DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

LAKE ERIE SOURCE PROTECTION REGION

Lake Erie Region Source Protection Committee
Agenda

Thursday, April 5, 2018
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

   a. RE: Notice to submit the Revised Updated Long Point Region Assessment Report and Source Protection Plan to the Long Point Region Source Protection Authority — 1

      Correspondence from Wendy Wright-Cascaden, Lake Erie Region Source Protection Committee Chair, to Noel Haydt, Long Point Region Conservation Authority Board Chair.

10. Reports

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. Request for clarification from the Ministry Re: End-of-life Vehicle Waste Disposal Sites and Environmental Compliance Approvals

13. Closed Meeting

14. Next SPC Meeting

June 21, 2018 at 1:00pm, Grand River Conservation Authority, 400 Clyde Rd., Cambridge.

15. Adjourn

December 14, 2017

Noel Haydt, Chair
Long Point Region Conservation Authority
4 Elm Street
Tillsonburg, ON N4G 0C4

Dear Mr. Haydt:

On December 7, 2017 the Lake Erie Region Source Protection Committee passed the following resolution:

> *AND THAT the Lake Erie Region Source Protection Committee releases the Revised Updated 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 and Climate Change, along with the municipal council resolutions endorsing the changes, and the comments as presented in this report.*

As such, this letter serves as a notice pursuant to the requirements of Ontario Regulation 287/07, which requires the Source Protection Committee to submit the Revised Updated Long Point Region Assessment Report and Source Protection Plan to the Long Point Region Source Protection Authority.

The Source Protection Authority is now tasked with forwarding the Revised Updated Assessment Report and Source Protection Plan, together with the Updated Explanatory Document, to the Ministry of the Environment and Climate Change (MOECC), along with any comments received as a result of the pre-consultation process and the public consultation posting, municipal council resolutions endorsing the updates and any comments that the Source Protection Authority wishes to make. Note that the Source Protection Authority cannot make changes to the Revised Updated Assessment Report or Source Protection Plan and does not "approve" either document.

A number of technical studies, both quality and quantity, have been completed since the plan was approved in November 2015; these updates include a Tier 3 Water Budget and Local Area Risk Assessment, and Wellhead Protection Area (WHPA) updates in the communities of Delhi, Simcoe, Waterford and the Village of Richmond. The Tier 3 Water Budget and Local Area Risk Assessment resulted in the addition of water quantity policies for Norfolk County and the revision of water quality policies in the Municipality of Bayham.

As part of the update process, municipalities and ministries affected by the proposed amendments were notified of the proposed changes and the opportunity for pre-consultation. Lake Erie Region received assessment report and source protection plan pre-consultation comments for consideration from the MOECC and Norfolk County (**Appendix A**).

The notice of pre-consultation for the Draft Updated Long Point Region Source Protection Plan was brought to the Norfolk County Council-In-Committee for consideration on September 19, 2017. The Council-In-Committee adopted the following resolution:

> *AND FURTHER THAT Norfolk County Council supports in principal the proposed revisions for a Draft Updated Long Point Region Source Protection Plan as attached to staff report D.C.S. 17- 77.*

The notice of pre-consultation for the Draft Updated Long Point Region Source Protection Plan was also brought to the Council of The Corporation of the Municipality of Bayham for consideration on September 7, 2017 and the following resolution was adopted:

> *THAT pursuant to Section 34(3) of the Clean Water Act, 2005, the Council of the Corporation of the Municipality of Bayham endorse the proposed amendments to the Long Point Region Source Protection Plan.*

The Revised Updated Long Point Region Assessment Report and Source Protection Plan were then made available for public comment between October 9 and November 15, 2017. During this time, two public open houses were held: one in the Village of Richmond (October 30, 2017) and one in Simcoe (November 1, 2017). Additional assessment report comments were also received from the MOECC during the public consultation period (see **Appendix A**); the public did not submit any comments for consideration.

The Source Protection program under the *Clean Water Act, 2006* is designed with continuous improvements in mind and will require updates to the Source Protection Plan and Assessment Report when new information and advanced technologies become available. The submission of the Revised Updated Assessment Report and Source Protection Plan for the Long Point Region Source Protection Area marks the first s. 34 update for this watershed.

The following list includes outstanding work and comments the Source Protection Committee recommend should be submitted to the MOECC together with the revised updated assessment report and plan, pre-consultation comments, municipal resolutions and public consultation comments:

<u>Outstanding Work</u>

- Revisions to technical assessments reflecting changes to existing or planned drinking water systems, e.g., elevated nitrate levels for the Otterville (Oxford) system. Work proposed to be undertaken through s. 34 of the Act.

- Inclusion of updates to technical assessments to reflect changes following provincial program review and updates to the technical rules. Work proposed to be undertaken through s. 36 of the Act.

- Inclusion of Great Lakes considerations to better understand impacts and effects on Lake Erie drinking water intakes. Work proposed to be undertaken through s. 36 of the Act.

- Inclusion of climate change considerations to better understand impacts and effects on sources of drinking water. Work proposed to be undertaken through s. 36 of the Act.

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, to not burden conservation authorities with complex and resource intensive processes and reporting requirements.

- Need for provincial funding for maintenance of scientific technical tools, e.g., surface water and groundwater models, including Tier 3 models.

At this time the Source Protection Authority members may choose to attach their own comments regarding the Revised Updated Assessment Report and Source Protection Plan. The Long Point Region Source Protection Authority will then direct Lake Erie Region staff to submit the Revised Updated Long Point Region Assessment Report and Source Protection Plan together with their own comments, if any, to the Minister of the Environment and Climate Change.

Upon release of the Revised Updated Source Protection Plan, Ontario Regulation 287/07 also required the Source Protection Committee to provide the Source Protection Authority with the following information:

a) a summary of any concerns that were raised by First Nations bands during the revision of the Source Protection Plan that were not resolved to the satisfaction of the bands; and
b) a summary of any concerns that were raised by municipalities during the revision of the Proposed Source Protection Plan that were not resolved to the satisfaction of the municipalities.

There are no outstanding concerns raised by First Nations bands or municipalities that have not been resolved to the satisfaction of the bands or the municipalities.

If you have any questions regarding this letter, or the Revised Updated Assessment Report or Source Protection Plan, please contact Ilona Feldmann at 519-621-2763 ext. 2318 or ifeldmann@grandriver.ca.

Sincerely,

Wendy Wright-Cascaden
Chair, Lake Erie Region Source Protection Committee

cc:
Cliff Evanitski, General Manager/Secretary-Treasurer, LPRCA
Craig Jacques, Water Resources Specialist, LPRCA

Appendix A

Pre-consultation and Public Consultation Comments

Draft Updated Long Point Region Assessment Report and Source Protection Plan – MOECC and Norfolk County Comments					
#	**Comment Source**	**Comment Period**	**AR / SPP Section**	**Comment**	**How Comment was Addressed**
1	MOECC	pre-consultation	SPP volume 2, section 4	NC-MC-16.1 You could consider replacing the phrase “demonstrate that the taking will not adversely impact the aquifer’s ability to meet municipal and other water supply requirements” with “ensure the long-term sustainability”, which encompasses all concerns and makes that policy more succinct.	Text replaced with "ensure the long-term sustainability"
2	MOECC	pre-consultation	SPP volume 2, section 4	NC-MC-16.2 Since the Simcoe WHPA-Q1 is entirely located within the Town of Simcoe settlement area (serviced area) is there a need for a stronger link between the planning and PTTW? I believe CTC was looking to address development in unserviced areas with the York WHPA-Q1 with a similar policy. Will there be planning approvals that will be privately serviced within the WHPA-Q1? This might be the opportunity to draft a policy to suggest that with the WHPA-Q1 all municipal planning approvals should require municipal servicing with the significant risk warranting such an approach. In addition, to provide greater clarity and ease of understanding of the intent of policy NC-MC-16.2, some suggested policy language for the consideration is below: When approving growth and development that is to be serviced by a well located within a WHPA-Q1 with a significant risk level, the municipality shall ensure that Planning Act decisions consider the long-term sustainability of the municipal system by: a. requiring an approved Permit to Take Water, where the Ministry of the Environment and Climate Change has determined that the proposed taking does not become a	Policy language changed to emphasize "growth and development" and reflect MOECC language suggestions

Draft Updated Long Point Region Assessment Report and Source Protection Plan – MOECC and Norfolk County Comments					
#	**Comment Source**	**Comment Period**	**AR / SPP Section**	**Comment**	**How Comment was Addressed**
				significant water quantity threat; and b. requiring consistency with the updated Water Supply Master Plan, including for the water allocation threshold, for any required expansion of the municipal system.	
3	MOECC	pre-consultation	SPP volume 2, section 4	NC-NB-16.6 Similar request made by all Committees with a significant water quantity threats	No revisions necessary
4	MOECC	pre-consultation	SPP volume 2, section 4	This the first time the ministry is being asked to provide funding to build water quantity related capacity within a municipality. The Ministry had provided approximately $70,000 to Norfolk County to support implementation.	No revisions necessary
5	MOECC	pre-consultation	SPP volume 2, section 4	NC-NB-16.8 Source Protection Programs Branch recognizes the value of the Tier 1 and 2 water budgets in informing water management decisions in the Long Point area and has been advocating for the integration of the source protection water budget science throughout the ministry. However, reassessing the High Use Watersheds will not address significant water taking threats located in the Town of Simcoe's water quantity vulnerable area (WHPA-Q1). As a result, we do not think the reassessment of the High Use Watershed designation is an appropriate action to address through a source protection plan policy. Instead, we suggest making this a recommendation to the ministry, to reassess the designation, by including it as: (1) a recommendation within the source protection plan (not a significant threat policy); (2) a recommendation in the plan amendment submission letter; (3) or a recommendation in a separate letter to the Minister.	Staff consulted with Norfolk County and the MOECC to resolve the comment. MOECC responded November 15, 2017 that they "have no further comments on this topic at present". Lake Erie Region staff decided that no revisions were necessary.
6	MOECC	pre-consultation	SPP volume 2,	NC-NB-16.9 In the Norfolk Area, certain highly consumptive water uses	No revisions necessary

Draft Updated Long Point Region Assessment Report and Source Protection Plan – MOECC and Norfolk County Comments					
#	**Comment Source**	**Comment Period**	**AR / SPP Section**	**Comment**	**How Comment was Addressed**
			section 4	are identified as not being a priority. The high use watershed policies" under the Water Taking and Transfer Regulation under the OWRA is an example of setting priorities of water use in stressed areas, i.e., permits for new and expanded water takings for specific uses, including water bottling, are prohibited. The policy is consistent with existing authority under the Ontario Water Resources Act (OWRA) and Clean Water Act to establish public/municipal water supply areas as the priority water use in the designated areas. However, we are not aware of such actions being taken anywhere in the province to date. Under the Water Bottling Moratorium, the Province signaled that it was revisiting prioritization of water takings. As part of this work, the Norfolk Sand Plain has been identified as one of the areas where additional tools or policy approaches may be required to enhance water management efforts	
7	MOECC	pre-consultation	AR section 7	Bayham: It is not clear why the ICA covers WHPA-A and B only. Clarification about this will be required when the assessment report is amended, to show the technical rationale behind that decision. For example, the SPA may be able to demonstrate the distribution/ correlation of nitrate sources to the issue.	Additional technical rationale provided in section 7.1.6
8	MOECC	pre-consultation	AR section 7	Bayham: Given the current shape of the WHPAs (very narrow), was consideration given to whether there any sources of nitrate that contribute or may contribute to the issue, outside the existing delineated WHPAs? If yes, has the SPA considered extending the proposed ICA beyond the WHPA boundaries to capture areas within HVAs, and thus	.

Draft Updated Long Point Region Assessment Report and Source Protection Plan – MOECC and Norfolk County Comments					
#	**Comment Source**	**Comment Period**	**AR / SPP Section**	**Comment**	**How Comment was Addressed**
				more delineate an ICA that more fully represents the contributing area to the nitrate issue. Grand River SPA is aware of similar situation in the Waterloo ICAs	
9	MOECC	pre-consultation	AR section 7	Bayham: Given the description in page 2 of the SPA memo to the SPC (dated September 7, 2017) under section "System Overview", did the SPA consider delineating a WHPA-E and WHPA-F? If WHPA-E is delineated and the requirements to delineate WHPA-F are met, WHPA-F can be delineated to capture all contributing surface water courses to the interacting surface water body as per technical rules. The AR needs to explain this in detail and more importantly, in a case of WHPA-F delineation, then the ICA should be extended to be delineated in WHPA-F.	Staff reviewed the local site geology and topography and determined that there was no need for a WHPA-E to be delineated for the Village of Richmond wells.
10	MOECC	pre-consultation	AR section 7	Bayham: The SPA memo was very brief on the assessment of the significant threats that may have resulted from the proposed ICA. A more thorough threats assessment, including enumeration of existing activities, needs to be completed as per technical rules when the assessment report is amended.	The Assessment Report was updated to a more detailed threats assessment and now includes an enumeration of existing activities.
11	MOECC	pre-consultation	SPP volume 2, section 4	Bayham: We note that only commercial fertilizer policies have been included in the draft policies for the ICA. According to the Tables of Drinking Water Threats, several activities have the potential to contribute nitrogen, and therefore further impact a nitrogen issue identified at a drinking water system, whether these activities exist today or in the future. As such, and as noted in #4 above, further consideration of potential future activities is appropriate, such as considering the current and projected land uses in the ICA and surrounding	The Assessment Report was revised to include rationale for why commercial fertilizer is the likely source of nitrogen to the Village of Richmond municipal wells.

Draft Updated Long Point Region Assessment Report and Source Protection Plan – MOECC and Norfolk County Comments					
#	**Comment Source**	**Comment Period**	**AR / SPP Section**	**Comment**	**How Comment was Addressed**
				area. Rationale should be included in the assessment report / source protection plan amendment to explain which current or future activities could contribute to the nitrogen issue (and which would not), and corresponding policies should be included in the amended plan. A summary of the threat subcategories that have the potential to contribute nitrogen within an ICA is provided below for convenience.	
12	Norfolk County	pre-consultation	SPP volume 2, section 4	NC-MC-3.2 that "where possible" be added to the policy to be less restrictive	“where possible” added to policy text
13	MOECC	public consultation	AR, section 10	No specific comment, but rather a number of suggested content track changes	Text changes accepted where appropriate
14	MOECC	public consultation	AR, section 10	WHPA-Q(1) definition – Definition for WHPA-Q1 delineation in the GGET Tier 3 summary could also be used here. Definition should also include “the why we define it” piece as well.	Accepted the changes the MOECC made in document
15	MOECC	Public consultation	AR, section 10	Either needs rationale or is too early to say here: in regards t "The WHPA-Q2 is defined in this Assessment Report as a vulnerable area called the WHPA-Q"	Comment considered but changes deemed not necessary
16	MOECC	Public consultation	AR, section 10	Map 10-8, Map 10-9, Map 10-10 : Legend should be WHAP-Q rather than Q1/Q2	Revised legends to read “WHPA-Q”

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-01 **DATE:** April 5, 2018

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-18-04-01 – Source Protection Program Update – for information.

REPORT:

SPC Chairs and Program Managers Meeting

W. Wright-Cascaden and M. Keller attended the provincial chairs and program managers meeting in Toronto on March 1 and 2, 2018. Discussion highlights included:

Regulatory Proposals Posted on the Environmental Registry

The Ministry of the Environment and Climate Change (MOECC) recently posted two proposed regulation changes on the Environmental Registry, both of which closed on February 20, 2018. EBR #013-1839 proposes amendments to O. Reg. 287/07 – "General" under the *Clean Water Act, 2006* (CWA), primarily the formal addition of liquid hydrocarbon pipelines to the list of prescribed threats in the regulation that need to be assessed as part of the source protection program. Liquid hydrocarbon pipelines are already included in the Source Protection Plans in the Lake Erie Region following provincial approval of a local threat request. The proposed regulation amendments would also include the addition of other types of minor changes to Source Protection Plans that do not need Minister approval, such as the removal of wellhead protection areas where the wells have been properly decommissioned. Lake Erie Region staff are generally supportive of the proposal, and provided comments to the MOECC (**Appendix A**).

EBR #013-1840 proposes a new regulation under the *Safe Drinking Water Act, 2002* that would put in place requirements for municipalities to ensure that certain work under the CWA is being completed before they could apply for a drinking water works permit for new or expanded drinking water systems. Lake Erie Region staff are concerned about the potential implications this proposal may have for municipalities with large integrated urban systems with more frequent infrastructure changes and the associated challenges with undertaking the necessary source protection work prior to the drinking water works permit application. Lake Erie Region staff provided comments to the MOECC and the concerns are being discussed with Ministry staff (**Appendix A**).

Annual Progress Reporting

In 2017 the MOECC developed an Electronic Annual Reporting (EAR) system that allowed

Source Protection Authorities (SPAs) to download ministry annual reporting results. The Province is looking to enhance and expand the system in 2018 to include Supplemental Annual Progress Reporting form fields for SPAs to report directly. The Supplemental Form is currently a Word document which SPAs are required to fill out and submit to the Province. Additional changes to the Supplemental Form in 2018 will likely include further clarification of annual reporting terms and phrases.

