



**Lake Erie Region Source Protection Committee
Agenda**

Thursday, December 12, 2019

1:00 pm

Auditorium

Grand River Conservation Authority

400 Clyde Road, Box 729

Cambridge, ON N1R 5W6

	Pages
1. Call to Order	
2. Roll Call and Certification of Quorum – 17 Members Constitute a Quorum (2/3 of Members plus Chair)	
3. Chair's Remarks	
4. Review of Agenda	
5. Declarations of Pecuniary Interest	
6. Minutes of the Previous Meeting	
7. Hearing of Delegations	
8. Presentations	
9. Correspondence	
10. Reports	
a. SPC-19-12-01 Source Protection Program Update	1
b. SPC-19-12-02 Winter Maintenance Chemicals: Challenges and Opportunities for Change	7
c. SPC-19-12-03 Centre Wellington Tier 3 Water Quantity Risk Assessment Results	26

- d. SPC-19-12-04 S.34 Draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan 31
- e. SPC-19-12-05 S.34 Revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan 47

11. Business Arising from Previous Meetings

- a. Lake Erie Region Source Protection Committee request under Technical Rule 119, from February 3, 2011, Re: rehabilitation activities at an aggregate operation within a vulnerable area of a municipal drinking water system that allows ponding of water.

12. Other Business

- a. Question and Answer Period

13. Closed Meeting

14. Next SPC Meeting

April 2, 2020 at 1:00pm, Grand River Conservation Authority, 400 Clyde Road, Cambridge ON

15. Adjourn

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-19-12-01

DATE: December 12, 2019

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: Source Protection Program Update

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-19-12-01 – Source Protection Program Update – for information.

REPORT:

2020-2021 Financial Update

On November 1, 2019, the Ministry released the Drinking Water Source Protection 2020-2021 Grant Funding Application and Program Application Guide to Program Managers across the province. There are no major changes to the activities that are eligible for funding. A first draft of proposed application was submitted to the Ministry on November 25, 2019. The proposed workplan includes a staffing contingent of 4.30 FTE for Lake Erie Region with a total proposed budget of \$604,036.

Phase II Technical Rules Project Update

In November 2019, the Ministry of the Environment, Conservation and Parks Source Protection Programs Branch held four engagement sessions on the proposed amendments to the Director's Technical Rules under the *Clean Water Act, 2006*. The purpose of the engagement sessions was to seek feedback on the proposed amendments to the Rules prior to posting on the Environmental Registry for public consultation.

The objectives of the proposed amendments are to:

- Provide more local flexibility while maintaining technical rigour
- Provide greater protection for vulnerable Great Lakes' intakes
- Align definitions with other provincial frameworks and legislation
- Provide clarity related to technical terms, methodologies and approaches

The proposed amendments discussed at these sessions included:

- Surface water vulnerability - delineation of intake protection zone 1 and scoring intake protection zone 2
- Drinking water issues - delineation of Issue Contributing Areas
- Alternative approach request - administrative requirements to seek Director's approval
- Local activity / threat - requirements to designate a local activity as a risk
- Climate change assessment - specify what needs to be included in an assessment report if climate change risk assessment is conducted

- Drinking water threats - updates to the circumstances, e.g. waste, sewage, road salt, storage of snow, DNAPLs

Lake Erie Region staff will continue to update the Source Protection Committee (SPC) as the project progresses.

SPC Member Appointment Update

Paul General resigned from the SPC in April 2019 leaving a vacant Six Nations seat on the committee. On September 10, 2019, Six Nations of the Grand River nominated Weylin Bomberry - Manager of the Six Nations Wildlife Unit - to the committee. On October 25, 2019, W. Bomberry was appointed to the SPC by the Grand River Source Protection Authority.

Carl Hill resigned from the SPC in October 2019 leaving the other Six Nations seat on the committee vacant. It is anticipated that the Six Nations Elected Council will nominate and the Grand River Source Protection Authority will appoint a new representative in time for the April 2, 2020 SPC meeting.

Alan Dale and Jim Kirchin have been re-appointed to the SPC as public interest representatives for four-year terms of appointment. Lloyd Perrin has also been re-appointed for a four-year term as municipal representative for group #7 (County of Elgin, Township of Malahide, Municipality of Bayham, Town of Aylmer, Municipality of Central Elgin, Township of Southwold, City of St. Thomas, Middlesex County, Township of Thames Centre, Township of Middlesex Centre and the City of London).

Guelph-Guelph/Eramosa Water Quantity Policy Development

Wendy Wright-Cascaden, SPC Chair and Martin Keller, Program Manager, are continuing with individual discussions with the City of Guelph and Ministry of the Environment, Conservation and Parks (MECP) to explore options to move forward with water quantity policy development. Following the initial meeting with the City on September 9 and MECP on September 25, a follow up teleconference was held with MECP/Ministry of Natural Resources and Forestry (MNRF) on October 2 and face-to-face meetings with the City on October 23 and 28. Most recently, the MECP and City also held individual meetings at senior management level to find common ground.

The discussions have centred around understanding the parties' concerns with the proposed draft policies and approach to managing the risk identified through the Tier 3 Water Budget and Risk Assessment. A key component also focused on identifying the key findings of the technical studies to ensure all parties have a common understanding of the problem. The following paragraph encapsulates the key findings.

The current water supply system in Guelph is sufficient for its current needs, but there is risk for the future with projected water demands given provincially mandated growth to 2041, regulation uncertainty for existing and new wells, and drought conditions. Current permitted takings are sustainable under average climate, but not necessarily under drought. There is a limited amount of additional capacity available within the WHPA-Q. Future increases in municipal and non-municipal water taking will increase impacts on surface water features, which may limit municipalities' ability to renew or increase Permit To Take Water (PTTW) or get permits for new wells, as impacts to natural features have played a significant role in PTTW decisions in the past. How this additional capacity is used in the future, in particular under drought conditions, is

important to ensure sufficient water for the City.

Discussions between the City and MECP staff have now moved to exploring policy approaches and reviewing revised policies for prescribed instruments (e.g., PTTW). The City has circulated an updated policy approaches document to the MECP on November 20, with follow-up discussions planned for the New Year. Although much detailed work still needs to be undertaken, Lake Erie Region staff remain hopeful that a complete set of draft policies addressing consumptive water takings and reduction in recharge activities can be presented to the SPC in April 2020.

SPC Meeting Outlook

Work to complete the S.34 update of the Grand River Source Protection Plan for Wellington County (Elora, Fergus, Rockwood and Hamilton Drive) and the County of Brant (water quantity policies for the Bethel Municipal Water Supply), is ongoing. The updated assessment report and plan are scheduled to be released for public consultation January 13 to February 26, 2020.

Work is ongoing to develop new water quantity policies for the City of Guelph, Halton Region, Region of Waterloo and Wellington County, as outlined above. At this time, draft water quantity policies are anticipated to be presented to the SPC on April 2, 2020, as part of the Guelph-Guelph/Eramosa (GGET)/Centre Wellington/Acton Grand River Assessment Report and Source Protection plan update. Pre-consultation is anticipated to begin after the June 25, 2020, SPC meeting.

Lake Erie Region staff have initiated work on S.36 assessment report and source protection plan updates for Catfish Creek and Kettle Creek; however, the timeline for completion of the plan updates is uncertain until Lake Erie Region staff have a better understanding of the scope of work that the Phase II Technical Rules Project and Conservation Ontario's Climate Change Assessment Tool, entail.

Updates to the Grand River, Long Point region, Catfish Creek and Kettle Creek assessment report and source protection plan sections will continue to be presented to the SPC as work is completed.

Table 1 provides an overview of the next few SPC meetings and anticipated agenda items related to the S.34 "Wellington/Brant" and S.34 "GGET/Centre Wellington/Acton" Grand River Source Protection Plan updates.

Prepared by:



Ilona Feldmann
Source Protection Program Assistant

Approved by:



Martin Keller, M. Sc.
Source Protection Program Manager

Table 1: SPC meeting outlook 2019/2020/2021

SPC Meeting Date	Agenda Items			
	S.34 Otterville Long Point Region Update	S. 34 Wellington/Brant Grand River Update	S. 34 GGET/Centre Wellington/Acton Grand River Update	S. 36 Catfish and Kettle Creek Updates (Timeline TBD)
December 12, 2019	<ul style="list-style-type: none"> Revised draft updated AR and SPP: receive public comments for consideration; release the document to the Long Point Region Source Protection Authority for submission to the Ministry 	<ul style="list-style-type: none"> Complete draft updated AR/SPP; release for public consultation 		
January – February 2020		Formal public consultation period		
April 2, 2020		<ul style="list-style-type: none"> Revised draft updated AR and SPP: receive public comments for consideration; release the document to the Grand River Source Protection Authority for submission to the Ministry 	<ul style="list-style-type: none"> Draft water quantity policies 	

SPC Meeting Date	Agenda Items			
	S.34 Otterville Long Point Region Update	S. 34 Wellington/Brant Grand River Update	S. 34 GGET/Centre Wellington/Acton Grand River Update	S. 36 Catfish and Kettle Creek Updates (Timeline TBD)
June 25, 2020			<ul style="list-style-type: none"> Revised water quantity policies and updated municipal SPP sections (Guelph, Halton, Waterloo and Wellington) Updated AR and SPP sections; release for pre-consultation 	
June – August 2020			Municipal and ministry pre-consultation period	
October 1, 2020			<ul style="list-style-type: none"> Complete draft updated AR/SPP; release for public consultation 	
October – November 2020			Formal public consultation period	

SPC Meeting Date	Agenda Items			
	S.34 Otterville Long Point Region Update	S. 34 Wellington/Brant Grand River Update	S. 34 GGET/Centre Wellington/Acton Grand River Update	S. 36 Catfish and Kettle Creek Updates (Timeline TBD)
February 4, 2021			<ul style="list-style-type: none"> Revised draft updated AR and SPP: receive public comments for consideration; release the document to the Grand River Source Protection Authority for submission to the Ministry 	

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**

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.

