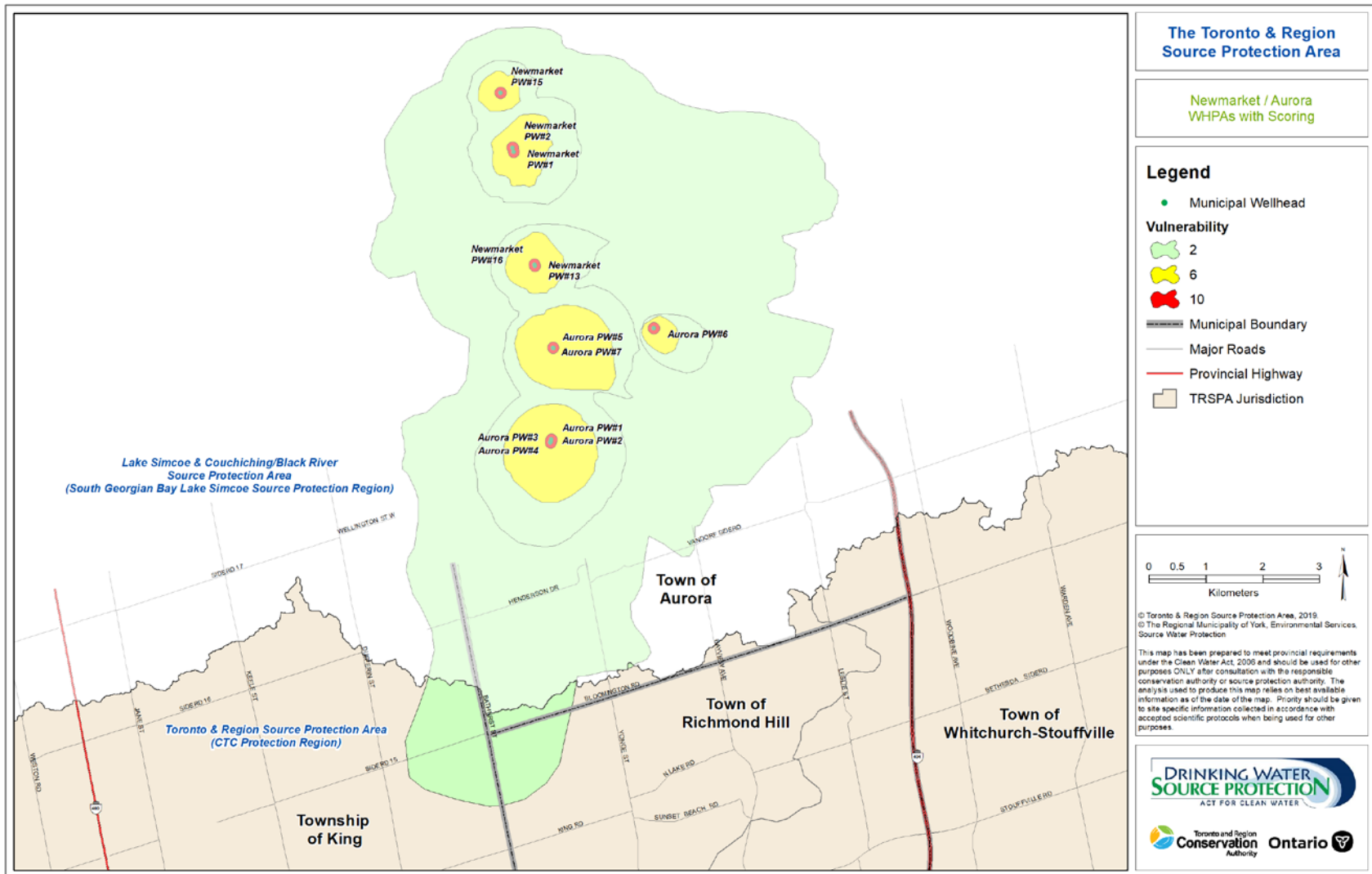


Figure 4.26: Vulnerability Scores for WHPAs - Yonge Street Aquifer (YSA) Water Supply System – Aurora

## CHAPTER 5 – ASSESSING VULNERABILITY OF DRINKING WATER SOURCES

### 5.5.2 DRINKING WATER THREATS - YORK REGION

#### Newmarket – Aurora Threats and Issues

There are no significant drinking water threats from the Newmarket - Aurora Drinking Water System within the TRSPA given that the WHPA-D has a vulnerability score of 2.

## CHAPTER 7 – REFERENCES

AECOM. (2017). *Hydrogeological Report in Support of Yonge Street Aquifer Permit to Take Water Amendment, draft for discussion*. September 29, 2017.

York, Region of. (2019). *Wellhead protection Area Delineation, Vulnerability Assessment and Threat Assessment in Support of Updates to the Newmarket and Aurora Wellfields*. July 2019. Newmarket, ON: Region of York.

## APPENDIX D – ASSESSING VULNERABILITY OF DRINKING WATER SOURCES

### D2 VULNERABILITY ANALYSIS

#### D.2.1 Wellhead Protection Areas

As described in **Chapter 4** of the Assessment Report, there are 20 21-Well Head Protection Areas (WHPAs) for six groundwater-based municipal drinking water systems within the TRSPA. In addition, the WHPA-D for the Newmarket – Aurora groundwater-based system extends into the TRSPA. The groundwater-based municipal drinking water systems service the following communities:

- Palgrave-Caledon East (Palgrave 3 wells, Caledon East 3 wells);
- Kleinburg (2 wells);
- Nobleton (3 wells);
- King City (2 wells);
- Whitchurch-Stouffville (5 wells); and
- Uxville (2 wells).

#### D2.5 References

York, Region of. (2019). *Wellhead protection Area Delineation, Vulnerability Assessment and Threat Assessment in Support of Updates to the Newmarket and Aurora Wellfields*. July 2019. Newmarket, ON: Region of York.

| Regional Municipality | Component                                    | Wells  | Consultant: Study Title: Study Date  |
|-----------------------|--|--|--|
| York                  | WHPA A-D Delineation & Vulnerability Scoring | King City 3 & 4<br>Kleinberg 3 & 4<br>Nobleton 2, 3 & 5<br>Stouffville 1, 2, 3, 5 & 6<br>Aurora 1, 2, 3, 4, 5, 6 & 7 | <b>EarthFx Incorporated:</b><br><b>November 2007</b> - <i>Vulnerability Assessment and Scoring of Wellhead Protection Areas Regional Municipality of York (Earthfx, 2007b)</i><br><b>October 2008</b> - <i>Vulnerability Assessment and Scoring of Wellhead Protection Areas Regional Municipality of York (Earthfx, 2008c)</i><br><b>November 2009</b> - <i>Updated Vulnerability Assessment and Scoring Wellhead Protection Areas Region of York (Earthfx, 2009)</i><br><b>July 2019</b> – <i>Wellhead Protection Area Delineation, Vulnerability Assessment and Threat Assessment in Support of Updates to the Newmarket and Aurora Wellfields (York, 2019)</i> |

**Table D2-1: Wellhead Protection Area Reports**

## APPENDIX E – DRINKING WATER THREATS ASSESSMENT

### **E4.3.5 Newmarket – Aurora**

The Yonge Street Aquifer Water Supply System is located in the South Georgian Bay – Lake Simcoe Source Protection Region. As described in York Region (2019), changes in water takings associated with the addition of Aurora Well PW7 and the removal of Newmarket Well 14, will alter existing Wellhead Protection Areas (WHPAs). The WHPA-D associated with the Newmarket – Aurora Wellfield now extends into the Toronto and Region Source Protection Area. The methodology and assumptions outlined in Technical Memorandum A3 (Stantec, 2010) were used to determine the managed land, livestock density, and impervious surfaces in the WHPA-D.

#### **E4.3.5.1 Managed Land and Livestock Density**

The managed land calculations were completed in accordance with the Technical Bulletin issued in December 2009. Although the managed land percentage for the WHPA-D is not required under the *Technical Rules*, it was calculated at more than 40% and less than 80% (Figure E3-25). Livestock density in the WHPA-D was determined to be less than 0.5 nutrient units by acre (Figure E3-26).

#### **E4.3.5.2 Impervious Surfaces**

The road network was compiled by York Region, which includes primary and secondary roads in the Region. Sidewalks, parking lots and driveways (which could receive road salt) were excluded from this assessment, following the methodology of previous assessments (Stantec, 2010). The 1 km<sup>2</sup> grid was provided by Lake Simcoe Region Conservation Authority (LSRCA) and was overlain on the road network.

Most of the WHPA-D footprint was categorized as greater than 8% and less than 80% impervious (Figure E3-26). Some areas were categorized as greater than 1% and less than or equal to 8% impervious.

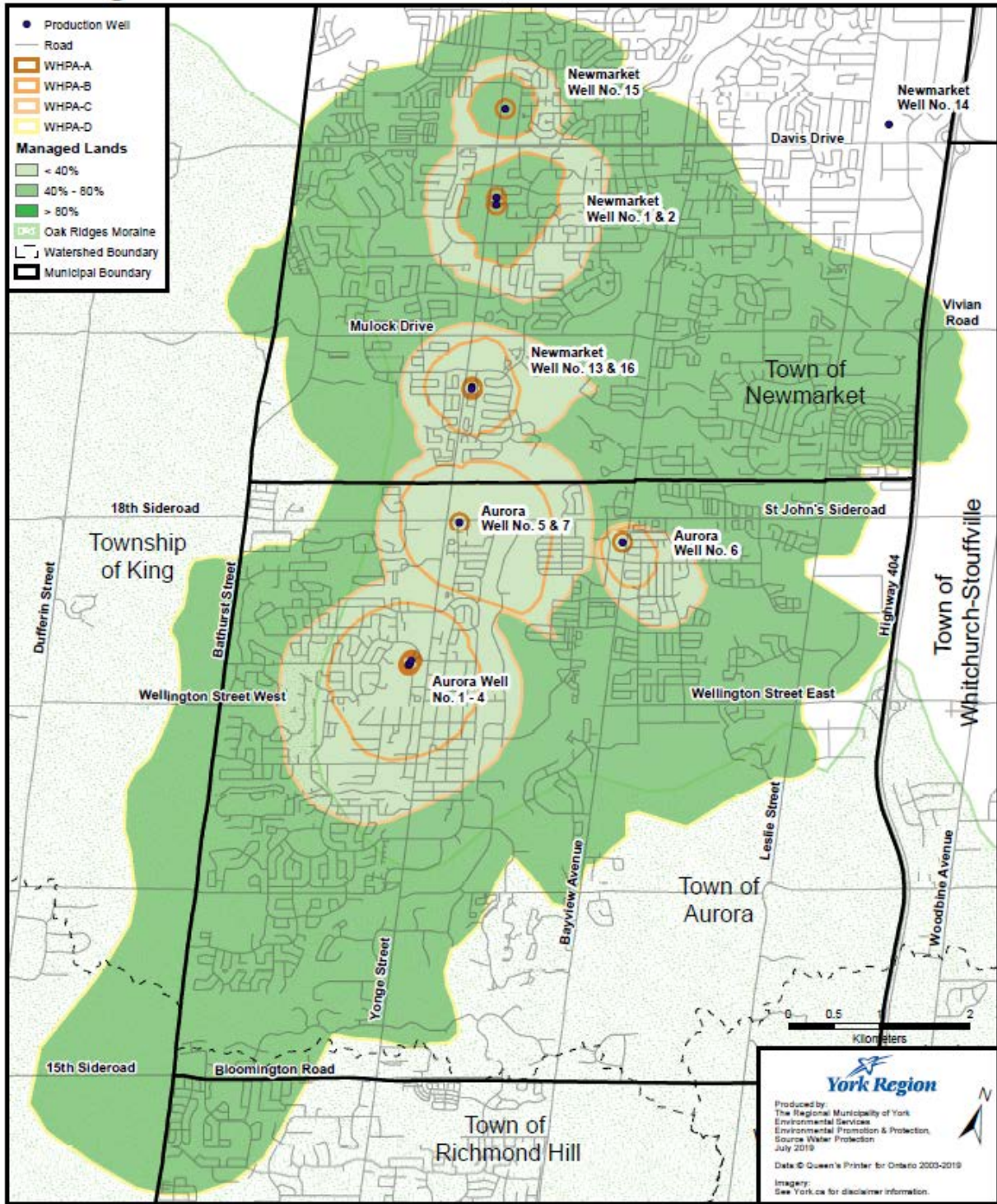


Figure E3-25: Percent Managed Land – Newmarket - Aurora (York Region, 2019)



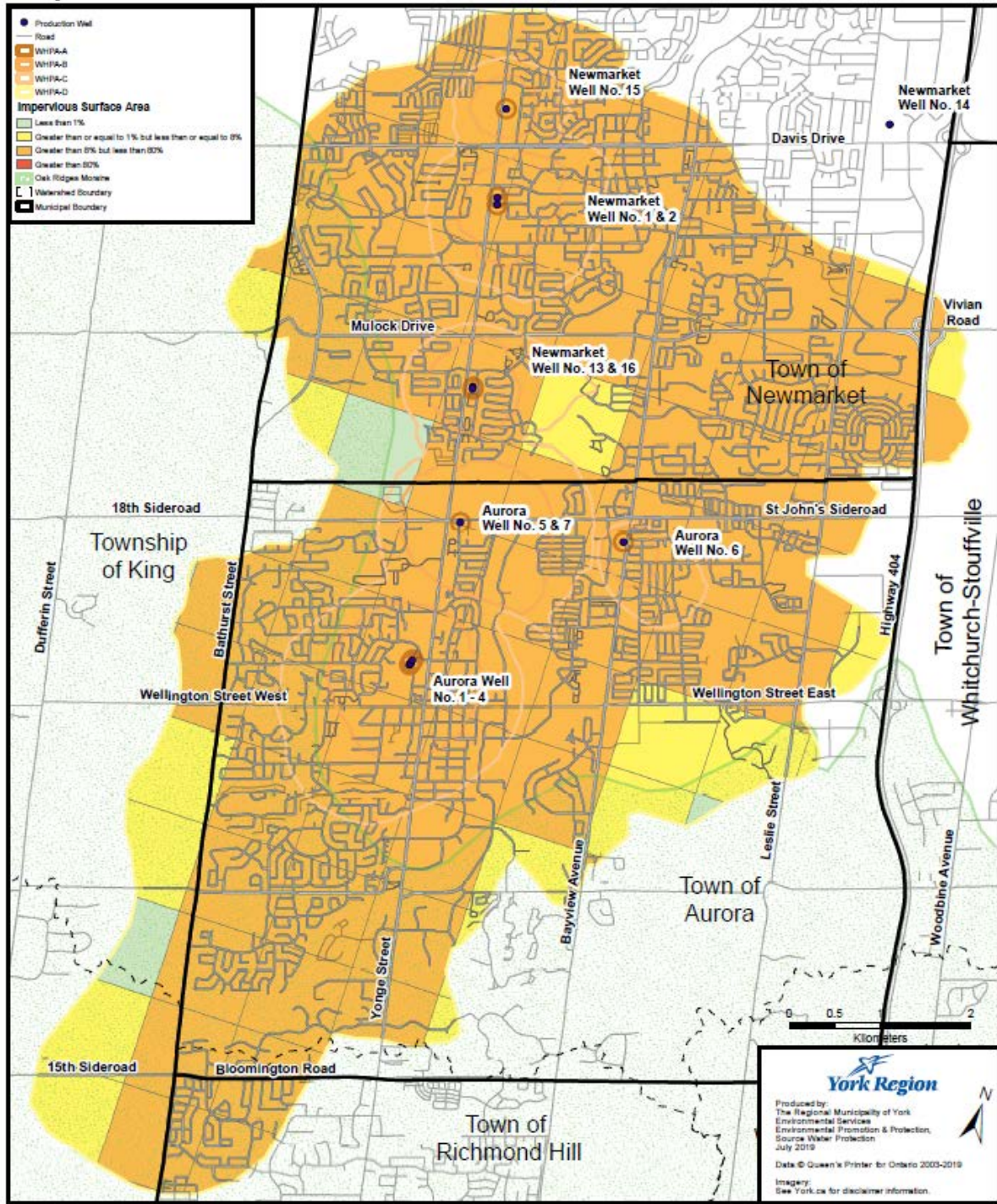


Figure E3-27: Impervious Surfaces – Newmarket - Aurora (York Region, 2019)



Via email: [stephen.huycke@richmondhill.ca](mailto:stephen.huycke@richmondhill.ca)

January 16, 2020

Stephen Huycke  
Clerk  
City of Richmond Hill  
225 East Beaver Creek  
Richmond Hill, ON L4B 3P4

Dear Mr. Huycke:

**RE: AMENDMENTS TO THE CREDIT VALLEY – TORONTO AND REGION – CENTRAL LAKE ONTARIO (CTC) SOURCE PROTECTION PLAN**

**Notification of Consultation Pursuant to Sections 34(3) of the *Clean Water Act, 2006* and *Ontario Regulation 287/07***

**Written Comments due by Thursday, February 20, 2020**

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The Toronto and Region Source Protection Authority (TRSPA) is proposing amendments to the Credit Valley – Toronto and Region - Source Protection Plan under Section 34 of the *Clean Water Act, 2006*. These amendments will incorporate new technical work completed at the Town of Aurora Well 7 and remove the Town of Newmarket Well 14 since it is no longer in use. Over the past several months, Toronto and Region Conservation Authority staff have been working with York Region staff to finalize these amendments.

The purpose of this correspondence is to inform the City of Richmond Hill of the public consultation period which began today and the opportunity to submit written comments regarding the amendments to the CTC Source Protection Plan. This correspondence is a follow-up to an earlier Pre-Consultation Notice sent out on October 30, 2019 concerning the same amendment package. The public consultation period will extend from **January 16, 2020 through February 20, 2020**.

## **BACKGROUND**

Section 34 of the *Clean Water Act, 2006* provides a Source Protection Authority (SPA) with the option to propose amendments to the source protection plan. As part of the Section 34 process, SPAs are required by the Province to inform the public of the proposed changes during **public consultation**. The public consultation period is to take place for a minimum duration of 35 days.

During the public consultation period, the proposed amendments will be available to view online at the CTC Source Protection Region [website](#). The proposed amendments may also be viewed during regular business hours at the Lake Simcoe Region Conservation Authority (120 Bayview Parkway, Newmarket) and Toronto and Region Conservation Authority (101 Exchange Avenue, Vaughan) Offices.

Mr. Stephen Huycke  
City of Richmond Hill  
January 16, 2020

A Notice of this Public Consultation will be published in three newspapers (The Newmarket Era, The East Gwillimbury Express, and The Aurora Banner) on January 16<sup>th</sup> and online at [www.ourwatershed.ca](http://www.ourwatershed.ca) and [www.ctcswp.ca](http://www.ctcswp.ca) to inform the public of the amendments and request written comments to be submitted by the consultation deadline.

## IMPACT ON THE CITY OF RICHMOND HILL

The following policies in the [CTC Source Protection Plan](#) would apply to moderate and low drinking water threats in the WHPA-D which extends into the City of Richmond Hill as a result of the Town of Aurora Well 7 becoming operational.

| Threat Reference                | Policy Reference |
|---------------------------------|------------------|
| Road Salt                       | SAL-10; SAL-12   |
| Dense Non-Aqueous Phase Liquids | DNAP-3           |
| Organic Solvents                | OS-3             |

## NEXT STEPS

Once the public consultation period ends on **February 20, 2020**, written comments will be reviewed and if necessary, changes will be made to the Toronto and Region Assessment Report text and mapping. The amendments will then be received by the Toronto & Region Source Protection Authority for endorsement and authorization to submit the documents to the Ministry of the Environment, Conservation and Parks. Lastly, the proposed amendments will be considered by the Minister for approval.

## REQUEST FOR WRITTEN COMMENTS

At this time, we welcome any additional feedback on the proposed amendments in writing. These comments can be sent via email to [Don.Ford@trca.ca](mailto:Don.Ford@trca.ca) by **5:00 pm** on **Thursday, February 20, 2020**. If you require further information or have any questions concerning this correspondence, please do not hesitate to contact Don Ford (416-661-6600, Ext. 5369).

Thank you, in advance, for your continued support and participation in efforts to protect our sources of drinking water.

Best regards,



Jennifer Stephens  
Program Manager, CTC Source Protection Region

cc: Andrew Crawford, City of Richmond Hill ([Andrew.Crawford@richmondhill.ca](mailto:Andrew.Crawford@richmondhill.ca))  
Scott Lister, Risk Management Official, York Region ([scott.lister@york.ca](mailto:scott.lister@york.ca))  
Don Ford, Senior Manager, Toronto and Region Conservation Authority ([Don.Ford@trca.ca](mailto:Don.Ford@trca.ca))  
Laurie Nelson, Director, Toronto and Region Conservation Authority ([Laurie.Nelson@trca.ca](mailto:Laurie.Nelson@trca.ca))

Mr. Stephen Huycke  
City of Richmond Hill  
January 16, 2020

**Enclosures:**

**Attachment 1:** Notice – Public Consultation on Amendments to Approved CTC Source Protection Plan

**Attachment 2:** List of Proposed Amendments to the Toronto and Region Assessment Report

**Attachment 4:** Consultation Summary Document - Outlines text and revised figures from the Toronto and Region Assessment Report which have changed as a result of the new Aurora well becoming operational.