Phase II Rules Project

Work is currently underway to review components of the Director's Technical Rules including: surface water vulnerability, groundwater vulnerability, climate impacts and threats. The following threats are under review:

- Biosolids, non-agricultural source material and hauled sewage
- Waste disposal sites
- DNAPLs and organic solvents
- Sewage works (e.g., stormwater management facilities)
- Pesticides
- Road salt application

The Ministry is also reviewing s.60 Risk Assessments under the *Clean Water Act, 2006* (CWA), and has developed a draft/confidential discussion paper to support the development of rules – s.60 currently has no rules to guide the risk assessment process. The Ministry will consult with project managers, SPC chairs, RMO and municipalities over the course of the spring and summer.

Guide for Drinking Water Systems

The Province is developing guidance, "Protecting Source Water – A Guide for Drinking Water Systems". The objective of the guidance is to encourage the use of the principles of source protection planning and integration of these principles to protecting source of drinking water that are not currently included in source protection plans. The guidance will help source protection move beyond municipal residential systems within source protection areas/regions by drawing on key elements of the CWA and its regulations. The guidance will be geared towards new municipal drinking water systems within source protection areas/regions, other drinking water systems and clusters of wells/intakes within and outside of source protection areas/regions and, First Nations' drinking water systems. Preliminary development of guidance material is underway with an anticipated completion by 2019.

2017/18 and 2018/19 Financial Update

A draft Final Financial Progress Report for the 2017/18 Grant Funding Agreement was submitted to the MOECC on March 5, 2018. The final report is due to the MOECC on April 25, 2018, and will include actual expenditures from April 1, 2017 to March 31, 2018.

Lake Erie Region staff finalized the 2018/19 Grant Funding Agreement on March 29, 2018. The 2018/19 business plan for the Lake Erie Region Source Protection Region was developed on the basis of the 2017/18 approved budget and includes funding for ongoing technical work (e.g., Tier 3 water budgets), new technical studies, annual reporting, support for the source protection committee, and continued municipal support interpreting source protection plan policies and data management.

New to the 2018/19 agreement is the addition of funds to support Lake Erie Region's Source Protection Sector Outreach Plan, developed together with SPC chair W. Wright-Cascaden and which includes limited funds for individual SPC member travel costs associated with outreach to their respective sector, where identified, to keep them informed. Members who wish to use the funding available should approach M. Keller with their request.

Source Protection Committee Member Succession Plan

In 2016 regulation governing the SPCs was amended to allow for increased flexibility with regard to committee size and members terms of appointments. The Lake Erie Source Protection Region Management Committee at that time decided against changing the size of the SPC for the near future and felt that securing member replacements for recently resigned members should be the priority.

Since 2016, three new members have been appointed: one from the agriculture sector, one municipal and one public sector. As a result of natural turnover on the committee, Lake Erie Region staff put development of a succession plan on hold. With the committee at its full member complement, Lake Erie Region staff plan to re-evaluate the need for a SPC succession plan and will bring the evaluation and plan in a report to the SPC at the June 21, 2018 meeting.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A

Proposed Regulatory Changes: Lake Erie Source Protection Region Comments

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

February 20, 2018

Ms. Jennifer Moulton
Senior Drinking Water Program Advisor
Ministry of Environment and Climate Change
Policy and Program Division
Source Protection Programs Branch
40 St. Clair Av W, Floor 14
Toronto ON M4V 1M2

Reference: EBR Registry Number 013-1839: Amendments to Ontario Regulation 287/07 "General" under the Clean Water Act, 2006

Dear Ms. Moulton,

This letter provides Lake Erie Source Protection Region staff comments on the above EBR consultation. The proposed regulation amendment proposes to add other types of minor amendments to source protection plans and assessment reports under S.51 of O.Reg. 287/07, as well as adding liquid hydrocarbon pipelines to the list of prescribed drinking water threats.

Staff have the following comments:

- We are supportive of the addition of other types of minor amendments; however, more clarity is needed specifically with respect to what editorial changes to the Director's Tables of Drinking Water Threats would be included under S.51, as some editorial changes to the Tables may have resulting changes in a source protection plan or assessment report that would not necessarily be editorial.

- Staff are supportive of adding liquid hydrocarbon pipelines to the list of prescribed threats. As one of a few areas that have included pipelines in the assessment reports and source protection plans using the local threat approach, more clarity is requested about how the proposed new circumstances compare to the existing circumstances used in the currently approved assessment reports / source protection plans, specifically whether the local pipeline threats remain as identified, and whether the proposed circumstances would allow for additional pipeline threats to be identified.

Thank you for the opportunity to comment. Should you have any questions about these comments, please don't hesitate to contact the undersigned.

Sincerely,

Martin Keller, M.Sc.
Source Protection Program Manager
Lake Erie Source Protection Region
519-620-7595
mkeller@grandriver.ca

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

February 20, 2018

Ms. Jennifer Moulton
Senior Drinking Water Program Advisor
Ministry of Environment and Climate Change
Policy and Program Division
Source Protection Programs Branch
40 St. Clair Av W, Floor 14
Toronto ON M4V 1M2

Reference: EBR Registry Number 013-1840: Establishment of a Regulation under the Safe Drinking Water Act, 2002

Dear Ms. Moulton,

This letter provides Lake Erie Source Protection Region staff comments on the above EBR consultation. The proposed regulation would require certain technical work needed to identify vulnerable areas and identify and address threats that are necessary under the Clean Water Act be complete and endorsed by municipal council prior to the municipality applying for a drinking water works permit associated with new or expanding municipal residential drinking water systems.

Staff have identified a number of concerns which are listed in more detail as follows:

- Clean Water Act technical work is already required to be completed as part of the Environmental Assessment (EA) process under the Environmental Assessment Act. The Municipal Engineer's Association's (MEA) Class EA process document includes a section that requires technical work under the Clean Water Act to be undertaken. It is unclear why a separate regulation is proposed under the Safe Drinking Water Act (SDWA) when this work is already required under existing regulation.

- The Class EA process is the right process to undertaken the technical assessment under the Clean Water Act, as it results in the necessary stakeholder consultation to address the environmental and social justice considerations for any new and expanded drinking water systems. Local councils typically want to see stakeholder engagement be part of any new or expanded system, and the proposed regulation does not mention such consultation.
- The proposed regulation is unclear about what is included in the definition of a new and/or expanded drinking water system. For example, would the proposed regulation apply to a well replacement or back up well?
- The proposed regulation is unclear how this would apply to the water quantity assessment. Specifically, as the MOECC has not developed a framework for integrating the water budget and risk assessment with the PTTW process, it is not clear how the proposed regulation would require assessing the impact on the water budget and delineation of related water quantity protection areas.
- Staff are particularly concerned about the potential impact to municipalities with large, integrated, and more complex drinking water systems, such as the Region of Waterloo and the City of Guelph:
    - In these large, complex, and integrated systems, maintenance and operation results in changes to the infrastructure, i.e. wells, on a regular basis. Integrated systems also mean that in many cases one well can't be assessed in isolation from the entire system, i.e., changing pumping rates. The proposed regulation would mean that the entire system would need to be reassessed with every new well, resulting in extra staffing resources and consulting costs for the assessments, as well as additional staff and financial resources for the local source protection authority to facilitate the multiple potential updates to the Source Protection Plan.
    - Under the Clean Water Act, municipalities can determine the best point in time to assess all of their drinking water systems, allowing flexibility to minimize expenses in undertaking the technical assessments. This is especially important in municipalities with large systems, where the proposed regulation would lead to unnecessary duplication and inefficiencies.
    - The likely piecemeal approach that could be created as a result of the proposed regulation may also lead to variations in technical assessments, and undermine the integrity of the Clean Water Act process. Further, more frequent changes to the delineated areas and updates to the Source Protection Plan could jeopardize the public's confidence in the delineated areas and overall integrity of the source protection program.

- Finally, the proposed regulation does not provide any additional protection to the sources of drinking water, as policies only apply once the update to the Source Protection Plan is approved and in effect.

As such, staff believe the Class EA process is the best and most appropriate time for the technical assessments required under the Clean Water Act to be undertaken.

Should you have any questions about these comments, please don't hesitate to contact the undersigned.

Sincerely,

Martin Keller, M.Sc.
Source Protection Program Manager
Lake Erie Source Protection Region
519-620-7595
mkeller@grandriver.ca

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-02 **DATE:** April 5, 2018

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: Catfish Creek Annual Progress Report

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-18-04-02 – Catfish Creek Annual Progress Report - for information.

THAT in the opinion of the Lake Erie Region Source Protection Committee, implementation of the Catfish Creek Source Protection Plan has progressed well and is on target towards achieving the plan objectives.

AND THAT the Lake Erie Region Source Protection Committee direct staff to finalize the draft Catfish Creek Annual Progress Report, Supplemental Form, regionally-developed Annual Report and annual reporting objectives letter for submission to the Catfish Creek Source Protection Authority, along with any Source Protection Committee comments, in accordance with S.46 of the Clean Water Act, 2006 and any Director's instructions established under O. Reg. 287/07 S.52.

REPORT:

Background

In accordance with Ontario Regulation 287/07 s.52, all four Lake Erie Region Source Protection Authorities (Grand River, Long Point Region, Kettle and Catfish Creek) are required to submit an Annual Progress Report to the Director by May 1 in the year following the year to which the report applies. Both the Ministry of the Environment and Climate Change's (MOECC) Source Protection Annual Progress Report and the Supplemental Form are to be submitted as they are considered "prescribed forms" under O. Reg. 287/07 s.52(5). The first Catfish Creek and Kettle Creek Annual Progress Reports and Supplemental Forms are due for submission to the MOECC in May 2018; reporting requirements for Long Point Region and Grand River will begin in May 2019.

Annual Progress Report and Supplemental Form

The Catfish Creek Annual Progress Report is a public-facing document developed by the MOECC and prepared by Lake Erie Region and Oxford County staff. The report provides valuable information about the implementation of the Catfish Creek Source Protection Plan and the overall success of the program (**Appendix A**). The first Catfish Creek Annual Progress Report reflects implementation efforts from January 1, 2015 to December 31, 2017; subsequent progress reports will highlight information and data collected from actions taken during the previous calendar year.

Information presented in the progress report is intended to be a high-level reflection of annual reporting results collected through the Catfish Creek Supplemental Form. The Supplemental Form is a tool to collect key information from implementing bodies to help convey the story of

progress made in the Catfish Creek Source Protection Area using a series of "reportables" or questions organized by theme (**Appendix B).** Some themes are specific and mirror policy tools, e.g., Prescribed Instruments, while others are more broad, e.g., municipal integration of source protection, achievement of source protection objectives.

The theme, "achievement of source protection plan objectives" includes two reportables that require Source Protection Committee input (SPC): the first, the committee's opinion on the extent to which objectives in the plan have been achieved during the reporting period and the second, comments to explain how the committee arrived at its opinion.

Lake Erie Region staff have reviewed the results of the Supplemental Form and Annual Progress Report and recommend the following responses:

Reportable ID 43a

In the opinion of the Source Protection Committee (SPC), to what extent have the objectives of the SPP been achieved in this reporting period?

Progressing well/on target – majority of the source protection plan policies have been implemented and/or are progressing well.	✓
Satisfactory - Some of the source protection plan policies have been implemented and/or are progressing well.	
Limited progress made - A few of source protection plan policies have been implemented and/or are progressing well.	

Reportable ID 43b

Please provide comments to explain how the SPC arrived at its opinion. Include a summary of any discussions that might have been had amongst the SPC members, especially where no consensus was reached.

Nineteen existing significant drinking water threats were identified in the Catfish Creek Source Protection Area when the plan took effect. Since implementation of the plan, 93% of confirmed significant drinking water threats have been addressed with only one outstanding threat remaining. Additionally, all applicable plan policies that address significant drinking water threats are implemented or in progress.

Catfish Creek Source Protection Area Annual Report

The Catfish Creek Annual Report is a collaboration between Lake Erie Region and Oxford County staff and is written for the public, the SPC and local stakeholders (**Appendix C**). The report provides a snapshot of the program's progress in the Catfish Creek watershed and is designed to complement the provincially-required Annual Progress Report and Supplemental Form. The results or "reportables" presented in the report are derived from the legislated annual reporting requirements.

Annual Reporting Letter to SPA

In addition to the three annual reports, Lake Erie Region staff have drafted an annual reporting

letter to be submitted to the Catfish Creek Source Protection Authority in accordance with the Lake Erie Region's annual progress reporting administrative protocol (**Appendix D**). The letter includes comments about the extent to which objectives set out in the source protection plan are being achieved and will include any additional committee comments.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A

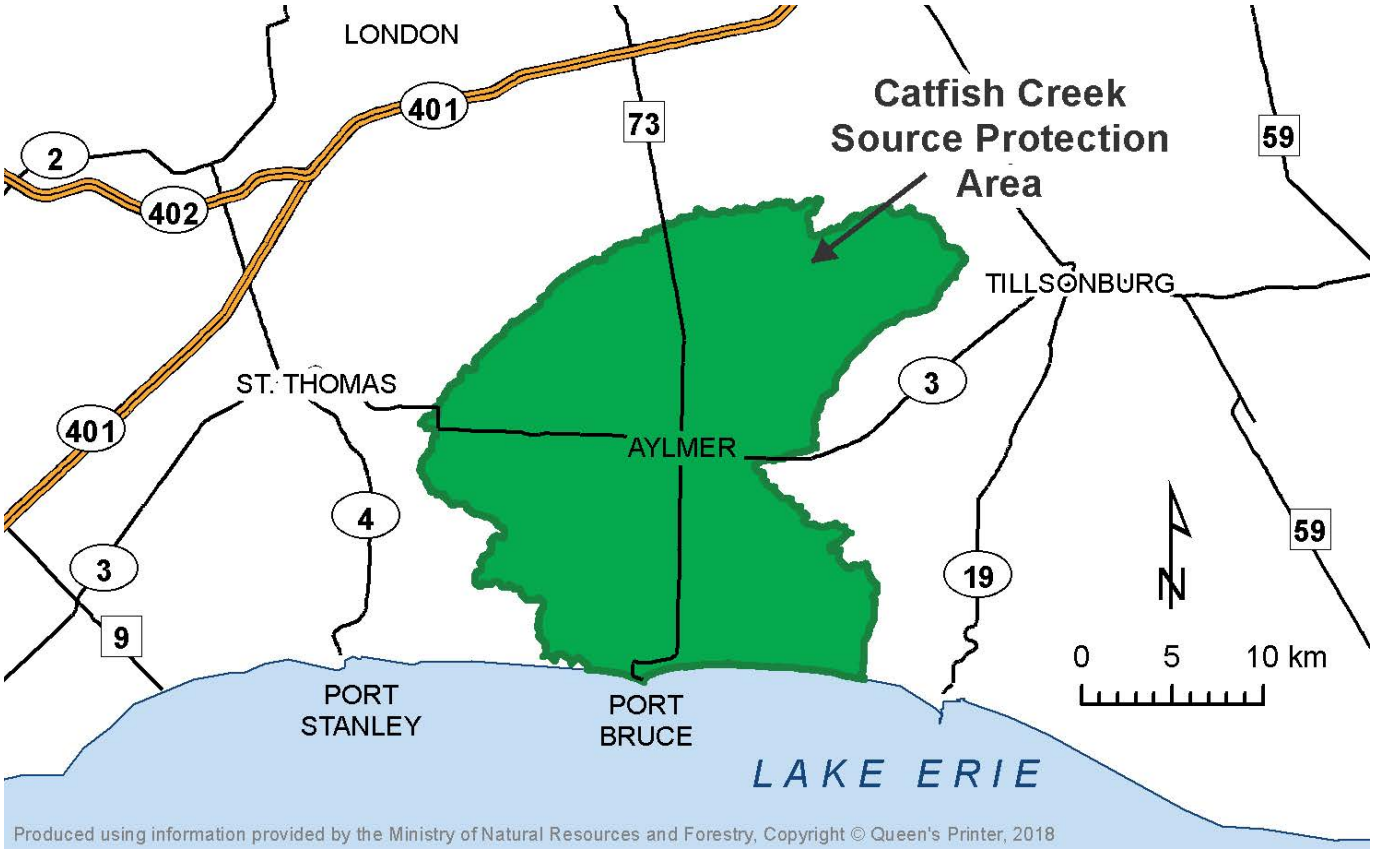
Catfish Creek Annual Progress Report

Source Protection Annual Progress Report | 04/05/2018

I. Introduction

Catfish Creek's Annual Progress Report is a reflection of Source Water Protection Program efforts and more broadly, a snapshot of the program's progress in the Catfish Creek Source Protection Area.

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



II. A message from your local Source Protection Committee

Our progress score on achieving source protection plan objectives this reporting period:

- (●) **P : Progressing Well/On Target** – The majority of the source protection plan policies have been implemented and/or are progressing.
- ( ) **S : Satisfactory** – Some of the source protection plan policies have been implemented and/or are progressing.
- ( ) **L : Limited progress** – A few of source protection plan policies have been implemented and/or are progressing.

Nineteen existing significant drinking water threats were identified in the Catfish Creek Source Protection Area when the plan took effect. Since implementation of the plan, 93% of confirmed significant drinking water threats have been addressed with only one outstanding threat remaining. Additionally, all applicable plan policies that address significant drinking water threats are implemented or in progress.

III. Our Watershed

To learn more, please read our assessment report(s) and source protection plan(s).

The Catfish Creek Source Protection Area (watershed) includes Catfish Creek and its tributaries. They drain 490 square kilometres of agricultural and urban lands before entering Lake Erie at Port Bruce. The area includes parts of Elgin and Oxford counties.