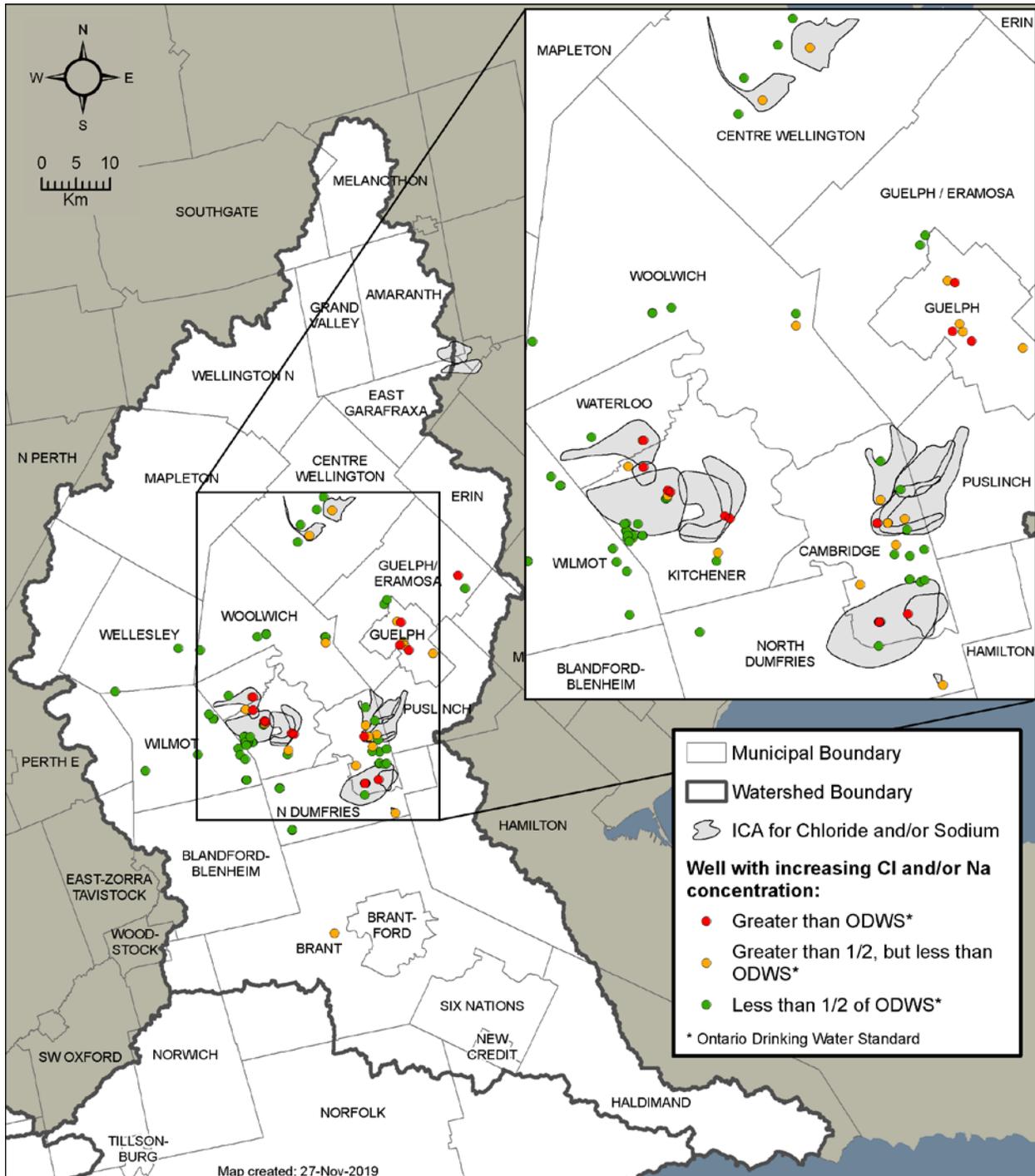
AND THAT the Province of Ontario amend the Clean Water Act’s Director’s Technical Rules to enable municipalities to proactively protect their municipal drinking water supplies from the application and storage of winter maintenance chemicals.

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.

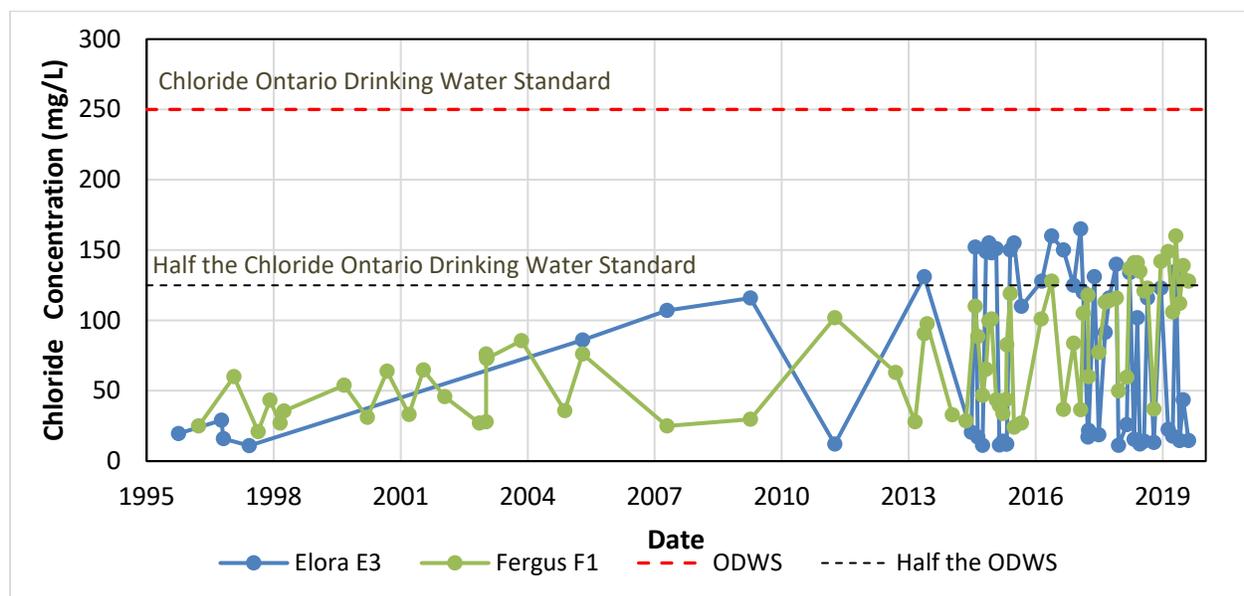


Figure 1: Chloride concentrations at Elora Well E3 and Fergus Well F1

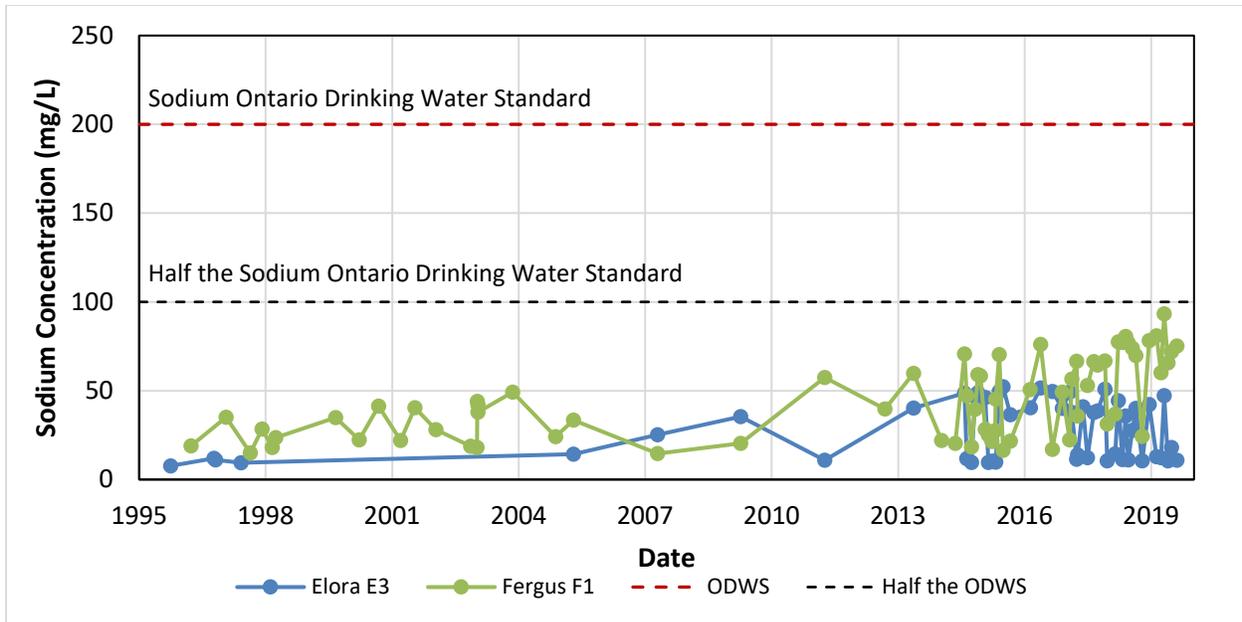


Figure 2: Sodium concentrations at Elora Well E3 and Fergus Well F1

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.