January 16, 2020

Douglas Wright  
Chair, CTC Source Protection Committee

Dear Mr. Wright:

**RE: Support for actions to address over-application of winter maintenance chemicals to protect sources of municipal drinking water**

On December 12, 2019, the Lake Erie Region Source Protection Committee received report SPC-19-12-02 Winter Maintenance Chemicals: Challenges and Opportunities, and passed the following resolution:

*AND THAT the Lake Erie Region Source Protection Committee direct staff to forward report SPC-19-12-02 to the Councils of the single, upper and lower-tier municipalities within the Lake Erie Source Protection Region, all Source Protection Committees, Ontario Good Roads Association, Association of Municipalities of Ontario, and Rural Ontario Municipal Association, to request resolutions in support of the report's recommended actions and forward the resolutions to the Ontario Minister of the Environment, Conservation and Parks, Ontario Minister of Transportation, Ontario Minister of Municipal Affairs and Housing and Attorney General of Ontario.*

The report (attached) provides an overview of the ongoing issue and implications of over-application of winter maintenance chemicals, highlighting trends in the Lake Erie Source Protection Region, and includes recommended actions, including changes to the liability framework, increased requirements for winter maintenance of parking lots and changes to the Clean Water Act, 2006 framework to proactively protect municipal drinking water sources.

As per the Source Protection Committee's resolution, I am asking for the Halton-Hamilton Source Protection Committee's support of the report's recommended actions. Please forward a copy of any resolution to: Ilona Feldmann, Source Protection Program Assistant, Lake Erie Source Protection Region ([ifeldmann@grandriver.ca](mailto:ifeldmann@grandriver.ca)).

Please contact me if you have any questions or concerns about the report or the request for support.

Regards,



Martin Keller  
Source Protection Program Manager, Lake Erie Source Protection Region

## LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

**REPORT NO.** SPC-19-12-02

**DATE:** December 12, 2019

**TO:** Members of the Lake Erie Region Source Protection Committee

**SUBJECT:** **Winter Maintenance Chemicals: Challenges and Opportunities for Change**

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### **RECOMMENDATION:**

THAT the Lake Erie Region Source Protection Committee receives report SPC-19-12-02 – Winter Maintenance Chemicals: Challenges and Opportunities for Change – for information.

AND THAT the Lake Erie Region Source Protection Committee receives the Recommended Actions to Address the Over-Application of Winter Maintenance Chemicals for consideration and action.

### **REPORT:**

#### **Summary of Report Contents**

- Introduction
- Recommended Actions to Address the Over-Application of Winter Maintenance Chemicals
- Increasing Sodium and Chloride Concentrations within Groundwater Drinking Sources in Lake Erie Source Protection Region
- Liability and Other Factors Influence the Amount of Salt Applied
- Changes Needed to the Source Water Protection Director's Technical Rules

#### **Introduction**

At the October 3, 2019 Lake Erie Region Source Protection Committee (SPC) meeting, members discussed the ongoing issue of salt over-application and the increasing number of sodium and chloride Issue Contributing Areas (ICAs) across the Lake Erie Source Protection Region. Following the discussion, the committee directed Lake Erie Region staff to draft a report and recommendation(s) regarding the issue for presentation at the next SPC meeting.

This report has been written in collaboration with staff from the Grand River Conservation Authority (GRCA), City of Guelph, Region of Waterloo and Wellington Source Water Protection.

#### **Recommended Actions to Address the Over-Application of Winter Maintenance Chemicals**

To address the above concerns, the following recommendations are provided to the Lake Erie Region Source Protection Committee for consideration:

THAT the Province of Ontario explore ways to reduce the factors that contribute to excess application of winter maintenance chemicals on road ways and parking lots through a review of the liability framework in Ontario.

THAT the Province of Ontario work with municipalities to strengthen training programs for road agencies that apply winter maintenance chemicals on roads and sidewalks to reduce application rates without compromising road safety that would assist with mitigating risks to municipal drinking water systems.

THAT the Province of Ontario require property owners and contractors responsible for maintaining safe parking lots and sidewalks be trained and certified in the application of winter maintenance chemicals.

THAT the Province of Ontario change Prescribed Drinking Water Threats, “the application of road salt” and “the handling and storage of road salt” to “the application of winter maintenance chemicals” and “the handling and storage of winter maintenance chemicals”, and define the term in the regulation.

THAT the Province of Ontario change the Table of Circumstances related to the application of winter maintenance chemicals to differentiate between application on roads, sidewalks and parking lots to reflect the different liability issues and the nature of winter maintenance conducted for each surface type.

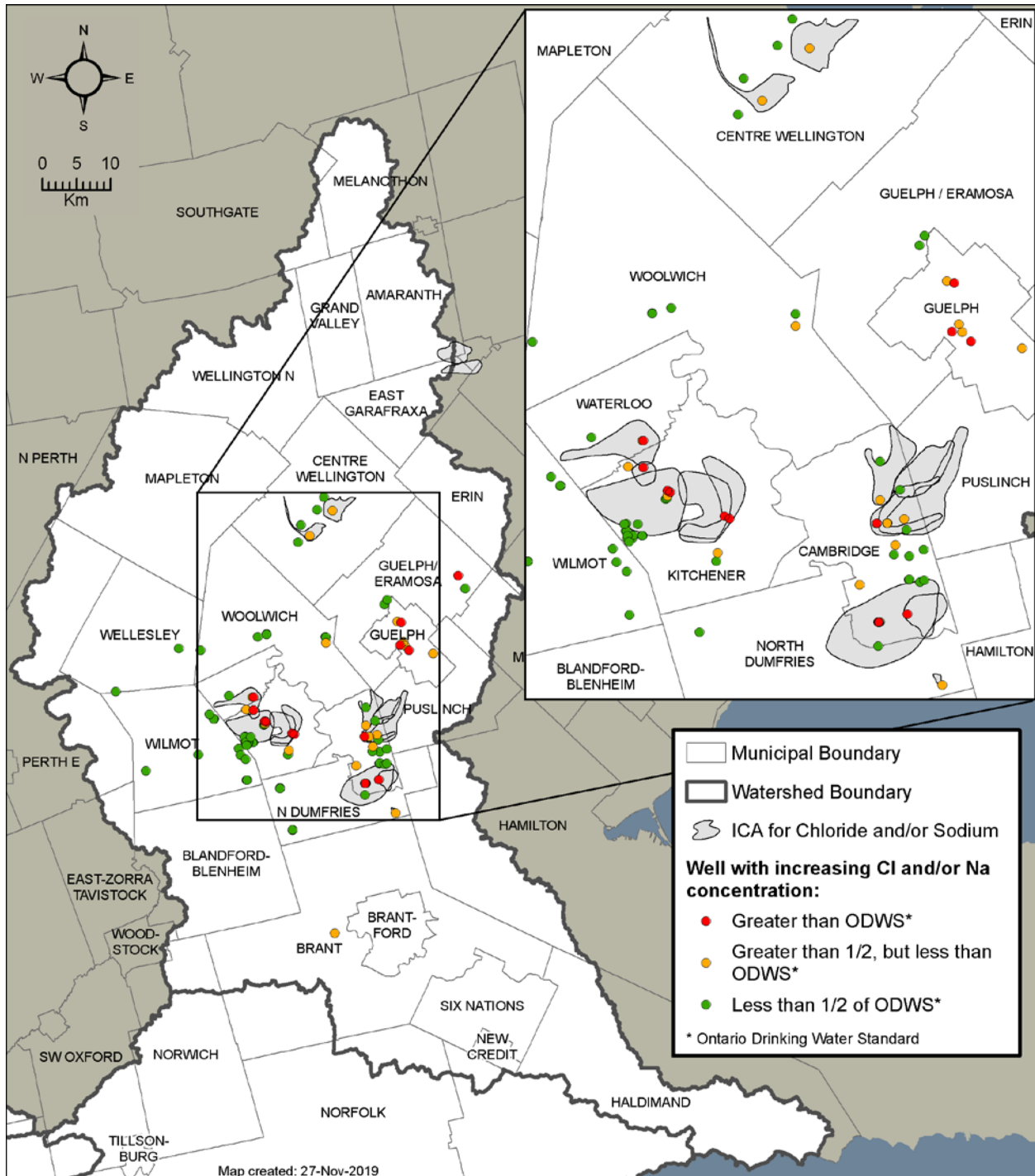
AND THAT the Province of Ontario amend the Clean Water Act’s Director’s Technical Rules to enable municipalities to proactively protect their municipal drinking water supplies from the application and storage of winter maintenance chemicals.

### **Increasing Sodium and Chloride Concentrations within Groundwater Drinking Sources in Lake Erie Source Protection Region**

Municipal water supplies within the Lake Erie Source Protection Region (LESPP) have exhibited increases in chloride and sodium concentrations. **Map 1** identifies all municipal supplies within the LESPP that are impacted by increasing chloride and sodium concentrations. Within LESPP, approximately 150 wells are impacted by increasing concentrations of chloride and/or sodium, where 34 wells have identified chloride and/or sodium as an Issue under the *Clean Water Act, 2006* and Technical Rules. **Map 1** shows the ICAs for chloride and sodium, along with municipal supply wells with increasing concentrations. Issue Contributing Areas are delineated for wells with an Issue and policies apply to address the elevated contaminant concentrations.

The impacted municipal supply wells range from small rural centres (Elora, Fergus – Centre Wellington, Guelph-Eramosa, Paris – County of Brant) to medium cities (City of Guelph, Orangeville) to large urban areas (Region of Waterloo). Examples of increasing chloride and sodium concentrations at municipal supply wells within the LESPP are described below and include Wells E3 in Elora and F1 in Fergus, the City of Guelph Water Supply Wells, William Street Wellfield in Waterloo and Well G5 in Cambridge. The Town of Orangeville Water Supply System is impacted by increasing chloride and sodium concentrations and has defined ICAs that extend into the LESPP.

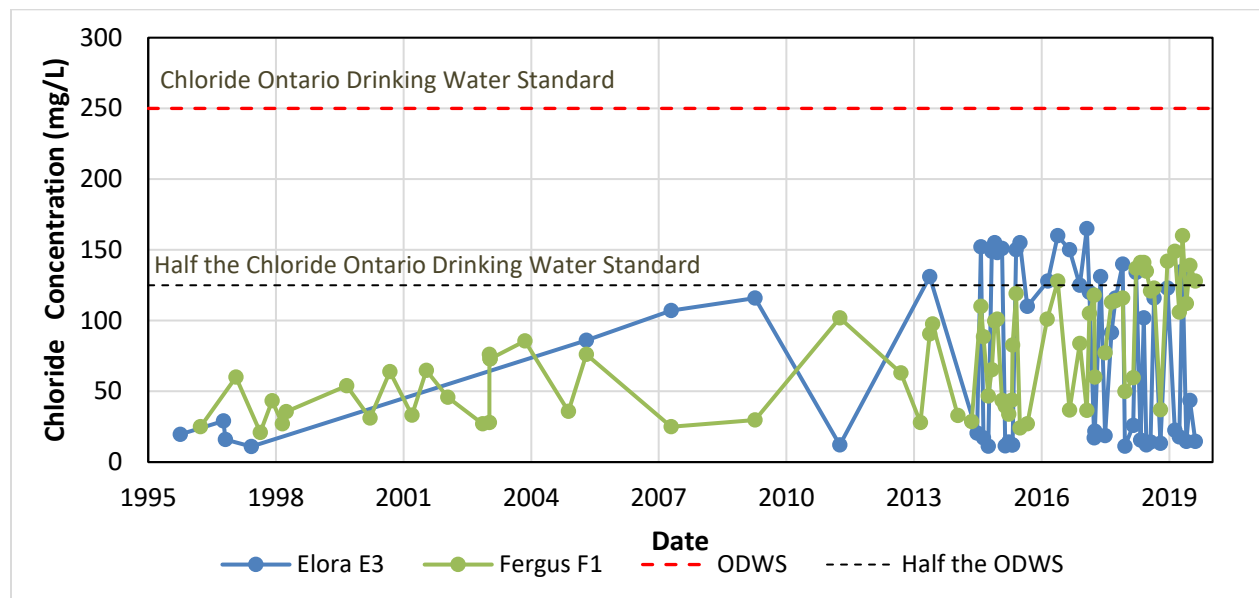
**Map 1: Lake Erie Region Municipal Supply Wells with Elevated Chloride and Sodium Concentrations**



## Increasing Sodium and Chloride Concentrations at Bedrock Groundwater Wells in Wellington County

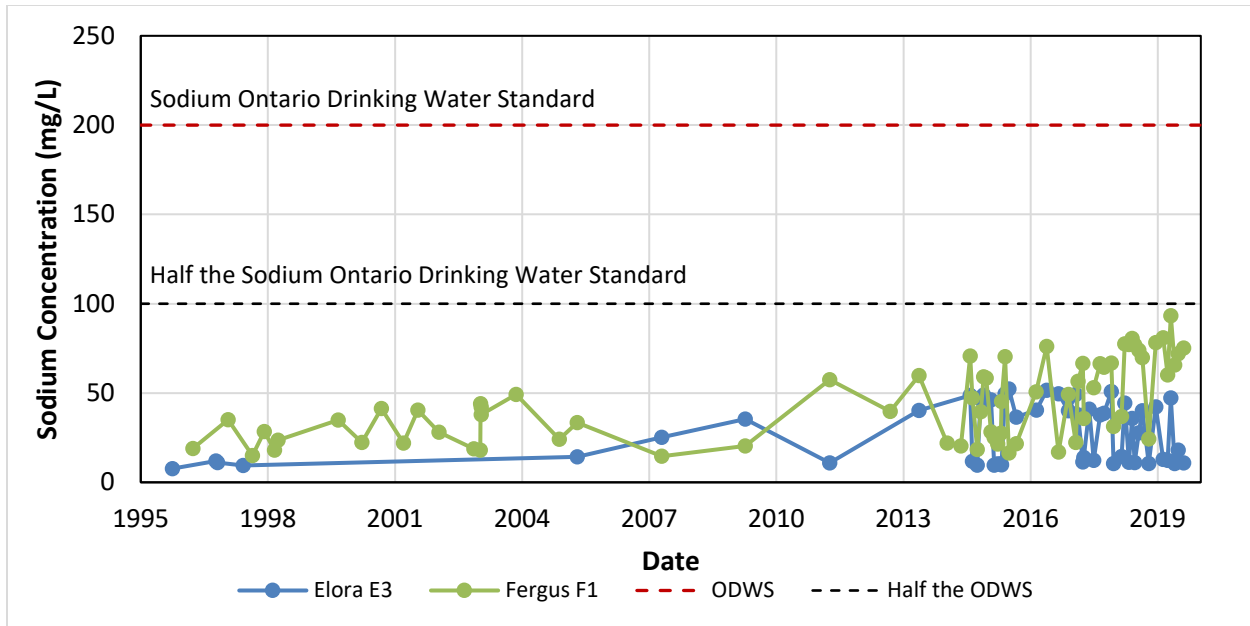
The Township of Centre Wellington monitors sodium and chloride concentrations at the nine municipal wells that service Elora and Fergus. Well Fergus F1 is screened within a bedrock aquifer with surrounding land primarily urban. Well Elora E3 is screened within a bedrock aquifer with surrounding land primarily agricultural, with a large manufacturing facility located immediately north of the well.

**Figure 1** and **Figure 2** illustrate the increasing and variable trends of chloride and sodium concentrations at Elora Well E3 and Fergus Well F1. Chloride concentrations at Elora Well E3 and Fergus Well F1 are both above and below half of the Ontario Drinking Water Standards (125 mg/L). Maximum chloride concentrations are noted at Elora Well E3 of 165 mg/L. At Elora Well E3 and Fergus Well F1 sodium concentrations are increasing, but remain below half of the Ontario Drinking Water Standards (100 mg/L). Maximum sodium concentrations are noted at Fergus Well F1 of 93 mg/L. A study completed by Golder Associates (2015) concluded that groundwater at well F1 appears to be derived mainly from the overburden and shallow bedrock aquifers, while groundwater at well E3 appears to be derived mainly from the bedrock aquifer. In both cases, the chloride source is likely from the surface (anthropogenic sources). As a result of the increasing chloride concentrations to above half of the Ontario Drinking Water Standards and the anthropogenic origin of the chloride, chloride was identified as an Issue and an ICA was delineated for both Elora Well E3 and Fergus Well F1.



**Figure 1: Chloride concentrations at Elora Well E3 and Fergus Well F1**



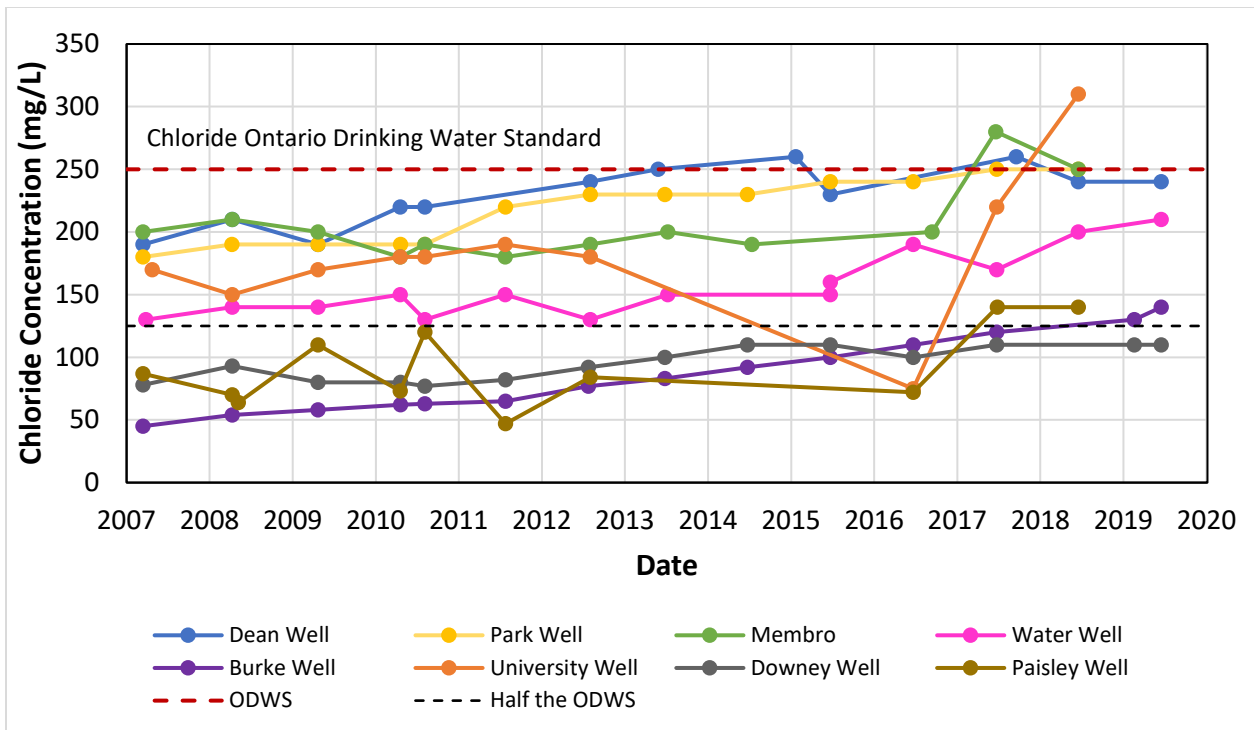


**Figure 2: Sodium concentrations at Elora Well E3 and Fergus Well F1**

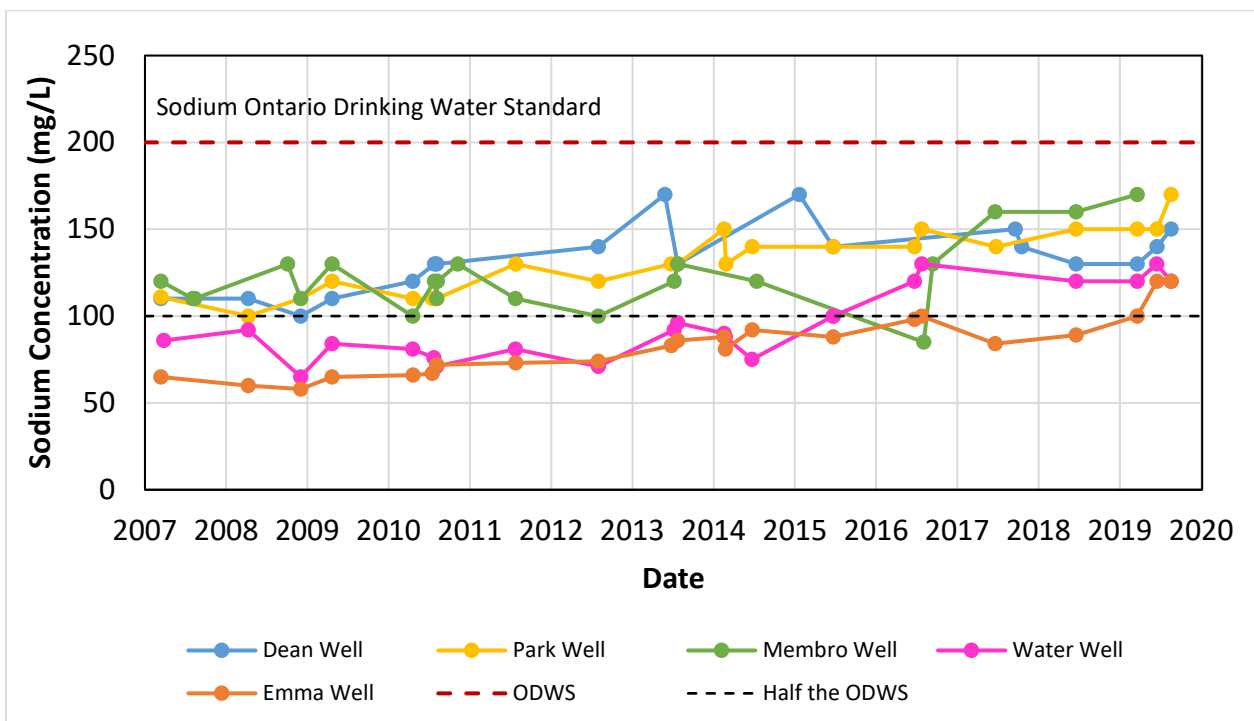
Increasing Sodium and Chloride Concentrations at Bedrock Groundwater Wells in the City of Guelph

Sodium and chloride concentrations are increasing at several bedrock wells within the City of Guelph. **Figure 3** and **Figure 4** below illustrate increasing chloride and sodium trends in select municipal wells within the City of Guelph. **Figure 3** shows chloride concentrations above half the Ontario Drinking Water Standard for chloride (125 mg/L) at almost all wells, with chloride concentrations approaching or at the Ontario Drinking Water Standard for chloride of 250 mg/L. **Figure 4** shows sodium concentrations above half the Ontario Drinking Water Standard for sodium (100 mg/L) at all wells, with sodium concentrations ranging from 120 to 170 mg/L in 2019.