The watershed has one municipal drinking water system in the village of Brownsville in the Township of Southwest Oxford. The system is comprised of two wells serving about 300 people. A number of communities are also serviced with municipal water from the Elgin Area Primary Water Supply.

Nineteen significant drinking water threat activities were identified in the Catfish Creek Source Protection Area when the plan went in to effect, all within a 100 metre radius around the well. Since that time all but one significant drinking water threat has been addressed.

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

1. Source Protection Plan Policies

P : Progressing Well/On Target

All of the applicable policies (47%) that address significant drinking water threats are implemented or in progress. The remaining 53% of policies required no response/were not applicable due to the number of confirmed significant drinking water threats.

2. Municipal Progress: Addressing Risks on the Ground

One municipality (Oxford County) in the Catfish Creek Source Protection Area has vulnerable areas where significant drinking water threat policies apply.

P : Progressing Well/On Target - Oxford County has processes in place to ensure that their day-to-day planning decisions conform with the Catfish Creek Source Protection Plan.

Oxford County is also required to take the next step to review and update their Official Plan to ensure it conforms with the Catfish Creek Source Protection Plan the next time they undertake an Official Plan review under the Planning Act. The County is in the process of amending their Official Plan to conform with the Source Protection Plan.

3. Septic Inspections

P : Progressing Well/On Target

100% of on-site sewage systems have been inspected in accordance with the Ontario Building Code. None of the systems required minor or major maintenance work.

4. Risk Management Plans

P : Progressing Well/On Target

Since the Catfish Creek Source Protection Plan took effect, no risk management plans have been established, including in the previous calendar year (2017). There is however one risk management plan currently in-progress.

Seven inspections have been carried out or planned by a Risk Management Official/Inspector for prohibited or regulated activities since the Plan went into effect. There is a 100% compliance rate with the risk management plans in the Catfish Creek Source Protection Area.

5. Provincial Progress: Addressing Risks on the Ground

P : Progressing Well/On Target

Ontario ministries are reviewing previously issued provincial approvals (i.e., prescribed instruments, such as environmental compliance approvals under the Environmental Protection Act) where they have been identified as a tool in the Catfish Creek Source Protection Plan to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals are being amended or revoked where necessary to conform with plan policies. Catfish Creek Source Protection Plan policies set out a time line of 3 years to complete the review and make any necessary changes. The ministries have completed this for 100% of previously issued provincial approvals in the Catfish Creek Source Protection Area.

6. Source Protection Awareness and Change in Behaviour

None to report.

7. Source Protection Plan Policies: Summary of Delays

Not applicable in the Catfish Creek Source Protection Area.

8. Source Water Quality: Monitoring and Actions

In the Catfish Creek Source Protection Area, no issues have been identified in local science-based assessment report regarding the quality of the sources of municipal drinking water.

9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for the Catfish Creek Assessment Report.

10. More from the Watershed

To learn more about our source protection region/area, visit our Homepage.

http://www.sourcewater.ca

Place photos here

Appendix B

Catfish Creek Annual Progress Reporting Supplemental Form

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

2017 Annual Progress Reporting Supplemental Form

Catfish Creek

Monitoring Policy Implementation - Question 1a, 1b

Question 1a

Did all implementing bodies (IBs) submit a status update/report to the SPA for the reporting periods noted below?

MONITORING POLICY REPORTING PERIOD	Yes	No	If no, how many implementing bodies did not submit their status updates?
Year 1 (from effective date of SPP to December 31 of same year)	✓		
Year 2 (January 1 to December 31 of calendar year following Year 1)	✓		
Year 3 (January 1 to December 31 of calendar year following Year 2)	✓		
Year 4 (January 1 to December 31 of calendar year following Year 3)			

Question 1b

Complete the table below to indicate which implementing body(ies) did not submit a status update/monitoring policy report and the reason(s) for not submitting. Insert additional rows as needed.

	Name of Implementing Body	Explanation
Year 1	N/A	
Year 2	N/A	
Year 3	N/A	
Year 4		

Implementation status of SPP policies - Question 2

Question 2a

Table 1. Implementation status of policies that address *significant* drinking water threat activities.

Implementation Status Category	Response Values	Percentage of Plan Policies
Implemented	15	32%
No further action required	0	
In progress / some progress made	7	15%
No progress made	0	
No information available / no response received	0	
No response required / not applicable	25	53%
Total	47	100%

Table 3. Implementation status of policies (i.e., transport pathway, general education & outreach (E&O), some specify action, etc.) *not* directly associated with addressing specific drinking water threat activities.

Implementation Status Category	Response Values	Percentage of Plan Policies
Implemented	12	80%
No further action required	0	
In progress / some progress made	3	20%
No progress made	0	
No information available / no response received	0	
No response required / not applicable	0	
Total	15	100%

* Table 2. “Implementation status of policies that address ***moderate-low*** drinking water threat activities”, not applicable.

Comment: Include any comments below, if needed, to explain any of the data reported in the tables above (optional).

Oxford County

- Significant threat activities that are not found to be occurring in the SPA, but which have significant policies written for them, were included in the Not Applicable implementation status column.

Question 2b

Summarize the reasons for results recorded above as being "No progress made" and/or “No information available/no response received” by the dates specified in your source protection plan for significant drinking water threat activities (Table 1) and for any moderate/low threat policies that used prescribed instruments and *Planning Act* tools by completing the table below with the following details. Insert additional rows as needed.

Response: N/A

Part IV - Questions 3 - 10

Question 3a

If applicable to the SPR/A, complete the table below for risk management plans (RMPs) established.

Response: 0
* One RMP currently in progress

Question 3b

How many existing* significant drinking water threats have been managed through the established RMPs, since the SPP took effect? (*meaning engaged in OR enumerated as existing significant threats)

Response: 0

Question 5

How many section 59 notices were issued in this reporting period for:

i) activities to which neither a prohibition (section 57) nor a risk management plan (section 58) policy applied, as per ss. 59(2)(a) of the CWA?

Response: 0

ii) activities to which a risk management plan (section 58) policy applied, as per ss. 59(2)(b) of the CWA?

Response: 0

Question 6

The number of notices given TO the risk management official under subsections 61 (2), (7) and (10).

Response: 0

Question 7a

i) How many, if any, inspections (including any follow-up site visits) were carried out for activities (existing or future) that are prohibited under section 57 of the CWA?;

Response: 6

ii) How many properties (i.e., parcels) had inspections for the purposes of section 57?

Response: 6

Question 7b

The number of those cases in which the person was carrying out an activity in contravention of subsection 57 (1) of the Act.

Response: 0

Question 8

How many existing significant drinking water threats have been prohibited as a result of section 57 prohibitions since the plan took effect (i.e., the cumulative count)?

Response: 6

Question 9a

i) What is the total number of inspections (including any follow-up site visits) that were carried out for activities that require a RMP under section 58 of the CWA?

Response: 1

ii) How many properties (i.e., parcels) had inspections for the purposes of section 58?

Response: 1

Question 9b

i) The number of those cases in which the person was carrying out an activity in contravention of subsection 58 (1) of the Act.

Response: 0

ii) The number of those cases in which the person was not complying with a risk management plan agreed to or imposed under section 58 of the Act.

Response: 0

Question 9c

Where there were cases of non-compliance with RMPs, describe, in general terms, how these cases were resolved.

Response: 0

Prescribed Instruments - Integration and Conformity - Questions 11 - 18

Question 11

Indicate the specific measures that provincial ministries have taken/are taking to integrate source protection into the business processes of their respective program areas associated with PIs.

Business Processes	MOECC: Waste disposal – landfilling & storage	MOECC: Sewage Works/ Wastewater	MOECC: Pesticides	MOECC: Water Takings	MOECC: Hauled sewage/biosolids	MOECC: Municipal water licences/works permits	OMAFRA: Nutrient Management	MNRF: Aggregates – Fuel storage	MTO: Aggregates – Fuel storage
Relevant staff training on source protection related to PIs including inspections	YES	YES	YES	YES	YES	YES	YES	YES	YES
Guidance documents (e.g., standard operating policy/procedures) available to align with new program changes for	YES	YES	YES	YES	YES	YES	NO	YES	YES

source protection for reference by ministry staff									
Screening process in place to identify incoming PI applications potentially affected by SPP policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Information or other support tools created and/or made available to external stakeholders (i.e. applicants) to inform them that restrictions may result from source protection policies, so that potential	YES	YES	YES	NO	YES	YES	YES	NO	YES

impacts can be considered in advance of making an application									
System in place to track the PIs that are subject to SPP policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Process in place to map or otherwise geo-reference PIs that are subject to PI policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Protocol in place to review previously issued (i.e., existing) PIs potentially affected by SPP policies	YES	YES		YES		YES	YES	YES	YES
Other changes made to	YES	NO	NO	YES	YES	YES	YES	NO	YES

business processes.									
Provide a brief description:									
MOECC: Waste Disposal – Landfilling and Storage	For details on internal business process changes and tracking of prescribed instruments for this program area, see Questions 2-6 in Section 1.								
MOECC: Water Takings	The ministry has a centralized data system (Integrated Divisional System - IDS), which is an integrated information repository to record, process, review and approve Prescribed Instrument applications. The ministry has a project underway to develop a new Information Technology Platform for electronic applications. The proposed source protection-related data input fields for approvals will allow for streamlined tracking of the prescribed instruments that are subject to source protection plan policies. The project is expected to be implemented in 2018. Source protection water quantity vulnerable area data has recently been made available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits within source protection water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19. The ministry has a Source Water Protection Information Atlas, including a mapping tool, in Geocortex platform that will allow staff to search a location for source protection water quantity vulnerability and follow the links to source protection plan policies and threats tool to find out if water taking is a drinking water threat and need to be managed using Permits To Take Water. Source protection layers have also been added to regional ArcGIS. The ministry has provided access and training to technical staff regarding the map tools and the Tier 3 water budget so that they have better understanding of the Tier 3 Water Budget and local risk assessment results. The ministry also plans to develop guidance material for proponents and qualified persons about using the source protection water budget science (including the input data, model and results) in their preparation of applications and for the Permit To Take Water decision-making process, particularly those for higher risk groundwater takings. In April 2016, the ministry developed a new Standard Operating Policy (SOP #PTTW-SP-PI-02) that updated the Standard Operating Policy that took effect January 2015. A summary of the ministry's Standard Operating Policies was published on the EBR in April 2015 (EBR #012-2968) and continues to be available. While the Standard Operating Policies summary from 2015 noted the ministry had determined instrument changes were not required to address the Permit								

	To Take Water instrument policies, this new Standard Operating Policy provides staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) and new Permit To Take Water applications to conform with the source protection plan prescribed instrument policies where a water taking is or would be a significant water quantity threat (SDWT). To operationalize the Standard Operating Policy, the ministry initiated a training program in September 2016.
MOECC: Hauled Sewage/Biosolids	Since 2015 every hauled sewage site and biosolids site (aka processed organic waste) application submitted to MOECC District/Area offices has undergoing Source Protection Screening. Internal staff training, data tracking and program support materials have been developed and deployed for appropriate staff directly involved in screening and Environmental Compliance Approval review/approval activities. Other program upgrades are in development and are being/will be deployed in 2018 for external stakeholder use including updated application forms and guides and a new on-line Environmental Compliance Approval application platform. The Source Water Protection Information Atlas is available for external stakeholder use on the Ministry's public web site.
MOECC: Municipal water licences/works permits	Approvals & Licensing Staff in the Environmental Assessment and Permissions Branch (policy, review engineers) have all attended source protection training and are updated on source protection matters during regularly scheduled staff meetings. MOECC has built and provided province wide staff access to an online internal source protection resource library, where they can access source protection policies, protocols, legislation, plans, contacts, guidance and support. For Prescribed Instrument conformity, the Ministry has undertaken an exercise to identify all high risk fuel storage and handling associated with municipal residential drinking water systems. Through this review, the ministry identified 15 licenced municipal drinking water systems that include fuel handling and storage that is a significant drinking water threat. By the end of 2017, the MOECC amended the Municipal Drinking Water Licences for each of these systems to include new conditions that address the fuel storage risk.
OMAFRA: Nutrient Management	Other changes made: approvals process revised to delegate letter of conformity preparation for instruments not approved by OMAFRA to certified person.

	MOECC: Waste disposal – landfilling &	**MOECC: Sewage Works/**	**MOECC: Pesticides**	**MOECC: Water Takings**	**MOECC: Hauled sewage/bios**	**MOECC: Municipal water licences/wor**	**OMAFRA: Nutrient Management**	**MNRF: Aggregates – Fuel storage**	**MTO: Aggregates – Fuel storage**

	storage	Wastewater			olids	ks permits			
No changes made.	NO	NO	YES	YES	NO	NO	NO	NO	NO
If no changes made to business processes to integrate source protection, please explain the reason(s):	N/A	N/A	.		N/A	N/A	N/A	N/A	N/A
MOECC: Pesticides	Measures were implemented in 2015. Changes to the ministry's centralized data system (Integrated Divisional System IDS) for Pesticide Permit module were completed in 2017. This includes Source Protection Plan specific selections to facilitate extracting relevant source protection information from pesticide inspection reports. The modifications will enable automated tracking/reporting capabilities								
MOECC: Water Takings	The ministry has a centralized data system (Integrated Divisional System - IDS), which is an integrated information repository to record, process, review and approve Prescribed Instrument applications. The ministry has a project underway to develop a new Information Technology Platform for electronic applications. The proposed source protection-related data input fields for approvals will allow for streamlined tracking of the prescribed instruments that are subject to source protection plan policies. The project is expected to be implemented in 2018. Source protection water quantity vulnerable area data has recently been made available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits within source protection water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19. The ministry has a Source Water Protection Information Atlas, including a mapping tool, in Geocortex platform that will allow staff to search a location for source protection water quantity vulnerability and follow the links to source protection plan policies and threats tool to find out if water taking is a drinking water threat and need to be managed using Permits To Take Water. Source protection layers have also been added to regional ArcGIS. The ministry has provided access and training to technical staff regarding the map tools								

	and the Tier 3 water budget so that they have better understanding of the Tier 3 Water Budget and local risk assessment results. The ministry also plans to develop guidance material for proponents and qualified persons about using the source protection water budget science (including the input data, model and results) in their preparation of applications and for the Permit To Take Water decision-making process, particularly those for higher risk groundwater takings. In April 2016, the ministry developed a new Standard Operating Policy (SOP #PTTW-SP-PI-02) that updated the Standard Operating Policy that took effect January 2015. A summary of the ministry's Standard Operating Policies was published on the EBR in April 2015 (EBR #012-2968) and continues to be available. While the Standard Operating Policies summary from 2015 noted the ministry had determined instrument changes were not required to address the Permit To Take Water instrument policies, this new Standard Operating Policy provides staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) and new Permit To Take Water applications to conform with the source protection plan prescribed instrument policies where a water taking is or would be a significant water quantity threat (SDWT). To operationalize the Standard Operating Policy, the ministry initiated a training program in September 2016.

Question 12

Provide a brief description of each provincial ministry's process for ensuring PI decisions for incoming PI applications (new or amendments) conform with the significant drinking water threat PI policies applicable to each SPR/A (i.e., a description of the screening process in place) in the table below.