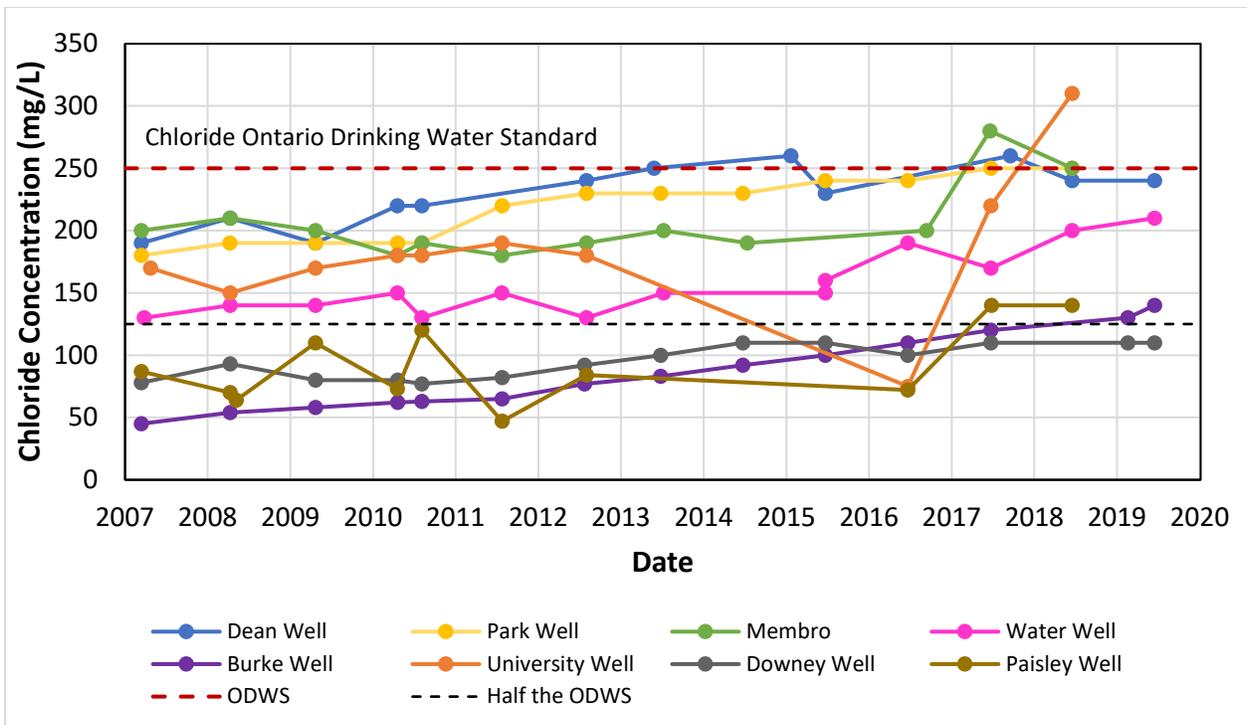


Figure 3: Chloride concentrations at select municipal wells within the City of Guelph

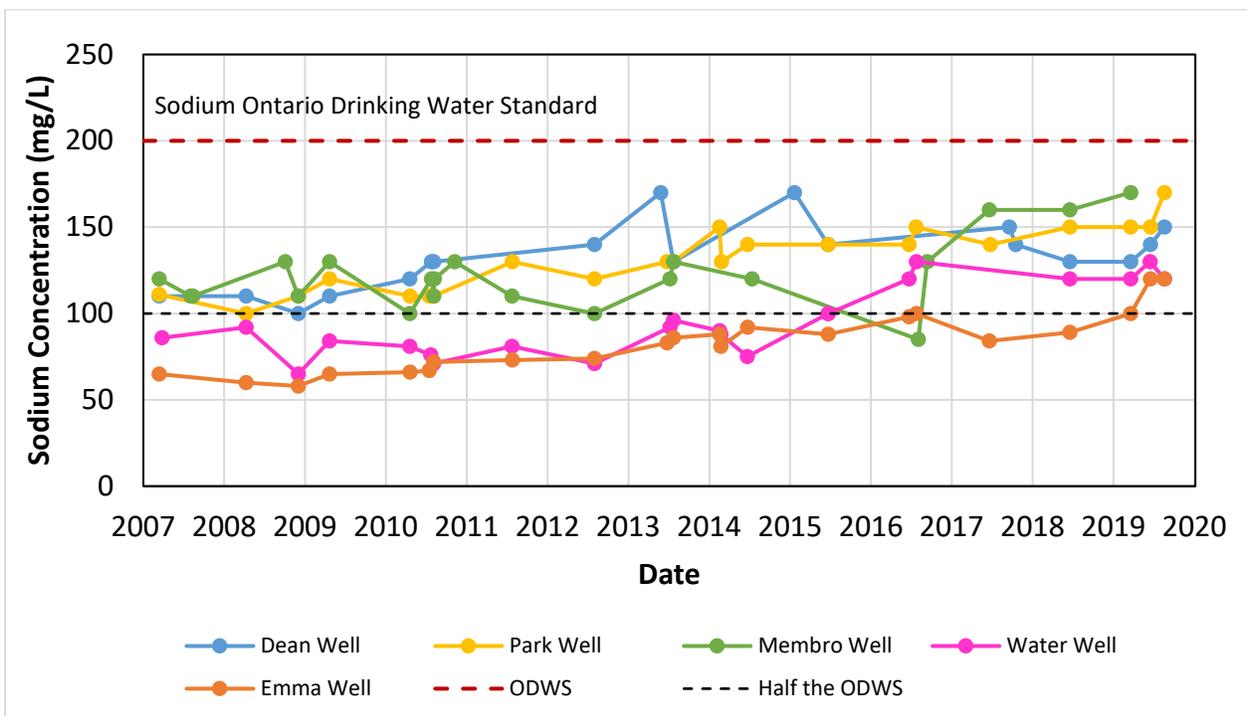


Figure 4: Sodium concentrations at select municipal wells within the City of Guelph

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.

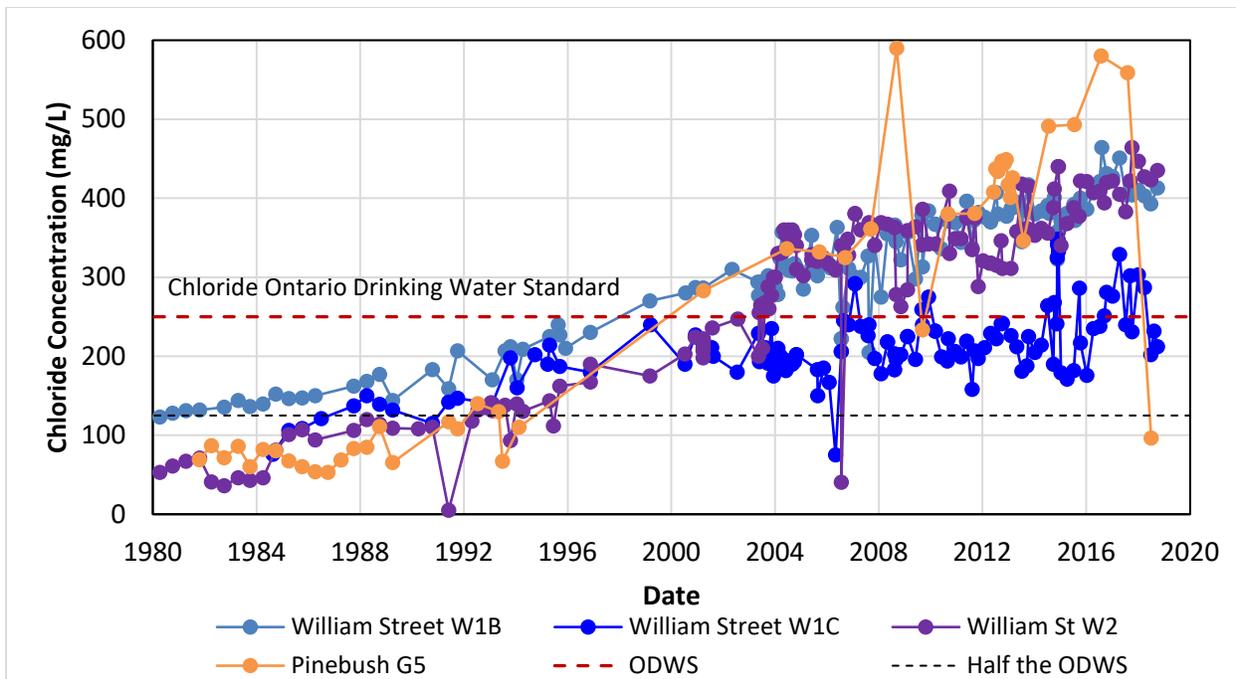


Figure 5: Chloride concentrations at the William Street and Pinebush Wellfields in the Region of Waterloo

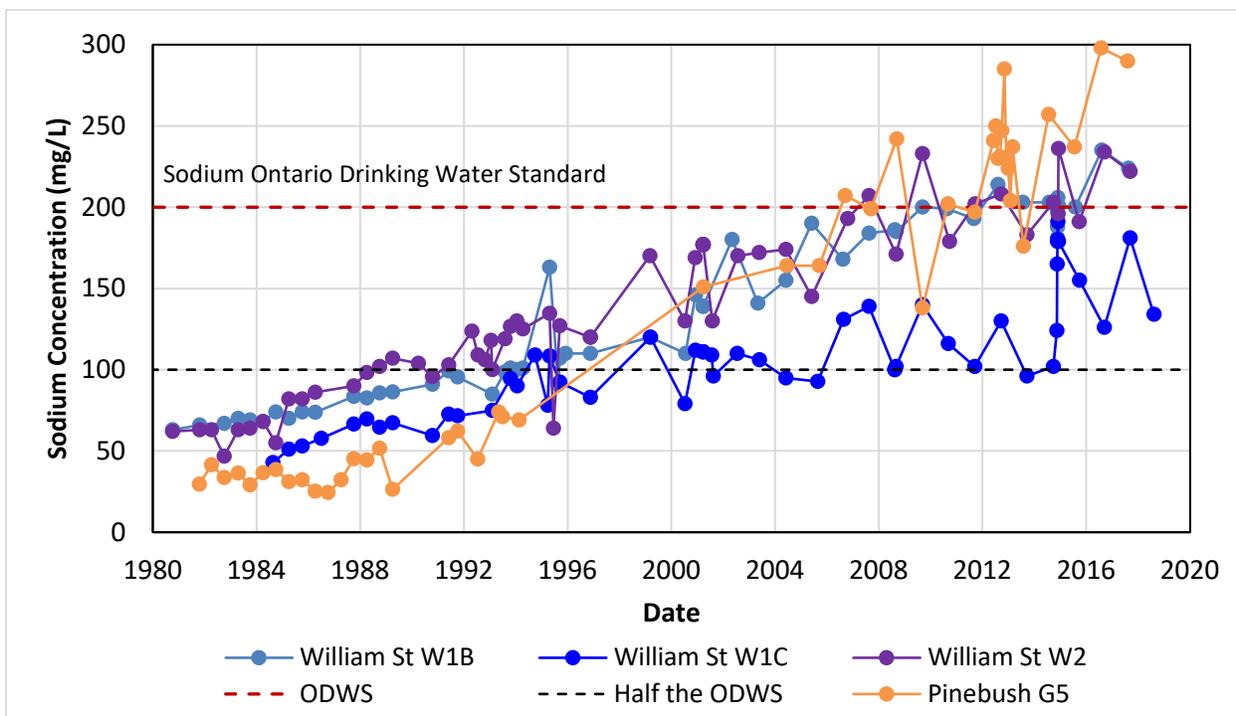


Figure 6: Sodium concentrations at the William Street Wellfield in the Region of Waterloo

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

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
Prescribed Drinking Water Threats	Road Salt Application	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.
	Road Salt Storage	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: (1) Any quantity for uncovered storages; (2) 100 kg or greater for covered storage excluding engineered facilities, (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) at CO or Fahad Shuja (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; magpolicy@ontario.ca

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-19-12-03

DATE: December 12, 2019

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: Centre Wellington Tier 3 Water Quantity Risk Assessment Results

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-19-12-03 – Centre Wellington Tier 3 Water Quantity Risk Assessment Results – for information.