Sodium and chloride are not identified as Drinking Water Issues at City of Guelph wells. The City of Guelph will continue to monitor sodium and chloride concentrations.



**Figure 3: Chloride concentrations at select municipal wells within the City of Guelph**



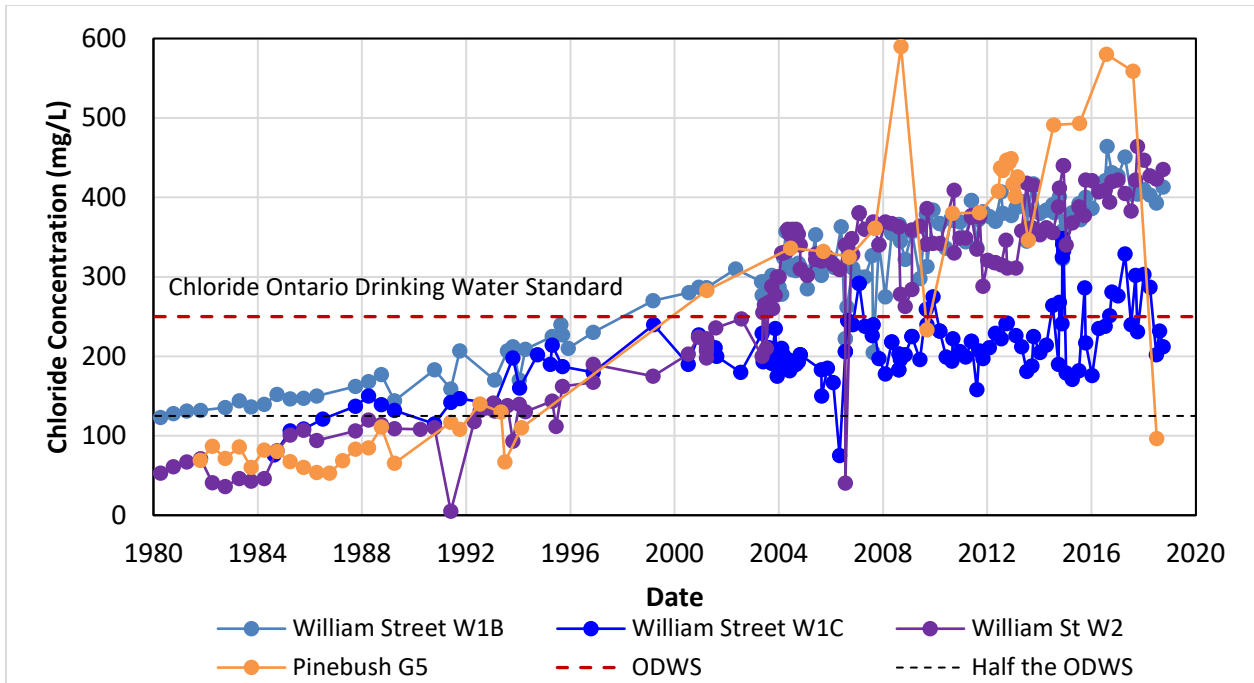
**Figure 4: Sodium concentrations at select municipal wells within the City of Guelph**

### Increasing Sodium and Chloride Concentrations at Groundwater Wells in the Region of Waterloo

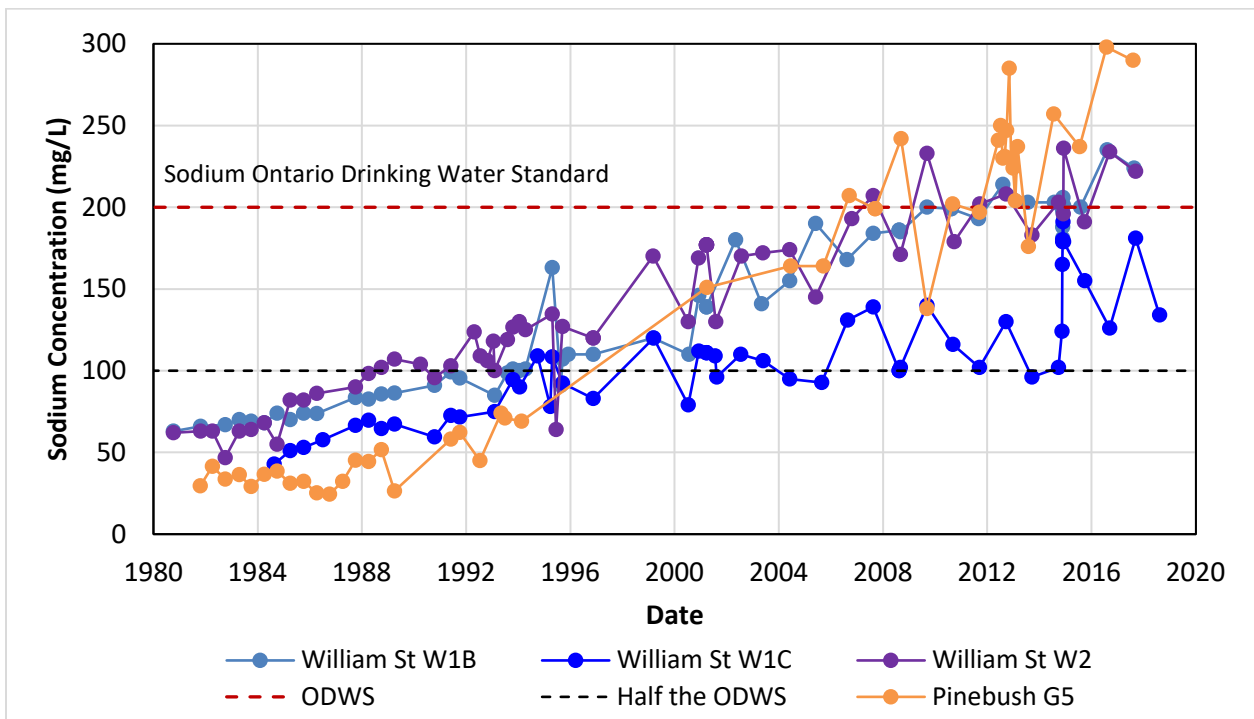
The Region of Waterloo has nine wellfields with elevated concentrations of chloride and sodium that resulted in the identification of Issues under the *Clean Water Act, 2006* and Technical Rules and delineation of ICAs. Impacted wellfields are generally within the urban areas of Cambridge, Kitchener and Waterloo. Chloride and sodium concentrations have been measured as high as 750 mg/L and 365 mg/L, respectively, at one municipal wellfield in the Region of Waterloo.

The William Street Wellfield is an example of one of the Waterloo's wellfields that is impacted by increasing chloride and sodium concentrations. **Figures 5** and **6** below illustrate the increasing chloride and sodium concentrations at the three water supply wells in the William Street wellfield. An increasing trend of chloride (**Figure 5**) is observed dating back to 1975. Current chloride concentrations are above the Ontario Drinking Water Standard of 250 mg/L with 2019 chloride concentrations reaching approximately 450 mg/L. An increasing trend of sodium (**Figure 6**) is observed dating back to 1980. Current sodium concentrations at two of the three wells are above the Ontario Drinking Water Standard of 200 mg/L with 2019 sodium concentrations reaching approximately 240 mg/L.

**Figures 5** and **6** also present the results from well G5 of the Pinebush system in Cambridge and demonstrates the impacts from application of salt on parking lots. This well also shows increasing chloride and sodium trends from the 1980s. However, the concentrations dramatically increase in the middle to late 1990s, which is coincident with the construction of a large retail centre and associated large parking lots immediately adjacent to the well. Currently, chloride and sodium concentrations are higher than those in the William Street wellfield, being approximately 600 mg/L and 300 mg/L, respectively.



**Figure 5: Chloride concentrations at the William Street and Pinebush Wellfields in the Region of Waterloo**



**Figure 6: Sodium concentrations at the William Street Wellfield in the Region of Waterloo**

## Implications of Elevated Sodium and Chloride in the Environment

Elevated and increasing concentrations of chloride and sodium are becoming prevalent in small rural centres, medium sized cities, and large urban areas. The application of road salt (sodium chloride) is a common activity across LESPR given winter road conditions.

The application of salt on roads (and parking lots) enters into the environment in several ways. In many cases, the snow gets plowed onto the road shoulder which either enables it to infiltrate into the groundwater or the meltwater runs off into surface water features and/or into storm water management structures. While the primary purpose of these storm water facilities is to manage wet weather flows, they also receive meltwater during the winter months. If the stormwater structures include infiltration galleries and/or Low Impact Development (LID) infrastructure, some of the salty water conveyed to them during the winter months could infiltrate into the subsurface further exacerbating impacts to groundwater based municipal drinking water systems. Ultimately, all the winter maintenance chemicals eventually enter the natural water system.

Climate change is resulting in more extreme weather patterns with generally milder winters and increased frequencies of precipitation freeze/thaw cycles predicted, resulting in increased use of chemicals for winter road and parking lot maintenance. If left unmanaged, chloride and sodium from road salt will continue to contaminate drinking water sources.

A summary of negative impacts of road salt use for winter maintenance can be described as follows:

- increased concentrations of chloride and sodium in surface water and groundwater drinking water sources impairs the water taste and poses a risk to persons with high blood pressure and sodium restricted diets;
- premature wear to concrete sidewalks and structures (bridge decks, overpasses) which reduces overall life of such infrastructure and results in increased capital costs to maintain them on the order of \$250-\$480 per tonne of salt applied (Environmental Commissioner of Ontario, 218). and,
- damage of animal and plant cells' ability to carry out key ecological processes, changes to the weight of lake water to block the normal mixing process, which is essential for oxygen mixing, and harm to soil, gardens, vegetation and trees, which are necessary for shade as summers get hotter.

The only treatment process available to remove sodium and chloride from water is by reverse osmosis (desalinization) which is very expensive, energy intensive and creates a large volume of concentrate waste brine that must be discharged back into the environment. Accordingly, the only way to minimize the impacts from road salt on water resources and the environment is to reduce the amount being used.

## **Liability and Other Factors Influence the Amount of Salt Applied**

In 2001, Environment and Climate Change Canada (ECCC) completed an assessment of the impacts of road salt and concluded that high releases of road salts were having an adverse effect on freshwater ecosystems, soil vegetation and wildlife. This assessment initiated the risk management process to address the risks posed to the environment by road salt. Subsequently, a Code of Practice was developed by ECCC and a parallel Synthesis of Best Practices document was created by the Transportation Association of Canada. The synthesis is a detailed resource on winter maintenance practices and supplements the recommendations made within the Code.

The two main recommendations of the Code are the development of salt management plans and implementation of best management practices. The Code is voluntary, only applies to road

organizations that use more than 500 tonnes of salt per year, and does not apply to application on parking lots or sidewalks. The ECCC assessment report concluded that application of salt on parking lots represents less than 10% of the total amount of salt being applied across the country. However, the contribution of parking lots in urban areas is much greater due to the increased density of paved surfaces and the higher potential application rates needed to address private property liability concerns. Specifically, in parts of Cambridge, Kitchener and Waterloo, salt loading to groundwater from parking lots is equal to or greater than the loading from roads.

Several pieces of legislation provide the legal context for application of winter maintenance chemicals. For roads, municipal transportation agencies are required under Section 44 of the Municipal Act to maintain roads in a “reasonable state of repair” and to maintain them in accordance with the Minimum Maintenance Standards. For building owners and managers, the Occupier’s Liability Act requires a duty of care to maintain “reasonably” safe conditions for persons while on their premises. However, unlike for roads, the definition of what is reasonably safe is not stipulated and there are no standards. For parking lots, what is reasonable is determined through awareness of legal case studies, which are not too frequent, as most slip and fall claims arising from winter maintenance on parking lots are settled out of court. In addition, for private contractors, a settlement made by their insurance company often results in increases in insurance costs and/or loss of insurance completely. To ensure on-going viability of their businesses, most contractors will err on the side of caution and over apply salt.

These two pieces of legislation provide a framework for over-application of salt that is condoned by the public as necessary to ensure the protection of the travelling public. There is little recognition that this over-application may not be necessary as protection from liability is paramount. This framework is further facilitated by the following:

- the Ontario Environmental Protection Act exempts salt from being considered a contaminant if it is used “... for the purpose of keeping the highway safe ...” meaning that applicators of salt do not have to be concerned about any environmental impacts by the amount they use;
- weather is difficult to predict and the weather that arrives can vary from that forecasted, which means that applications are often higher than needed in case the conditions are worse than forecasted;
- the science behind how salt works is poorly understood (i.e. it is the brine that breaks down ice, not rock salt itself, or that rock salt is not effective in temperatures below -10°C) or is ignored due to liability concerns;
- there is increasing societal demand to maintain black asphalt in southern Ontario at all times and conditions, provide alternate forms of travel with associated high winter maintenance requirements, and addressing accessibility concerns in winter for accessibility-challenged persons; and
- rock salt is on the order of 40% cheaper than the next cheapest winter de-icing chemical, forcing most municipalities and private contractors to default to this chemical even though other chemicals may improve winter maintenance performance with less environmental impact.

All of the above factors contribute to the public's perception that salt does not affect the environment and creates a “laissez-faire” attitude towards the presence of salt on paved surfaces.

#### Factors Influencing Winter Maintenance on Roads

As noted above, the obligations to maintain roads arise from the Municipal Act and Minimum Maintenance Standards. These provide some level of liability protection against municipalities in

the event of vehicle accidents or slip and fall claims on roads. However, the capacity of each municipal agency to adopt new and/or implement sophisticated practices varies and many municipalities have budget pressures which may limit the introduction of these practices. In addition, the impact of joint-and-several liability often results in municipalities paying the majority of the costs resulting from an accident even if their contribution to the fault is minimal, further exacerbating the financial challenges for municipalities. Finally, most municipalities set a single performance standard for each road class and segment and most if not all municipalities are not willing to change the standard if the road comes in and out of a vulnerable drinking water protection area. These issues coupled with the voluntary nature of the ECCC Code could force municipalities to minimize adoption of practices to meet the Code or not participate at all.

Application on roads also differs from that on parking lots for the following reasons:

- most winter maintenance on roads are performed by municipal staff and/or larger contracted companies (e.g. province of Ontario) which provide stable working conditions that can attract long term employees ensuring consistency in approach reducing the need to train revolving staff;
- there are a relatively modest number of road agencies compared to hundreds and possibly thousands of private contractors; and
- the passage of cars on roads assists in the break down of the solid winter maintenance chemicals into the liquid brine needed to break the bond between snow/ice and the underlying surface, resulting in the need for less salt to be applied.

All of these factors can help reduce the amount of salt applied on roads compared with that applied on parking lots.

Many road authorities have made considerable improvements in technology, operational approaches and training to help improve application and reduce impacts to the environment. However, further changes will be difficult to achieve in part due to the risks associated with liability. In addition, the benefit of these reductions could be off-set by changes in climate, e.g. more freezing rain events, which will necessitate changing the approach to winter maintenance on roads. Further, the expansion of the Minimum Maintenance Standards to sidewalks in 2018 could result in an overall increase in the amount of salt being applied to the road network. This will exacerbate the impact to municipal drinking water supply sources. In Ontario, several organizations are promoting changes to the liability framework including the following:

- the Association of Municipalities of Ontario submitted a letter to the Ontario Attorney General requesting reform of the joint and several liability framework in Ontario as it relates to municipalities;
- <https://www.amo.on.ca/AMO-Content/Policy-Updates/2019/AMOSubmitsReporttoAttorneyGeneralonLiabilityandIns>).
- a combined working group representing the Ontario Good Roads Association and Conservation Ontario submitted a letter to the Ontario Attorney General requesting a review of the liability related to application of winter maintenance chemicals (**Appendix A**); and
  - the World Wildlife Federation provided comments on the Province of Ontario's Environmental Plan as posted on the Environmental Registry advocating for review of the liability framework in Ontario.

[http://assets.wwf.ca/downloads/ero\\_roadsalt\\_final\\_signon.pdf](http://assets.wwf.ca/downloads/ero_roadsalt_final_signon.pdf)

These letters highlight the challenges with the liability framework in Ontario and support the discussion contained in this report. Undertaking this review in addition to strengthening training programs for road agencies to reduce winter maintenance chemical application rates without compromising road safety would assist with mitigating risks to municipal drinking water systems.

#### Factors Influencing Winter Maintenance on Parking Lots

As persons responsible for parking lots do not have standards or guidance to follow, the approach to winter maintenance for a particular event is based primarily on their experience which results in inconsistent application rates and/or levels of service for each parking lot. In most cases, building parking lots and sidewalks are maintained by private winter maintenance contractors and the nature of the winter maintenance services is determined by the contract with the property owner. These contracts often contain an unrealistic level of service requirements, e.g. maintain bare pavement at all times, which the contractor addresses through over-application of salt and/or chemical “plowing” which uses excessive amounts of salt to melt all the snow. The contracts often attempt to assign the liability to the contractor, which is very difficult legally, and may have pricing structures that financially incentivize the application of salt on the property.

Much of the private winter maintenance contracting industry is performed by small and medium sized businesses. As a result, and because of the tendering process to compete for clients, they are less likely to invest in best practices/advanced technologies as part of their operation in order to make them profitable. The individual contracting company is also trying to maintain their insurance coverage, have high staff turnover rates which reduces the incentive to invest in staff, and the competition/bid process results in little sharing of management practices within the industry. In addition, as contractors are a for-profit business, they will also attempt to maximize the number of contracts they have which forces them to over apply to meet the contract requirements in recognition that it could be many hours until they are able to service the property again. All of these factors contribute to excess application.

The primary purpose of most buildings and properties is not for winter maintenance but rather for some other manufacturing, service or retail operation. So winter maintenance is seen as a cost of doing business. For most building owners or tenants, the winter maintenance contract is awarded to the lowest cost bid which does not encourage contractors to consider alternate practices as these would require capital investments for new technologies and/or approaches. In addition, even if the owner/operator were interested in reducing application rates, they would be exposed to liability in the event of an injury if they had directed the contractor to apply the salt at a lower rate.

The liability framework and challenges noted above prevent Risk Management Officials from negotiating Risk Management Plans (RMPs) that require reductions in application rates. Some of the ways these barriers present themselves have been observed through the implementation of salt application RMPs in the Region of Waterloo where approximately 1,600 RMPs will need to be negotiated in chloride and/or sodium ICAs in the current approved Source Protection Plan and expanding to over 3,000 existing properties in the October 2019 proposed amended plan. These include the following.

- The approach taken by the Region of Waterloo to negotiate salt application RMPs is to use a collaborative, education approach in order to secure buy-in and achieve a more self-sustainable/self-regulating model of enforcement. This is needed because most persons involved in the negotiation have little to no experience in winter maintenance. This approach necessitates a greater time commitment as part of the negotiation as a level of education is required to raise the general knowledge on the impacts of salting to the point where risk mitigation practices can be implemented effectively.