Ministry Program Area	Description
MOECC: Waste Disposal Sites – landfilling and storage	Since May 2015, the ministry has been screening environmental compliance approval (ECA) applications for waste disposal site activities to determine if the activity is located in an area where the activity could be a significant drinking water threat. This is called the primary screening. The vulnerable areas are the following: A wellhead protection area or intake protection zone with a vulnerability score of 8 or higher, an issues contributing area, or an event-based area. If any of the above criteria apply, the ECA application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy (SOP) is applied. As legally required, where a source protection policy that relies on a prescribed instrument to prohibit an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. It should be noted that an ECA application may also be refused for reasons outside of source protection policies. Where a source protection plan policy outcome is to manage the activity for a waste disposal site, the

	ministry will conform to the policy by continuing to apply protective requirements under the Environmental Protection Act, the Environmental Assessment Act, and existing regulations, policies, and guidelines. New waste disposal ECAs include stringent terms and conditions that consider the protection of drinking water sources, such as requirements for: - buffer lands, and appropriate setbacks from wellheads or intake zones; - financial assurance (for privately owned sites) to ensure that if a proponent is unable or unwilling to meet their responsibilities for the site or if the site is abandoned, the site is properly closed and maintained to ensure it does not pose a risk to the environment, including drinking water sources. In addition to the SOP, we have provided detailed guidance to affected municipalities Source Protection Information Bulletin: Environmental Compliance Approvals for Waste Disposal Sites (2015). The ministry emailed this draft information bulletin to municipalities affected by source protection plans in early June, 2015. A public version of all MOECC program area SOPs was posted on the EBR on April 1, 2015 under EBR #012-2968.
MOECC: Sewage works/wastewater	Since January 2015, every application for a new or amended prescribed instrument goes through a primary screening to determine if the activity associated with the application is located in one of the following: A wellhead protection area or intake protection zone with a vulnerability score of 8 or higher, an issues contributing area, or an event-based area. If any of the above criteria apply, the prescribed instrument application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy is applied. As legally required, where a source protection policy that relies on a prescribed instrument to prohibit an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. Source protection policies may be just one of the reasons an application is denied. Where a source protection plan policy outcome is to manage a significant threat to drinking water sources through the prescribed instrument for sewage works, the ministry is meeting the policy's obligations by including design and operational measures in an Environmental Compliance Approval. To assist in the implementation of this approach, anyone subject to policy requiring management of a significant drinking water threat is required to include in their application a description of the measures necessary to protect drinking water and submit a Source Protection Supplementary Report to outline how the activity for the sewage works will be managed so that the activity will not become a significant drinking water threat. As a precautionary and pollution prevention approach is fundamental to the design of all sewage works, additional measures are assessed on a site specific basis. In addition to this, sewage works that pose a significant threat to drinking water which are also eligible for the Transfer of Review Program require that the letter of recommendation from the municipality outline that the works was reviewed in accordance with the Clean Water Act and the local Source Protection Plan and is and will no longer pose a significant threat to drinking water as a result of the measures identified by the proponent and with appropriate ECA terms and conditions, if approved. In addition to the standard operating policies, we have provided detailed guidance to affected municipalities Source Protection Information Bulletin: Environmental Compliance

	Approvals for Sewage Works (2015). The ministry emailed this draft information bulletin to municipalities affected by source protection plans in early June, 2015. A public version of all MOECC program area standard operating policies was posted on the Environmental Registry on April 1, 2015 under EBR #012-2968.
MOECC: Pesticides	Since January 2015, every application for a new or amended prescribed instrument goes through a primary screening to determine if the activity associated with the application is located in one of the following: A land application of pesticides in a source protection area that includes any of the pesticide ingredients from the Tables of Drinking Water Threats under the Clean Water Act, 2006, A wellhead protection area or intake protection zone with a vulnerability score of 8 or higher, If any of the above criteria apply, the prescribed instrument application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy is applied. As legally required, where a source protection policy that relies on a prescribed instrument for implementation prohibits an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. Source protection policies may be just one of the reasons an application is denied. When issuing pesticide permits for the application of pesticides on land in areas where this activity would be considered a significant drinking water threat, the ministry is including the following terms and conditions as per the standard operating policy: ensure the permit includes appropriate terms and conditions that address emergency response measures and spill contingency plans for any pesticide mixing, loading, and handling related to the proposed pesticide treatment which are protective of drinking water sources ensure the permit includes applicable terms and conditions related to site specific setbacks to watercourses, timing restrictions (including consideration of weather events) and spills/runoff management or other measures necessary to manage the significant threat activity in order to protect sources of drinking water.
MOECC: Water Taking	As part of the current Permit To Take Water review and decision making process, the ministry is using the best available science to assess the sustainability and potential impacts to municipal drinking water systems, other users, and the natural and built environments. The ministry is working to fully operationalize the new Standard Operating Policy. As per the Standard Operating Policy, the ministry staff are required to consider the information and conclusions of Tier 3 Water Budgets in addition to the site specific technical information provided in the support of the application for the purposes of incorporating Source Protection Plan policies into the Permit To Take Water review and decision making process.
MOECC: Hauled	Since January 2015, every application received by MOECC District/Area offices for a new or amended hauled sewage or biosolid spreading site prescribed instrument goes through a source protection screening performed Southwest Region staff to determine if the

sewage/biosolids	activity associated with the application is located in any of the following areas where the land application and/or storage of hauled sewage or Processed Organic Waste could be considered to be a significant drinking water threat, this includes sites located within: A wellhead protection area with vulnerability score of 10, an intake protection zone with vulnerability score of 8 or higher an issues contributing area linked to pathogens, phosphorus or nitrates If necessary, the prescribed instrument undergoes a more detailed screening (performed by southwest region or Source Protection Programs Branch) to help confirm the potential threat level of the operation at the site in question. Once the appropriate potential threat classification is determined the applicable standard operating policy is applied. As legally required, where a source protection policy that relies on a waste disposal site prescribed instrument issued under the Environmental Protection Act for implementation prohibits an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an approval for the activity in that area. Source protection policies may be just one of the reasons an application is denied. Note that an approval may still be issued for those portions of the site where the activity is not considered to be a significant drinking water threat. For applications proposing to apply or dispose of untreated hauled sewage (e.g. waste from septic tanks and holding tanks, etc.) to land in areas where this activity would be a significant drinking water threat, the ministry is not issuing an approval, even if a source protection plan policy allows for managing the threat through the environmental compliance approval. Note that an approval may still be issued for those portions of the site where the activity is not considered to be a significant drinking water threat. MOECC is responsible for regulating the land application of Processed Organic Waste (e.g. digested sewage biosolids, processed organic food waste, pulp and paper biosolids, off-spec composts and other organic wastes etc) on non-agricultural sites. At these sites, Processed Organic Waste storage and land application is regulated with an Organic Soil Conditioning Site environmental compliance approval issued under Part V of the Environmental Protection Act. To be consistent with O. Reg. 267/03 under the Nutrient Management Act, for applications seeking to store or land apply biosolids within 100 metres of a municipal well, the ministry is not issuing any approval for the land application or storage of this material regardless of the policy in the local source protection plan. Outside this zone, where the policy outcome is to manage the threat, MOECC is taking a local approach to any approvals for the land application or storage of this material.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Applications are screened to determine if fuel storage or handling activities are being proposed or altered. Such applications are reviewed in detail to ensure conformance with significant drinking water threat policies. In addition, where fuel storage and handling has been identified as significant threat in a drinking water system and conditions have been added to the prescribed instrument (municipal drinking water licence), all applications received for that system are screened in detail to ensure that fuel storage and handling activities remain in conformance with significant drinking water threat policies.

OMAFRA: Nutrient Management	Each new prescribed instrument application and application for amendment to exiting prescribed instruments that is received goes through a detailed screening for source water protection policies. The farm has a municipal tax roll number associated with it that is searched using a Geographic Information System (GIS) mapping application. Once the farm is located, several source water protection layers are turned on to determine if any policies apply to the area. If not, the review carries on as normal. If policies may apply then the vulnerability score is determined to see if the activity is a significant drinking water threat, and if so, we determine what policies apply and add applicable conditions, if necessary, to the prescribed instrument approval.
MNRF: Aggregates (Fuel storage)	MNRF Aggregate Inspectors have received an overview of Source Protection and applicable Source Protection policies and have been instructed to screen new applications and amendments using the mapping tool developed by MOECC. To ensure decisions made on PI applications conform with significant drinking water threats policies, all new aggregate licence and permit applications submitted to MNRF must be circulated to the Upper and Lower Tier Municipality for review and comment. In addition, all new licence applications must be circulated to the local Conservation Authority for review and comment. All new aggregate licences and permits issued since 1997 contain conditions prescribed in regulation that require a Spills Contingency Program to be developed prior to site preparation and that all fuel storage tanks must be installed and maintained in accordance with the Liquid Fuels Handling Code. All new aggregate licences and permits must also identify the location of existing and proposed fuel storage areas on the site plan. In addition, the site plans also identify the elevation of the water table and regulate extraction depths. All new aggregate licence and permit applications that propose to extract below the water table must complete a Hydrogeological Level 1 Report to determine the potential for adverse effects to groundwater and surface water resources and their uses. If the results of the Level 1 Report identify a potential for adverse effects, an impact assessment (Hydrogeological Level 2 Report) is required to demonstrate the significance of the effect and feasibility of mitigation. A Hydrogeological Level 2 Report must be completed by a qualified person and address the items specified in the Aggregate Resources of Ontario Provincial Standards (e.g. water wells, groundwater aquifers, springs, surface water courses and bodies). Monitoring programs or mitigation measures identified in the technical reports are written into the site plan to ensure their implementation and enforceability. A new licence or permit application in which a Level 2 Hydrogeological Report was completed must be circulated to the MOECC.
MTO: Aggregates -road construction (Fuel storage)	For applications that propose to extract material above the water table the permit application process includes the preparation of a water table summary report and/or hydrogeological studies undertaken by a Professional Engineer or Professional Geoscientist. Applications that propose extraction of aggregate material below or near the water table require a Level 1 Hydrogeological Report to determine the potential for adverse effects to groundwater and surface water resources and their uses. A Level 2 Hydrogeological

	Report is required if a potential for adverse effects is identified by the Level 1 Report. The Level 2 Report must demonstrate the significance of the effect and feasibility of mitigation, and is completed by a professional that is qualified to address items specified in the Aggregates Resources of Ontario Provincial Standards (AROPS). Any required monitoring programs or mitigation measures that result are incorporated into the site plans. In accordance with the mandatory requirements of the AROPS, all new aggregate and wayside permit applications must be circulated to the Upper and Lower Tier Municipality for review and comment. The Ministry of the Environment and Climate Change is sent those permit applications that require the completion of a Level 2 Hydrogeological Report for review. Feedback provided back to MTO is considered in the application review and approvals process.

Question 13

Provide a brief description of the approach each provincial ministry is taking for incoming PI applications (new or amendments) to have regard to any moderate and/or low drinking water threat policies that rely on PIs.

N/A

Question 14

Complete the tables below to assist with tracking decisions made on incoming PI applications (new and amendments) for significant drinking water threat activities indicated. The tables below can be completed by the data provided by the applicable ministries through their respective PI electronic/paper reporting forms. The data in the tables are the annual counts of actions taken on incoming applications (i.e., not the cumulative count).

MOECC: Waste disposal site – landfilling and storage (transfer/processing sites)

Number of applications that underwent detailed review for source protection	Number of PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Sewage works/wastewater

Number of applications that underwent detailed review for	Number of PIs issued where SDWT is managed	Number of PIs refused because SDWT is

source protection	through conditions	prohibited
0	0	0

MOECC: Pesticides

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
1	0	0

MOECC: Water Taking

Number of applications that underwent detailed review for source protection	Number of PIs issued in WHPA Q1 where SDWT is managed through conditions
0	0

MOECC: Hauled Sewage

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Biosolids (Processed Organic Waste)

Number of applications that underwent detailed review	Number of decisions made where PIs issued where SDWT is	Number of PIs refused because SDWT

for source protection	managed through conditions	is prohibited
0	0	0

MOECC: Municipal Drinking Water Licences and Drinking Water Works Permits (Fuel storage)

Number of applications that underwent detailed review for source protection	Number of PIs issued where SDWT is managed through conditions
0	0

OMAFRA: Nutrient Management Strategies (NMS)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

OMAFRA: Non-Agricultural Source Material (NASM) Plans

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Licenses (AL)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Permits (AP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MNRF: Aggregates (Fuel storage) – Site Plans/Wayside Permits (WP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MTO: Aggregates – road construction (Fuel storage) – Site Plans/Wayside Permits (WP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

Question 15

Provide a brief description of each provincial ministry's process for ensuring PIs that were previously issued or otherwise created before the plan took effect (i.e., existing PIs) conform with the significant drinking water threat policies in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	The ministry is currently identifying existing instruments where a waste disposal sites is located in an area that could be a significant drinking water threats activities. If an approved activity is deemed a significant drinking water threat, the ministry will review the activity and the environmental compliance approval to determine if changes are needed to meet the intent of the source protection policies. The ministry addresses drinking water threat activities that are regulated by ministry approvals and permits on a consistent province-wide basis and as such intends to review within 3 years from the time the plan took effect and amended within 12 months of the review, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
MOECC: Sewage works/wastewater	Ministry staff have developed a screening process to identify previously issued Environmental Compliance Approvals for sewage works located in vulnerable areas where prescribed instrument policies may apply. If an approved activity is deemed a significant drinking water threat, the ministry will review the Environmental Compliance Approval to determine if the terms and conditions of the approval are protective of drinking water sources. If updates to an approval are required, the ministry will contact the owner/operator of the works or site to discuss the next steps. The ministry addresses drinking water threat activities that are regulated by ministry approvals and permits on a province-wide basis and as such intends to review within 3 years from the time the plan took effect and amended within 12 months of the review, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
MOECC: Pesticides	
MOECC: Water Taking	
MOECC: Hauled sewage/biosolids	MOECC Standard Operating Policy for the Permit To Take Water program was developed in 2016. The Standard Operating Policy provides the staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) Permits To Take Water and new Permit To Take Water applications to conform with the source protection prescribed instrument

	policies where a water taking is or would be a significant water quantity threat (significant drinking water threat - i.e., water takings without returning the water taken to the same aquifer). To date the only existing (i.e., previously issued) permits within a WHPA-Q1 with a significant stress/risk level are the permit(s) for the municipal taking. The Ministry will support municipalities as they work to determine if management measures are required for the long term sustainability of their taking. At this time, formal amendments to existing Permits To Take Water have not been initiated.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	The Ministry has undertaken an exercise to identify all high risk fuel storage and handling associated with municipal residential drinking water systems. Where fuel storage and handling is a significant threat, conditions have been added to the prescribed instrument (municipal drinking water licence) to address fuel storage risk.
OMAFRA: Nutrient Management	OMAFRA has identified the existing prescribed instruments that will need to be reviewed. The existing date was determined to be January 1, 2016 as this is when we were confident that our process was detailed enough for reviewing all new prescribed instruments. Every owner of a prescribed instrument has been contacted and informed that they have a nutrient management strategy or a Non-Agricultural Source Material (NASM) plan in an area to which local source water protection policies may apply. They must work with a certified person to evaluate their prescribed instrument, make any necessary modification to address local source water protection policies and resubmit the instrument for approval. OMAFRA will evaluate the amended prescribed instrument and issue an approval with conditions when the prescribed instrument is complete, compliant with Ontario Regulation 267/03 and conforms with significant drinking water threat policies.
MNRF: Aggregates (Fuel storage)	MNRF is in the process of reviewing existing instruments under the Aggregate Resources Act (e.g. licences and permits which authorize pits and quarries) issued prior to the effective date of the Source Protection Plan to determine if the applicable sites are storing and handling fuel in the vulnerable areas identified in the policy.
MTO: Aggregates -road construction (Fuel storage)	There were no existing prescribed instrument applications affected by source protection policies. All (existing and future) MTO aggregate/wayside permits, as well as existing dormant permits activated for a provincial highway contract, must contain fuel handling and storage conditions in the site plan, as prescribed by regulation. This includes installation of fuel storage tanks in accordance with the CSA B139 Installation Code for Oil Burning Equipment and compliance with the strict conditions specified by the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handing Code, 2007, as amended. Furthermore, MTO does not allow permanent or long term storage of fuel at MTO permit sites. Such requirements ensure the activity is managed

	in a manner that reduces the risk of contamination.

Question 16

The tables below assist with tracking the actions taken on previously issued (i.e., existing) PIs for significant drinking water threat activities indicated. The tables below can be completed using the data provided by the applicable ministries through their respective PI electronic/paper reporting forms. The data in the tables are reported on a cumulative basis meaning the counts are provided as a running tally of actions taken on previously issued or otherwise created PIs since the effective date of the SPP.

MOECC: Waste disposal site – landfilling and storage(transfer / processing sites)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
1	0	1	0	0	0	0	1	100%

MOECC: Sewage works/wastewater

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)

0	0	0	0	0	0	0	0	-

MOECC: Water Taking

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	0	0	0	0	0	0	-

MOECC: Municipal Drinking Water Licences and Drinking Water Works Permits (Fuel storage)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	1	0	0	0	0	1	100%

OMAFRA: Nutrient Management Strategies (NMS)

Number of PIs	Number of PIs	Number of PIs	Number of	Number of PIs where	Number of	Final	Total number of PIs reviewed	Cumulative Progress

that completed detailed review (column A)	determined to be a SDWT (column B)	determined not to be a SDWT (column C)	PIs amended or replaced (column D)	no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	PIs revoked (column F)	Decision Pending (column G)	and on which actions taken (columns C+D+E+F+G)(column H)	Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

OMAFRA: Non-Agricultural Source Material Plans (NASM Plans)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	0	0	0	0	0	0	-

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Licenses (AL)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)

NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Permits (AP)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MNRF: Aggregates (Fuel storage) - Site plans/Wayside Permits (WP)

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MTO: Aggregates – road construction (Fuel Storage) - Site plans/Wayside Permits (WP)

Number of PIs that completed	Number of PIs determined to	Number of PIs determined not	Number of PIs	Number of PIs where no additional	Number of PIs	Final Decision	Total number of PIs reviewed and on which actions taken	Cumulative Progress Made (%) on PIs

detailed review (column A)	be a SDWT (column B)	to be a SDWT (column C)	amended or replaced (column D)	conditions were needed (i.e., existing terms and conditions sufficient) (column E)	revoked (column F)	Pending (column G)	(columns C+D+E+F+G)(column H)	reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

Question 17

For the purposes of section 61 of O. Reg. 287/07 (exemption from RMP policy), complete the table below to indicate the number of notices or PIs issued by the applicable provincial ministries that state the PI conforms to the significant drinking water threat policies in the SPP (i.e., statement of conformity confirms the instrument holder is exempt from requiring a Risk Management Plan). Also, state the prescribed drinking water threat activity to which the statements of conformity pertain. (NOTE: May apply to instruments under the Safe Drinking Water Act, Pesticides Act, Nutrient Management Act or Aggregate Resources Act).

Response: 0

Question 18

In situations where a provincial ministry does not issue or create the prescribed instrument, briefly describe what is being done by the ministry to ensure the PI conforms with the significant threat policies that use the PI tool. (NOTE: Applicable to only certain OMAFRA instruments issued under the Nutrient Management Act.)

Response: Guidance is currently being developed for RMOs, farmers and certified individuals that prepare NMPs to use to help determine if a PI conforms to the SDWT policies.