SUMMARY:

The Centre Wellington Tier 3 Water Budget Study, which began in 2016, is nearing conclusion with the recent completion of the Risk Assessment report. A wellhead protection area for water quantity (WHPA-Q) was delineated for Centre Wellington's municipal wells, and the Risk Assessment evaluation resulted in a significant risk level being assigned to the WHPA-Q. The significant risk rating resulted from the inability for the current municipal wells to meet future water demand. A meeting was held with the project's Community Liaison Group on November 18, 2019 to present the results of the Risk Assessment report. With the completion of the Risk Assessment report, a draft Threats Management Strategy is currently underway, and policy development will begin over the winter.

REPORT:

History

The GRCA completed a Tier 2 Water Budget Study and Stress Assessment for the Grand River watershed in 2009. As a part of the Stress Assessment, the Irvine subwatershed, which encompasses the Township of Centre Wellington, was identified as having a moderate potential for stress when water demand was increased by 10% as a part of the assessment for future water demand.

This 'moderate' stress classification triggered the requirement for a Tier 3 Water Budget Study to be completed for the Centre Wellington municipal drinking water system. At the time, the project was put on hold as the Township had not completed a Water Supply Master Plan (WSMP), which would provide future municipal water demand information.

In 2016, Nestle Waters Canada purchased the Middlebrook well, located to the southwest of Elora, with the purpose of withdrawing water as a back-up well to their Aberfoyle water-bottling operation. This proposed water taking caused local public concern, and the Ministry of Environment, Conservation, and Parks (MECP) requested the GRCA to commence the Tier 3 study to evaluate the future sustainability of the municipal water supply.

In the fall of 2016, and coinciding with the start of the Centre Wellington Tier 3 Study, the Province also placed a province wide 2-year moratorium on new and proposed water bottling Permit To Take Water applications, including pumping tests. The moratorium was later extended by one year to January 2020, and more recently a proposal has been posted on the ERO (Environmental

Registry of Ontario) to be extended to October 1, 2020.

In 2018, the Township began its WSMP, which is now complete. Information from the WSMP, specifically projections on future municipal water demand, informed the Tier 3 Risk Assessment. In turn, the Tier 3 numerical groundwater flow model was used to complete scenarios to assist in the development of the WSMP.

Background

The Township of Centre Wellington relies completely on groundwater to meet its municipal water demand.

Three municipal water supply wells are located in Elora (Wells E1, E3, and E4), and six municipal wells are located in Fergus (Wells F1, F2, F4, F5, F6, and F7). Each of the water supply wells are completed in bedrock and were constructed between 1935 and 2002. Fergus Well F2 is designated Groundwater Under Direct Influence of Surface Water (GUDI), and currently inactive.

Originally separate, the Fergus and Elora water distribution systems were combined into the single Centre Wellington distribution system in October 2005 with the Aboyne Booster Station. The current water supply system provides drinking water to approximately 19,330 residents in Elora and Fergus.

Tier 3 Water Budget Study

The Tier 3 Water Budget Study was designed to assess the long-term availability of water to the Centre Wellington municipal wells. The study was completed in three phases: a physical characterization of the study area, the development and calibration of a numerical groundwater flow model, and the completion of risk assessment scenarios and development of the wellhead protection area for water quantity (WHPA-Q). These three phases are now complete and have been peer reviewed.

The study area for the project encompasses the Township of Centre Wellington and portions of neighbouring townships of Woolwich, East Garafraxa, Mapleton, Guelph/Eramosa, Wellington North, and Towns of Grand Valley and Erin. Municipal groundwater supplies are sourced from the bedrock Goat Island and Gasport Formations. The bedrock geology in this area is complex with karstic features and zones of fractured bedrock.

Risk Assessment Results

The draft WHPA-Q for the Centre Wellington municipal wells is shown in **Figure 1**. The WHPA-Q is determined using current municipal pumping rates and shows the area where municipal wells lower the aquifer (cone of influence of municipal wells and cone of influence of other permitted water takings that intersect). The WHPA-Q encompasses the majority of the Township to the west of Belwood Reservoir, and extends into the Township of Mapleton to the northwest and the Township of Woolwich to the southwest. The WHPA-Q delineates an area where more detailed work needs to be completed to investigate potential interference with municipal wells when a new pumping source is being considered.

Using the groundwater model, scenarios specified in the Technical Rules were completed to evaluate the ability for the municipal wells to pump water using current and future pumping rates under average climate conditions and a prolonged drought. The impacts of increased impervious groundcover, or reduced groundwater recharge, were also evaluated.

The results of the Risk Assessment scenarios show that the current water supply system can meet future water demand up to 2031 in average and drought climate conditions without impacts to the natural environment. However, the Township will not be able to meet their average daily or maximum day water demand by the year 2041 with the existing municipal wells and infrastructure. This results in a significant risk level assigned to the WHPA-Q. Options to meet future demand include conservation and efficiency strategies, optimization of the existing well system, drilling new supply wells and changing the existing configuration, such as deepening wells. A significant risk level also requires development of water quantity policies.

Water Quantity Threats

Since the WHPA-Q was assigned a significant risk level, all consumptive groundwater takings and potential reductions to groundwater recharge within the WHPA-Q are classified as significant water quantity threats. This does not mean that groundwater takings located within the WHPA-Q necessarily impact groundwater levels at the municipal wells. **Figure 1** shows the location of permitted consumptive water takings within the WHPA-Q.

Insights

In addition to completing the Risk Assessment scenarios and during the completion of the draft Threats Management Strategy, the following insights have been gained from this project with regard to groundwater takings in the Township:

- The largest influence on future groundwater levels is from increased municipal pumping to meet projected population growth;
- The cumulative effect of unserviced domestic water well pumping on aquifer utilized for municipal supply is minimal;
- Effects from other existing water users, such as livestock watering operations, on the aquifer utilized for municipal supply are minimal;
- Effects from land development on future groundwater levels in the water supply aquifer are minimal; and
- Increased or new, large groundwater takings may affect groundwater levels at municipal wells depending on the taking's location and pumping rate.

Public and Stakeholder Engagement

Engaging the public and stakeholders has been an important component of the Centre Wellington Tier 3 study. The Lake Erie Source Protection Region's website (www.sourcewater.ca) includes web pages specific to [Centre Wellington's Tier 3 study](#) and contains technical reports, presentations, and meeting summaries.

A Community Liaison Group (CLG) of local stakeholders and community members was established at the beginning of the study and follows a Terms of Reference developed for the project. The CLG has met 4 times to date at each milestone reached in the project. At these meetings, technical work is presented to the group and comments are solicited before the reports are finalized. The most recent meeting was held on November 18, 2019 in Fergus to present the Risk Assessment report and discuss the findings with the group. The next meeting is planned to be held in late winter 2020 to present draft policies within the WHPA-Q.

Next Steps and Timelines

A Threats Management Strategy is currently being drafted by the project consultants. This report evaluates different water use sectors and compares their impact on the municipal supply under current and future pumping rates. Information from the Threats Management Strategy will help inform policy development within the WHPA-Q.

Policy development is being led by the Township of Centre Wellington with the Lake Erie Source Protection Region. The timelines for Centre Wellington policies are aimed to align with the City of Guelph and Township of Guelph/Eramosa water quantity policy development.

The current timeline for policy development and consultation is as follows:

- February/March 2020 – present draft water quantity policies to the CLG
- April 2020 – present draft policies to the Lake Erie Region Source Protection Committee
- June 2020 – present draft updated Source Protection Plan municipal policy sections to the Source Protection Committee, and release for pre-consultation
- October 2020 – present revised Source Protection Plan section to the Source Protection Committee and release for public consultation
- February 2021 – present revised Source Protection Plan sections presented to the Source Protection Committee and release to the Source Protection Area for submission to MECP

Prepared by:



Sonja Strynatka, P.Geo.
Senior Hydrogeologist

Approved by:



Martin Keller, M. Sc.
Source Protection Program Manager

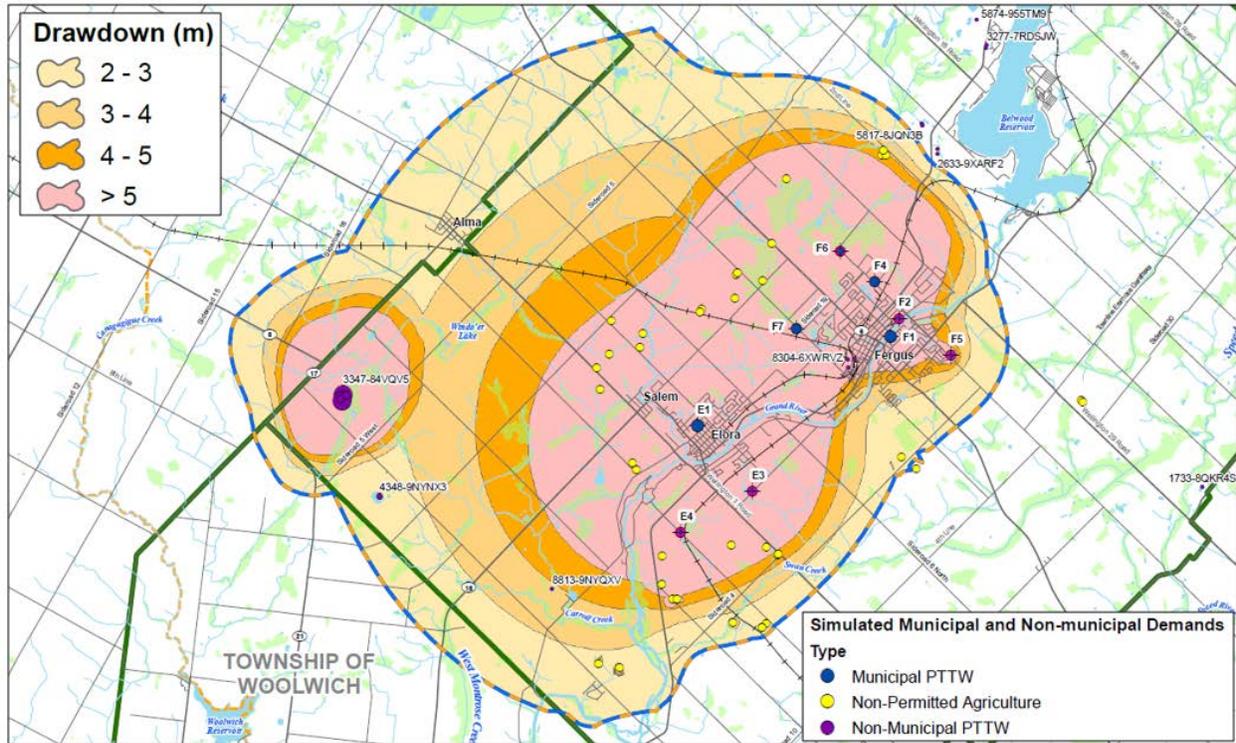


Figure 1: Township of Centre Wellington draft WHPA-Q delineation and permitted consumptive water takings.

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-19-12-04

DATE: December 12, 2019

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: S.34 Draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-19-12-04 – S.34 Draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan – for information;

AND THAT the Lake Erie Region Source Protection Committee direct staff to release the draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan for a 45-day public consultation period from January 13 to February 26, 2020.

REPORT:

The Grand River Source Protection Plan was approved by the Ontario Ministry of the Environment, Conservation and Parks (MECP) in November, 2015. Since then, updates have been proposed that affect Wellington County (water quality) and the County of Brant (water quantity).

The draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan pre-consultation period ended on November 12, 2019. Comments received from the County of Wellington and the MECP were considered for incorporation into the draft updated assessment report and plan. A formal public consultation period begins on January 13, 2020 and ends on February 26, 2020. Comments received during the public consultation period will be reviewed and the assessment report and plan updated where appropriate. The revised draft updated Grand River Source Protection Plan will be brought to the committee on April 2, 2020, and is expected to be submitted to the MECP by the Grand River Source Protection Authority at its next meeting.

Revisions to the “Wellington / Brant” Grand River Assessment Report

The draft Updated “Wellington / Brant” Grand River Assessment Report primarily includes technical updates to municipal and non-municipal sections. **Table 1** below illustrates the high-level changes within each section and references the Source Protection Committee (SPC) report which contains more detailed information.

Table 1: Grand River Assessment Report Amendments for the draft Updated “Wellington / Brant” Grand River Assessment Report Update

Assessment Report Section	Description of Amendments	SPC Report Reference
Section 1 Introduction	Executive Summary: Updated to reflect changes in content referenced in the body of the assessment report	SPC-19-12-04
Section 6 Wellington County	Rockwood and Hamilton Drive (Guelph/Eramosa) water supply systems underwent a technical update using the Guelph-Guelph/Eramosa Tier 3 model to update WHPAs, vulnerability scoring, threats and issues assessment. Fergus and Elora (Centre Wellington) water supply system underwent a technical update using the Centre Wellington Tier 3 model to update WHPAs, vulnerability scoring, threats and issues assessment and subsequent delineation of three new Issue Contributing Areas (ICAs) for Chloride and TCE (Chloride ICA around well E3 in Elora, and Chloride and TCE ICAs around well F1 in Fergus)	SPC-19-10-03
Section 20 Whitemans Creek Tier 3 Water Budget and Risk Assessment	New section comprising the completed Tier 3 Water Budget and Risk Assessment for the municipal drinking water systems of the Whitemans Creek Subwatershed, including the delineation of WHPA-Qs for the Bethel wellfield	SPC-18-12-07
Section 24 Conclusions	Updates to reflect changes to municipal systems within the assessment report	N/A
Section 25 References	Updated to reflect changes in content referenced in the body of the assessment report	N/A

Revisions to the “Wellington / Brant” Grand River Source Protection Plan

The draft Updated “Wellington / Brant” Grand River Source Protection Plan policy amendments primarily focus on Wellington County policies related to chloride and County of Brant water quantity policies. Source Protection Plan municipal sections were brought to the SPC alongside the assessment report sections as detailed in report SPC-19-10-03.

The draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan are available in their entirety on the December 12, 2019 eScribe meeting site. The draft Updated Explanatory Document is also posted on eScribe. The Explanatory Document will be further revised before it is released for public consultation.

Pre-consultation Process

As part of the S.34 update process, municipalities and ministries affected by the proposed amendments were notified of the proposed changes and the opportunity for pre-consultation. The draft Updated Grand River Source Protection Plan pre-consultation period began on October 7, 2019 ended on November 12, 2019. Lake Erie Region received assessment report and source protection plan pre-consultation comments for consideration from Wellington County

and the MECP. See **Appendix A** for comments from the County and the MECP. Comments received were considered for incorporation, if applicable, into the updated plan. It is anticipated that additional municipal comments from the County of Brant and Wellington County will be received during the public consultation period.

Public Consultation Process

A formal public consultation period will begin on January 13, 2020 and end on February 26, 2020. During this time, the proposed amendments will be published on [Lake Erie Source Protection Region's website](#). A printed copy of the draft updated plan will also be available for review at the Grand River Conservation Authority (400 Clyde Road, Cambridge) or at each of the following locations:

- Township of Centre Wellington Municipal Office (244 Saint Andrew St W, Fergus)
- Guelph/Eramosa Township Municipal Office (8348 Wellington Road 124, Rockwood)
- Paris Customer Service Office (66 Grand River St. N., Paris)

Council Resolutions

Section 34 of the *Clean Water Act, 2006* (CWA) requires that source protection authorities obtain a municipal council resolution from each municipality affected by the amendments. Council resolutions in support of the amendments to the draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan were received for the Township of Wellington North, Township of Mapleton, Guelph/Eramosa Township, Township of Puslinch and the Town of Erin. A resolution from the Township of Centre Wellington is anticipated in mid-December; the proposed amendments were presented to the Township’s Committee of the Whole in October 2019. Wellington County will be receiving the proposed amendments at their next council meeting in February 2020. The County wants to ensure that member municipalities are in support of the amendments before the County provides support. A forthcoming council resolution from the County of Brant is anticipated to be received by mid-December 2019.

Public Letter Notification

As per O. Reg. 287/07 section 50(2), persons with properties affected by the proposed changes to the wellhead protection areas in the Grand River watershed require notification letters highlighting the updates and public consultation process. Property owner notification letters will be sent in early January to persons affected within the WHPA-Q for quantity in the County of Brant and within WHPAs and ICAs in Wellington County.

Open House

Public open houses will likely be scheduled for the residents of the County of Brant, Guelph/Eramosa Township, Township of Puslinch and Township of Centre Wellington. The open houses will focus on technical study results for updated municipal water supply systems and changes to policy within the County of Brant and Wellington County as part of the draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan. The details of the public open houses are still to be determined.

Timeline for “Wellington / Brant” Grand River Source Protection Plan Update

Table 2 presents the key milestones for completing the necessary technical and policy work, undertaking the necessary formal pre-consultation, public consultation, and submitting the draft

Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan to the MECP.

Table 2: Key milestones for the draft Updated “Wellington / Brant” Grand River Assessment Report and Source Protection Plan

Activity	Date	Complete
Completion of Whitemans Creek Tier 3 Water Budget and Risk Assessment	June 21, 2018	✓
Completion of technical studies to update WHPAs for Rockwood and Hamilton Drive (Guelph/Eramosa) and update WHPAs and delineate ICAs for Fergus and Elora (Centre Wellington)	December 6, 2018	✓
Municipal and Ministry pre-consultation on draft updates made to the Grand River Assessment Report and Source Protection Plan	October 7 – November 12, 2019	✓
SPC receives draft Updated Grand River Assessment Report and Source Protection Plan for consideration and release for public consultation	December 12, 2019	✓
Residential letter notification for properties affected by changes to the draft Updated Grand River Assessment Report and Source Protection Plan	Early January 2020	
Council resolutions in support of the amendments to the draft Updated Grand River Assessment Report and Source Protection Plan	February 2020	
County of Brant Public Open House	TBD 2020	
Centre Wellington (Wellington County) Public Open House	TBD 2020	
Rockwood / Puslinch (Wellington County) Public Open House	TBD 2020	
Formal public consultation for draft Updated Grand River Assessment Report and Source Protection Plan	January 13 – February 26, 2020	
SPC receives draft Updated Grand River Assessment Report and Source Protection Plan and public consultation comments for consideration; SPC releases the document to the Grand River Source Protection Authority	April 2, 2020	
Grand River Source Protection Authority receives revised Updated Grand River Assessment Report and Source Protection Plan to for submission to the MECP.	April 24, 2020	

Next Steps

Following the public consultation period, the Lake Erie Region Source Protection Committee will consider any comments received at their meeting on April 2, 2020 and direct staff to revise the draft Updated Grand River Source Protection Plan, as necessary. The revised draft updated plan will then be released to the Grand River Source Protection Authority for submission to the MECP.