- Currently, the RMPs for parking lots focus on contractor training and certification, i.e., Smart about Salt program, winter maintenance record keeping, and minimizing ice formation through site assessments. As in many cases these measures do not represent a drastic shift from current practices and because application rates cannot be stipulated in the RMP, only a minor amount of reduction in salt loading is likely to occur from these properties. This is much less than is needed to mitigate the impacts to the Region's wells with chloride impacts. Region of Waterloo staff have assessed the reduction in application rates needed to reduce and or stabilize chloride concentrations based on the amount currently observed in their supply wells. This amount is on the order of a further 10 percent reduction in application on roads above and beyond the 25 percent reduction achieved through advances in technology, and 30 to 50 percent reduction in application rates on parking lots at four of its well systems. This amount does not include the salt already in the groundwater that hasn't made it to the supply wells and will not reach the wells for a further 10 to 20 years.
- Since application rates cannot be specified in the RMP, it is difficult to require changes in operational methods and procedures. Examples of more effective practices may include pre-wetting, liquid application, and/or standardizing application rates. These practices have been adopted by many road agencies and may represent the most effective opportunity to achieve salt reduction targets.

As noted for roads, changes to the liability framework would provide building owners and contractors to consider the impacts to the environment and their assets in addition to liability considerations. However, unlike road agencies that are meeting ECCC's Code of Practice, there is no mechanism to ensure private contractors consider the environment in the determination of winter maintenance chemical application rates. The Smart About Salt Council has created the Smart About Salt program that encourages contractors to take training courses to improve their winter maintenance operations and to become certified demonstrating that they are implementing the program. And while this is helping to educate property owners and contractors, many of the recommended practices in the Smart About Salt program are not implemented by contractors due to the liability issues discussed above.

#### Opportunities for Liability and Training/Certification Program Changes

Several states in the US including Illinois and New Hampshire have changed the liability framework to help address the impacts to water resources due to the over-application of salt and as noted above several organizations are advocating a review of the liability framework in Ontario. Several other US states including Wisconsin have implemented various training, certification and/or education programs to help changes in the winter maintenance approach.

Specifically, the approach taken in New Hampshire is worth noting because the approach includes a combination of liability reform and training/certification. New Hampshire has introduced changes to the liability framework and developed a training/certification program to address the over-application of salt. This approach was required to gain permission to extend a state highway because a nearby lake had elevated chloride and sodium levels due to winter maintenance chemicals. The legislation requires contractors to undertake a one-day training program and become certified. In exchange, road and parking lot contractors would be provided partial protection against slip and fall and/or traffic accidents. This approach provides the liability relief and knowledge needed to change winter maintenance practices to minimize impact to water resources.

## Changes Needed to the Source Water Protection Director's Technical Rules

The current Director's Technical Rules under the *Clean Water Act, 2006* provide significant drinking water threat (SDWT) thresholds based on road density or impervious surfaces. In many parts of the province, the thresholds did not trigger a SDWT for road salt application, despite a number of municipal drinking water wells that have increasing sodium and chloride concentration trends. As such, the original technical approach failed to recognise areas where trends were present that may result in an ICA. This problem was identified by the Region of Waterloo and an alternate approach to assessing the threat of road salt application was prepared and implemented for the Region of Waterloo. These changes were not implemented elsewhere in LESPR.

Similarly, road salt storage thresholds are currently set at 5,000 tonnes outside storage. This volume far exceeds typical storage volumes found at small to medium municipalities or private contractors. As a result, there are no known documented SDWTs for road salt storage outside of an ICA within LESPR. This is despite the fact that there are many municipal and private road salt storage facilities within wellhead protection areas of lesser volumes.

The practical result of these shortcomings in the Technical Rules is that the prescribed threats for road salt application and storage only get flagged as significant drinking water threats (SDWTs) when water quality data for a municipal drinking water system documents an increasing trend in chloride concentrations and the municipality declares the well as having an issue as defined by the Technical Rules. Since ICAs are only identified and delineated when there is a demonstrated water quality concern in a municipal well, this approach to protecting water quality in municipal drinking water systems becomes reactive rather than proactive.

Another concern is that the current Director's Technical Rules and Ontario Regulation 287/07 – General pursuant to the *Clean Water Act, 2006* lists the prescribed drinking water threat as “the application, handling and storage of road salt”. Although road salt is a common term used for winter maintenance chemicals, the term can be misleading. The term road salt is used interchangeably with rock salt. Salt application at parking lots or on walkways can be more of a concern due to over-application than application on roadways. Additionally, road salt commonly refers to sodium chloride; however, there are many alternative products that are also chloride based, for example, calcium chloride or magnesium chloride. Strict interpretation of the wording may lead some readers to consider only salt applied to roads and that is sodium chloride based is a prescribed drinking water threat pursuant to the *Clean Water Act, 2006* and Source Protection Plans. A simple solution could be to rename the prescribed drinking water threats to application, handling and storage of winter maintenance chemicals and then define the term in the regulation.

A complementary change to the above would be to make application of winter maintenance chemicals on roads, parking lots and sidewalks different circumstances in the Table of Circumstances to reflect the different approach to winter maintenance, the legislative and liability framework, and the mitigation measures possible associated with each surface type. This would also help highlight that it is more than just application of winter maintenance chemicals on roads that is affecting drinking water supply sources.

Since 2017, the Province has been considering changes to the Director's Technical Rules to address the shortcomings noted above. Recently, the Province held technical engagement sessions at the end of November 2019 to consult on proposed changes. Details at the time of preparing this report are limited, but we understand that the Province intends to lower the thresholds for the activities and circumstances that result in a significant drinking water threat for the handling and storage of salt and the application of salt. A summary of the proposed changes to road salt storage and application are presented in **Table 1**. Lake Erie Region staff and municipal representatives have participated in the stakeholder engagement sessions and there will be

opportunity for staff to comment on the proposed rule changes directly with Provincial staff and through the more formal Environmental Registry process later on.

**Table 1: Phase II Technical Rules Project: Proposed Amendments to Road Salt Storage and Application**

| Topic                                    |                              | Current Approach   | Objective of the Amendment   | Proposed Amendment  | Notes  |
|--|------------------------------|--|--|---|--|
| <b>Prescribed Drinking Water Threats</b> | <b>Road Salt Application</b> | Thresholds for impervious areas that identify significant risks are 80% in WHPAs scored 10 and 8% in IPZs scored 10.   | Use an improved scientific approach to better identify areas where the application of road salt and storage of road salt may cause impairments to the quality of drinking water sources. | Thresholds for impervious areas that identify significant risks will be: 30% for WHPAs scored 10; 6% or greater for IPZ scored 10 and; 8% or greater for IPZ scored 9 to 10.  | New thresholds were developed based on the analysis conducted in consultation with municipalities and SPAs/SPCs.                                 |
|  | <b>Road Salt Storage</b>     | Volumes that identify significant risk are: 500 tonnes for IPZs scored 10; 5000 tonnes for IPZs scored 9 or greater, or WHPAs scored 10 for uncovered storages; covered storage can not be a significant risk. |  | Using same scores of IPZs and WHPAs, proposed volumes are:<br>(1) Any quantity for uncovered storages;<br>(2) 100 kg or greater for covered storage excluding engineered facilities,<br>(3) 500 tonnes or greater for engineered facility or structure. | Engineered facilities: permanent building anchored to a permanent foundation with an impermeable floor and that is completely roofed and walled. |

**Recommended Actions to Address the Over-Application of Winter Maintenance Chemicals Report Recommendations**

To address the above concerns, the following recommendations are provided to the Lake Erie Region Source Protection Committee for consideration:

THAT the Province of Ontario explore ways to reduce the factors that contribute to excess application of winter maintenance chemicals on road ways and parking lots through a review of the liability framework in Ontario.

THAT the Province of Ontario work with municipalities to strengthen training programs for road agencies that apply winter maintenance chemicals on roads and sidewalks to reduce application rates without compromising road safety that would assist with mitigating risks to municipal drinking water systems.

THAT the Province of Ontario require property owners and contractors responsible for maintaining safe parking lots and sidewalks be trained and certified in the application of winter maintenance chemicals.

THAT the Province of Ontario change Prescribed Drinking Water Threats, “the application of road salt” and “the handling and storage of road salt” to “the application of winter maintenance chemicals” and “the handling and storage of winter maintenance chemicals”, and define the term in the regulation.

THAT the Province of Ontario change the Table of Circumstances related to the application of winter maintenance chemicals to differentiate between application on roads, sidewalks and parking lots to reflect the different liability issues and the nature of winter maintenance conducted for each surface type.

AND THAT the Province of Ontario amend the Clean Water Act’s Director’s Technical Rules to enable municipalities to proactively protect their municipal drinking water supplies from the application and storage of winter maintenance chemicals.

**Appendix A:**

Letter from Ontario Good Roads Association and Conservation Ontario to the Ontario Attorney General requesting a review of the liability related to application of winter maintenance chemicals

November 1, 2019  
The Honourable Doug Downey  
Attorney General of Ontario  
McMurtry-Scott Building, 11th Floor  
720 Bay Street  
Toronto, Ontario  
M7A 2S9

Dear Attorney General Downey,

Re: Municipal Liability and Insurance Costs

The excessive use of road salt has been shown to impact our environment including aquatic life and drinking water sources, and also our infrastructure. In Ontario, several drinking water sources are identified under the *Clean Water Act* as being impacted by elevated levels of chloride, a chemical found in road salt.

In 2016, the Ontario Good Roads Association (OGRA) and Conservation Ontario (CO) established a multi-stakeholder 'Salt Vulnerable Areas' working group, that developed a road salt best practices guidance document in 2018 for consideration by municipalities of varying capacities and budgets. In 2019, the OGRA and CO established the 'Ontario Road Salt Management Advisory Committee' in order to further the discussions around the broader policy and legislative framework related to the use of road salt, and to provide recommendations to help find the balance between environmental considerations and road safety.

The following recommendations are provided for the consideration of the Attorney General of Ontario:

**Address excessive liability issues for municipalities**

Ontario municipalities follow a Council approved Level of Service to ensure the safety of the travelling public, and they proactively work with government agencies and others in order to optimize the amount of road salt usage that balances public road safety with environmental concerns. However, excessive liability issues severely impact municipalities (and other road operation authorities) and in many cases may limit their ability to further adjust the application of road salt in order to meet environmental legislation that protects water resources.

Therefore it is recommended that the applicable liability framework be reviewed, such that road operation authorities can continue to ensure road safety while also supporting a further reduction in the amount of road salt applied.

**Establish standards and address excessive liability issues for private contractors**

There are many others that also use road salt besides municipalities, such as private contractors maintaining privately or municipally owned parking lots. The private sector often uses excessive amounts of road salt, in order to avoid liability claims. Training programs such as 'Smart about Salt' are available to the private sector to help them optimize road salt usage, but these programs are not mandatory.

Therefore, it is recommended that standards for road salt application and storage be established for the private sector to help reduce road salt reaching our water bodies. Further, it is recommended that the applicable liability framework be reviewed, such that private contractors can continue to ensure safety during the winter while also supporting a significant reduction in the amount of road salt applied.

In summary, steps to address liability, combined with standards (where they do not exist) for road salt application, can help preserve our precious natural resources.

We thank you for the opportunity to provide comments. Please feel free to contact Chitra Gowda ([cgowda@conservationontario.ca](mailto:cgowda@conservationontario.ca)) at CO or Fahad Shuja ([fahad@ogra.org](mailto:fahad@ogra.org)) at OGRA if you have any questions.

Sincerely,

Joe W. Tierney  
Executive Director  
Ontario Good Roads Association

Kim Gavine  
General Manager  
Conservation Ontario

Sent via email to: [doug.downeyco@pc.ola.org](mailto:doug.downeyco@pc.ola.org); [magpolicy@ontario.ca](mailto:magpolicy@ontario.ca)

December 10, 2019

**To:** Bill Thompson, Source Protection Program Manager  
South Georgian Bay Lake Simcoe Source Protection Region

**From:** Stacey Baker, Program Analyst  
Source Protection Programs Branch

**Re:** SPPB Pre-Consultation Comments on the South Georgian Bay Lake Simcoe  
Section 34 Proposed Amendments for York Region (Aurora-Newmarket)

Thank you for the opportunity to review the proposed changes to the assessment report as part of your pre-consultation activities for South Georgian Bay Lake Simcoe's section 34 submission for York Region. The proposed amendments incorporate new technical work completed for the new Aurora Well 7 and the removal Newmarket Well 14 which is no longer in use. We note there are no proposed policy changes included in this amendment; all policies are currently approved by the minister and will apply to the revised vulnerable areas.

The comments provided are intended for clarity, to improve technical accuracy or implementation of policies. If you have any questions, please do not hesitate to reach out to your Liaison Officer or myself.

**Stacey Baker**

Program Analyst, Source Protection Programs Branch  
[Stacey.Baker@ontario.ca](mailto:Stacey.Baker@ontario.ca) (ph): 416-314-0394

**Cc:** Debbie Scanlon, Manager, Source Protection Approvals Section, SPPB  
Wendy Lavender, Manager, Source Protection Planning Section, SPPB  
Beth Forrest, Liaison Officer, SPPB  
Cynthia Doughty, Hydrogeologist  
George Jacob, Hydrologist

**General Comments**

- 1) Just a reminder that the source protection plan must include a summary of the consultation activities undertaken for the amendments to the Assessment Report and/or Source Protection Plan, even if all previously approved policies would apply to the new vulnerable areas. The consultation activities section needs to be updated with the most recent consultation and notification information when this amendment is submitted to the ministry for approval.



- 2) Please give some consideration if it would be appropriate to edit the timing of implementation for certain existing threat policies as a result of these amendments. For example, where Prescribed Instrument or Risk Management Plan amendments are required for any new vulnerable areas, consider if the implementation timeline as currently noted in plan (5 years) is still suitable or if a shorter timeframe would be more appropriate. Some committees may also choose to revise amend affected policies to reflect the same timing (i.e. within 5 years of the effective date of the plan **or amendments**).
- 3) Give consideration to if it would also be appropriate for the source protection plan to include edits to any transition provisions. Transition policies were originally included to allow anyone with an in-progress application, or the first of many stage of approvals confirmed, to be subject to existing policies even if the activities were not actually established prior to the effective date of the plan. With any amendments, a review of the transition provisions should be considered to determine if the existing and future threat policies have different policy outcomes - namely manage for existing and prohibit for future. If they do, and without modifying the transition policies, any person or business who may have secured initial approval in the affected vulnerable areas (where significant threat policies apply) may be prohibited from moving forward in the approvals process.

### **Ministry Technical Comments**

Please note that the technical comments (Hydrogeologist P.Geo) below on the *Regional Municipality of York, Wellhead Protection Area Delineation, Vulnerability Assessment and Threat Assessment in Support of Updates to the Newmarket and Aurora Wellfields Report* were provided verbally on a phone call August 1, 2019 during early engagement with the source protection authority and York Region staff. Our comments may already be addressed in the updated Golder and Associates Consultants technical report which is currently being finalized and is expected January 2020. Once the Golder report is made available for our review, the ministry may have further technical comments or questions which will be provided during the public consultation period.

- 1) Additional justification should be provided for using the maximum permitted water taking rates for all the production wells instead of the daily average water taking rate (i.e., less than half the maximum permitted rate). The delineation report suggests this is a conservative approach to capture the peak demand period. However, the model simulates pumping at the maximum peak demand in perpetuity rather than during an annual short-term peaking period. Furthermore, even during the peaking period, the maximum permitted rate cannot be pumped continuously as the daily average permitted rate during the peaking period is lower than the maximum permitted rate (i.e., about

25% lower). The simulation of the maximum permitted water taking rates for all production wells in perpetuity appears to be an unrealistic scenario since permit conditions prevent this from occurring.

- 2) On the early engagement teleconference on August 1, 2019, York Region mentioned that the updated Newmarket-Aurora wellhead protection area (WHPA) was extended to match the existing WHPA in some areas; however, there was no discussion of this within the report. The rationale for extending the WHPA when the updated model suggests the WHPA is smaller in some areas should be provided. Additionally, a figure comparing the existing and updated modelled WHPAs should be provided to show where the updated WHPA was extended to match the existing WHPA.

**From:** DesLauriers, Angelune (MECP) <Angelune.DesLauriers@ontario.ca>  
**Sent:** Wednesday, December 11, 2019 9:47 AM  
**To:** Jennifer Stephens <Jennifer.Stephens@trca.ca>  
**Subject:** FW: SPPB Pre-Consultation Comments

Please find attached the pre-consultation comments prepared for the South Georgian Bay-Lake Simcoe SPC on the s. 34 amendment for the Aurora wellfield. The technical comments apply to the work that underlies the amendment and therefore apply to the CTC amendment as well.

We know that CTC is specifically looking at their timing and transition provisions in a separate project, so the general comments about these topics are reminders about amendments in general.

I would like to note two items that I believe are typos in the document “Pre-consultation Summary: Yonge Street Aquifer (YSA) Water Supply System – Aurora Well PW7”:

- Page 2, title for second column in the table references the Credit Valley Assessment Report. Should it say the Toronto Region Assessment Report?
- Page 11 (Page 9 of 12 in the document’s page numbering), in section “E4.3.5 Newmarket – Aurora,” in the third sentence, I think ‘extend’ should be ‘extends’.

Thank you for engaging us in pre-consultation and we look forward to the next step in the process. As always, if you have any questions, please do not hesitate to contact me or your liaison officer.

***Angelune Des Lauriers***

Program Analyst, Source Protection Programs Branch  
289-237-3062 | [Angelune.DesLauriers@ontario.ca](mailto:Angelune.DesLauriers@ontario.ca)

Ministry of the Environment,  
Conservation and Parks

Ministère de l'Environnement,  
de la Protection de la nature et des  
Parcs

Office of the Minister

Bureau du ministre

777 Bay Street, 5th Floor  
Toronto ON M7A 2J3  
Tel.: 416-314-6790

777, rue Bay, 5<sup>e</sup> étage  
Toronto (Ontario) M7A 2J3  
Tél. : 416.314.6790



DEC 3 2019

357-2019-2606

Ms. Karen Ras  
Chair, Credit Valley Conservation Authority  
1255 Old Derry Road  
Mississauga, Ontario L5N 6R4

Mr. Douglas Wright  
Chair, CTC Source Protection Committee  
C/O Toronto and Region Source Protection  
Authority  
5 Shoreham Drive,  
Toronto, Ontario M3N 1S4

Ms. Jennifer Innis  
Chair, Toronto and Region Source  
Protection Authority  
5 Shoreham Drive  
Downsview, Ontario M3N 1S4

Dear Ms. Ras, Ms. Innis, and Mr. Wright:

It is a pleasure to inform you that the Ministry has completed the review of the amended assessment report for the Credit Valley Source Protection Area and source protection plan for the CTC Source Protection Region, developed under the *Clean Water Act, 2006*. Pursuant to section 34 of the *Clean Water Act*, I approve the amendments. These amendments will take effect on the day a notice of this decision is posted on the Environmental Registry.

The approval of these amendments does not make any changes to the recently amended order under section 36 of the *Clean Water Act* that governs the future review of the plan.

We appreciate the dedication of the CTC Source Protection Committee, the three Source Protection Authorities and all stakeholders to the protection of sources of drinking water. Your commitment to building on the significant work completed to date is inspiring, and the Province looks forward to continuing to work with you.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Yurek".

Jeff Yurek  
Minister

**Sent Via Email**

November 27, 2019

John MacKenzie  
Chief Executive Officer  
Toronto and Region Conservation Authority  
101 Exchange Avenue  
Vaughan, ON L4K 5R6

Dear Mr. MacKenzie,

**Re: SRPRS.19.176 Proposed Changes to Toronto and Region Assessment Report and Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan**

Richmond Hill Council, at its meeting held on November 20, 2020, adopted the following recommendations:

- a) That Staff Report SRPRS.19.176 regarding proposed changes to Toronto and Region Assessment Report and Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan, be received;
- b) That the proposed changes to the Toronto and Region Assessment Report and the Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan be endorsed;
- c) That staff report SRPRS.19.176 be circulated to the Region of York, Toronto and Region Source Protection Authority, and the Ontario Ministry of the Environment, Conservation, and Parks.

In accordance with Council's directive, please find attached a copy Staff Report SRPRS.19.176 regarding proposed changes to Toronto and Region Assessment Report and Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan.

If you have any questions, please contact Sybelle von Kursell, Manager of Policy Planning, at (905) 771-2472.

Yours sincerely,

A handwritten signature in black ink, appearing to read "S. Huycke".