Prescribed Instruments - Inspections and Compliance - Questions 19 - 21

Question 19

Briefly describe how provincial ministry staff involved in inspections related to PIs have been trained in source protection for each of the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	Training: Online Training, Provincial Officer designation training, Source Protection Program Branch training, Specific program area inspections training. Environmental Officers need to complete extensive training programs and acquire Provincial Officer designation for the purpose of regulating and enforcing compliance under the Environmental Protection Act, Ontario Water Resources Act, Environmental Assessment Act, Nutrient Management Act and Pesticides Act. Starting in late 2014, general training on source protection, as well as Operations Division's implementation activities, was delivered to staff at large. Training sessions were held in each Region, and all staff were invited to attend. All new Environmental Officers are required to complete MOECC Foundations training, where they receive general Source Protection training that covers the following topics: Clean Water Act, scope of source protection program, source protection program structure and process, key players, assessment reports, source protection plans, risk management plans, vulnerable areas, water budgets and water quantity vulnerability analysis, prescribed drinking water threat activities, conditions and local threats, source protection tools, prescribed instrument and monitoring policies etc. Environmental Officers need to follow the ministry Inspection Guidance Manuals that outline the roles and responsibilities for provincial officers in conducting inspections. The General Inspection Guidance Manual (Part A) is intended to assist in carrying out all types of inspections. The specific Inspection Guidance Manuals (Part B) have been generated for individual inspection types including waste disposal site inspections.
MOECC: Sewage works/wastewater	Training: Online Training, Provincial Officer designation training, Specific program area inspections training, Technical guidance. Field officers who assess compliance with sewage prescribed instruments have received annual training specific to sewage works which may be, or are confirmed to be, a significant drinking water threat. Updated guidance, technical reference material and assistance when conducting inspections at sewage works with source water protection considerations is provided to all field inspectors.
MOECC: Pesticides	Training: Source Protection Program Branch training, Specific program area inspections training. Regional Pesticide Specialists were also trained in 2014 and keep current with program developments and changes. Source Protection Programs Branch delivered training to Operations Division District Offices in the Fall of 2014 and new/updated training in the fall of 2017. Regional Pesticide Specialists continue to provide technical support related to pesticide inspections to District Offices.

MOECC: Water Taking	Training: Online Training, Peer Training, Provincial Officer designation training, Source Protection Program Branch training, Specific program area inspections training, Technical guidance, Workshops. Environmental Officers need to complete extensive training programs and acquire Provincial Officer designation for the purpose of regulating and enforcing compliance under the Environmental Protection Act, Ontario Water Resources Act, Environmental Assessment Act, Nutrient Management Act and Pesticides Act. Starting in late 2014, general training on source protection, as well as Drinking Water and Environmental Compliance Division implementation activities, was delivered to staff at large. Training sessions were held in each Region, and all staff were invited to attend. All new Environmental Officers are required to complete MOECC Foundations training, where they receive general Source Protection training that covers the following topics: CWA, scope of SP program, SP program structure and process, key players, assessment reports, source protection plans, risk management plans, vulnerable areas, water budgets and water quantity vulnerability analysis, prescribed drinking water threat activities, conditions and local threats, source protection tools, prescribed instrument and monitoring policies etc. Environmental Officers need to follow the ministry Inspection Guidance Manuals that outline the roles and responsibilities for provincial officers in conducting inspections. The General Inspection Guidance Manual (Part A) is intended to assist in carrying out all types of inspections. The specific Inspection Guidance Manuals (Part B) have been generated for individual inspection types including the Permit To Take Water Inspection. There is an hour long online training module for Environmental Officers on “How to conduct a Permit To Take Water Inspection“. This training is intended to prepare an Environmental Officer to conduct a thorough and accurate inspection and enable them to make more informed decisions about what information needs to be collected, reviewed, reported on, and included in a completed Permit To Take Water Inspection. Participants are be able to: • Find relevant Legislation, Policies, Procedures and Guidance Documents. • List the five key resources required to conduct a detailed file review. • Search IDS for all sources of information regarding water takers. • Search the Environmental Registry for information regarding water taking applications. • List the six steps to a successful Permit To Take Water Inspection. • Understand critical areas to inspect during a site visit to assess whether adverse impacts may be occurring from the water taking.
MOECC: Hauled sewage/biosolids	Training: Peer Training, Provincial Officer Designation training, Technical guidance. No special training in the Clean Water Act/Source Protection is necessary for MOECC staff conducting inspections under the Nutrient Management Act. Ministry of the Environment and Climate Change inspectors are not designated under the Clean Water Act and have no authority to conduct inspections or undertake any compliance promotion activities under that Act. Rather the prescribed instruments subject to inspection by MOECC Environmental Officers for the Agricultural Source Material (ASM) and

	Non-Agricultural Source Material (NASM) subprograms are issued under the Nutrient Management Act. MOECC inspectors are designated Provincial Officers under the Nutrient Management Act (among other legislation) who have received mandatory training in order to receive their designation. MOECC inspectors of Agricultural Source Material and Non-Agricultural Source Material sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Nutrient Management Act or other legislation such as the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders. It should be noted that general training sessions have been made available to MOECC field inspectors on the fundamentals of the Clean Water Act as well as Source Protection implementation activities undertaken by the Ministry; however, completion of this training is not mandatory prior for field officers conducting inspection activities. Finally, new provincial officials do receive general Source Protection training as part of their officer designation training. No special training in the Clean Water Act/Source Protection is necessary for MOECC staff conducting inspections at hauled sewage sites or processed organic waste (aka biosolids) sites. Ministry of the Environment and Climate Change inspectors are not designated under the Clean Water Act and have no authority to conduct inspections or undertake any compliance promotion activities under that Act. Rather the prescribed instruments subject to inspection by MOECC Environmental Officers for the hauled sewage and processed organic waste subprograms are issued under the Environmental Protection Act. All MOECC inspectors are designated Provincial Officers under the Environmental Protection Act (among other legislation) who have received mandatory training in order to receive their designation. MOECC inspectors of hauled sewage/processed organic waste sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders. It should be noted that general training sessions have been made available to MOECC field inspectors on the fundamentals of the Clean Water Act as well as Source Protection implementation activities undertaken by the Ministry; however, completion of this training is not mandatory prior for field officers conducting

	inspection activities. New provincial officials do receive general Source Protection training as part of their officer designation training. Finally, Source Protection information is included as part of the annual inspection guidance provided to field staff. Specifically, Source Protection information is incorporated into the risk ranked lists that are provided to inspectors.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Training: Online Training, Peer Training, Source Protection Program Branch training, Specific program area inspections training, Technical guidance, Workshops.
OMAFRA: Nutrient Management	
MNRF: Aggregates (Fuel storage)	Training: Peer Training, Source Protection Program Branch training, Specific program area inspections training, Workshops. MNRF Aggregate Inspectors have received an overview of Source Protection and their role in inspecting aggregate licences/permits within WHPA-A, WHPA-B and IPZ-1 zones and the screening of new applications and amendments with regards to Source Protection policies.
MTO: Aggregates -road construction (Fuel storage)	Training: Peer Training, Specific program area inspections training, Technical guidance, Workshops. MTO Aggregate inspectors are re-trained at least bi-annually as to the formal protocol to ensure that source water protection and vulnerable areas are considered in the preparation of technical hydrogeological reports at the permit application stage. Aggregate staff are also trained to use the standardized text with respect to fuel storage and handling. Aggregate inspectors are trained to focus on fuel handling and storage during annual compliance inspections. In May 2016, the MTO Highway Standards Branch (Soils and Aggregates Section) provided training to the MTO Regional Aggregate Sections and MTO Aggregate Inspectors on source water protection and implementation requirements of source protection policies prepared under the Clean Water Act, 2006 (CWA). The training will be repeated in 2018. The role of the source protection program and plan policies as well as their legal effect and operational implications are the focus of training. Training also includes an overview of prescribed threats (specifically fuel handling and storage) and the vulnerability science applied (WHPA, IPZ, etc.). The above protocol is reaffirmed and amendments to the protocol implemented.

Question 20

Briefly describe, in general terms, how source protection is taken into consideration when planning for and prioritizing inspections for the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	The ministry's current program delivery model for proactive compliance inspection program is based on risk analysis. During Year-Start Planning (February-March of each year), inspection priorities are set for each program area at by Divisional Program Leads. The ministry uses a risk based approach to setting each program's priorities for inspection. Program diagnostics and analyses are conducted as part of the yearly compliance planning process and help inform inspection priorities in the upcoming year. This information along with program specific risk factors is used to identify compliance priorities for each program area. Source protection vulnerability is generally considered as one of the risk factors during risk analysis. District/Area offices use the Integrated Plan direction in conjunction with their own local knowledge and consideration of available resources to select the number and locations of facilities/sites for inspections.
MOECC: Sewage works/wastewater	The MOECC's compliance program includes an annual process to plan field inspections for each fiscal year. Planned inspections are determined based on a risk based methodology including many factors such as individual potential for environmental impacts and site history. Source Protection considerations have been incorporated into this annual risk based inspection planning process for municipal, industrial, commercial and private sewage inspections as a priority area of focus. This ensures that the specific risks associated with potential drinking water threats are included when planning field inspections. The lists of known prescribed instruments issued in vulnerable areas and any that have been determined to be a significant threat are included and considered during compliance assessment planning and prioritization activities.
MOECC: Pesticides	Inspection guidance is provided to District Offices as part of the Integrated Planning process. Regional Pesticide Specialists provide technical assistance to District Officers when undertaking Pesticides Inspections.
MOECC: Water Taking	The ministry's current program delivery model for proactive compliance inspection program is based on risk analysis. During Year-Start Planning (February-March of each year), inspection priorities are set for each program area at by Divisional Program Leads. The ministry uses a risk based approach to setting each program's priorities for inspection. Program diagnostics and analyses are

	conducted as part of the yearly compliance planning process and help inform inspection priorities in the upcoming year. This information along with program specific risk factors is used to identify compliance priorities for each program area. Source protection vulnerability is generally considered as one of the risk factors during risk analysis. District/Area offices use the Integrated Plan direction in conjunction with their own local knowledge and consideration of available resources to select the number and locations of facilities/sites for inspections. SP water quantity vulnerable area data has recently been available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits located within SP water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19.
MOECC: Hauled sewage/biosolids	The MOECC carries out annual proactive inspections at agricultural operations operating under approved Nutrient Management Strategies, Plans and Non-Agricultural Source Material (NASM) Plans. Each year regulated operations are identified and each one is assigned an overall risk score. Several risk factors are considered and these vary somewhat depending on the sub-program involved; among the risk factors considered is Source Protection vulnerable area information. Sites that intersect with source protection vulnerable areas with the highest risk scores (ie. scores of 8 or greater) are assigned relatively higher inspection priority risk scores. This approach ensures that sites where regulated activities may be considered a significant drinking water threat are identified amongst the highest priority for inspection. Districts offices are instructed to select inspection targets from the risk ranked lists and are encouraged to select higher priority sites. Districts are responsible for the ultimate decision of which sites they chose to inspect and they rely on their local knowledge when making their final choices. The MOECC carries out annual proactive inspections at hauled sewage sites and processed organic waste sites. Each year regulated operations are identified and each one is assigned an overall risk score. Several risk factors are considered and these vary somewhat depending on the sub-program involved; among the risk factors considered is Source Protection vulnerable area information. Sites that intersect with source protection vulnerable areas with the highest risk scores (ie. scores of 8 or greater) are assigned relatively higher inspection priority risk scores. Districts are responsible for the ultimate decision of which sites they chose to inspect and they rely on their local knowledge when making their final choices. However, they are provided the risk ranked lists as a resource and are encouraged to select higher priority sites.
MOECC: Municipal drinking water licences/works permits	Safe Drinking Water Branch does not prioritize Municipal Drinking Water System inspections strictly based on source protection as the branch is mandated by the Compliance and Enforcement Regulation to inspect all municipal residential systems every

(Fuel storage)	year, without exception.
OMAFRA: Nutrient Management	NULL
MNRF: Aggregates (Fuel storage)	MNRF utilizes a risk based compliance approach to plan for aggregate inspections based on a scale of High, Medium and Low priority. Licences and Permits that fall within source protection policy areas and/or have fuel storage within areas identified by a source protection policy are considered High Risk for the purposes of planning for inspections.
MTO: Aggregates -road construction (Fuel storage)	All MTO permit sites are inspected every year by MTO staff and fuel storage is one of the prescribed elements that must be checked as part of the formal written compliance audit.

Question 21

Briefly describe, in general terms, how each ministry program area ensures PI holders comply with their instrument for the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, Voluntary abatement measures.
MOECC: Sewage works/wastewater	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, Voluntary abatement measures.
MOECC: Pesticides	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Referral to internal investigations department, Self reporting, Voluntary abatement measures.

MOECC: Water Taking	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, Self reporting, Voluntary abatement measures. The ministry conducts planned inspections to assess compliance of a water taking activity against the terms and conditions of an active Permit To Take Water and related regulatory requirements. Inspections also assess conformance to applicable policies, guidelines and procedures. Ministry staff may also conduct reactive inspections if they become aware of a complaint or concern linked to a particular site. Where a Permit To Take Water inspection finds non-compliance, Incident Response reporting and related abatement action will commence. Various approaches may be used by inspectors to require proponents to bring an operation into compliance with legal requirements including: Voluntary abatement, Issuance of Order or Ticket, Referral to the Ministry's Investigation and Enforcement Branch with a recommendation to undertake a prosecution The approach taken by the inspector will depend on the severity and nature of the violation as well as the compliance history of the party in question. Inspectors may refer to the Ministry's following documents to assist them in determining the most appropriate compliance approach in any particular instance: General Inspection Guidance Manual Part A, Inspection Guidance Manual Part B, Permit To Take Water, Compliance Policy: Applying Abatement and Enforcement Tools
MOECC: Hauled sewage/biosolids	Processes in place: Inspection, Order, Referral to internal investigations department, Voluntary abatement measures, Provincial offense notice (ticket). The ministry conducts inspections at agricultural operations to assess compliance with regulatory requirements. Ministry staff may also conduct reactive inspections if they become aware of a complaint or concern linked to a particular operation. Where non-compliance with prescribed instrument requirements or other regulatory requirements are identified the ministry takes action to bring sites into compliance. Various approaches may be used by inspectors to ensure proponents bring an operation into compliance with legal requirements. MOECC inspectors of hauled sewage/processed organic waste (aka biosolids) sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders.
MOECC: Municipal drinking water licences/works permits	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Referral to internal investigations department, Voluntary abatement measures. Municipal drinking water systems are inspected annually to confirm

(Fuel storage)	compliance with the requirements set out in their prescribed instrument (Municipal Drinking Water Licence and Drinking Water Works Permit).
OMAFRA: Nutrient Management	NULL
MNRF: Aggregates (Fuel storage)	Processes in place: Inspection, Primary/Secondary screening of PI Applications/Amendments, Self reporting.
MTO: Aggregates -road construction (Fuel storage)	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Self reporting. Every MTO permit site, whether active or not, is inspected annually by MTO aggregates staff and a Compliance Assessment Report is filed with the MTO for the purpose of assessing compliance with the Aggregate Resources Act, Regulations, AROPS, the site plan, and any conditions of the permit. Fuel storage is one of the prescribed elements that is verified in the compliance assessment. When an MTO permit is actively being used by an MTO contractor, MTO Aggregate Inspectors have the legal authority to verify and enforce compliance with site plan and operational requirements, including fuel storage conditions. Contract Administrators are also required to verify that site plan conditions are being adhered to for the duration of an MTO contract.

Land Use Planning - Questions 22 - 23

Question 22a

Where the Ministry of Municipal Affairs (MMA) is the planning approval authority for day-to-day *Planning Act* decisions within source protection areas, or where MMA is the approval authority for the official plan and zoning by law conformity exercises municipalities are required to undertake, please provide a description of how MMA ensures their *Planning Act* decisions conform with the approved source protection plans (specifically, the policies on List A - Significant threat policies that affect decisions under the *Planning Act* and *Condominium Act*, 1998)?

Response: Through the review and approval of Official Plans, MMA, in consultation with MOECC, ensures Official Plan policies conform to the significant drinking water threat policies and have regard to other policies. In addition, MMA ensures designated vulnerable areas, as identified in approved assessment reports are identified in Official Plan schedules and protected, improved or restored as is required to be consistent with the Provincial Policy Statement.

Question 22b

In what other ways does MMA integrate source protection considerations into their business or operational processes? Please provide a brief description of each.

Response: MMA takes source protection into consideration in its review of new planning documents (official plans, comprehensive zoning bylaws) and development applications as applicable.

Question 23a

In total, how many municipalities (including upper-, lower-, and single-tier) within the SPR/A are required to complete:

i) Official Plan (OP) conformity exercises for source protection?

Response: 1

ii) Zoning by-law (ZBL) conformity exercises for source protection?

Response: 1

Question 23b

Of these municipalities, how many have:

i) how many have completed their OP conformity exercise

Response: 0

ii) completed OP conformity exercise but under appeal

Response: 0

iii) OP conformity exercise in process

Response: 1

iv) not started their OP conformity exercise

Response: 0

v) completed their ZBL conformity exercises

Response: 0

vi) completed ZBL conformity exercise but under appeal

Response: 0

vii) ZBL conformity exercise in process

Response: 0

viii) not started their ZBL conformity exercise

Response: 1

Education and Outreach - Question 24 - 26

Question 24a

(i) What method(s) are being used to implement E&O policies in the SPR/A? 0

Method	Municipality	Ministry
Development and distribution of educational materials for general public	YES	NO
Development and distribution of educational materials for target audiences including developers, builders, landowners, farmers, etc.	YES	NO
In-person workshops	YES	NO
Site visits	YES	NO
Source protection content for websites	YES	NO
Educational videos (e.g., YouTube	NO	NO
Podcasts	NO	NO
Collaboration with other bodies (e.g., ministries, local organizations, etc.	NO	NO
Other	NO	NO

ii) Identify the ways in which outreach efforts were conducted to reach target audiences about source water protection? Choose all that apply.