Prepared by:



Ilona Feldmann,
Source Protection Program Assistant

Approved by:



Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A
Pre-consultation Comments

Table 1: Draft Updated “Wellington / Brant” Grand River Assessment Report - pre-consultation comments				
#	Comment Source	AR Section	Comment	How the Comment was Addressed
1	MECP	S6, Wellington County	<p>The amended assessment report removed properties identified as “conditions” in previous reports and new condition sites have been identified. Please verify the Ministry’s assessment of condition site amendments and confirm if the SPA has discussed the amendments with the MECP District Office:</p> <ul style="list-style-type: none"> ○ One Significant Drinking Water Threat (SDWT) removed from the Fergus drinking water system (now moderate); ○ One SDWT retained for the Fergus drinking water system from 2015 approved AR due to change in WHPA scoring and delineation; ○ Two (2) new SDWT condition sites added for the Fergus drinking water system (one site because of the TCE issue contributing area, and the other due to WHPA score); and ○ One (1) new SDWT condition site for the Elora drinking water system (due to hydrocarbons). 	<p>On June 24, 2019, Township of Centre Wellington, Wellington Source Water Protection, MECP Guelph District Office and Source Protection Programs Branch (via teleconference – Taran Beaty) met to discuss currently approved SDWT condition sites, the proposed new WHPAs / ICAs and potential new SDWT condition sites. At that time, our analysis was not complete so not all details were available, however, we did discuss the possibility of specific sites becoming SDWT condition sites. Now that the analysis is complete, the list should be shared with GDO for their review to confirm our June discussion. Should the municipality, the SPA or MECP - SPPB provide the list of actual addresses to GDO?</p> <p>Regarding the sites, yes we can verify the Ministry’s assessment as correct with one addition. One SDWT site in Fergus was removed (now moderate due to changes in WHPA scoring). One SDWT in Fergus from 2015 AR retained, two new SDWT sites added in Fergus (one due to WHPA scoring changes and one due to TCE ICA) and one new SDWT site added in Elora (due to WHPA scoring changes). As discussed below, one more SDWT was identified due to WHPA scoring changes. There are a total of 5 SDWT identified in Wellington, all in Centre Wellington (4 under Rule 140 (risk based) and 1 under Rule 141 (issue based)).</p>
2	MECP	S6, Wellington County	<p>Conditions Sites: Please demonstrate in the assessment report how Technical Rule 126 has been met.</p>	<p>Text has been added in the Assessment Report – Section 6.3.4 and in the Limitations section to address these comments.</p>

				Upon re-review of the work completed by the municipality in September 2019, a number of sites were incorrectly identified as meeting Rule 126. This affected both the total condition sites (14 in Sept draft now 6 condition sites with 7 additional sites as having insufficient information to complete the condition assessment) and total SDWT sites (4 in Sept now 5 SDWT condition sites – all in Centre Wellington). Text has also been added in 6.4.5 (GET) to note that one site is located in Centre Wellington but is actually in the Hamilton Drive WHPAs. There is insufficient information to complete the condition assessment for this site but the risk score cannot exceed the SDWT threshold due to the vulnerability score (2) for a total, highest possible score of 20.
3	MECP	S6, Wellington County	Conditions Sites: Please clarify which SDWT condition sites were assessed using the scoring approach (rules 138-143), and which sites were assessed using the issues approach.	There are a total of 5 SDWT identified in Wellington, all in Centre Wellington (4 under Rule 140 (risk based) and 1 under Rule 141 (issue based).
4	MECP	S6, Wellington County	Conditions Sites: Although the address and/or property boundary of the SDWT condition sites cannot be provided in the assessment report, general information about the site location such as the geographic area within the WHPA or ICA and the associated vulnerability score should be included. Please revise the assessment report to include this information for SDWT condition sites.	Text has been added in Section 6.3.4
5	MECP	S6, Wellington County	Conditions Sites: As per Technical Rules 126, please provide to the ministry any evidence of off-site contamination for the SDWT condition sites.	The Ministry has this information for the identified sites through the Guelph District Office. The municipality only receives certain contaminated sites reports as it pertains to our infrastructure or our residents. We have based our off-site contamination assessment on the reports that we have in our files, the Ministry will also have these reports and perhaps other reports for these

				sites. Instead of the municipality providing these reports, we would suggest that, as noted in Comment 1, that a list of the SDWT condition addresses be provided to Guelph District Office to allow GDO staff to review their files and provide comment on whether they agree with the municipal assessment of SDWT condition sties including whether there is sufficient evidence of off-site contamination.
6	MECP	S6, Wellington County	Hydrocarbon Pipelines Risk Assessment: In light the draft amendments to the pipeline policies you've included, please clarify if any updates to the sections on risk assessments are required to account for where pipelines would pose a low, moderate and significant risk in accordance with the 2018 changes to the Tables of Drinking Water Threats.	A hydrocarbon pipelines risk assessment has been completed as part of this update. Tables have been reviewed and updated, where applicable, to account for where pipelines would pose a low, moderate and significant risk.

Table 2: Draft Updated “Wellington / Brant” Grand River Source Protection Plan - pre-consultation comments				
#	Comment Source	SPP Section	Comment	How the Comment was Addressed
1	MECP	S7, Wellington County	Grand River’s policies often describe the circumstances where an activity would be a significant drinking water threat provided under the policy number. Our review has discovered that some of the proposed revisions to the policies do not fully capture where the circumstance would be a significant drinking water threat. For example: o Policy WC-CW-3.8 (discharge from a stormwater management facility) applies only to a chloride ICA, however these can also be significant in an ICA for nitrate. Should there be information to support a conclusion that stormwater management facilities in the nitrate ICA contribute to the issue, the policy could be edited to also apply within the nitrate ICA. In addition, the word “threat” is missing from the policy text.	<ul style="list-style-type: none"> - Policy 3.8, 14.4 and 14.5 intentionally address chloride only; nitrate is addressed through policies WC-MC-3.7 and WC-CW-14. - Note: the side bars that include the policy number and policy circumstances are not part of the policy text; refer to policy WC-CW-1.23. - “threat” added to the policy text. - Policy 14.1 has been revised to explicitly <i>exclude</i> properties in the ICA for chloride.

			o Policy WC-CW-14.1(storage of snow) has been revised to include applicability in an ICA for chloride; however, this activity is also a SDWT in an ICA for nitrate. Should there be information to support a conclusion that snow storage activities in the nitrate ICA contribute to the issue, the policy could be edited to also apply within the nitrate ICA.	
2	MECP	S7, Wellington County	Some policies have been updated with the phrase where this activity is a significant drinking water threat which is generally what the ministry recommends as this would cover any circumstance in the current, as well as future, Tables of Drinking Water Threats. However, not all policies contain this phrase and therefore the circumstances would have to be corrected when the Tables are updated.	Applicable policies to be revised to include “where this activity is/or would be a significant drinking water threat” prior to release for public consultation.
3	MECP	S7, Wellington County	Please give some consideration to revising all policy text to include where this activity is a significant drinking water threat, instead of including specific elements of the circumstances, which would provide coverage in the event that circumstances were missed, amended or a new ICA is included in a future amendment.	Applicable policies to be revised to include “where this activity is/or would be a significant drinking water threat” prior to release for public consultation.
4	MECP	S7, Wellington County	Just as a reminder, an amendment to the source protection plan to update the ‘Summary of Consultation’ section is also required.	Summary of consultation will be updated in Volume 1 of the SPP and in the Explanatory Document.
5	MECP	S7, Wellington County	Policy WC-MC-3.5 (PI, existing/future) <ul style="list-style-type: none"> • This policy is for issuing Environmental Compliance Approvals (ECA) for new and existing sanitary sewers. This policy has been amended to also include industrial effluent discharges and/or existing sewage treatment plants. Please give some consideration to revising the heading of the policy for clarity as it currently only refers to sanitary sewers. Alternatively, you could create new policies or revise the current policies for industrial effluent and sewage treatment plants to incorporate this policy outcome. 	Heading of policy revised to include, “Industrial Effluent Discharge” and “Sewage Storage – Treatment or Holding Tanks and Sewage System or Sewage Works – Sewage Treatment Plant Effluent Discharges (Includes Lagoons).

6	MECP	S7, Wellington County	<p>Policy WC-CW-3.8 (RMP existing/future)</p> <ul style="list-style-type: none"> • This is a new policy for new or existing stormwater management facilities which would be subject to a Risk Management Plan. Part (c) of the policy would be applicable if the stormwater management facility does not require an ECA. Does this type of facility refer to one for snow storage? Please include some examples in the Explanatory Document for clarification. 	<p>Examples of what SWM facilities we mean are included in our definition of a stormwater management facility. This is a broad definition, based on the MECP SWM manual and based on our experience with development applications. We included part c of the policy because, in our experience, some of the listed examples in our definition do not routinely obtain ECAs based on interpretation by engineering consultants and occasionally municipal and / or Ministry staff. For example, lot level infiltration measures or vegetated swales for commercial facilities where the only runoff is parking lot or road runoff do not always obtain ECAs. These can be small features especially if the lot is small. Although also excluded from needing an RMP in our policy, measures to infiltrate roof run-off also do not routinely get ECAs. Clarification by the Ministry on whether all of the listed examples require ECAs under all circumstances would be appreciated. The policy is crafted to deal with a perceived gap in implementation (SWM facilities not needing ECAs); however, if in fact all of the listed examples in all circumstances need ECAs, staff could rethink this policy. We note that the Region of Waterloo has approved SWM RMP policies, we assume to address this same gap.</p>
7	MECP	S7, Wellington County	<p>Policy WC-MC-12.01 (LUP, future)</p> <ul style="list-style-type: none"> • This policy uses Land Use Planning for several activities including sewage works, road salt, and snow storage to direct Official Plan (OP) policies, study requirements, and uses best management practices. 	<ul style="list-style-type: none"> - “within a Chloride Issues Contributing Area” added to policy text for clarification. - Nitrate is addressed through policies WC-CW-3.1, WC-CW-3.2, WC-MC-3.3, WC-MC-3.4, WC-MC-3.5, WC-MC-3.7, WC-CW-