Stephen M.A. Huycke  
Director of Legislative Services/City Clerk

Attachment



## Staff Report for Committee of the Whole Meeting

Date of Meeting: November 6, 2019

Report Number: SRPRS.19.176

Department: Planning and Regulatory Services

Division: Policy Planning

**Subject: SRPRS.19.176 Proposed Changes to Toronto and Region Assessment Report and Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan**

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### Purpose:

The purpose of this report is to seek Council endorsement for proposed changes to the Toronto and Region Assessment Report and the Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan. These changes are required as a result of a new drinking water well installed in the Town of Aurora by York Region. Regulations under the *Safe Drinking Water Act, 2002* and the *Clean Water Act, 2006* require source protection agencies to obtain Council endorsements from each municipality affected by changes to Assessment Reports and Source Protection Plans.

### Recommendation(s):

- a) That Staff Report SRPRS.19.176 be received;
- b) That Council endorse the proposed changes to the Toronto and Region Assessment Report and the Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan; and
- c) That this report be circulated to the Region of York, Toronto and Region Source Protection Authority, and the Ontario Ministry of the Environment, Conservation, and Parks.

### Contact Person:

Andrew Crawford, Planner I – Policy, phone number 905-771-5528

Sybelle von Kursell, Manager of Policy Planning, phone number 905-771-2472

### Report Approval:

**Submitted by:** Kelvin Kwan, Commissioner of Planning and Regulatory Services

## Page 2

**Approved by:** Neil Garbe, City Manager

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), City Solicitor (as required), Commissioner and City Manager. Details of the reports approval are attached.

### **Background:**

The *Clean Water Act*, 2006, was created to protect existing and future sources of drinking water through the delineation of vulnerable areas, identification of drinking water threats, and implementation of source water protection policies. The Act also requires the preparation of Source Protection Plans across the Province to establish policies to protect the quantity and quality of municipal water supplies. The Source Protection Plan that covers Richmond Hill is the Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan (CTC SPP), which came into effect on December 31, 2015.

Under the *Clean Water Act*, 2006, amendments to the CTC SPP requires Council endorsement from all local municipalities affected by the proposed changes in support of their application to amend the CTC SPP. Once all of the municipal resolutions have been received, a period of consultation will then take place to obtain feedback from the general public. Following this, the proposed amendments and all comments received through consultation will be submitted by the Toronto and Region Source Protection Authority for endorsement and then to the Ministry of Environment, Conservation, and Parks (MOECP) for approval.

### **Discussion:**

As part of the Yonge Street Aquifer Well Capacity Restoration Project, York Region constructed a new municipal well in the Town of Aurora, at the site of an existing municipal well. This new well would replace capacity in drawing groundwater that was lost through the normal aging of infrastructure, and return the system to its full permitted capacity. As part of the approval and commissioning process of this new well, the existing Wellhead Protection Areas in the Assessment Reports are required to be updated.

Updated modelling of groundwater flows show an expansion of the existing Wellhead Protection Area (WHPA) into the jurisdiction of the City of Richmond Hill, covering an area in the northwest corner of the City near Bathurst Street and Bloomington Road West. Map 1 to this staff report shows the expanded WHPA boundaries as determined through the updated modelling.

Although the new municipal well located in the Town of Aurora is within the Lake Simcoe and Couchiching/Black River Source Protection Authority's jurisdiction, the area in Richmond Hill affected by the expanded WHPA is under the jurisdiction of the Toronto and Region Source Protection Authority. York Region staff have confirmed that

## Page 3

the boundary of the Source Protection Plans will not be modified as part of the proposed changes, and that the policies of the CTC SPP will apply to the WHPA in Richmond Hill.

### **Changes to the Assessment Report and Source Protection Plan**

Minimal changes to the Toronto and Region Assessment Report and the CTC SPP are being proposed through this project. Changes to the Assessment Report primarily involve mapping changes to reflect the new/expanded WHPA, as well as text changes to add the Aurora Drinking Water System in the Report. The only change to the CTC SPP being proposed is the updating of one figure to include the new WHPA; no policies are being added or amended, and the existing policies of the CTC SPP will apply to the new/expanded WHPA.

Currently, assuming that all affected municipal Councils endorse the recommended changes, York Region and the Source Protection Authorities expect to submit the proposed amendments to the Ministry of the Environment, Conservation, and Parks for final approval in Spring 2020.

### **Impacts of the Wellhead Protection Area to Richmond Hill**

The Wellhead Protection Area that extends into Richmond Hill is classified as WHPA-D. The WHPA-D limit represents the 25-year time of travel, or that groundwater (and any contaminants in it) within the WHPA-D limit could reach the wellhead within 25 years. A number of factors impact the time of travel for groundwater, including the slope of land and the type of soil.

Policies of the CTC SPP that affect lands under a WHPA-D designation include:

- Encouraging municipalities to require a salt management plan for roads proposed as part of new subdivision applications within the WHPA-D area (SAL-10);
- Work with MOECP to consider best practices in salt application within the WHPA-D area (SAL-11);
- Require private owners of unassumed roads and parking lots greater than 200 square metres within the WHPA-D area to have a salt management plan to reduce salt application, and require the use of trained individuals to apply salt to these properties (SAL-12); and
- Encourage and promote best management practices for the handling and storage of dense non-aqueous phase liquids and organic solvents for existing and future Industrial, Commercial, and Institutional uses within the WHPA-D area (DNAP-3, OS-3).

The impact of these policies on Richmond Hill is expected to be minimal, as the area covered by the WHPA-D area is occupied primarily by existing residential subdivisions, an existing automotive service commercial station located on the southeast corner of Bathurst Street and Bloomington Road West, and parks and other protected natural



## **Page 4**

features. The policies of the CTC SPP would not restrict the continued operation of any existing uses within the WHPA-D area.

A separate Official Plan Amendment is not required at this time to update the City's policies to reflect the presence of the WHPA and implement the relevant policies of the CTC SPP. As the City is currently beginning its Official Plan Update, any policy or regulatory changes that are required will be considered as part of the Official Plan Update process.

### **Financial/Staffing/Other Implications:**

There are no related costs to the City. The Toronto and Region Source Protection Authority, along with York Region, will manage all public consultation required for the Assessment Report and Source Protection Plan amendments. City staff will remain engaged in the process as required to support the proposed modifications. Local municipal policy changes will be incorporated into the Official Plan Update process, which is currently underway.

### **Relationship to the Strategic Plan:**

The recommendations of this report meet Goal 4 of the Strategic Plan: Wise Management of Resources in Richmond Hill by protecting drinking water sources and mitigate potential drinking water threats.

### **Conclusion:**

Based on the above, staff recommend that Council endorse the proposed changes to the Toronto and Region Assessment Report and the Central Lake Ontario, Toronto Region and Credit Valley Source Protection Plan, and that a copy of the endorsement be circulated to York Region and the Toronto and Region Source Protection Authority for inclusion in their application to amend the CTC SPP.

### **Attachments:**

The following attached documents may include scanned images of appendixes, maps and photographs. If you require an alternative format please call the contact person listed in this document.

- Map 1 – Comparison of Wellhead Protection Areas

## Page 5

### Report Approval Details

|                      |   |
|----------------------|---|
| Document Title:      | SRPRS.19.176 Proposed Changes to Toronto and Region Assessment Report and CTC Source Protection Plan.docx |
| Attachments:         | - SRPRS.19.176 - Map 1 - Comparison of Wellhead Protection Areas.pdf                                      |
| Final Approval Date: | Oct 23, 2019  |

This report and all of its attachments were approved and signed as outlined below:

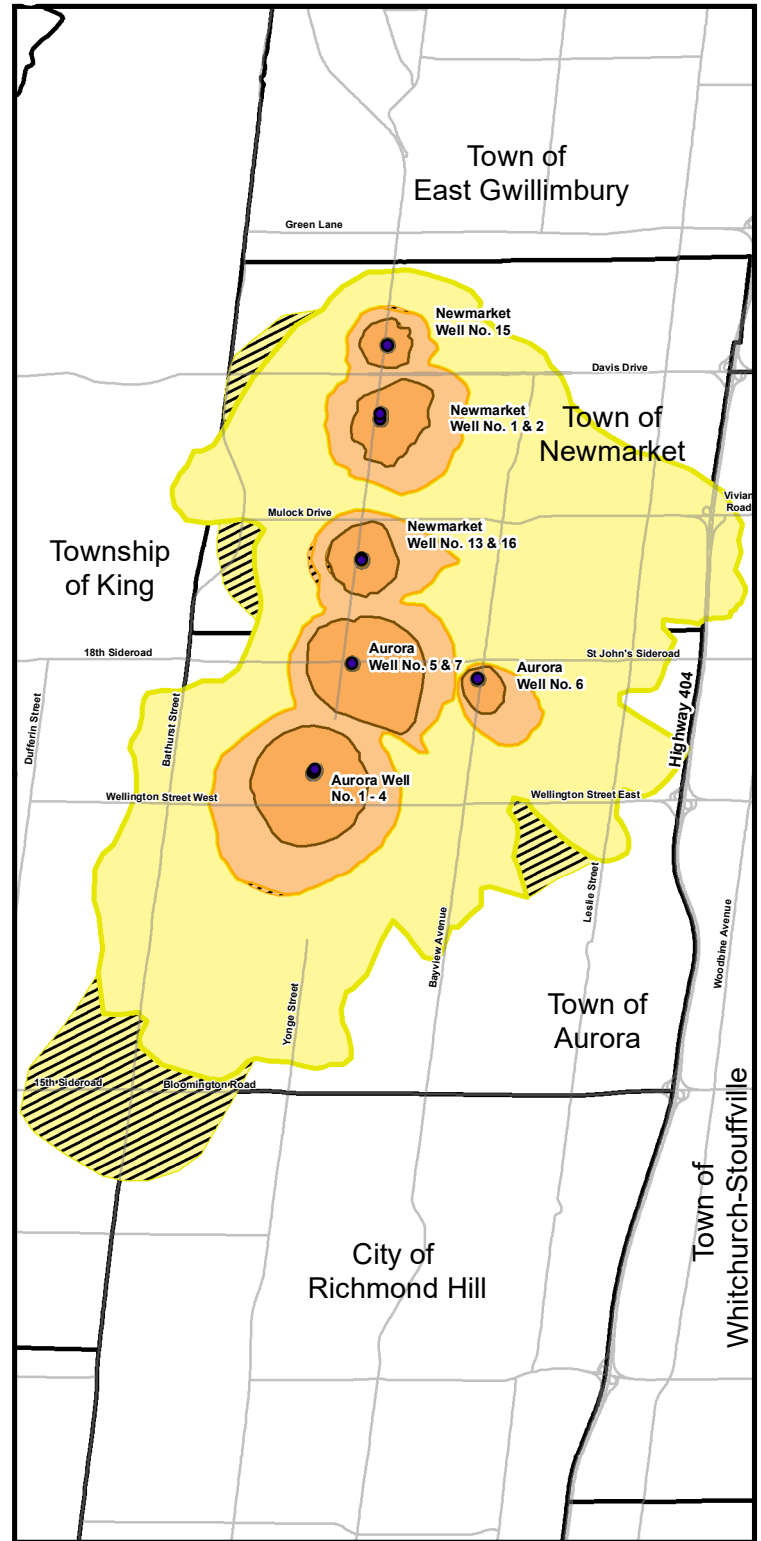
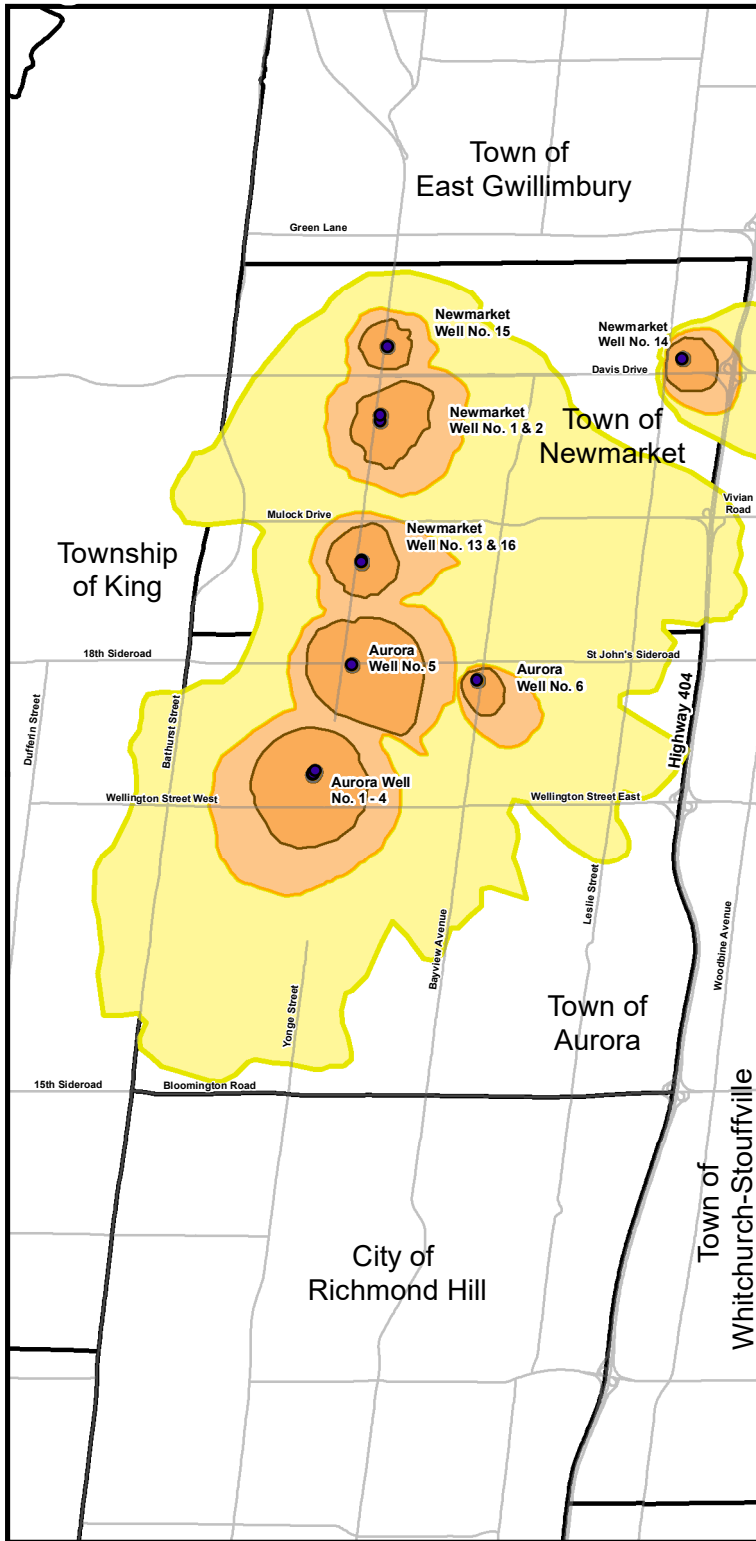
**Patrick Lee - Oct 23, 2019 - 3:12 PM**

**Kelvin Kwan - Oct 23, 2019 - 3:18 PM**

**Neil Garbe - Oct 23, 2019 - 3:58 PM**

Original WHPA

Updated WHPA



Wellhead Protection Area (WHPA) Comparison - Newmarket/ Aurora Wells

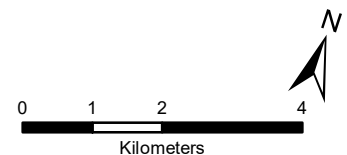


Produced by:  
The Regional Municipality of York  
Environmental Services  
Environmental Promotion & Protection,  
Source Water Protection, October 2019

Data: © Queen's Printer for Ontario 2003-2019

Imagery: See York.ca for disclaimer information.

- Production Well
- Regional Road
- Updated WHPA
- Municipal Boundary
- Existing WHPA-A
- Existing WHPA-B
- Existing WHPA-C
- Existing WHPA-D



November 22, 2019

Dear Ms. Innis, Ms. Ras, Mr. Chapman, and Mr. Wright,

Thank you again for the submission of the annual progress reports on implementation of the CTC Source Protection Plan in April.

I am writing in response to comments about Lake Ontario from the CTC Source Protection Committee that were included with the submission of your annual progress report. As the committee noted, the Ministry reported that we have implemented these policies and our commitment to review and consider their requirements, and that the Ministry's spill response and notification procedures have been updated. The comments also referred to recommendations in several "Lake Ontario" policies, notably LO-NGS-1, LO-SEW-1 & 2, LO-FUEL-1 & 2, LO-G-1 and LO-PIPE-1.

As you may know, the Ministry established a cross-divisional working group to consider all non-binding policies directed at the Ministry and to identify: 1) where existing programs already achieve the policy outcomes, and 2) where we should further consider program and regulatory improvements. MECP has completed its review of the policy outcomes and annual reporting has included some information where policy outcomes have already been achieved through new or existing programs or regulatory amendments. I would like to take this opportunity to provide additional information on the Ministry's review and actions undertaken.

The above-noted Lake Ontario policies include requests for the Province to work with relevant authorities to **evaluate existing Risk Mitigation or Contingency Plans** for a range of facilities. This work is most appropriately led by the operators and regulators of the facilities in question, whether they are bulk fuel storage, oil pipelines, nuclear generation stations, or sewage treatment plants.

Under the *Emergency Management and Civil Protection Act (EMCPA)*, all Ontario municipalities are required to appoint a Community Emergency Management Coordinator (CEMC) who evaluates risks and hazards within the municipality and creates an emergency plan to address those risks. Those plans are reviewed by the Office of the Fire Marshal and Emergency Management on an annual basis. Industry-specific plans are developed in accordance with applicable regulatory bodies for those industries. Industry-specific plans should be linked to municipal plans to ensure appropriate coordination under the Provincial Emergency Response Plan (PERP). Provincial resources are coordinated at the Provincial Emergency Operations Centre (PEOC) to support municipal response efforts. Federal supports may also be requested through the PEOC.

For the **nuclear generation industry (policy LO-NGS-1)** the explanatory document for the CTC Source Protection Plan noted that the Provincial Nuclear Emergency Response Plan (PNERP) might not be triggered by a release of tritiated water. However, there is a stand-alone provincial

procedure in place, held by the Office of the Fire Marshal and Emergency Management, called the Provincial Liquid Emergency Response Procedure (PLERP). The purpose of the PLERP is to provide a coordinated response for events where the discharge of radioactivity from Ontario's nuclear power plants may result in radioactive concentrations at nearby water intakes that may exceed Ontario's Drinking Water Quality Standards (per O. Reg. 169/03 made under the Safe Drinking Water Act). The PLERP focuses on sampling arrangements for discharges of cooling waters or other discharge waters with elevated tritium levels.

The initial response to elevated waterborne radiological discharges depends on the amount of radioactivity in the discharge waters, its projected or potential effect on local drinking water supplies, and the ability of community and local health authorities to deal with the situation. A response to elevated radiation discharges is similar to other events that involve an unusual or unanticipated release of contaminants into the environment, and escalates when necessary from the discharger to the community, and finally to the Province. A response to elevated waterborne radiological discharges will involve the nuclear facility, the affected community, and may escalate to involve the Ministries of the Solicitor General, the Ministry of Labor, the Ministry of the Environment, Conservation and Parks, and the Ministry of Health and Long-Term Care who are members of the Provincial Liquid Emergency Response Team. Decisions for action in these situations would be based on the circumstances at the time of the event and depend on the season, as well as the nature, scope and length of the release.

In 2016, the Office of the Fire Marshal and Emergency Management conducted a discussion-based exercise related to the updated PLERP. The exercise focused on testing decision making processes and validating communication procedures related to notification, reporting and situational awareness.

The Lake Ontario policies also recommend **testing of contingency plans through emergency exercises**. At the request of industry, the Ministry participates in various levels of exercises. These exercises may range from low level participation, such as notifications to the Spills Action Centre (SAC) as required in their plans to higher levels and a wider range of participation by regional staff and the Ministry's Emergency Management Program Office. The Ministry has participated in exercises for specific scenarios, including:

- Imperial Oil (Toronto 2018): based on a pipeline spill to the Humber River
- Shell Oil (Sarnia 2017): based on a large-scale incident at the Sarnia Manufacturing Center with tank fire and marine oil spill
- Trans-Northern Pipeline (Mississauga 2016) - "Exercise Elaion Response East" hosted by the Canadian Safety and Security Program. This exercise was led by Defence Research and Development Canada's Centre for Security Science, in partnership with Public Safety Canada. Exercise focused on a terrorist threat targeting the petroleum industry in North America (Provincial participation from the PEOC)

In addition to physical participation in exercises, the Ministry supports testing of plans at the local level with industry and municipalities as it relates to local emergency plans. For the period of 2016 to present, the Ministry has participated in over 50 exercises.

Nuclear generating stations are required, as a condition of licensing, to conduct exercises of different types on an annual basis. There is also a requirement for those facilities to conduct full scale exercises on a rotational basis. During full scale exercises, provincial ministries with

responsibilities under the PNERP participate as they would in an actual event along with the various levels of government and industry who have responsibilities under the plan. Recent exercises include:

- Huron Resilience 2019 – seismic event scenario impacting Bruce B
- OPG Pickering Nuclear Generating Station “Exercise Unified Control 2017” - involving contaminated worker and leading up to the point of release of radioactive material into the environment
- Huron Resolve 2016 – nuclear release involving both Bruce A and B modelled after Fukushima
- Amherstburg 2016 – nuclear exercise in support of FERMI II Nuclear Generating Station (Michigan)
- OPG Pickering Nuclear Generating Station 2016 - Provincial Liquid Emergency Response Plan exercise.