Method	Municipality	Ministry
Social media promotion	NO	NO
Traditional media advertising	NO	NO
Site visits	YES	NO
Integration with other outreach programs or campaigns (e.g., Community Environment Days, etc.)	NO	NO

Articles in publications	NO	NO
Information kiosks at events/festivals	NO	NO
Other	NO	NO

Question 24b

i) Describe how the SPA is evaluating the implementation of its E&O policies?

Oxford County

No formal evaluation criteria has been set. When we meet with impacted property owners we ask whether they've heard about the SWP program to gauge what level of knowledge they have.

Catfish Creek SPA

The SPA has been sharing E&O knowledge and information through Lake Erie Region's Implementation Working Group, however no formal evaluation process has been established.

Question 25

What did the E&O policy(ies) that were implemented target in the SPR/A?

Response: Threats (significant)

Signage - Question 27

Question 27

Complete the table below to indicate the number of source water protection signs that have been installed in the SPR/A for the reporting periods noted.

REPORTING PERIOD	Number of signs installed on provincial highways (Column A)	Number of signs installed on municipal roads (Column B)	Number of signs at other locations (if applicable) (Column C)	Total
Year 1 (from effective date of SPP to December 31 of same year)	0	0	0	0
Year 2 (January 1 to December 31 of calendar year following Year 1)	0	0	0	0
Year 3 (January 1 to December 31 of calendar year following Year 2)	0	0	0	0
Year 4 (January 1 to December 31 of				

calendar year following Year 3)				

Incentives - Question 28, 29

Question 28

If applicable to the SPR/A, complete the table below indicating the type of incentive(s) (e.g., PI application fees waived, funding, other non-financial incentives, etc.) that was made available (whether as a policy in the SPP or not), the source that provided the incentive(s), the prescribed drinking water threat activity(ies) to which it relates, the degree to which the incentive(s) assisted with the implementation of SPP policies that address significant drinking water threat activity(ies), and include any comments..

Type of Incentive	Source of Incentive	Prescribed Drinking Water Threat(s) (Select One or More)	Degree to which Incentive(s) Assisted with the Implementation of SPP Policies Addressing SDWTs	Comments
Funding	Municipality	- ASM application/storage - NASM application handling/storage - Commercial fertilizer application/ handling/storage - Pesticide application/handling/ storage - Fuel handling/storage - DNAPL handling/storage - Organic solvent handling/ storage - livestock grazing etc.	Significant/large degree	Incentive funding was available, but not needed by any of the impacted properties

Sewage System Inspections - Questions 30a, 30b, 30c

Question 30a

How many on-site sewage systems in the SPA require inspections in accordance with the Ontario Building Code (OBC) (i.e., once every five years)?

Response: 9

Question 30b

Of these, how many on-site sewage systems were inspected (i.e., cumulative running tally of systems inspected?

Response: 9

Question 30c

How many of the on-site sewage systems inspected required:

Minor maintenance work (e.g., pump out)?

Response: 0

Major maintenance work (e.g., tank replacement)?

Response: 0

Environmental Monitoring - Questions 31

Question 31

If applicable to the SPR/A, complete the table below where information about drinking water issues is available. Begin by identifying the drinking water system(s) and any associated drinking water issue(s)/parameter(s) (chemical or pathogen) that have been identified, then indicate whether an Issue Contributing Area (ICA) was delineated for the identified issue(s), and any observations in the concentration or trend for each issue.

Drinking Water System	Drinking Water Issue / Parameter	ICA Delineated For This Issue	Observations	Actions/Behavioural Changes Contributing to Change in Observations (Optional)
N/A	N/A	N/A	N/A	N/A

Transport Pathways - Questions 32 - 34

Question 32a

How many notices about transport pathways (meaning a condition of land resulting from human activity (e.g., pits and quarries, improperly abandoned wells, geothermal system, etc.) that increases the vulnerability of a raw water supply of a drinking water system) did the SPA receive from municipalities in this reporting period (as per O. Reg. 287/07, ss. 27(3))?

Response: 0

Question 32b

What actions did the SPR/A take as a response to receiving these notices (e.g., SPR/A provided information to municipalities about changes in vulnerability, etc.)? Please describe below.

Response: N/A

Question 33

Provide specific information on actions taken by any person or body to reduce the impacts that transport pathways could have on sources of drinking water (e.g., number of wells properly abandoned by municipalities and/or private landowners in accordance with O. Reg. 903, etc.)?

Response: No actions this reporting period.

Municipal Integration - Questions 35 - 38

Question 35a

In total, how many municipalities (including upper-, lower-, and single-tier) within the SPR/A are subject to SPP policies (any policy tool)?

Response: 1

Question 35b

Complete the table below by indicating the number of municipalities (including upper-, lower-, and single-tier) within the SPR/A that have integrated/are integrating source protection knowledge/science into the following municipal program areas/activities.

Municipal Program Areas/Activities	Number of municipalities that have integrated/are integrating source into program areas/activities
Road salt storage/application	0
Snow storage	0
Pesticide storage/application	0
Hazardous waste storage	0
Organic solvents storage	0
Municipal fuel storage (e.g., for heating, maintenance vehicles, etc.)	1
Municipal well maintenance and operations	1
Municipal water quantity	1
Stormwater infrastructure maintenance	0
Other. Please provide a description below.	0

Question 36a

Of the total number of municipalities within the SPR/A that are subject to SPP policies and have a legal responsibility for day-to-day land use planning or municipal building permit decisions, how many are integrating source protection requirements into the following program areas?

Number of municipalities within SPR/A with day-to-day responsibility for land use planning decisions (column A)	Number of municipalities integrating source protection requirements into land use planning decisions (column B)	Percent Integrating Source Protection Column B / Column A
1	1	100%

Number of municipalities within SPR/A with day-to-day	Number of municipalities integrating source protection	Percent Integrating Source Protection

responsibility for building permit decisions (column A)	requirements into building permit decisions (column B)	Column B / Column A
1	1	100%

Question 36b

Indicate the number or estimated percentage of subject municipalities (including upper-, lower-, and single-tier) that are integrating source protection into the business processes listed in the table below.

Business Processes	Number or estimated percentage of subject municipalities integrating source protection
Staff involved with land use planning and/or section 59 policies trained in source protection	2
Staff guidance documents updated/produced for evaluating land use planning applications conforming with/having regard to SPP policies	2
Planning design and technical guidelines updated/produced for source protection considerations for applicants	2
Strategy and timeline established to undertake OP & ZBL conformity exercise	2
Planning documents updated	1
Planning maps/schedules updated to show vulnerable areas	2
Siting/placement of activities away from vulnerable areas	1
Complete planning application requirements (i.e., supporting documentation such as stormwater management plan, master environmental servicing plan, lot grading plan, etc. needed)	2
Procedures in place to flag where section 59 policies apply including mechanism/process to facilitate exchange of information about development application process and the issuance of section 59 notices	2
Steps taken (e.g., municipal by-law, conservation authority regulation, etc.) to reduce the number of applications that require RMO screening	2
Public works operations	2

Other. Please provide a description.	0

Enumerated Threats - Question 39a

Question 39a

Complete the table below by first indicating which of the listed significant drinking water threats were being engaged in (i.e., enumerated as 'existing' significant threats/threats) at the time of SPP approval. Lead SPAs will be maintaining a running tally of progress made in addressing significant threats that were on the ground before plans were approved. The running tally consists of the formula: A+B-C-D where:
A = Original estimate of SDWT engaged in/enumerated when SPP approved
B = Additional SDWT identified after first SPP approved as a result of field verification (i.e., not part of original estimate of SDWT)
C = SDWT included in enumeration estimates at time of plan approval but subsequently determined through field verification that: (i) it was not actually engaged in at a particular location after all OR (ii) it was no longer engaged in (e.g., land may still have an agricultural operation but owner no longer applying pesticides for their own reasons)
D = SDWT addressed because policy is implemented* (*Note: Where multiple policy tools address any given threat sub-category, implemented means that actions associated with at least one policy tool have been completed/are in place.) SPAs may use their local discretion in which policy tool they wish to reflect as being implemented.

Threat ID	Prescribed Drinking Water Threats	A	B	C	D	Remaining (A+B-C-D)
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act.	0	0	0	0	0
2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.	14	0	5	9	0
3	The application of agricultural source material to land.	4	0	0	4	0
4	The storage of agricultural source material.	0	0	0	0	0
5	The management of agricultural source material.	0	0	0	0	0
6	The application of non-agricultural source material to land.	0	0	0	0	0
7	The handling and storage of non-agricultural source material.	0	0	0	0	0
8	The application of commercial fertilizer to land.	0	0	0	0	0
9	The handling and storage of commercial fertilizer to land.	0	0	0	0	0
10	The application of pesticide to land.	0	0	0	0	0
11	The handling and storage of pesticide.	0	0	0	0	0

12	The application of road salt.	0	0	0	0	0
13	The handling and storage of road salt.	0	0	0	0	0
14	The storage of snow.	0	0	0	0	0
15	The handling and storage of fuel.	1	0	0	0	1
16	The handling and storage of a dense non-aqueous phase liquid.	0	1	1	0	0
17	The handling and storage of an organic solvent.	0	0	0	0	0
18	The management of runoff that contains chemicals used in the de-icing of aircraft.	0	0	0	0	0
19	The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard. O. Reg. 385/08, s. 3.	0	0	0	0	0
20	Water taking from an aquifer without returning the water to the same aquifer or surface water body.	0	0	0	0	0
21	Reducing recharge of an aquifer.	0	0	0	0	0
22	Local Threat: Transportation of Oil and Fuel Products Through a Pipeline	0	0	0	0	0
	Total	**19**	**1**	**6**	**13**	**1**

Question 39b

Please provide comments below to explain the overall progress made in addressing these significant threats. Include the percentage of overall progress made in the comments provided. The percentage of overall progress made in addressing local threats and conditions that are taking place on the landscape is determined by taking the total number in column D (i.e., SDWT addressed because policy is implemented) from the table above (reportable #39a) and dividing it into the number that is derived by adding the total numbers in columns A and B and then subtracting this sum total from the total in column C. In other words, overall progress made = D/A+B-C.

Response: 93% progress made. One outstanding home heating oil fuel RMP. RMP negotiations have begun with the landowner. The RMP requires final signatures and additional clarification from the TSSA on understanding the requirements of the Code.

Assessment Report Information Gaps - Question 40

Question 40

Provide a summary of steps taken to further assess or implement the work plans described in technical rules #30.1 (Water Budget Tier 3), #50.1 (GUDI for WHPA-E or F), and #116 (ICA) through amendments carried out under section 34 or section 36 of the Clean Water Act.

Response: N/A

Other Reporting Items - Question 41

Question 41

Does the SPA have any other item on which it wishes to report? If so, please explain.

Response: Lake Erie Source Protection Region and Oxford County staff have developed and produced a Catfish Creek Source Protection Area Annual Report. The report is written for the public, the SPC and local stakeholders. It provides a snapshot of the program's progress in the Catfish Creek watershed and is designed to complement the provincially-required Annual Progress Report and Supplemental Form.

Source Protection Outcomes - Question 42

Question 42

What positive outcomes (e.g., less water consumption, changes in behaviour, reduction in phosphorus and nitrogen concentrations, less chloride from road salt, reduction in algal blooms, human health protected, etc.), if any, have potentially resulted from the implementation of SPP policies? Please describe the outcomes below.

Response: None to report.

Achievement of SPP Objectives - Question 43

Question 43a

In the opinion of the Source Protection Committee (SPC), to what extent have the objectives of the SPP been achieved in this reporting period?

Progressing well/on target – majority of the source protection plan policies have been implemented and/or are progressing well.	✓
Satisfactory - Some of the source protection plan policies have been implemented and/or are progressing well.	
Limited progress made - A few of source protection plan policies have been implemented and/or are progressing well.	

Question 43b

Please provide comments to explain how the SPC arrived at its opinion. Include a summary of any discussions that might have been had amongst the SPC members, especially where no consensus was reached.

Response: Nineteen existing significant drinking water threats were identified in the Catfish Creek Source Protection Area when the plan took effect. Since implementation of the plan, 93% of confirmed significant drinking water threats have been addressed with only one outstanding threat remaining. Additionally, all applicable plan policies that address significant drinking water threats are implemented or in progress.

Appendix C

Catfish Creek Annual Report

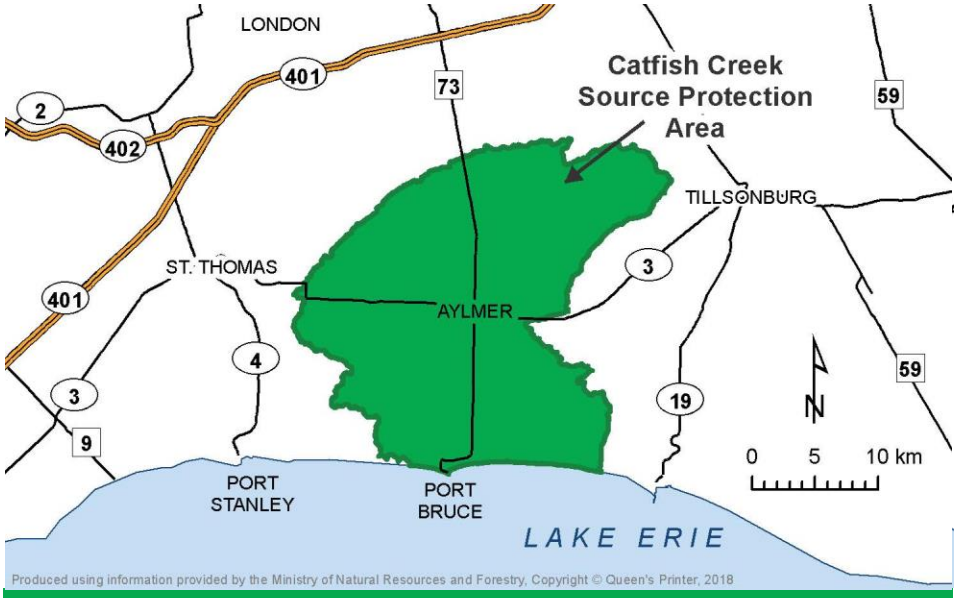
DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

Catfish Creek Source Protection Area

2017 ANNUAL REPORT

Catfish Creek's 2017 Annual Report is a reflection of Source Water Protection Program implementation efforts and more broadly, a snapshot of the program's progress in the Catfish Creek watershed.



Map of Catfish Creek Source Protection Area

This is the first Annual Report on the progress of the Source Water Protection Program in the Catfish Creek Source Protection Area.

This report is produced by Lake Erie Source Protection Region and written for the citizens of the Catfish Creek watershed, the Lake Erie Region Source Protection Committee and local stakeholders.

The report showcases two Source Water Protection program categories developed by the Ministry of the Environment and Climate Change (MOECC). The categories help tell the story of progress towards full implementation of Source Protection Plans and the protection of municipal drinking water sources.

We acknowledge and recognize the tremendous efforts made by our local municipalities, stakeholders and Source Protection Committee in the development of the Source Protection Plans, implementation of Source Water Protection policies and development of this annual report.

Clean Water Act

The Ontario government passed the Clean Water Act in 2006 to implement some of the recommendations of the Walkerton Inquiry. The Clean Water Act ensures communities protect their drinking water supplies through prevention - by developing collaborative, watershed-based source protection plans that are locally driven and based on science.

Source Water Protection Program

The Clean Water Act led to the creation of the Source Protection Program, establishing Source Protection Regions and Source Protection Areas. Ontario has 19 Source Protection Regions and 38 Source Protection Areas. The goal of the program is to protect current and future municipal drinking water sources from contamination and overuse by developing collaborative, watershed-based Source Protection Plans. A Source Protection Plan is the first barrier in a multi-barrier approach.

The Source Water Protection Program protects municipal drinking water for all of us to enjoy

Lake Erie Region is made up of four watersheds or Source Protection Areas: Grand River, Long Point Region, Catfish Creek and Kettle Creek. Each watershed has its own Source Protection Plan. The Catfish Creek Source Protection Plan (the Plan) was approved on September 11, 2014 went into effect January 1, 2015.

Catfish Creek Source Protection Area

The Catfish Creek Source Protection Area includes Catfish Creek and its tributaries. They drain 490 square kilometres of agricultural and urban lands before entering Lake Erie at Port Bruce. The area includes parts of Elgin and Oxford counties.

- Population: **17,000**
- Size: **490km^2**
- Drinking water systems: **1**
- Municipal wells and intakes: **2**
- Number of SDWTs at Plan approval: **19**
- Number of SDWTs addressed since plan approval: **18**
- Municipalities implementing source protection policies: **1**

Catfish Creek Quick Facts

The watershed has one municipal water system in the village of Brownsville in the township of Southwest Oxford. The system is comprised of two wells serving about 300 people. A number of communities are also serviced

with municipal water from the Elgin Area Primary Water Supply.