			<ul style="list-style-type: none"> • This policy is currently only applicable for complete applications in new developments within the chloride ICA; however two of these activities (sewage works; snow storage) can also be a SDWT in an ICA for nitrate. Should there be information to support a conclusion that these two activities in the nitrate ICA contribute to the issue, the policy could be edited to also apply within the nitrate ICA. • The policy currently uses the term “maintained” (i.e. “the County of Wellington and Municipality shall generally require such future development to be designed and maintained using best management practices...”). Maintenance cannot be enforced using land use planning tools and this term should be deleted in the policy (2 instances). • As this policy is within the source protection plan, it properly refers to addressing activities. We would like to remind the municipality that when these policies are translated to OP policies, they will need to use different language to address the land uses/buildings/structures, and not refer to activities. 	<p>14.3.</p> <ul style="list-style-type: none"> - Additionally with the removal of the Cambridge nitrate ICA, there are less than 10 properties (8) in the Grand within Wellington County. These properties are rural and privately serviced, therefore it is not expected that policy WC-MC-12.01 would provide meaningful protection. - “maintained” removed from policy text. - Third comment is noted.
8	MECP	S7, Wellington County	<p>Policy WC-CW-12.2 (RMP, existing/future)</p> <ul style="list-style-type: none"> • This new policy for the application of road salt requires a RMP in designated areas. It would be helpful for the Explanatory Document to include rationale for item (c) of the policy: salt application is greater than or equal to 200 square metres or 8 parking spots. 	Rationale to be added to the Explanatory Document for item c) of the policy prior to release for public consultation.
9	MECP	S7, Wellington County	<p>Policy WC-CW/NB-12.3 (SA, existing/future)</p> <ul style="list-style-type: none"> • This is a new policy directed at the County, municipalities and the Ministry of Transportation for the application of road salt. • For consistency with other policies, consider if the term municipality (singular) as opposed to the plural form should be used. • Consider if edits should be made to the first paragraph of the policy to identify that an assessment is being undertaken such that the second part of the policy that 	<ul style="list-style-type: none"> - “municipalities” changed to singular. - Text has been added to the policy regarding the “assessment”. - Last paragraph revised to address sentence fragment. - Ministry of Transportation will receive notice of the amended policies and the opportunity for comment.

			<p>refers to the assessment is clear. As written the policy requests the implementing bodies to enhance measures but does not indicate that this need has been identified through the undertaking of an assessment first.</p> <ul style="list-style-type: none"> • The last paragraph currently has a sentence fragment and should be reworded for accuracy. For example: ‘The assessment should make recommendations for enhanced measures...’. • Please ensure that the Ministry of Transportation has been properly engaged on this policy (and policy WC-NB-12.6) as an implementing body. 	
10	MECP	S7, Wellington County	<p>Policy WC-NB-12.4 (SA, existing/future)</p> <ul style="list-style-type: none"> • This new policy requests MECP to prioritize inspections and abatement activities related to well maintenance under Ontario Regulation 903 for existing or future transport pathways. • Please note that the Wells Regulation (O.R. 903) sets out clear and prescriptive requirements on when and how to properly abandon wells. MECP continues to address compliance with the Wells Regulation through reactive compliance & inspection programs, as well as proactive inspections of wells that are part of a regulated drinking water system. MECP must consider all environmental programs and priorities through a risk-based framework when assigning our resources. As part of Compliance Planning, MECP district offices also look for wells that are abandoned or in need of maintenance when they are conducting other types of inspections (e.g. compost sites, sewage sites, responding to spills etc). 	No response required.
11	MECP	S7, Wellington County	<p>Policy WC-CW-13.2.1 (S.57 (pro), existing/future)</p> <ul style="list-style-type: none"> • This is a new policy for the handling and storage of road salt which would be prohibited in any amount which is stored uncovered or covered in amounts greater than 100 kilograms. The policy, as currently worded, applies to within a WHPA-A and within a Chloride ICA where this activity would be prohibited. However, policy WC-CW- 	<ul style="list-style-type: none"> - Policy WC-CW-13.1 is for activities in a WHPA-A <i>outside</i> of an ICA; policy WC-CW-13.2.1 is for activities in a WHPA-A <i>within</i> a chloride ICA. - Although we did make use of the recently released 100 kg threshold, our approach in using covered and uncovered definitions

			<p>13.1 applies to the WHPA-A where it would be subject to a RMP which creates a policy conflict. It is not permissible to both prohibit and require a risk management plan for the same activity at the same location.</p> <ul style="list-style-type: none"> • Policies WC-CW-13.2.1 and 13.2.2: these policies rely on Part IV tools to address the handling and storage of road salt, but include circumstances that are not reflected in the current Tables of Drinking Water Threats – namely “covered” storage. While future revisions to the Tables may occur which include this kind of circumstance as a drinking water threat, it cannot be included at this time in the policy. At most, a general E&O policy under section 22(7) of the CWA could address circumstances that are not captured in the current Tables. In order to “future proof” your policies, it is advisable to remove references to “uncovered” and “covered” and replace with more general “where significant” type language. Any enumeration estimates for “covered” storage within the assessment report should also be corrected/removed. 	<p>mirrors the already approved policies and definitions in the Region of Waterloo chapter. Staff feel that the precedent has already been set in approving policies that differentiate Part IV thresholds based on defined terms in our definitions section.</p> <ul style="list-style-type: none"> - General “where significant” language would capture <i>all</i> quantities of storage including single bags of salt in the ICA. This policy approach, similar to salt application, is to apply storage thresholds to trigger Part IV while dealing with storage volumes below the 100 kg threshold through education. 100 kg is just less than a salt box typically seen at parking lots and therefore is an appropriate threshold in our opinion.
12	Wellington County	S7, Wellington County	<p>At the October 3, 2019 Lake Erie Source Protection Committee, some members commented that the proposed 25 litre threshold seemed high for locations within 100 metres of municipal wells or in high vulnerability scoring.</p>	<ul style="list-style-type: none"> - Wellington Source Water Protection and County staff are recommending retaining the requirement for any quantity of DNAPLs to require a risk management plan within 100 metres of municipal wells or within a vulnerability score of 10. New wording also added to address concerns regarding chlorinated solvents and the 25 L threshold. Therefore, any quantity of chlorinated solvents will require an RMP. - It should be noted that there are no changes proposed to the current policy that prohibits future handling or storage of DNAPLs within 100 metres of a municipal well (WC-CW-16.2).

13	MECP	S14, County of Brant	<p>BC-MC-13.2 (PI, existing/future)</p> <ul style="list-style-type: none"> • This policy requires MNRF to review and amend any existing or new approvals under the Aggregate Resources Act. • Please refer to comment #3 provided during early engagement (August 2019) and conduct further revisions to this policy (they have been reattached for your convenience). • Please clarify what “operational controls” is intended to reference (e.g. extraction depth, approvals for washing etc.). • Please provide context (i.e. examples) of how the results of the Tier 3 Water Budget and Risk Assessment would impact conditions of approval as MNRF is uncertain what considerations would need to be undertaken. As previously indicated in the early engagement comments provided in August 2019, under the Aggregate Resources Act, the Minister considers (among other items) possible effects on surface and groundwater resources including impacts to drinking water sources before determining if a licence/permit is issued. Additionally, MECP and municipalities are also consulted during that process. Given this, we are uncertain why additional policies to address these items may be required. 	<ul style="list-style-type: none"> - Ministry of Natural Resources and Forestry will receive notice of the amended policies and the opportunity for comment. - Policy 13.2 was revised during early engagement based on comments from the MECP dated August 2019, and further, the second policy related to Permit to Take Water / Aggregates was deleted. - The County does not agree with the proposed changes to the Aggregate Resources Act, along with Bill 132 related to the impacts of vertical zoning, depth of extraction and protection of water resource systems; however, revisions to the policy will be considered to clarify wording and context as requested. -Water quantity policies will be presented to the County of Brant’s Planning Advisory Committee on December 3, 2019 and the County will revise the policies after this time.
14	MECP	S14, County of Brant	<p>BC-MC-13.4 (SA, future)</p> <ul style="list-style-type: none"> • This policy encourages the County of Brant to consider locating additional water supply sources outside of the WHPA-Q. Consider if this policy could be blended with BC-CW-13.7 which requires the County to complete a Growth Management Strategy through the Municipal Comprehensive Review. As a stand alone policy, BC-MC-13.4 may be difficult to implement, or demonstrate that it has been implemented, without some form of associated study within which this consideration could occur and be documented. 	<p>County will merge policies 13.4 and 13.7 for consistency.</p>

15	MECP	S14, County of Brant	<p>BC-MC-14.1 (LUP, future)</p> <ul style="list-style-type: none"> • This policy intends for future consumptive water takings to not become a significant threat by including various requirements in Planning Act applications. • Given that the policy only applies to future, consider rewording to remove the reference to “ceases to be”. • The introductory part of the policy also has some issues with grammar or order of the ideas – referring to consumptive uses in the first part and reduction in recharge later as well as both the County of Brant and a Planning Approval Authority (which is also the County). For example: <ul style="list-style-type: none"> o To ensure that any future consumptive water takings within the WHPA-Q ceases to be or never becomes a significant drinking water threat, the County of Brant will ensure that applications under the Planning Act, the relevant Planning Approval Authority shall ensure recharge reduction does not become a significant drinking water threat by: <ul style="list-style-type: none"> • Please engage senior planning staff at the County to review and revise the policy. 	<ul style="list-style-type: none"> - “ceases to be” removed from policy text - Policy text revised to address grammar issues - County staff involved in policy development from the outset. - County will revise policies and remove “Ceases to be”, and various wording changes for clarity.
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LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-19-12-05

DATE: December 12, 2019

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: S.34 Revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-19-12-05 – S.34 Revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan – for information;

AND THAT the Lake Erie Region Source Protection Committee releases the revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan to the Long Point Region Source Protection Authority for submission to the Ministry of the Environment, Conservation and Parks, along with the municipal council resolutions endorsing the changes, and the comments as presented in this report.

REPORT:

Work under S.34 of the *Clean Water Act, 2006* (CWA) to update the Long Point Region Assessment Report and Source Protection Plan has been completed for proposed updates that affect the village of Otterville (Oxford County). Additionally, administrative changes have been made to other sections of the assessment report and source protection plan.

Source protection technical work and policy updates, where necessary, have been completed and presented to the Lake Erie Region Source Protection Committee (SPC) in previous reports. A formal public consultation period was held from September 23 to October 27, 2019. All comments received, along with additional proposed revisions, are presented in the revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan for consideration by the SPC and release to the Long Point Region Source Protection Authority for submission to the Ministry of the Environment, Conservation and Parks (MECP).