With regard to **contingency and notification plans for wastewater treatment plants (LO-SEW-1)**, the Ministry reported in February 2019 that we have completed our review of previously issued Environmental Compliance Approvals (ECAs) for sewage works that are significant drinking water threats, to ensure these instruments conform with source protection plan policies. All wastewater treatment plant ECAs for significant threat facilities include a requirement for the operator to create and maintain a spill prevention and contingency plan, in accordance with O. Reg 224/07. Recent ECAs for wastewater treatment plants includes a condition requiring the owner to develop a notification procedure, in consultation with the Ministry, to ensure downstream water users (including drinking water systems) are appropriately notified in the event of a bypass or overflow. SAC and MECP District Office staff review the plans shared with the Ministry and provide feedback to the operators. Part of this feedback includes reminding operators to consider source protection vulnerable areas.

Policy **LO-G-1** also refers to **contingency plans for municipal drinking water systems**. Operating authorities for municipal drinking water systems are accredited by a third party to meet the requirements of the Drinking Water Quality Management Standard. As part of this accreditation, operating authorities are required to document, implement and conform to a procedure for emergency preparedness. This includes preparing a list of potential emergency situations and processes for emergency response and recovery. Operating authorities are also required to undertake a risk assessment for their system at least once every 36 months. The Safe Drinking Water Act (s.13) requires municipal drinking water system owners to have an accredited operating authority in charge of the system at all times – and having an accredited operating authority is a requirement for the municipal drinking water licence.

The Drinking Water Quality Management Standard was updated in April 2017. This update included mandatory risks that must be considered within the risk assessment – including a “chemical spill impacting source water”. All risk assessments conducted by operating authorities since April 2017 are required to consider the mandatory risks. As operating authorities are required to undertake a risk assessment once every 36 months, all operating authorities will have evaluated this risk by April 2020.

As you know, the MECP is also participating on the **Lake Ontario Collaborative Group (LOCG – LO-G-2)** along with the municipalities of Durham, Toronto and Peel and the Toronto & Region Source Protection Authority. The LOCG’s Communications Working Group is currently working

on a collaborative spill response protocol for each of the major spill scenarios identified in the CTC Lake Ontario policies. Ontario Power Generation has done a presentation for the group on their spill response procedures, tritium notification thresholds and emergency response preparedness exercises. Meetings with pipeline companies regarding their communication protocols to SAC and municipal contact information are being planned for early 2020. In addition to the communications work, the LOCG is also in the process of developing modelling solutions to support enhanced spills response.

I hope this additional information on implementation of the Lake Ontario policies is helpful, and I thank you for your ongoing efforts to protect drinking water sources.

Sincerely,



Debbie Scanlon,  
Manager, Approvals, Source Protection Programs Branch  
Land and Water Division  
Ministry of the Environment, Conservation and Parks

C: Jennifer Stephens, Manager – Source Water Protection, Toronto & Region Source Protection Authority  
Wendy Lavender, Manager, Source Protection Planning, SPPB  
Elizabeth Forrest, Liaison Officer, SPPB  
Neil Gervais, Senior Drinking Water Program Advisor, SPPB  
Michael Halder, Research and Planning Analyst, SPPB

**From:** DesLauriers, Angelune (MECP) <Angelune.DesLauriers@ontario.ca>  
**Sent:** Thursday, October 31, 2019 4:20 PM  
**To:** Jennifer Stephens <Jennifer.Stephens@trca.ca>  
**Cc:** Forrest, Elizabeth (MECP) <elizabeth.forrest@ontario.ca>; Jacoub, George (MECP) <George.Jacoub@ontario.ca>; Scanlon, Debbie (MECP) <Debbie.Scanlon@ontario.ca>  
**Subject:** Review of CTC s. 34 amendment for Alton DWS

Hi Jenn,

We've found a couple more items that will need addressing before the final version of the AR/SPP are posted on your website:

- Please review table 4.11 – the WHPA-E uncertainty level is identified as Low for well 3 and High for well 4A of the same system. There is only one shared WHPA-E for these two wells. Please fix for consistency or provide rationale for two different uncertainty levels.
- While the consultant's report EarthFx and Geocamp, 2019 is referenced in section 4.8.4, it is not included in the list of references for the AR, nor in appendix D2 of the AR. Please add this title to those sections.

I can also confirm that SPPB is satisfied with the information included in the assessment report for the delineation of the Alton WHPA. SPPB notes that the AR text refers to the consultant's technical report for more information. The branch therefore requests that the additional information about the methodology discussed during the October 2<sup>nd</sup> teleconference be appended to (or added, if possible) the consultant's technical report and make it available upon request.

Thank you,

Angelune Des Lauriers  
**Program Analyst**  
**Source Protection Programs Branch**  
**Tel: 289-237-3062**



## Jennifer Stephens

---

**From:** protection, source (MECP) <source.protection@ontario.ca>  
**Sent:** Friday, October 18, 2019 9:59 AM  
**To:** nando.iannicca@mississauga.ca; councillor\_augimeri@toronto.ca; dswright@bell.net  
**Cc:** deb.martindowns@cvc.ca; John MacKenzie; Jennifer Stephens; Laurie Nelson; Scanlon, Debbie (MECP); DesLauriers, Angelune (MECP); Forrest, Elizabeth (MECP); Gervais, Neil (MECP); Lavender, Wendy (MECP); Kinch, Pat (MECP)  
**Subject:** Clean Water Act s.34 Amendment – CTC

This email is to acknowledge receipt of the proposed amendments to the Credit Valley Assessment Report and CTC Source Protection Plan, to incorporate changes to the Alton drinking water system. The submission was received on October 17, 2019, by the Ministry of the Environment, Conservation, and Parks, under section 34(5) of the *Clean Water Act, 2006*.

The ministry is grateful for the hard work that the authority, committee and other partners continue to undertake to ensure that Ontario's sources of drinking water are protected.

As we review these proposed amendments, branch staff may contact you if additional information or clarification is necessary. In the meantime, should you have any questions or comments, please feel free to contact Beth Forrest, Liaison Officer at (647) 204-6744 or Angelune Des Lauriers, Program Analyst at (289) 237-3062.

Sincerely,

*Sent on behalf of Susan Ecclestone*

Susan Ecclestone | Director | Source Protection Programs Branch | Land and Water Division | Ministry of the Environment, Conservation and Parks | [susan.ecclestone@ontario.ca](mailto:susan.ecclestone@ontario.ca) | 416-274-8864

---

**From:** Jennifer Stephens <Jennifer.Stephens@trca.ca>  
**Sent:** October-17-19 8:23 AM  
**To:** protection, source (MECP) <source.protection@ontario.ca>  
**Cc:** Forrest, Elizabeth (MECP) <Elizabeth.Forrest@ontario.ca>; DesLauriers, Angelune (MECP) <Angelune.DesLauriers@ontario.ca>; dswright dswright <dswright@bell.net>; Laurie Nelson <Laurie.Nelson@trca.ca>; SooChan, Gayle <gayle.soochan@cvc.ca>; Mulchansingh, Kerry <kerry.mulchansingh@cvc.ca>; Estephan, Therese <therese.estephan@peelregion.ca>  
**Subject:** Section 34 Amendment - CTC Source Protection Plan - Alton Well 4A  
**Importance:** High

Good Morning:

This message is to confirm the formal submission of a section 34 amendment to the CTC Source Protection Plan to incorporate new technical work completed at Alton Well 4A in the Credit Valley Source Protection Area.

Per the requirements outlined in correspondence issued on July 29, 2019, the materials to support this submission can be found at the following link:

[https://torontoregion-my.sharepoint.com/:f:/g/personal/jennifer\\_stephens\\_trca\\_ca/EgPfhIWMDJErBMMnoxOAisBWYskt5tIbj7SmW2MFoYZ3A?e=Qjty1r](https://torontoregion-my.sharepoint.com/:f:/g/personal/jennifer_stephens_trca_ca/EgPfhIWMDJErBMMnoxOAisBWYskt5tIbj7SmW2MFoYZ3A?e=Qjty1r)

Please let me know if you need any additional materials to support this amendment.

Best regards,

Jennifer

Jennifer Stephens, M. Sc. Bio.  
Manager  
Source Water Protection | Policy Planning

T: (416) 661-6600 Ext. 5633

C: (416) 892-9634

E: [jennifer.stephens@trca.ca](mailto:jennifer.stephens@trca.ca)

A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6 | [trca.ca](http://trca.ca)



**CTC Source Protection Region**

Credit Valley Source Protection Authority

October 10, 2019

Susan Ecclestone  
Director, Source Protection Programs Branch  
Minister of the Environment, Conservation and Parks  
40 St. Clair Avenue West, 141h Floor  
Toronto, ON  
M4K 1M2

**Re: Submission of Section 34 Amendment to the CTC Source Protection Plan**

On behalf of the Credit Valley Source Protection Authority and the CTC Source Protection Committee, I am pleased to formally submit an amendment to incorporate Alton Well 4A at the Caledon Village – Alton Drinking Water System into the CTC Source Protection Plan through Section 34 of the *Clean Water Act, 2006*.

The Credit Valley Source Protection Authority endorsed these amendments, without comments, at their meeting held on Friday, September 13<sup>th</sup>, 2019.

The CTC Source Protection Committee passed a resolution, without comments, at their most recent meeting held on October 8<sup>th</sup>, 2019 supporting the submission of the Section 34 Amendment.

**RES:19/19: THAT the CTC SPC support the submission of the Section 34 Amendment incorporating the technical work completed at the Caledon Village – Alton Drinking Water System into the Approved Credit Valley Assessment Report and the CTC Source Protection Plan.**

The submission package includes proposed amendments to the Approved Credit Valley Assessment Report and the Approved CTC Source Protection Plan. The submission package includes all materials and is organized in the manner requested by the Source Protection Programs Branch in their direction from July 29, 2019.

Should you have any questions, please do not hesitate to contact Jennifer Stephens at 416.661.6600 Ext. 5633 or [Jennifer.Stephens@trca.ca](mailto:Jennifer.Stephens@trca.ca).

Sincerely,



Karen Ras  
Chair, Credit Valley Source Protection Authority

cc. Doug Wright, Chair, CTC Source Protection Committee  
Jennifer Stephens, Program Manager, CTC Source Protection Region

October 9, 2019

Resolution Number 2019-831

**Corporate  
Services**

**Office of the  
Regional Clerk**

10 Peel Centre Dr.  
Brampton, ON  
L6T 4B9  
tel: 905-791-7800

peelregion.ca

Mr. Douglas Wright  
Chair, Source Protection  
Committee  
Credit Valley - Toronto and  
Region - Central Lake  
Ontario Source Protection  
Region  
101 Exchange Avenue,  
Vaughan, ON L4K 5R6

Mr. Robert Edmondson  
Chair, Source Protection Committee  
Halton – Hamilton Source Protection  
Region  
c/o Diane Bloomfield, Manager Source  
Water Protection  
2596 Britannia Road West  
Burlington, ON L7P 0G3

Ms. Lynn Dollin  
Chair, Source Protection  
Committee  
South Georgian Bay –  
Lake Simcoe Source  
Protection Region  
c/o Town of Innisfil  
2101 Innisfil Beach Road  
Innisfil On L9S 1A1

Subject: ***Clean Water Act Requirements - Replacement of Alternate Risk  
Management Official and Appointments Process***

---

I am writing to advise that Regional Council approved the following resolution at its meeting held on Thursday, September 26, 2019:

**Resolution 2019-831:**

That Stefan Herceg be appointed as Alternate Risk Management Official for the Region of Peel under Part IV of the *Clean Water Act, 2006* (the Act);

And further, that the Commissioner of Public Works or their designate be delegated authority to appoint additional Risk Management Officials, into existing complement responsibilities for the Region of Peel under the Act, as needs arise;

And further, that the Regional Clerk issue a certificate of appointment bearing the Clerk's signature for each Risk Management Official appointed by Regional Council;

And further, that the Regional Clerk circulate the report of the Acting Commissioner of Public Works, titled "Clean Water Act Requirements - Replacement of Alternate Risk Management Official and Appointments Process", to the Clerks of the three local municipalities within Peel, the Town of Orangeville and Halton Region; to the Chairs of South Georgian Bay - Lake Simcoe Source Protection Committee, Credit Valley - Toronto and Region - Central Lake Ontario Source Protection Committee and Halton - Hamilton Source Protection Committee; and, the Ministry of the Environment, Conservation and Parks.

A copy of the subject report is attached for your information.

Yours truly,



Kathryn Lockyer  
Regional Clerk and Director of Legal Services

KL/sh

c: Andrew Farr, Acting Commissioner of Public Works, Region of Peel

**Also sent to:**

Peter Fay, City Clerk, City of Brampton  
Carey Herd, General Manager, Corporate Services and Town Clerk, Town of Caledon  
Karen Bennett, Regional Clerk, Region of Halton  
Diana Rusnov, City Clerk and Director, Legislative Services, City of Mississauga  
Karen Landry, City Clerk, Legislative Services, Town of Orangeville  
Pat Kinch, Manager, Source Protection Implementation, Ministry of the Environment, Conservation and Parks

# Source Protection Implementation in Halton Region

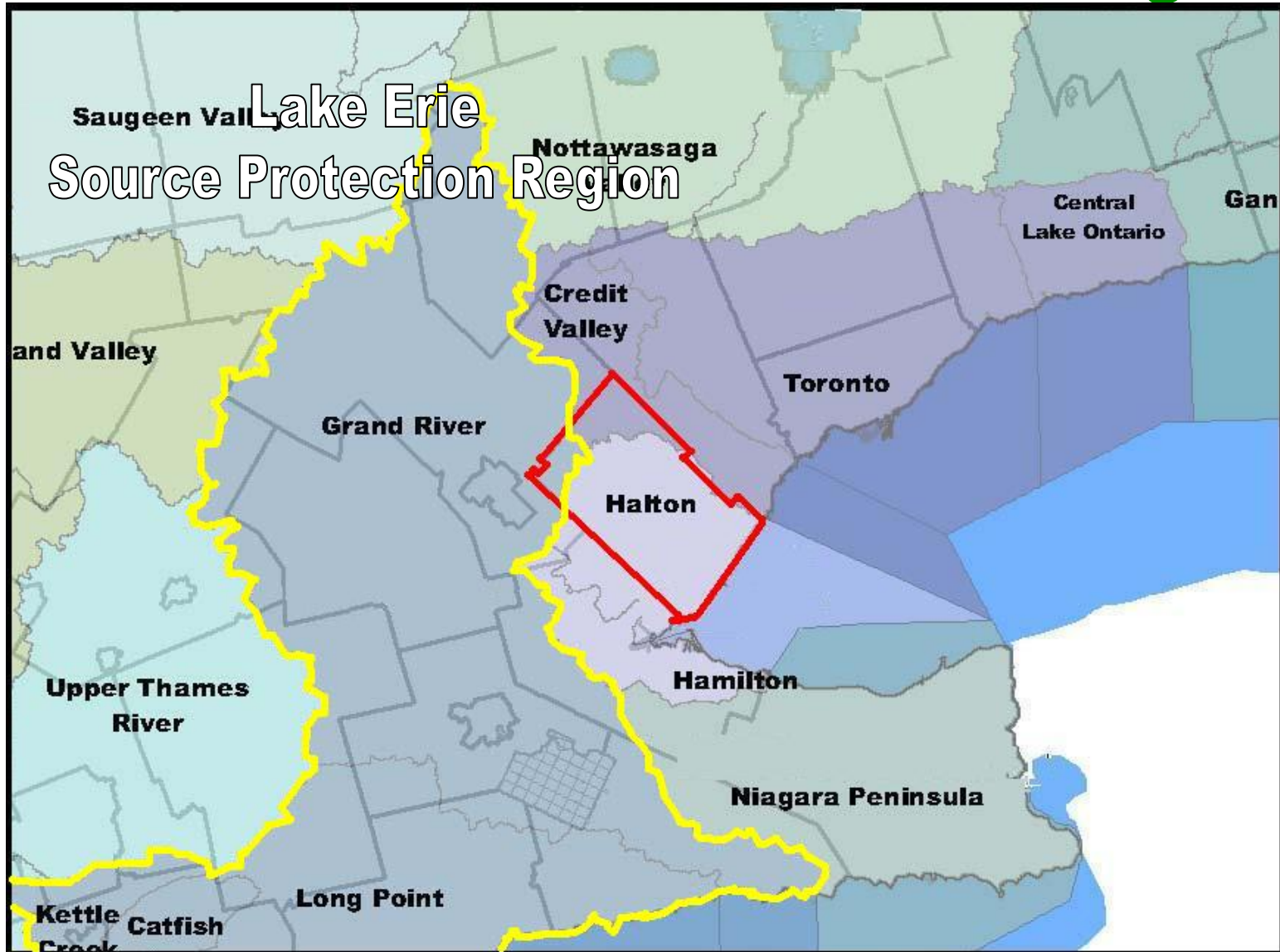


Dan Banks – Risk Management Official  
John McIntosh – Risk Management Inspector

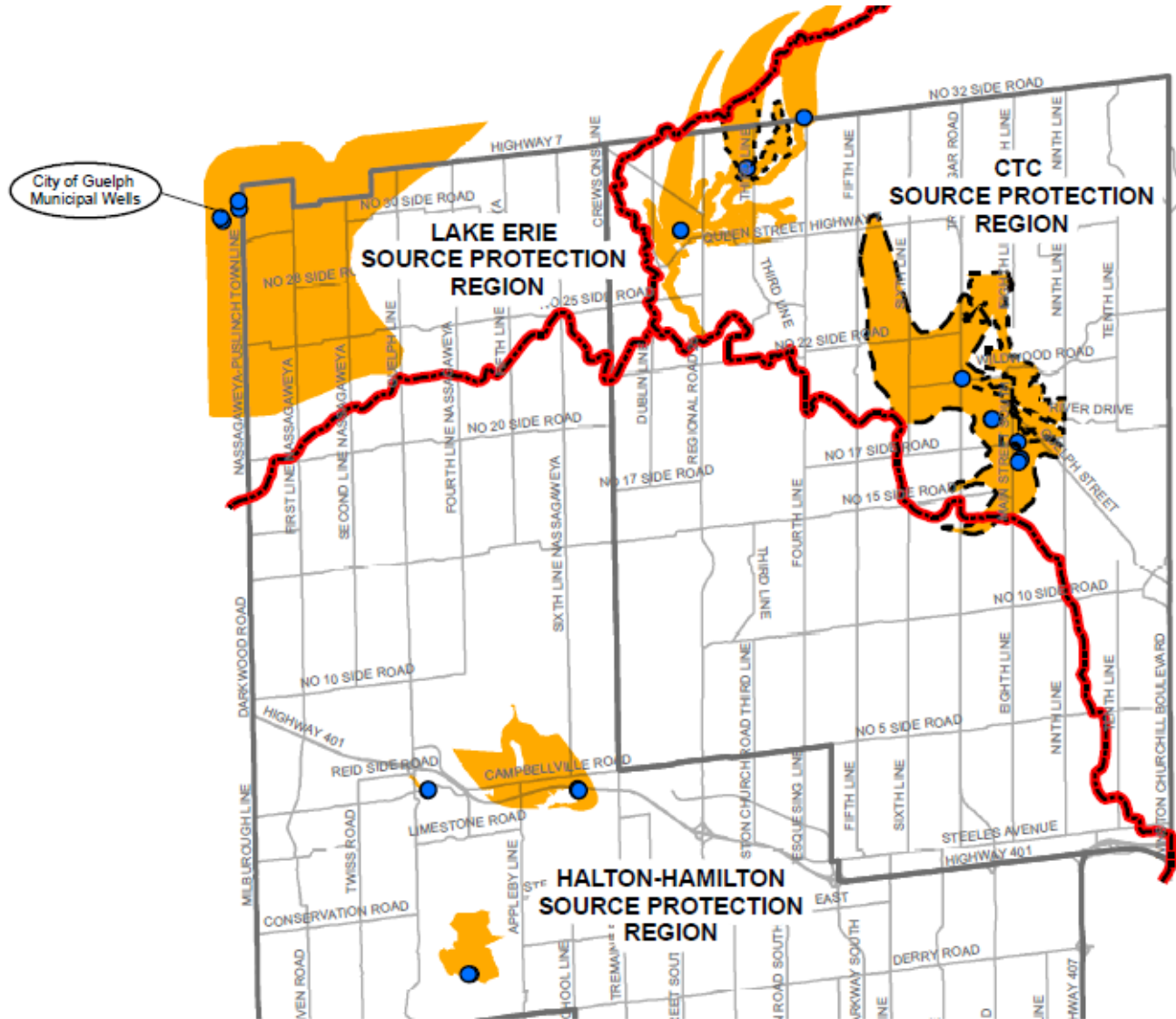
CTC SPC Meeting  
April 29, 2020



# Source Water Protection in Halton Region



# Wellhead Protection Areas





# Source Protection – Initiation and Verification

Since December 31, 2015, staff have been active establishing Source Protection in Halton Region, along with implementing a number of policies in each of its 3 Source Protection Areas