Only 19 existing significant drinking water threat (SDWT) activities were identified in the Catfish Creek Source Protection Area when the Plan went into effect, all within 100 metre radius around the well. Since that time, all but one SDWT has been addressed.

Due to the low number and nature of the SDWT activities, implementation efforts have primarily focussed on inspections and prohibition.

Outcomes presented in this Annual Report are directly influenced by the relatively small size of the Source Protection Area, recent implementation of the program and current numberof significant drinking water threats.

Method of Evaluation

The Source Protection Program's progress in the Catfish Creek Source Protection Area is measured through a Program Assessment – a high-level evaluation tool developed by the MOECC for implementation reporting purposes.

This report showcases two annual reporting results that measure policy implementation efforts from January 1, 2015 to December 31, 2017.

Want more Detail?

The Catfish Creek Annual Progress Report Supplemental Form includes additional reportables and information on implementation progress in the Catfish Creek watershed.

Find out more information about the Source Water Protection Program and what's happening in the Lake Erie Source Protection Region at sourcewater.ca

Program Assessment

Measure of the program's progress in Catfish Creek Source Protection Area

Progressing well / on target

Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

Satisfactory

Some of the source protection plan policies have been implemented and/or progressing according to the timelines in the source protection plan.

Limited progress made

A few source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

Awareness and Willingness

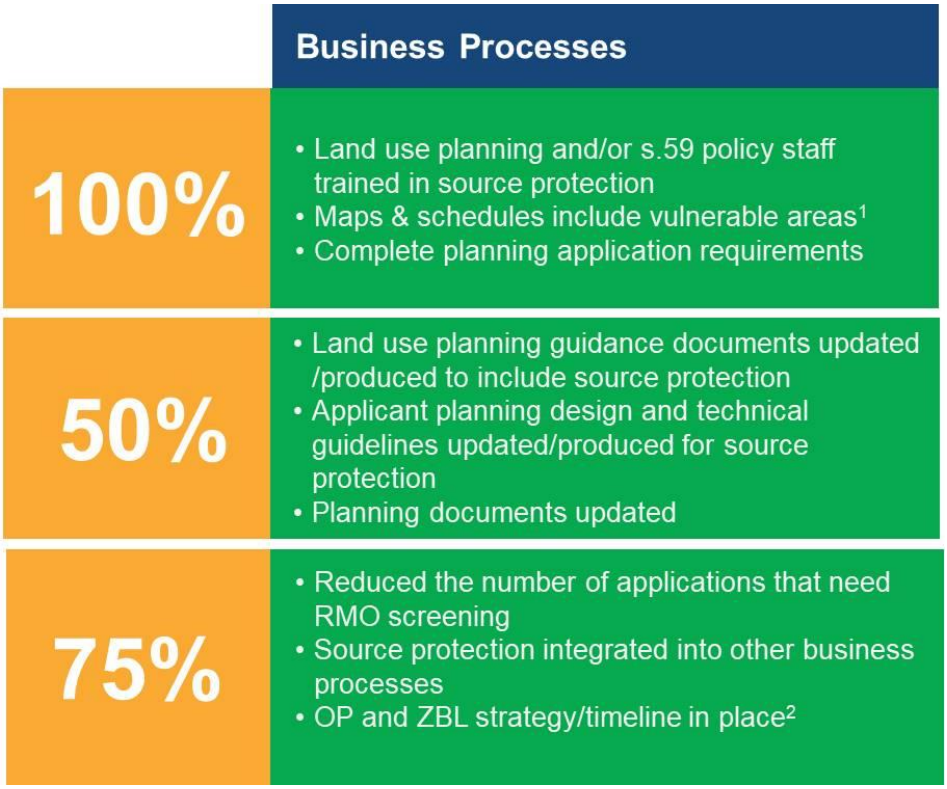
Implementing bodies are willing to integrate source protection into day-to-day business

Outcome

Figure 1: Illustrates the percent integration of source protection into various municipal business processes. Each bullet point represents a different business process.

[1]Maps have been updated in the GIS mapping/online Source Protection screening layers.

[2]Draft updates to Official Plan policies and mapping are underway. Zoning Bylaw updates are the responsibility of the Area Municipalities, and have yet to be initiated.



Threats Cease To Be

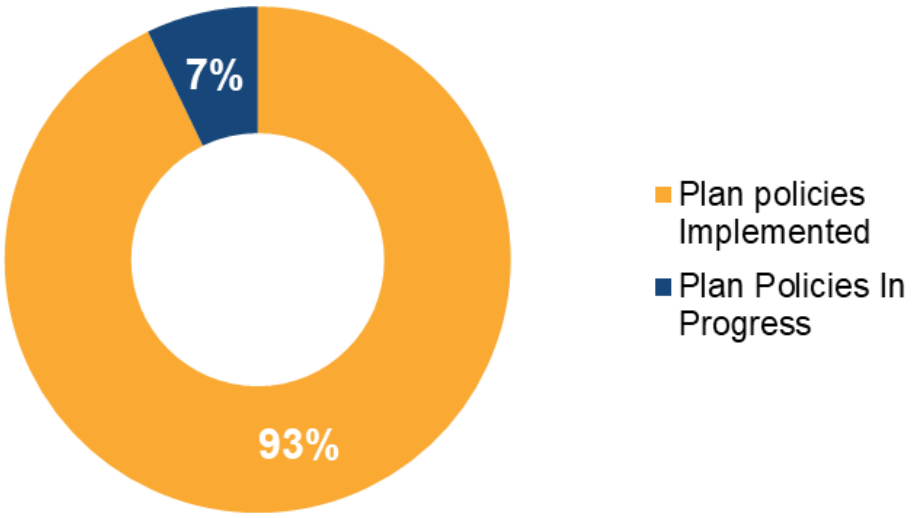
Plan policies have been implemented to address significant drinking water threats

Outcome

Figure 2: Details the number of confirmed significant drinking water threats and how they have been addressed through the implementation of plan policies.

Action Taken to Address Significant Drinking Water Threats	Confirmed number of Significant Drinking Water Threats
Private septic system inspected	9
Prohibition of Agricultural Source Material (ASM) enforced	4
Negotiation of Risk Management Plan (RMP) for storage and handling of fuel - in progress	1

Figure 3: Illustrates the percent of confirmed SDWTS activities that have been addressed. Only one SDWT (storage and handling of fuel) remains outstanding; a Risk Management Plan is currently being negotiated.



DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

Catfish Creek Source Protection Area

Lake Erie Region Source Protect Area
c/o Grand River Conservation Authority
400 Clyde Rd., Cambridge Ontario

sourcewater.ca
519 621 2763
info@sourcewater.ca

Appendix D

Annual Reporting Letter to SPA

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

April 5, 2018

Rick Cerna, Chair
8079 Springwater Rd., RR 5
Aylmer ON, N5H 2R4

Dear Mr. Cerna:

The Catfish Creek Source Protection Plan has been in effect since January 1, 2015 with the primary objective to protect current and future sources of drinking water from contamination and overuse.

In accordance with Ontario Regulation 287/07 s.52, Catfish Creek Source Protection Authority (SPA) is required to submit source protection plan annual progress reports to the Ministry of the Environment and Climate Change (MOECC) by May 1, 2018. The reports provide valuable information about the implementation of the Catfish Creek Source Protection Plan and the overall success of the program. The first Catfish Creek Annual Progress Report and Supplemental Form reflect implementation efforts from January 1, 2015 to December 31, 2017 (see attached).

In addition to the prescribed annual progress reports, Lake Erie Region in collaboration with Oxford County staff, have developed a 2017 Catfish Creek Annual Report. The report provides a snapshot of the program's progress in the Catfish Creek watershed and is designed to complement the Annual Progress Report and Supplemental Form (see attached).

On April 5, 2018 the Lake Erie Region Source Protection Committee passed the following resolution:

> *THAT in the opinion of the Lake Erie Region Source Protection Committee, implementation of the Catfish Creek Source Protection Plan has progressed well and is on target towards achieving the plan objectives.*
>
> *AND THAT the Lake Erie Region Source Protection Committee releases the Catfish Creek Annual Progress Report and Supplemental Form to the Catfish Creek Source Protection Authority for submission to the Ministry of the Environment and Climate Change, along with any Source Protection Committee comments, in accordance with S.46 of the Clean Water Act, 2006 and any Director's instructions established under O. Reg. 287/07 S.52.*

As such, this letter serves as a notice pursuant to the annual progress reporting administrative protocol, adopted by the Lake Erie Source Protection Region Management Committee (see attached management committee report 17-01-03), to submit the final Catfish Creek Annual Progress Report and Supplemental Form to the Catfish Creek Source Protection Authority.

Achievement of Source Protection Plan Objectives

It is the opinion of the Lake Erie Region Source Protection Committee that implementation of the Catfish Creek Source Protection Plan has been progressing well and is on target towards achieving the plan objectives in this reporting period (January 1, 2015 - December 31, 2017).

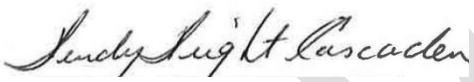
Rationale
Nineteen existing significant drinking water threats were identified in the Catfish Creek Source Protection Area when the plan took effect. Since implementation of the plan, 93% of confirmed significant drinking water threats have been addressed with only one outstanding threat remaining. Additionally, all applicable plan policies that address significant drinking water threats are implemented or in progress.

(Insert additional committee comments if applicable).

On behalf of the Lake Erie Region Source Protection Committee, the SPA is now tasked with considering the provincially-required annual progress reports and submitting them to the MOECC, together with the committee's comments, and any comments the SPA wishes to make.

If you have any questions regarding this letter, or the Catfish Creek Annual Progress Report and Supplemental Form, please contact Ilona Feldmann at 519-621-2763 ext. 2318 or ifeldmann@grandriver.ca.

Sincerely,



Wendy Wright-Cascaden
Chair, Lake Erie Region Source Protection Committee

cc:
Kim Smale, General Manager/Secretary-Treasurer, CCCA

LAKE ERIE SOURCE PROTECTION REGION

REPORT NO. 17-01-03 **DATE:** January 31, 2017

TO: Lake Erie Source Protection Region Management Committee

SUBJECT: Annual Progress Reporting – Proposed Administrative Protocol

---

RECOMMENDATION:

THAT the Lake Erie Source Protection Region Management Committee adopt the Proposed Administrative Protocol for the preparation and submission of Annual Progress Reports.

REPORT:

- The requirement for source protection annual reporting is established in the *Clean Water Act, 2006 (CWA)* and in Lake Erie Source Protection Region monitoring policies.

- Source Protection Authorities (SPA) are required to provide annual reports to the Ministry of the Environment and Climate Change (MOECC) in accordance with S.46 of the CWA and any Director's instructions established under O. Reg. 287/07 S.52. The first Lake Erie Region Annual Progress Reports are due for submission to the Ministry May 1, 2018 (Catfish and Kettle SPA); Long Point Region and Grand River SPA Annual Progress Reports are due May 1, 2019. Adopting the administrative protocol one year prior to the submission of the first Annual Progress Reports will allow for the process to be tested, refined and finalised for 2018.

  CWA, S. 46: Annual progress reports

  46. (1) The source protection authority shall annually prepare and submit to the Director and the source protection committee in accordance with the regulations a report that,

  (a) describes the measures that have been taken to implement the source protection plan, including measures taken to ensure that activities cease to be significant drinking water threats and measures taken to ensure that activities do not become significant drinking water threats;

  (b) describes the results of any monitoring program conducted pursuant to section 45;

  (c) describes the extent to which the objectives set out in the source protection plan are being achieved; and

  (d) contains such other information as is prescribed by the regulations.2006, c. 22, s. 46 (1).

  Submitting report to source protection committee

  (2) At least 30 days before submitting the report to the Director under subsection (1), a source protection authority shall submit the report to the source protection committee.2006, c. 22, s. 46 (2).

  Review by source protection committee

  (3) After receiving the report from the source protection authority, the source protection committee shall review the report and provide written comments to the source protection authority about the extent to which, in the opinion of the committee, the objectives set out

in the source protection plan are being achieved by the measures described in the report. 2006, c. 22, s. 46 (3).

Including comments of source protection committee

(4) If the source protection committee provides comments to the source protection authority under subsection (3) before the report is submitted to the Director under subsection (1), the source protection authority shall include a copy of the comments in the report. 2006, c. 22, s. 46 (4).

Available to public

(5) Subject to subsection (6), the source protection authority shall ensure that the report is available to the public as soon as reasonably possible after it is submitted to the Director. 2006, c. 22, s. 46 (5).

No personal information

(6) When a report is made available to the public under subsection (5), the source protection authority shall ensure that it does not contain any personal information that is maintained for the purpose of creating a record that is not available to the public. 2006, c. 22, s. 46 (6).

Summary of progress reports

(7) The Minister shall include a summary of the reports submitted by source protection authorities under this section in the annual report prepared by the Minister under subsection 3 (4) of the Safe Drinking Water Act, 2002. 2006, c. 22, s. 46 (7).

- The information required to complete the Annual Progress Reports will be generated from Municipal Annual Reports – as required by Lake Erie Source Protection Plan policies – and from RMO Annuals Reports, as per S.81 of the CWA and in accordance with O. Reg. 287/07 S.65. Both reports are required to be submitted annually by February 1 to the respective SPA.

- Lake Erie Region staff have reviewed the legislated process and requirement for the development and submission of Annual Progress Reports and have prepared a Proposed Administrative Protocol (see Appendix). The legislation as outlined above assigns the SPA a larger role than in the pre-plan approval period. However, the MOECC has encouraged source protection areas and regions to maintain established SPC and SPA roles and responsibilities. The aim of the proposed protocol is to define a simplified and standardized procedure that can be used on an annual basis.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M.Sc.
Source Protection Program Manager

Appendix

Source Protection Planning – Lake Erie Source Protection Region

Proposed Administrative Protocol

Prepared January 31, 2017

Annual Progress Reporting

Preparation and Submission of Annual Progress Report

- Following receipt of municipal, provincial, and RMO annual reports on February 1 of each year, Lake Erie Region staff will prepare a draft Annual Progress Report for each of the four watersheds in the Lake Erie Region to be presented to the Lake Erie Region Source Protection Committee at the April Source Protection Committee meeting.
- Together with the draft Annual Progress Reports, Lake Erie Region staff will also prepare and present to the committee at the April committee meeting a draft letter to each of the four Source Protection Authorities in the Lake Erie Region. The draft letter will include comments about the extent to which the objectives set out in the source protection plan are being achieved by the measures described in the draft Annual Progress Reports.
- At the April Source Protection Committee meeting, members will review and discuss the draft Annual Progress Reports and draft letters to the four Source Protection Authorities and will provide direction to Lake Erie Region staff to finalise the reports and letters. The committee will provide specific comments about the extent to which, in the opinion of the committee, the objectives set out in the source protection plan are being achieved by the measures described in the draft Annual Progress Reports.
- Lake Erie Region staff will finalise the Annual Progress Reports and letters and submit the reports to the respective Source Protection Authority at their next regular Source Protection Authority meeting. Each of the four Source Protection Authorities in the Lake Erie Region will submit the Annual Progress Report together with the comments (letter) from the Lake Erie Region Source Protection Committee to the Director of the Source Protection Programs Branch at the Ministry of the Environment and Climate Change.

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-03 **DATE:** April 5, 2018

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: Kettle Creek Annual Progress Report

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-18-04-03 – Kettle Creek Annual Progress Report - for information.

THAT in the opinion of the Lake Erie Region Source Protection Committee, implementation of the Kettle Creek Source Protection Plan has progressed well and is on target towards achieving the plan objectives.

AND THAT the Lake Erie Region Source Protection Committee direct staff to finalize the draft Kettle Creek Annual Progress Report, Supplemental Form, regionally-developed Annual Report and annual reporting objectives letter for submission to the Kettle Creek Source Protection Authority, along with any Source Protection Committee comments, in accordance with S.46 of the Clean Water Act, 2006 and any Director's instructions established under O. Reg. 287/07 S.52.

REPORT:

Background

In accordance with Ontario Regulation 287/07 s.52, all four Lake Erie Region Source Protection Authorities (Grand River, Long Point Region, Kettle and Catfish Creek) are required to submit an Annual Progress Report to the Director by May 1 in the year following the year to which the report applies. Both the Ministry of the Environment and Climate Change's (MOECC) Source Protection Annual Progress Report and the Supplemental Form are to be submitted as they are considered "prescribed forms" under O. Reg. 287/07 s.52(5). The first Catfish Creek and Kettle Creek Annual Progress Reports and Supplemental Forms are due for submission to the MOECC in May 2018; reporting requirements for Long Point Region and Grand River will begin in May 2019.

Annual Progress Report and Supplemental Form

The Kettle Creek Annual Progress Report is a public-facing document developed by the MOECC and prepared by Kettle Creek Conservation Authority in consultation with Lake Erie Region staff. The report provides valuable information about the implementation of the Kettle Creek Source Protection Plan and the overall success of the program (**Appendix A**). The first Kettle Creek Annual Progress Report reflects implementation efforts from January 1, 2015 to December 31, 2017; subsequent progress reports will highlight information and data collected from actions taken during the previous calendar year.