Pre-consultation and Public Consultation Process

As part of the S.34 update process, municipalities and ministries affected by the proposed amendments were notified of the proposed changes and the opportunity for pre-consultation. Affected property owners were notified and made aware of the opportunity for public consultation. Lake Erie Region did not receive any pre-consultation or public consultation comments on the assessment report. Source protection plan pre-consultation and public consultation comments were received from the MECP (see **Appendix A**). No public comments on the source protection plan were received during the public consultation period.

As per O. Reg. 287/07 section 50(2), persons with properties affected by the proposed changes in the village of Otterville (Oxford County) were sent notification letters highlighting the updates

and public consultation process. One public consultation open house was held in Oxford County at the Norwich Community Centre on October 1, 2019.

Section 34 of the CWA requires that source protection authorities obtain a municipal council resolution from each municipality affected by the amendments. Municipal Council resolutions in support of the amendments to the revised Updated Grand River Assessment Report and Source Protection Plan were received on the following dates:

- Oxford County – August 20, 2019
- Township of Norwich – September 10, 2019

Revisions to the Long Point Region Assessment Report

The revised Updated Long Point Assessment Report primarily includes technical updates to the Oxford County municipal section to reflect changes to the Otterville Wellfield Wellhead Protection Area (WHPA), vulnerability scoring, threats and issues evaluation, including delineation of an issue contributing area (ICA).

Section 1 (introduction) has been updated and additional revisions were also made throughout the assessment report for brevity and added clarity.

Revisions to the Long Point Region Source Protection Plan

The revised Updated “Otterville” Long Point Region Source Protection Plan policy amendments focus on revising technical names or terms, timing of implementation and changing pipelines from a local threat to a prescribed threat. The Otterville Wellfield policy applicability maps were also updated.

The revised Updated “Otterville” Long Point Region Assessment Report and Source Protection Plan are available in their entirety on the December 12, 2019 [eScribe](#) meeting site.

Submission Comments

The Source Protection Program under the CWA is designed with continuous improvements in mind and will require updates to the source protection plan and assessment report when new information, changes to municipal supply infrastructure and advanced technologies become available. The submission of the revised Updated “Otterville” Assessment Report and Source Protection Plan for the Long Point Region Source Protection Area marks the second S.34 update since initial plan approval in November 2015.

The following list includes ongoing work and comments staff recommend should be submitted to the MECP together with the revised updated assessment report and plan, pre-consultation and public consultation comments, and municipal resolutions:

Ongoing Work

- Proposed items identified in the Long Point Region S.36 Workplan, such as:
 - Addressing Technical Rule changes
 - Updating assessment report as a result of further municipal drinking water system infrastructure changes, e.g., new wells or intakes

- Reviewing and updating Significant Groundwater Recharge Area (SGRA) mapping
- Re-modeling of existing vulnerable areas based on new and updated information
- Transport pathway identification and review

Comments

- Need for long-term, multi-year sustainable provincial funding for conservation authorities for continued program oversight and support to ensure successful implementation of the Source Protection Plans and to meet the mandatory legal responsibilities of conservation authorities on an ongoing basis.
- Need for simple and easy to administer future program processes, e.g., annual progress reporting and plan update processes, to not burden conservation authorities with complex and resource intensive processes and reporting requirements.
- Need for provincial funding and support for maintenance of scientific technical tools, e.g., surface water and groundwater models, including Tier 3 models.

Timeline for “Otterville” Source Protection Plan Update

Table 1 presents the key milestones for completing the necessary technical and policy work, undertaking the necessary formal public consultation, and submitting the revised Updated “Otterville” Long Point Region Source Protection Plan to the MECP. The next step in the update process is for the committee to consider the revised updated plan, assessment report and consultation comments and release the documents to the Long Point Region Source Protection Authority for submission to the MECP.

Table 1: Key milestones for the revised updated “Otterville” Long Point Region Assessment Report and Source Protection Plan

Activity	Date	Complete
Completion of the technical study to update the WHPAs, vulnerability scoring, delineate a nitrate ICA, and complete a drinking water threats and Issues evaluation for the Otterville Wellfield	April 4, 2019	✓
Municipal and Ministry pre-consultation on draft updates made to the Long Point Region Assessment Report and Source Protection Plan	June 24 – July 29, 2019	✓
Formal public consultation for draft Updated Long Point Region Assessment Report and Source Protection Plan	September 23 – October 27, 2019	✓
Oxford County public open house 6 p.m. – 8 p.m. Norwich Community Centre, Norwich	October 1, 2019	✓
SPC receives draft Updated Long Point Region Assessment Report and Source Protection Plan and	December 12, 2019	✓

public consultation comments for consideration; SPC releases the document to the Long Point Region Source Protection Authority		
Long Point Region Source Protection Authority receives revised Updated Grand River Assessment Report and Source Protection Plan to for submission to the MECP.	January 8, 2020	

Prepared by:



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Approved by:



Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A

Pre-consultation and Public Consultation Comments

Table 2: Draft updated “Otterville” Long Point Region Protection Plan – pre-consultation and public consultation comments

#	Comment Source	Comment Period	SPP Section	Comment	How Comment was Addressed
1	MECP	Pre-consultation	All sections	Throughout the documents, the ‘c’ in ‘circumstances be capitalized when referencing the “Source Water Protection Tables of Drinking Water Threats and Circumstances” to align with how this has been spelled on the source water protection portal (swpip.ca).	"C" in circumstances capitalized
2	MECP	Pre-consultation	Volume 1	In Volume I, Table 4-1, in the Appointment/Nomination column for Paul Emerson, there is a typo where Bant should say Brant.	Text revised to “Brant”
3	MECP	Pre-consultation	Volume 1	In Volume I, Appendix C: Legal Effect Matrix, the term “Non-Legally Binding” has been replaced by the simpler term “Non-Binding” in SPPB communications.	Text revised to “Non-binding”
4	MECP	Pre-consultation	Volume 2, Section 3	In volume II, section 3.0 Oxford County: the introductory paragraph is missing the new Schedules F and H. The entire source protection plan should be reviewed to ensure these references are correct.	All municipal introductory paragraphs reviewed; text revised for Oxford County and municipality of Bayham
5	MECP	Pre-consultation	Volume 2, Sections 3, 4, 5, 6	Policies OC-CW-1.1.1, NC-CW-1.1.1, EC-CW-1.1.1, and HC-CW-1.1.1 could use some punctuation to improve readability.	Punctuation added to improve readability
6	MECP	Pre-consultation	All sections	Throughout the documents, the short name for the sewage storage threat sub-category should be corrected to “Sewage Storage – Treatment or Holding Tanks.”	Text revised to correct sub-category name
7	MECP	Pre-consultation	Volume 2	The draft amendment includes policies addressing the <i>Establishment and Operation of a Liquid Hydrocarbon Pipeline</i> , and states that policies apply in WHPA-A & B with a vulnerability score of 10. While the assessment report has been edited to remove references to the previously-approved local	This threat has only been assessed for the Otterville Wellfield, County of Oxford as that is the only municipal system that included updated Wellhead Protection Areas (WHPAs),

Table 2: Draft updated “Otterville” Long Point Region Protection Plan – pre-consultation and public consultation comments

#	Comment Source	Comment Period	SPP Section	Comment	How Comment was Addressed
				<p>threat for pipelines and has now listed pipelines in the list of prescribed threats, it is unclear whether the assessment for where this threat would be a significant, moderate, or low threat in the source protection area has been done. We note that there are three subcategories of the pipeline threat (above ground, below ground, and within or under a water body) which can be significant in WHPA A-B with a vulnerability score of 10. In IPZ 1-2 and WHPA-E with a vulnerability score of 9 or 10, two of the subcategories (above ground and within or under a water body) can be significant. We would like to know whether this prescribed threat has been assessed across the source protection area, including for the surface water intakes. Volume 1, Appendix B retains text noting pipeline hazard scores provided by the Director, which seems a relic from when pipelines were a local threat and omit reference to IPZ scores or 9 or 10. Corresponding policies should be updated to reflect the areas where this activity would be a significant threat; at present there are no policies for the Haldimand and Norfolk intakes with a vulnerability score of 9. While the 2018 General Regulation amendments permit the exclusion of pipeline policies (O.Reg. 287/07, ss. 31(2)), a description of the process and information used to reach the conclusion that there is no reasonable prospect a pipeline will ever be established or operated in the IPZs scoring 9 is required (O.Reg. 287/07, ss. 40(2), paragraph 7). This rationale would also need to be included in the updated explanatory</p>	<p>vulnerability scoring and a threats assessment.</p> <p>The reference to hazard scores in Volume 1, Appendix B has been replaced by a reference to the Source Water Protection Tables of Drinking Water Threats and circumstances. Additionally, the vulnerable areas where significant threats occur was updated to include WHPA-E and IPZs.</p> <p>Policies across the Source Protection Area were reviewed and applicable, updated, to ensure they reflect the areas where this activity would be a significant threat.</p> <p>Additional text has been added to the Haldimand and Norfolk sections of the Explanatory Document to provide additional context.</p>

Table 2: Draft updated “Otterville” Long Point Region Protection Plan – pre-consultation and public consultation comments

#	Comment Source	Comment Period	SPP Section	Comment	How Comment was Addressed
				document. We appreciate you sharing this information with our office.	
8	MECP	Public consultation	Volume 2	Throughout the documents, the reference to the tables of drinking water threats is inconsistent. In Vol 2, this has been written as “Source Water Protection Tables of Drinking Water Threats (swpip.ca) and Circumstances,”; we suggest this should be revised to be consistent with the way it is referenced in Vol 1 with the URL at the end of the title.	“swpip.ca” moved to the end of the title
9	MECP	Public consultation	Explanatory Document	We note that the revised portions of the Explanatory Document were not circulated during pre-consultation and were not posted on the internet. Section 50 of O.Reg. 287/07 requires that the updated portions of the Explanatory Document should be posted on the internet along with the amendment. As a reminder, please ensure the Explanatory Document reflects the most current version of the plan when the amended source protection plan is posted on the web. We recommend that the information provided by Oxford County be included in the section explaining the reasons for the policies that apply in the nitrate issue contributing area.	Additional information added to the Oxford section of the Explanatory Document regarding Significant Drinking Water Threat management in a nitrate ICA, specifically the use of Risk Management Plans and onsite sewage system maintenance inspection programs.