2016/2017:

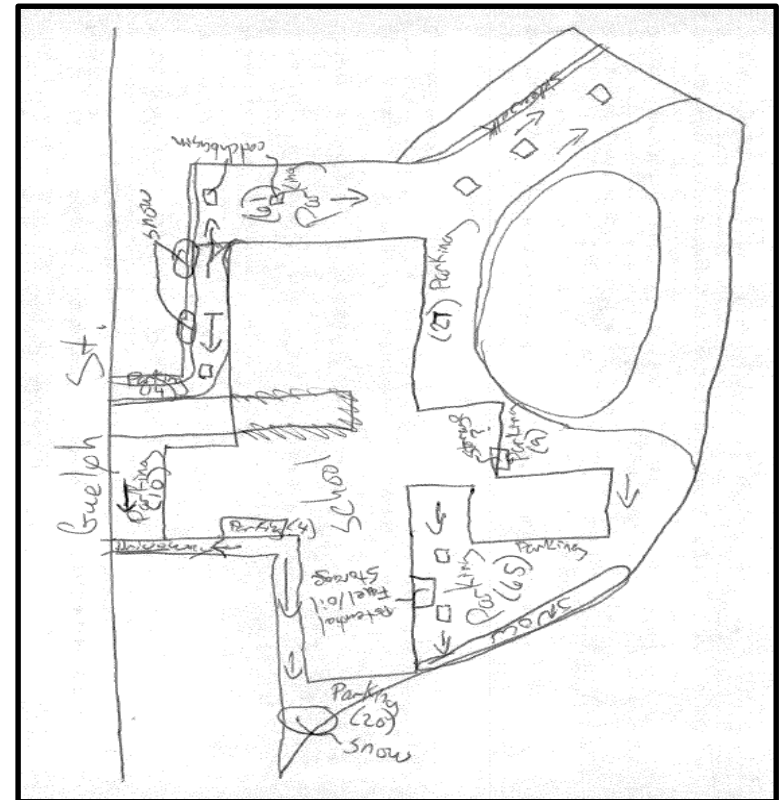
- **Verification:** staff assessed significant drinking water threat activities identified in the Assessment Reports through on-site visits, telephone, and desktop analysis



# Source Protection – Initiation and Verification

2016/2017:

- **Verified** the presence / absence of **approximately 4,500 (4,400 in CTC) significant drinking water threat activities**, which also established good relationships with landowners requiring Risk Management Plans (RMPs) in the future
- Verification of activities
  - Allowed staff to properly plan for implementation
  - Ensured residents are not inadvertently subjected to policies
  - Prioritized activities that have greater potential of impacting drinking water sources
  - Complied with annual Source Protection reporting requirements



# Establishing Source Protection Tools

2016/2017:

- **Developed templates** for Checklists, Site Assessments, RMPs, Notices, and Orders
- Reviewed and updated **Halton Region website** to provide Source Protection education and outreach to residents (AODA compliant)
- Developed drinking water threat **factsheets, spill response stickers**, and collaborated with OMAFRA staff to hold **agricultural workshops** for local farmers



**1. Source Water Protection** → **2. Water Treatment System** → **3. Inspection** → **4. Testing** → **5. Distribution** → **6. Drinking Water**

**Sources of drinking water**

Sources of drinking water include groundwater from underground aquifers and surface water from streams, rivers and lakes. These water sources are used to supply municipal drinking water systems and private wells in Halton Region.

**Source Protection Plans**

Source Protection Plans contain policies to protect drinking water sources from 22 activities in vulnerable areas that may negatively impact the quality and quantity of our drinking water sources. These include:

- Applying, handling and storing road salt and snow storage
- Handling and storing fuels, solvents, hazardous waste and other related chemicals
- Activities that reduce return of water into the ground
- Applying, handling, and storing pesticides, fertilizers, agricultural and non-agricultural materials
- Activities that take water without returning it to the same water source
- Installing or modifying septic and other sewage systems
- Use of land for livestock yards and/or pasturing
- Establishment and operation of a liquid hydrocarbon pipeline

**Are you in a vulnerable area that may be subject to Source Protection Plans?**

Use the Province's [Source Protection Information Atlas GIS Tool](#)

For more information, call 311 or contact the Halton Region Source Protection staff at [sourcewater@halton.ca](mailto:sourcewater@halton.ca)

# Establishing Source Protection Processes

2016/2017:

- **Established and implemented processes** for reviewing planning, building permit, and Niagara Escarpment Commission (NEC) applications with internal and external stakeholders to ensure implementation of Source Protection Plans
  - **Approximately 300 development applications** reviewed to date
- Notified landowners where existing **prohibition policies** applied and initiated the establishment of RMPs
- Meetings and workshops with **local planning and building departments** with Halton Hills, Milton, and NEC staff

The image shows a 'Source Water Protection Checklist' form. The title is 'Source Water Protection Checklist' with a subtitle 'Prior to submitting Planning / NEC (Building Permit Applications, email completed checklist to [sourcewater@halton.ca](mailto:sourcewater@halton.ca)'. The form is divided into several sections:
 

- Source Water Protection Information (Internal Use Only):** Includes questions about whether the property is in a vulnerable area and lists various WHPA zones (A through G) and IPZ zones.
- Subject Property & Contact Information:** Requests the subject property address, type of application, and a description. It also includes a table for contact information for the Applicant and Property Owner (Name, Company Name, Mailing Address, Email, Day-time Telephone #).
- Source Protection Activities:** This section asks to indicate if any of the following activities are or will be occurring on the subject property:
  - Applicable for All Land Uses:** Salt storage, parking lot area, snow storage area, fuel handling & storage, home heating, gas station, liquid fuel storage.
  - Applicable for All Land Uses Except Residential:** Storage of hazardous waste, storage of Polychlorinated Biphenyl (PCB) waste, storage of agricultural source material, application or storage of fertilizers, application or storage of pesticides, application or storage of unprocessed plant based materials, outdoor confinement area or farm animal yard.
  - RECHARGE REDUCTION:** An activity that reduces recharge to an aquifer.
  - CHEMICAL HANDLING & STORAGE:** Degreasers, coolants, cleaners, paints, resins, adhesives, wood treatments, sealers, inks, rubber solvents, vehicle fluids, dry cleaning products, and other detergents.
- Declaration:** A section for the Registered Owner or Authorized Agent for Owner to sign and date, declaring the information is true to the best of their knowledge.

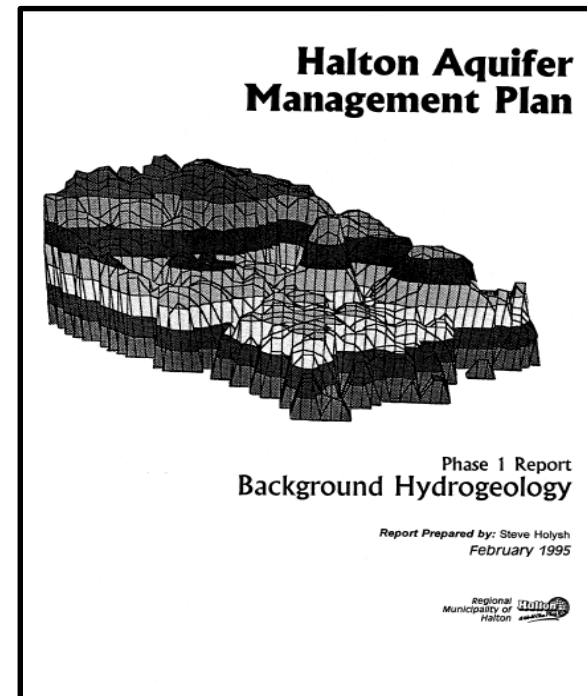
 The form footer includes the Halton Region logo, the website 'halton.ca | 311', and social media icons for Twitter, Facebook, LinkedIn, and YouTube.



# Alignment of Source Protection with Halton's Aquifer Management Plan

2016/2017:

- Since the 1990s, Halton Region staff have been implementing a comprehensive set of directives that provide both the **management and protection of drinking water sources** across the Region, as contained in Halton's Aquifer Management Plan (AMP)
- In 2017, Council determined that the AMP will not be further updated since **its directives are being addressed through the implementation of Source Protection Plans**, Regional Official Plan policies, and ongoing employment of Halton's Water Conservation and Efficiency Strategy



# Halton's Municipal Comprehensive Review

2018/2019:

- The Region's **Municipal Comprehensive Review** was initiated by Halton Region's Planning staff
- Source Protection Plan Policies were reviewed to help ensure that the Regional Official Plan will conform with the applicable Source Protection Plans in Halton Region

- A **Technical Memorandum** was prepared by Halton's **Source Protection and Planning staff** to describe the implementation of source water protection to date along with the Source Protection Plan policies that will need to be added to the Regional Official Plan

| <b>Contents</b>   |    |
|---|----|
| Purpose .....   | 4  |
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| Current Implementation Processes .....                        | 18 |
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| Other Policy Approaches/Best Practices .....                  | 48 |
| Next Steps .....  | 53 |

- Note: **local municipal Official Plans and Zoning By-laws** will also need to be amended

# Source Protection Plans – Review and Updates

2018/2019:

- **Periodic review and update** of the Assessment Reports and Source Protection Plans were completed under a Section 36 order from the Minister of the Environment, Conservation and Parks
- CTC, Halton-Hamilton, and Lake Erie Source Protection Regions initiated their Section 36 work plans, which included:
  - **CTC:**
    - updated **Halton Hills water budget analyses and vulnerable area mapping**, including the Acton and Georgetown municipal wellhead protection areas
  - **Halton-Hamilton:**
    - reviewed chloride and sodium concentrations at the **Campbellville wellfield**
    - worked with CH to review vulnerability scoring for **the Lake Ontario intakes**
  - **Lake Erie:**
    - no specific Section 36 work plan action items for Halton Region
    - staff collaborated with **City of Guelph and the County of Wellington on Water Quantity Policies**

# Expanded Groundwater Sampling

2018/2019:

## Campbellville – Chloride & Sodium

- Field study to investigate chloride and sodium distribution in the municipal aquifer by **installing and sampling five new monitoring wells**
- Drilling and sampling occurred in fall 2019 and with additional samples planned for spring 2020
- A summary report documenting findings, conclusions and recommendations was prepared in spring 2020

## Cedarvale - Chloride

- Updated chloride concentration trend analysis in collaboration with CTC
- **Continued to expand groundwater sampling program** within the vicinity of Cedarvale wellfield to assess the spatial and seasonal distribution of chloride concentrations





# Expanded Groundwater Sampling

2018/2019:

## Davidson - Nitrate

- Updated nitrate concentration trend analysis in collaboration with CTC
- Continued **collaboration with University of Guelph G360** to investigate sources of nitrate at the Davidson wellfield:
  - G360 provided summary of data through 2019 with analysis and Region's review to occur in 2020



# Implementation in Halton Region

2018/2019:

- Integrated Source Protection into ongoing municipal infrastructure projects (e.g. sanitary sewers) subject to **Environmental Compliance Approvals** by the MECP (84 applications reviewed to date)
- Integrated vulnerable areas (as defined under the *Clean Water Act, 2006*) and appropriate responses within Halton Region's **Spill Response Procedures**
- Developed, installed, and repaired/replaced **prohibition signs** on agricultural properties where required, to assist farmers during agricultural operations



# Risk Management Plan Efforts

2018/2019:

- Continued to work with landowners to establish RMPs through a variety of approaches, while promoting implementation of RMP measures including:
  - Integrating requirements to establish an RMP prior to **development application** approval
  - **Hand-delivered letters** requesting landowners to reach out to Halton Region Source Protection staff to initiate RMP negotiations
  - Mailed **follow-up** letters to non-responsive landowners to initiate RMP negotiations
  - Dropped by properties to follow-up on previously delivered letters
- Thus far, staff prioritized the outreach letters for properties within the **Issue Contributing Areas** and **seasonal availability** (e.g. agricultural properties in the winter)
- Utilizing our Realty Department to determine landowners contact information for properties without mailboxes or buildings

# Progress in Addressing Significant Threats

| Prescribed Drinking Water Threat  | A           | B          | C           | D           | Threats Remaining | Overall Progress (%) |
|---|-------------|------------|-------------|-------------|-------------------|----------------------|
| The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act | 0           | 5          | 0           | 5           | 0                 | 100.0                |
| The establishment, operation or maintenance of a system that collects, stores, transmits, treats, or disposes of sewage.              | 1515        | 0          | 1462        | 47          | 6                 | 99.6                 |
| The application of agricultural source material to land.  | 44          | 0          | 24          | 1           | 19                | 56.8                 |
| The storage of agricultural source material.  | 27          | 6          | 28          | 1           | 4                 | 87.9                 |
| The management of agricultural source material.   | 0           | 0          | 0           | 0           | 0                 |                      |
| The application of non-agricultural source material to land.  | 1           | 0          | 1           | 0           | 0                 | 100.0                |
| The handling and storage of non-agricultural source material.   | 0           | 0          | 0           | 0           | 0                 |                      |
| The application of commercial fertilizer to land.   | 55          | 9          | 42          | 14          | 8                 | 87.5                 |
| The handling and storage of commercial fertilizer.  | 77          | 12         | 75          | 14          | 0                 | 100.0                |
| The application of pesticide to land.   | 107         | 28         | 110         | 2           | 23                | 83.0                 |
| The handling and storage of pesticide.  | 91          | 16         | 106         | 0           | 1                 | 99.1                 |
| The application of road salt.   | 3299        | 1          | 584         | 2592        | 124               | 96.2                 |
| The handling and storage of road salt.  | 959         | 23         | 938         | 32          | 12                | 98.8                 |
| The storage of snow.  | 0           | 41         | 0           | 41          | 0                 | 100.0                |
| The handling and storage of fuel.   | 169         | 0          | 151         | 14          | 4                 | 97.6                 |
| The handling and storage of dense non-aqueous phase liquid.   | 166         | 5          | 152         | 4           | 15                | 91.2                 |
| The handling and storage of organic solvent.  | 46          | 0          | 40          | 3           | 3                 | 93.5                 |
| The management of runoff that contains chemicals used in the de-icing of aircraft.  | 0           | 0          | 0           | 0           | 0                 |                      |
| The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard. O. Reg. 385.08, section 3. | 143         | 0          | 133         | 0           | 10                | 93.0                 |
| Water taking from an aquifer without returning the water to the same aquifer or surface water body.                                   | 87          | 0          | 0           | 87          | 0                 | 100.0                |
| Reducing recharge of an aquifer.  | 0           | 0          | 0           | 0           | 0                 |                      |
| <b>TOTAL</b>  | <b>6786</b> | <b>146</b> | <b>3846</b> | <b>2857</b> | <b>229</b>        | <b>96.7</b>          |

A = original number of threats when SPP was approved

B = number of additional threats identified after SPP was approved

C = number of threats removed after SPP was approved

D = number of threats addressed through SPP implementation

# Risk Management Plans

- Staff continue to focus efforts on **working with landowners in establishing voluntary RMPs** for agricultural, industrial, commercial, and institutional activities

| Total Number of Properties with Identified Threats (2015) | Total Number of Properties Requiring RMPs (2016) | Estimated Number of RMPs Required |      |      | Number of RMP's in Progress |
|---|--|-----------------------------------|------|------|-----------------------------|
|   |  | 2017                              | 2018 | 2019 |                             |
| ~ 4,400   | 248  | 234                               | 190  | 165  | ~ 15                        |

- Includes RMPs established with **Halton Hills, both school boards, and Regional properties**
- Staff **carry out inspections** for established RMPs and properties where prohibition policies apply



# Risk Management Plans - Challenges

- Majority of RMPs that need to be established are associated with **landowners and operators with seasonal availability** (agricultural and winter maintenance)
- After providing education and outreach materials, along with one-on-one conversations, **landowners are still hesitant to initiate RMP negotiations**
  - Provide additional education regarding the importance of protecting our drinking water
- In response to COVID-19, Region staff are **following up with landowners and operators by phone and email**, and will also use web meeting technology (e.g., Zoom) when possible
- Staff are also **progressing on drafting RMPs based on verification notes and desktop information** and alternate (e.g., drive-by) site inspections, for future follow-up with landowners and operators



**Halton** halton.ca 311

Source Water Protection Factsheet  
halton.ca

**RETHINK WATER**  
Enjoy. Conserve. Protect.

## Risk Management Plans

### Sources of drinking water

Sources of drinking water include groundwater from underground aquifers and surface water from streams, rivers and lakes. These water sources are used to supply municipal drinking water systems and private wells in Halton Region, as illustrated below.

### Source water protection and Risk Management

Under the Clean Water Act, 2006, additional protection of drinking water sources from potential contamination or overuse is provided through the mandatory implementation of approved Source Protection Plans.

These Plans contain policies requiring persons who are or will be engaged in certain activities located within **vulnerable areas**, to develop **Risk Management Plan(s)** to reduce risks associated with activities that may potentially contaminate or overuse municipal drinking water sources such as:

- Applying, handling and storing road salt and snow storage.
- Handling and storing fuels, solvents, hazardous waste and other related chemicals.
- Activities that reduce return of water into the ground.
- Applying, handling and storing pesticides, fertilizers, agricultural and non-agricultural materials.
- Use of land for livestock yards and/or pasturing.

### What is a Risk Management Plan?

**Risk Management Plans** are best-practice management tools to help residents and businesses protect drinking water sources from potential contamination or overuse. Through a preventative focus, Risk Management Plans are customized to suit the nature of the property, activity or business and may apply to multiple activities on the same property. These Plans are legally-binding under the Clean Water Act, 2006 and negotiated between the person engaged in the activity and Halton Region's Risk Management Official.

### Protecting Halton's drinking water

To ensure the consistent delivery of safe and high quality drinking water to our residents and businesses, Halton Region uses a proactive multi-barrier approach to safeguard our municipal drinking water. Under the Clean Water Act, 2006, the very first barrier in this approach is **Source Protection**.

# Risk Management Plans - Challenges

- Staff have negotiated a number of RMPs with landowners, tenants, operators, however, there is often an **unwillingness to sign-off on RMP** or simply no response from landowners
- Staff have consulted with the Region's Legal Service group to discuss **approaches to establish RMPs under the Clean Water Act, 2006**
- Regional staff are aware of enforcement tools under the *Clean Water Act, 2006*, which will be **utilized as a last resort** to establish RMPs – **Staff have found landowners more apt to follow RMP measures if it the RMP was negotiated as opposed to forced on them** – we have been successfully taking this approach



**TO:** Chair and Members of the Source Protection Committee  
Meeting #1/20, April 29, 2020

**FROM:** Jennifer Stephens, Manager, Source Water Protection

**RE:** Implementation of CTC Source Protection Plan in 2019

---

## **KEY ISSUE**

To provide the CTC Source Protection Committee (SPC) with an overview of implementation progress and seek the Committee's opinion in accomplishing source protection plan objectives in 2019. The Committee is also asked to provide comments on implementation progress that would then be conveyed to source protection authorities, the Ministry of Environment, Conservation and Parks, stakeholders, and the public. The discussion which is expected to occur during the assessment of implementation progress will render options from the Committee for directing future work to achieve source protection objectives in the CTC Source Protection Region. Lastly, the Committee will decide whether to seek an extension to the deadline for risk management plan (RMP) completion.

## **RECOMMENDATION**

**IT IS RECOMMENDED THAT a summary of implementation activities in 2019 obtained through Annual Reports submitted by February 1, 2020 be received by the CTC SPC for input on progress achieved in accomplishing source protection plan objectives;**

**AND THAT CTC Source Protection Region (CTC SPR) staff be directed to take the necessary action to request a formal 3-year extension to the December 31, 2020 deadline for the completion of Risk Management Plans (RMPs) in the CTC SPR to address the remaining existing significant drinking water threats;**

**AND THAT CTC SPR staff be directed to advise all Risk Management Officials in the source protection region of the revised timeline to complete RMPs and communicate the desire of the CTC SPC for the use of Part IV powers under the *Clean Water Act, 2006* to establish outstanding RMPs;**

**AND THAT CTC SPR staff be directed to take the necessary action to communicate the Committee's assessment of implementation progress as well as any feedback from the CTC SPC to the Credit Valley, Toronto & Region, and Central Lake Ontario Source Protection Authorities at meetings scheduled for May 8<sup>th</sup>, May 12<sup>th</sup>, and May 22<sup>nd</sup>, 2019.**

**AND FURTHER THAT the CTC SPR staff be directed to take the necessary action to submit the 2019 Annual Progress Report and 2019 Annual Report – Supplemental Form to the Ministry of the Environment, Conservation and Parks, along with any Source Protection Committee comments, in accordance with Section 46 of the *Clean Water Act, 2006* and any Director's instructions established under O. Reg. 287/07 S.52.**



## BACKGROUND

Annual Monitoring and Reporting Requirements are outlined in the *Clean Water Act (CWA), 2006* under section 46 (Annual Progress Reports) and section 81 (Part IV Regulation of Drinking Water Threats). The Annual Progress Reporting Framework (Attachments 1 and 2) includes reportables and performance measures to meet the legislated reporting requirements under section 46 of the *Clean Water Act, 2006* and section 52 of Ontario Regulation 287/07 (O. Reg.), and to advise the Ministry of source protection plan implementation progress and the overall success of the Program.

The *Clean Water Act (CWA), 2006* requires an annual progress report to be made by the source protection authority (SPA) to the MECP by May 1<sup>st</sup> for the previous calendar year. In the present circumstances of the Novel Coronavirus (COVID-19) pandemic, the Credit Valley Source Protection Authority, along with Toronto and Region and Central Lake Ontario Source Protection Authorities, have applied for an extension to June 1<sup>st</sup>, 2020 to submit the 2019 Annual Report.

Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Authorities has submitted two previous Annual Progress Reports to the Ministry in May 2018 and May 2019 for implementation activities completed in 2017 and 2018, respectively. The CTC Source Protection Committee reported at that time that after 2 years and 3 years of implementation, the majority of the source protection plan policies had been **implemented and / or were progressing** in accordance with the timelines specified in the source protection plan.

Annual reporting results must be shared with the source protection committee at least 30 days before being submitted to the Director, Source Protection Programs Branch. Once received, the Committee is required to review the report and provide written comments to the source protection authorities about the extent to which, in the opinion of the committee, the objectives set out in the source protection plan are being achieved by the measures described in the report.

### **Implementation Status – Risk Management Plans**

Of the **10,198** existing significant drinking water threats that were found in the CTC Source Protection Region (CTC SPR) at the time the CTC SPP became effective, only **424** (4%) remain at the end of the fourth year of implementation (January 1 – December 31, 2019). All municipalities in the CTC SPR have implemented most significant drinking water threat policies in the CTC SPP. Most municipalities in the CTC SPR are in the process of implementing policies to address moderate and low threat policies.

The remaining **424** existing drinking water threats will be managed through **251** Risk Management Plans (RMPs), so they cease to pose significant threat to municipal sources of drinking water. Eleven (**11**) of these RMPs fall within the Region of Peel and are needed to address **13** existing drinking water threats. These threats have been added to the list of enumerated threats resulting from a new drinking water well becoming operational in 2019 at the Alton wellfield. The CTC SPP does not address timelines for the completion of RMPs resulting from amendments, such as the case of a new municipal drinking water well becoming operational. This issue will be addressed by the CTC SPC at their May 13, 2020 and June 23, 2020 meetings.

Excluding the RMPs still to be negotiated in Peel Region related to the Alton wellfield amendment, **240** RMPs remain necessary to address **411** significant drinking water threats. The distribution of RMPs and existing threats across the CTC Source Protection Region (CTC SPR) is as follows:

- Town of Mono - **8** threats, **6** RMPs;
- Township of Amaranth – **4** threats, **3** RMPs;
- Region of Peel – **1** threat, **1** RMP;
- York Region – **2** threats, **2** RMPs;
- Durham – No remaining threats.
- Region of Halton – **229** threats, **165** RMPs;
- Town of Orangeville – **99** threats, **40** RMPs;
- Town of Erin – **68** threats, **23** RMPs; and
- Township of East Garafraxa – No remaining threats.

The current timeline in the approved CTC SPP (2015) states that all RMPs addressing existing significant drinking water threats must be completed by December 31, 2020. On an annual basis, there is great variation across municipalities in the number of RMPs that can be developed as a consequence of the complexity of the Plan, the number of threats being addressed through the Plan, and the willingness of the parties carrying out the activity(ies) to negotiate the parameters of the Plan. In some cases, Risk Management Officials have taken up to two years to negotiate a risk management plan. For the reasons outlined above, it has been difficult with existing resources to meet the 2020 deadline for the completion of RMPs.

Under section 94 of the *Clean Water Act, 2006* to extend such timelines, the SPPB Director and Approvals Section Manager is delegated authority to extend the timeline for conforming with a source protection plan policy (e.g.: establish a Risk Management Plan within 5 years of the plan coming into effect) without requiring an amendment under Section 34 or 36 of the *Clean Water Act, 2006*.

The CTC SPC thus has the option of extending the timeline for completion of RMPs across the CTC SPR, or for select municipalities. Given the current precautions for preventing the spread of COVID-19, staff recommend a three-year extension to the December 2020 deadline be proposed for all municipalities in the CTC SPR. In this case, RMPs would need to be in place for all existing drinking water threats identified at the time the CTC SPP became effective, by December 31, 2023. This timeline would enable the CTC SPC to report all existing drinking water threats as being addressed in the submission of the updated CTC SPP.

### **Annual Progress Report and Supplemental Form**

The CTC Annual Progress Report is a public-facing document developed by the MECP and prepared by CTC SPR staff. The report provides valuable information about the implementation of the CTC Source Protection Plan and the overall success of the program (Attachment 3). The CTC Annual Progress Report reflects implementation efforts from the previous calendar year, January 1, 2019 to December 31, 2019.

The progress report presents a high-level summary of annual reporting results collected through the CTC SPP Supplemental Form, which has also been developed by the MECP for consistency across the Province. The Supplemental Form is a tool for collecting key information

from implementing bodies to help evaluate progress made in the CTC Source Protection Region using a series of questions.

The Supplemental Form includes two questions that require Source Protection Committee (SPC) input:

- 1) In the opinion of the Source Protection Committee, to what extent have the objectives of the source protection plan been achieved in this reporting period?

The Province has provided three options for the Committee to choose from:

*Option 1: **Progressing Well/On-Target*** – The majority of the source protection plan policies have been implemented and/or are progressing.

*Option 2: **Satisfactory*** – Some of the source protection plan policies have been implemented and/or are progressing.

*Option 3: **Limited Progress*** – A few source protection plan policies have been implemented and/or are progressing.

- 2) Further, the Committee is asked to provide comments to explain how it arrived at its opinion.

### **Context for Consideration of Committee's Opinion**

The Committee has two options for reporting on implementation progress. When the CTC Source Protection Plan took effect, 10,198 existing significant drinking water threats were identified. Since implementation of the plan, 96% of confirmed significant drinking water threats have been addressed with only 424 remaining at the end of the reporting period. There has been significant progress by implementing bodies to integrate the CTC Source Protection Plan into day-to-day operations.

The Committee can choose to indicate that the Drinking Water Source Protection Program is *progressing well* in accordance with the timelines outlined in the CTC Source Protection Plan or that there has only been *satisfactory* progress given the delayed establishment of risk management plans within the CTC Source Protection Region.

### **DETAILS OF WORK TO BE DONE**

Any comments received from the Committee will be communicated to the source protection authorities for their consideration prior to submitting the required annual reports to the Ministry of the Environment, Conservation and Parks by June 1, 2020.

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**Date: April 17, 2020**

**Attachments: 3**

**Attachment 1: Outcomes of the Drinking Water Source Protection Program**  
**Attachment 2: Implementation of Source Protection Plans Program Logic Model**  
**Attachment 3: Annual Progress Report – CTC Source Protection Plan**

## SHORT TERM OUTCOMES

### 1. KNOWLEDGE AND SKILLS

- Stakeholders have the knowledge to prepare applications for instruments that integrate source protection.
- Stakeholders have the knowledge and skills to implement policies.
- Stakeholders have processes, tools, and resources to implement policies.



### 2. AWARENESS AND WILLINGNESS

- Government ministries are aware and willing to facilitate implementation of source protection with their stakeholders.
- Stakeholders are willing to integrate source protection into day-to-day business.
- Stakeholders are aware of source protection plans and willing to implement related obligations.
- Municipal stakeholders are accountable and responsible for protecting their source water.
- Public is aware of their impacts on source water.
- Increased public awareness of the importance of source protection.
- Stakeholders are willing to implement non-binding policies.



## MEDIUM TERM OUTCOMES

### 3. LOCALLY INFORMED DECISION MAKING

- Stakeholders prepare and submit applications for instruments that integrate source protection
- Science is integrated into program and policy related decisions.
- Environmental Assessment process incorporates source protection policies.
- Stakeholders use current information and science to inform decision making.

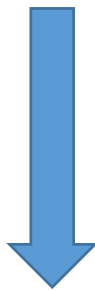
### 4. IMPLEMENTATION OF SOURCE PROTECTION PLANS

- Stakeholders implement other binding policies (i.e., 'specify action' policies).
- Stakeholders report on progress with source protection plans.
- Stakeholders implement education and outreach programs.
- Stakeholders implement risk management plans.
- *Planning Act* decisions conform with source protection policies.
- Prescribed instruments (e.g., approvals) conform with source protection policies.
- Stakeholders are taking steps to implement non-binding policies.

### 5. CHANGES IN PUBLIC AND STAKEHOLDER BEHAVIOUR (E.G., APPROPRIATE DISPOSAL OF CONTAMINANTS).

### 6. STAKEHOLDERS MARKET AND PROMOTE THE PROGRAM (WEBSITES, SOCIAL MEDIA, EVENTS).

### 7. THREATS 'CEASE TO BE' AND RISKS ARE ADDRESSED.



## LONG TERM OUTCOMES

8. ONTARIO IS A LEADER IN PROTECTING SOURCE WATER.



9. SOURCE PROTECTION ATTITUDES ARE INTEGRATED INTO DAY-TO-DAY LIVES OF ONTARIANS



10A. COSTS TO ONTARIANS ARE REDUCED.

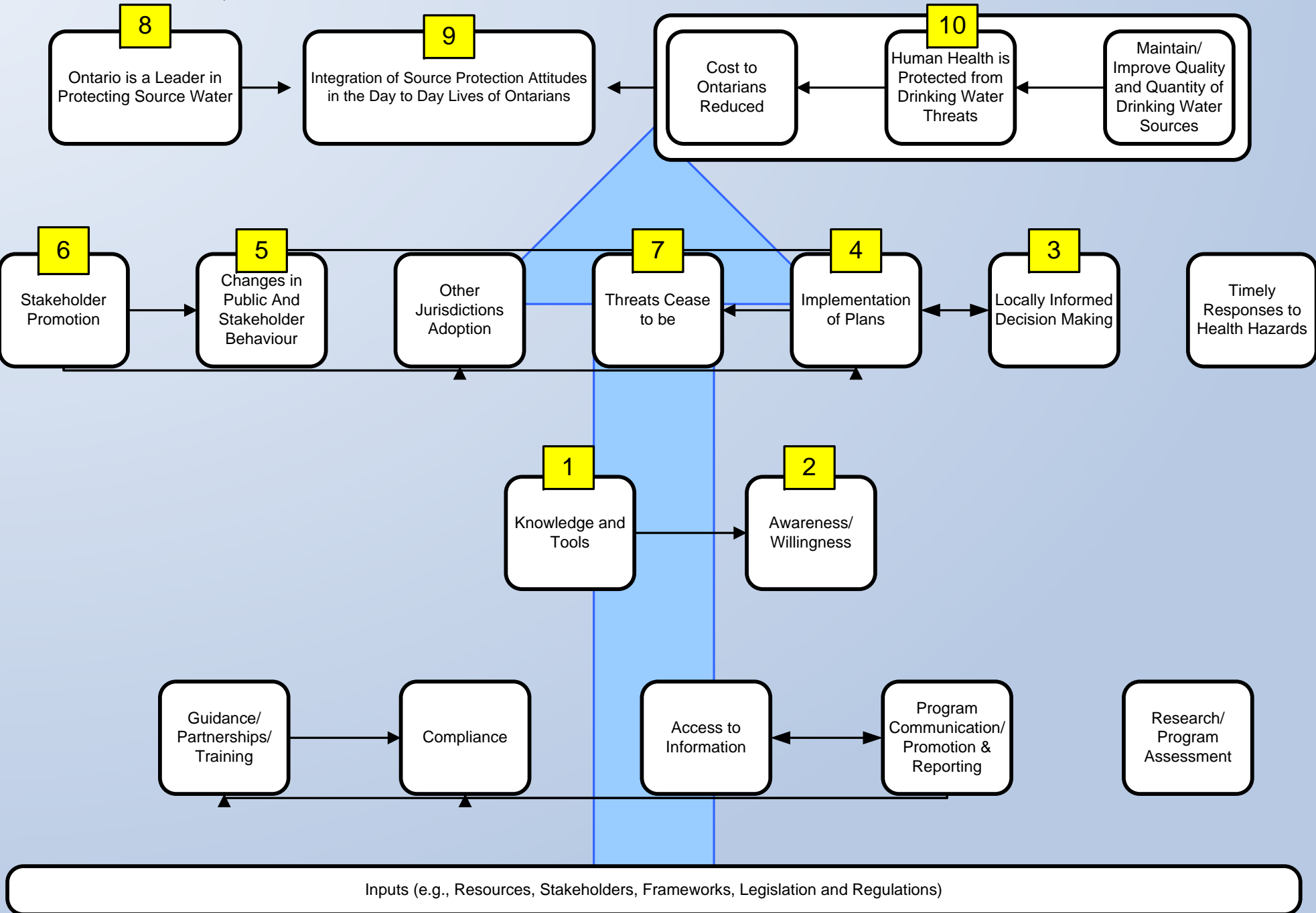
10B. HUMAN HEALTH IS PROTECTED FROM DRINKING WATER THREATS.

10c. THE QUALITY AND QUANTITY OF DRINKING WATER SOURCES ARE MAINTAINED AND IMPROVED.

# Implementation of Source Protection Plans Program Logic Model

## ATTACHMENT 2

Long-term Outcomes  
Medium-term Outcomes  
Short-term Outcomes  
Activities/Outputs  
Inputs







## 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 source protection plan policies have been implemented and/or are progressing.

### ***PROPOSED WORDING:***

This is the third Annual Report on implementation progress of the Drinking Water Source Protection Program in the CTC Source Protection Region since the CTC Source Protection Plan took effect on December 31, 2015.

In the fourth year of implementation, 100% of the legally-binding policies to address significant drinking water threats have been implemented or are in progress. At the end of the 2019 calendar year, 96% of the significant drinking water threats that existed at the time of source protection plan approval had been addressed through policy implementation or removed through threats verification.

All stakeholders responsible for the implementation of policies in the CTC Source Protection Plan reported on the progress of their implementation activities during the previous calendar year. In addition, all municipalities in the CTC Source Protection Region have established processes to ensure that land use planning decisions conform to the CTC Source Protection Plan.

### III. Our Watershed

The CTC Source Protection Region contains 25 large and small watersheds and spans over 6,400 km<sup>2</sup>, 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 on 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 covers an area of 1,000 km<sup>2</sup>. The Credit River Watershed contains 22 subwatersheds, each representing a major drainage area of the Credit River. 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 water sources on the Credit River.

The Toronto and Region Source Protection Area comprises nine watersheds, plus their collective Lake Ontario waterfront shorelines, to incorporate portions of six upper-tier and 15 lower-tier municipalities. These nine watersheds include Carruthers, Duffins, Etobicoke, Highland, Mimico, and Petticoat Creeks, as well 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 covers an area of 638.6 km<sup>2</sup> that is fully contained within the Regional Municipality of Durham. There are 15 watersheds within its boundaries, with the five major watersheds originating at the Oak Ridges Moraine. There are no municipal wells within source protection area; municipal drinking water comes from Lake Ontario. There are there are municipal drinking water systems: Whitby, Oshawa, and Bowmanville.



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

### 1. Source Protection Plan Policies

The CTC Source Protection Committee included 165 policies in the CTC Source Protection Plan to address 21 prescribed threats and two local threats, actions considered necessary to protect sources of drinking water, and policies for monitoring implementation. Some policies are required to be implemented by one stakeholder, while others are to be implemented by several.

At the end of the fourth year of implementation, 92% of legally binding policies addressing significant drinking water threats have been implemented, and 4% of these policies are in the process of being implemented.

**P: Progressing Well/On Target**

### 2. Municipal Progress: Addressing Risks on the Ground

All municipalities in the CTC Source Protection Region are subject to the policies in the CTC Source Protection Plan. However, only 21 municipalities have vulnerable areas where significant drinking water threat policies apply. All municipalities where a future significant drinking water threat to sources of drinking water is possible, have processes in place to ensure that their day-to-day planning decisions conform with the CTC Source Protection Plan. Since the CTC Source Protection Plan has one land use planning policy that applies to the application of road salt (SAL-10), all 33 municipalities will need to review and update their Official Plan to ensure that it conforms to the CTC Source Protection Plan.

Municipalities in the CTC Source Protection Region are amending their Official Plans as required to conform with the Growth Plan for the Greater Golden Horseshoe, 2017. 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 2019, 28 of the 33 municipalities have completed or are in the process of completing their conformity exercise.

**P: Progressing Well/On Target**

### 3. Septic Inspections

There are 371 septic system inspections that are required to be complete every five years to satisfy the requirements of the Mandatory Septic System Inspection Protocol. The first round of septic systems was required to be complete in January 2017. Municipalities in the CTC Source Protection Region are now in the midst of the second round of inspections, which are to be completed by January 2022. In 2019, two septic system inspections were completed to conform with the Ontario Building Code. Inspections at these systems confirmed that both are functioning as designed or carrying out required pump-outs.

**P: Progressing Well/On Target**

### 4. Risk Management Plans

In 2019, 41 risk management plans were established in the CTC Source Protection Plans. This number reflects the most risk management plans generated in any one calendar year. At the end of 2019, 72 risk management plans are in place within the CTC Source Protection Region.

Municipalities have reported that 27 risk management plans are in the process of being completed. There were 45 inspections carried out by a risk management inspector for prohibited or regulated activities. In 2018, there was a 100% compliance rate with risk management plans and prohibited activities that were inspected.

Although municipalities across the CTC Source Protection Region have made significant progress in establishing risk management plans, it is unlikely that the estimated remaining 236 plans will be complete by the December 2020 deadline. On an annual basis, there is great variation across municipalities, in the number of risk management plans that can be developed based on the complexity of these documents, the number of threats being addressed through the Plan, and the willingness of the parties carrying out the activity(ies) to negotiate the parameters of the Plan. For those municipalities with a large number of risk management plans yet to negotiate, the Risk Management Officials will need to increase the rate at which the Plans are established.

**S: Satisfactory**

# DRAFT

## 5. Provincial Progress: Addressing Risks on the Ground

The Province has established Standard Operating Policies to ensure that all applications submitted for provincial approvals take into account the science generated through the Drinking Water Source Protection Program and policies in the relevant source protection plan. Where necessary, conditions are added to the approval to ensure that the activity does not pose a significant threat to sources of drinking water.

The province completed a review of all previously approvals (100%) issued in the CTC Source Protection Plan where the activity could have resulted in a significant threat, at the end of December 2018. Through 2019, provincial ministries continued to review applications for new or amended approvals for conformity with the CTC Source Protection Plan.

### **P: Progressing Well/On Target**

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## DRAFT

### 7. Source Protection Plan Policies: Summary of Delays

As with the CTC Source Protection Plan, all such documents prepared in the Province were required to have a policy or policies to address significant drinking water threats. The CTC Source Protection Committee chose to also include policies to address three moderate and low drinking water threats. These drinking water threats include the application of road salt and the handling and storage of certain chemicals. Since the implementation of these four moderate and low threat policies (SAL-10, SAL-12, DNAP-3, OS -1) is non-legally binding, their execution varies greatly across the source protection region with several municipalities indicating some progress, while others indicating no progress made.

The establishment of incentive programs to encourage and support property owners and businesses with best management practices is one policy tool used by the CTC Source Protection Committee to address significant drinking water threats. The majority of municipalities with significant threat policies have not been able to establish such programs, therefore, the implementation of Policy GEN-5 has made very limited progress across the source protection region. The Committee was aware that this policy would be difficult to implement, hence it was established as a non-legally binding commitment.

## DRAFT

### 8. Source Water Quality: Monitoring and Actions

Fourteen (14) drinking water issues have been identified at four (4) 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 further characterize this data and determine the impact of policies established to manage potential threats contributing to these increased values. This information can be accessed by contacting the local municipality.

Since these monitoring initiatives have only recently been established, there is insufficient data to be able to discern the impact of source protection plan policies on activities which may contribute to these concentrations.

#### **Orangeville Drinking Water System** (5 municipal wells)

Sodium: Wells 6, 9A, 9B - An increasing trend/concentration has been observed.

Chloride: Wells 6 and 10 - An increasing trend/concentration has been observed.

Chloride: Wells 9A, 9B - A decreasing trend/concentration has been observed.

Chloride: Well 10 - No change in trend/concentration.

#### **Inglewood Drinking Water System** (1 municipal well)

Pathogens: Well 2 - A decreasing 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.



## **DRAFT**

### 9. Science-based Assessment Reports: Work Plans

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

### 10. More from the Watershed

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/>