Information presented in the progress report is intended to be a high-level reflection of annual reporting results collected through the Kettle Creek Supplemental Form. The Supplemental Form is a tool to collect key information from implementing bodies to help convey the story of

progress made in the Kettle Creek Source Protection Area using a series of "reportables" or questions organized by theme (**Appendix B).** Some themes are specific and mirror policy tools, e.g., Prescribed Instruments, while others are more broad, e.g., municipal integration of source protection, achievement of source protection objectives, etc. The theme, "achievement of source protection plan objectives" includes two reportables that require Source Protection Committee input (SPC): the first, the committee's opinion on the extent to which objectives in the plan have been achieved during the reporting period and the second, comments to explain how the committee arrived at its opinion.

Lake Erie Region staff have reviewed the results of the Supplemental Form and Annual Progress Report and recommend the following responses:

Reportable ID 43a

In the opinion of the Source Protection Committee (SPC), to what extent have the objectives of the SPP been achieved in this reporting period?

Progressing well/on target – majority of the source protection plan policies have been implemented and/or are progressing well.	✓
Satisfactory - Some of the source protection plan policies have been implemented and/or are progressing well.	
Limited progress made - A few of source protection plan policies have been implemented and/or are progressing well.	

Reportable ID 43b

Please provide comments to explain how the SPC arrived at its opinion. Include a summary of any discussions that might have been had amongst the SPC members, especially where no consensus was reached.

Only two existing significant drinking water threats were identified in the Kettle Creek Source Protection Area when the Plan took effect. Since implementation of the plan, both threats (100%) have been addressed: one no longer exists and the other was managed through a Risk Management Plan (RMP). Additionally, many of the applicable plan policies (68%) that address significant drinking water threats are implemented or in progress.

Kettle Creek Source Protection Area Annual Report

The Kettle Creek Annual Report was prepared by the Kettle Creek Conservation Authority in consultation with Lake Erie Region staff and is written for the public, the SPC and local stakeholders (**Appendix C**). The report provides a snapshot of the program's progress in the Kettle Creek watershed and is designed to complement the provincially-required Annual Progress Report and Supplemental Form. The results or "reportables" presented in the report are derived from the legislated annual reporting requirements.

Annual Reporting Letter to SPA

In addition to the three annual reports, Lake Erie Region staff have drafted an annual reporting letter to be submitted to the Kettle Creek Source Protection Authority in accordance with the

Lake Erie Region's annual progress reporting administrative protocol (**Appendix D**). The letter includes comments about the extent to which objectives set out in the source protection plan are being achieved and will include any additional committee comments.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A

Kettle Creek Annual Progress Report

Source Protection Annual Progress Report | 04/05/2018

I. Introduction

Kettle Creek's Annual Progress Report is a reflection of Source Water Protection Program efforts and more broadly, a snapshot of the program's progress in the Kettle Creek Source Protection Area.

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

II. A message from your local Source Protection Committee

Our progress score on achieving source protection plan objectives this reporting period:

- (●) **P : Progressing Well/On Target** – The majority of the source protection plan policies have been implemented and/or are progressing.
- ( ) **S : Satisfactory** – Some of the source protection plan policies have been implemented and/or are progressing.
- ( ) **L : Limited progress** – A few of source protection plan policies have been implemented and/or are progressing.

Only two existing significant drinking water threats were identified in the Kettle Creek Source Protection Area when the Plan took effect. Since implementation of the plan, both threats (100%) have been addressed: one no longer exists and the other was managed through a Risk Management Plan (RMP). Additionally, many of the applicable plan policies (68%) that address significant drinking water threats are implemented or in progress.

III. Our Watershed

To learn more, please read our assessment report(s) and source protection plan(s).

The Kettle Creek Source Protection Area (watershed) includes Kettle Creek and its tributaries. They drain 520 square kilometres of agricultural and urban lands before entering Lake Erie at Port Stanley. The area includes parts of Elgin County, Middlesex County, the City of St. Thomas, and the City of London.

The watershed has two municipal drinking water systems: a well in Belmont and the Elgin Area Primary Water Supply System (EAPWSS) in Port Stanley.

Only two significant drinking water threat activities were identified in the Kettle Creek Source Protection Area when the plan went in to effect. Since that time, both threats have been addressed.

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

1. Source Protection Plan Policies

P : Progressing Well/On Target

Many of the applicable policies (68%) that address significant drinking water threats are implemented or in progress.

2. Municipal Progress: Addressing Risks on the Ground

Three municipalities (Malahide, Central Elgin and Thames Centre) in the Kettle Creek Source Protection Area have vulnerable areas where significant drinking water threat policies apply.

P : Progressing Well/On Target - All three municipalities have processes in place to ensure that their day-to-day planning decisions conform with the Kettle Creek Source Protection Plan.

Municipalities in the Source Protection Area are also required to take the next step to review and update their Official Plan to ensure it conforms with the Kettle Creek Source Protection Plan the next time they undertake an Official Plan review under the Planning Act. All three municipalities have completed amendments to their Official Plan or are in the process of amending their Official Plan to conform with the Source Protection Plan. Two municipalities are in the process of amending their Zoning By-Laws to conform with the Source Protection Plan - one municipality has not started their conformity exercise.

3. Septic Inspections

P : Progressing Well/On Target

Not applicable to the Source Protection Area.

4. Risk Management Plans

P : Progressing Well/On Target

In the previous calendar year, no risk management plans were established/agreed to in the Kettle Creek Source Protection Area. However, since the Kettle Creek Source Protection Plan took effect, one risk management plan has been agreed to.

There were no inspections carried out or planned by a Risk Management Official/Inspector for prohibited or regulated activities since the Plan went into effect.

5. Provincial Progress: Addressing Risks on the Ground

P : Progressing Well/On Target

Ontario ministries are reviewing previously issued provincial approvals (i.e., prescribed instruments, such as environmental compliance approvals under the Environmental Protection Act) where they have been identified as a tool in the Kettle Creek Source Protection Plan to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals are being amended or revoked where necessary to conform with plan policies. Kettle Creek Source Protection Plan policies set out a time line of 3 years to complete the review and make any necessary changes. The ministries have completed this for 100% of previously issued provincial approvals in the Kettle Creek Source Protection Area.

6. Source Protection Awareness and Change in Behaviour

An example of an awareness campaign to change public and stakeholder behaviour:

A local campaign spearheaded by Kettle Creek Conservation Authority and Elgin St. Thomas Public Health promoted the importance of keeping our municipal drinking water safe. The #ichoosetapwater campaign consisted of a video contest and a reusable water bottle giveaway. The contest invited Grades 3 to 7 classes to submit a video highlighting the importance of choosing tap water over bottled water. Classrooms were provided messaging on the importance of keeping municipal drinking water safe to be incorporated into the videos. The winning entry was awarded a cash prize.

7. Source Protection Plan Policies: Summary of Delays

Not applicable to the Source Protection Area.

8. Source Water Quality: Monitoring and Actions

In the Kettle Creek Source Protection Area, no issues have been identified in local science-based assessment report regarding the quality of the sources of municipal drinking water.

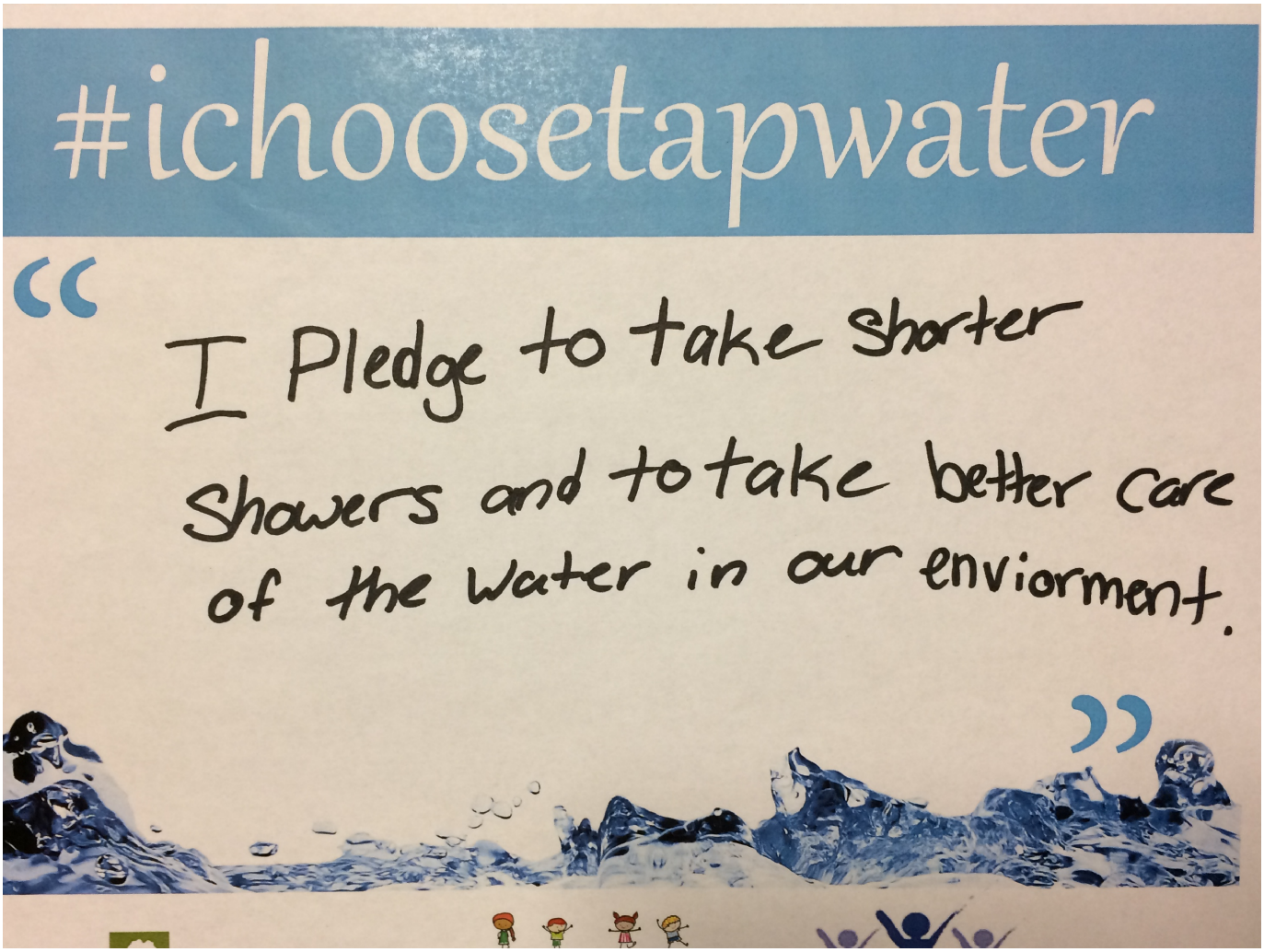
9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for the Kettle Creek Assessment Report.

10. More from the Watershed

To learn more about our source protection region/area, visit our Homepage.

http://www.sourcewater.ca


#ichoosetapwater
I Pledge to take shorter
Showers and to take better care
of the water in our enviorment.


Kettle Creek CA @KettleCreekCA · Jun 8
Enjoyed the day training St Williams - Long Point Station @CCG_GCC -
Inshore Rescue Boat Service on #SourceWaterProtection #GreatLakes
4
10

Appendix B

Kettle Creek Annual Progress Reporting Supplemental Form

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

2017 Annual Progress Reporting Supplemental Form
Kettle Creek

Monitoring Policy Implementation - Question 1a, 1b

Question 1a

Did all implementing bodies (IBs) submit a status update/report to the SPA for the reporting periods noted below?

MONITORING POLICY REPORTING PERIOD	Yes	No	If no, how many implementing bodies did not submit their status updates?
Year 1 (from effective date of SPP to December 31 of same year)	✓		
Year 2 (January 1 to December 31 of calendar year following Year 1)	✓		
Year 3 (January 1 to December 31 of calendar year following Year 2)	✓		
Year 4 (January 1 to December 31 of calendar year following Year 3)			

Question 1b

Complete the table below to indicate which implementing body(ies) did not submit a status update/monitoring policy report and the reason(s) for not submitting. Insert additional rows as needed.

	Name of Implementing Body	Explanation
Year 1	N/A	
Year 2	N/A	
Year 3	N/A	
Year 4		

Implementation status of SPP policies - Question 2

Question 2a

Table 1. Implementation status of policies that address *significant* drinking water threat activities.

Implementation Status Category	Response Values	Percentage of Plan Policies
Implemented	12	43%
No further action required	0	
In progress / some progress made	7	25%
No progress made	0	
No information available / no response received	2	7%
No response required / not applicable	7	25%
Total	28	100%

Table 3. Implementation status of policies (i.e., transport pathway, general education & outreach (E&O), some specify action, etc.) *not* directly associated with addressing specific drinking water threat activities.

Implementation Status Category	Response Values	Percentage of Plan Policies
Implemented	4	50%
No further action required	0	
In progress / some progress made	3	38%
No progress made	0	
No information available / no response received	0	
No response required / not applicable	1	12%
Total	8	100%

* Table 2. “ Implementation status of policies that address ***moderate-low*** drinking water threat activities”, not applicable.

Question 2b

Summarize the reasons for results recorded above as being "No progress made" and/or “No information available/no response received” by the dates specified in your source protection plan for significant drinking water threat activities (Table 1) and for any moderate/low threat policies that used prescribed instruments and *Planning Act* tools by completing the table below with the following details. Insert additional rows as needed.

Policy ID	Implementing Body	Explanation of why actions were not taken by the person(s) or bod(ies)	Outline Next Steps
KCSPA-NB-1.14	Central Elgin, Municipality of	MOE SAC update emergency contacts and mapping updated	Follow up with SAC to ensure mapping and contacts are up to date
BE-MC-3.2	Central Elgin, Municipality of	MOE ECA for waste disposal sites, and Sewage Systems	Monitor

Part IV - Questions 3 - 10

Question 3a

If applicable to the SPR/A, complete the table below for risk management plans (RMPs) established.

Total number of RMPs agreed to/established within the SPR/A since effective date of the SPP (i.e., cumulative total) (Column A)	Number of RMPs agreed to or established within the SPR/A (for existing and future threats) during the reporting period (i.e., annual total)(Column B)	Total number of properties (i.e., parcels) with RMPs agreed to or established since the effective date of the SPP (Column C)
1	1	1

Question 3b

How many existing* significant drinking water threats have been managed through the established RMPs, since the SPP took effect? (*meaning engaged in OR enumerated as existing significant threats)

Response: 1

Question 5

How many section 59 notices were issued in this reporting period for:

i) activities to which neither a prohibition (section 57) nor a risk management plan (section 58) policy applied, as per ss. 59(2)(a) of the CWA?

Response: 0

ii) activities to which a risk management plan (section 58) policy applied, as per ss. 59(2)(b) of the CWA?

Response: 0

Question 6

The number of notices given TO the risk management official under subsections 61 (2), (7) and (10).

Response: 0

Question 7a

i) How many, if any, inspections (including any follow-up site visits) were carried out for activities (existing or future) that are prohibited under section 57 of the CWA?;

Response: 0

ii) How many properties (i.e., parcels) had inspections for the purposes of section 57?

Response: 0

Question 7b

The number of those cases in which the person was carrying out an activity in contravention of subsection 57 (1) of the Act.

Response: 0

Question 8

How many existing significant drinking water threats have been prohibited as a result of section 57 prohibitions since the plan took effect (i.e., the cumulative count)?

Response: 0

Question 9a

i) What is the total number of inspections (including any follow-up site visits) that were carried out for activities that require a RMP under section 58 of the CWA?

Response: 0

ii) How many properties (i.e., parcels) had inspections for the purposes of section 58?

Response: 0

Question 9b

i)The number of those cases in which the person was carrying out an activity in contravention of subsection 58 (1) of the Act.

Response: 0

ii) The number of those cases in which the person was not complying with a risk management plan agreed to or imposed under section 58 of the Act.

Response: 0

Question 9c

Where there were cases of non-compliance with RMPs, describe, in general terms, how these cases were resolved.

Response: There were no cases of non-compliance with RMPs.

Prescribed Instruments - Integration and Conformity - Questions 11 - 18

Question 11

Indicate the specific measures that provincial ministries have taken/are taking to integrate source protection into the business processes of their respective program areas associated with PIs.

Business Processes	MOECC: Waste disposal – landfilling & storage	MOECC: Sewage Works/ Wastewater	MOECC: Pesticides	MOECC: Water Takings	MOECC: Hauled sewage/biosolids	MOECC: Municipal water licences/works permits	OMAFRA: Nutrient Management	MNRF: Aggregates – Fuel storage	MTO: Aggregates – Fuel storage
Relevant staff training on source protection related to PIs including inspections	YES	YES	YES	YES	YES	YES	YES	YES	YES
Guidance documents (e.g., standard operating policy/procedures) available to align with new program changes for	YES	YES	YES	YES	YES	YES	NO	YES	YES

source protection for reference by ministry staff									
Screening process in place to identify incoming PI applications potentially affected by SPP policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Information or other support tools created and/or made available to external stakeholders (i.e. applicants) to inform them that restrictions may result from source protection policies, so that potential impacts can be	YES	YES	YES	NO	YES	YES	YES	NO	YES

considered in advance of making an application									
System in place to track the PIs that are subject to SPP policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Process in place to map or otherwise geo-reference PIs that are subject to PI policies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Protocol in place to review previously issued (i.e., existing) PIs potentially affected by SPP policies	YES	YES		YES		YES	YES	YES	YES
Other changes made to business processes.	YES	NO	NO	YES	YES	YES	YES	NO	YES

Provide a brief description:	
MOECC: Waste Disposal – Landfilling and Storage	For details on internal business process changes and tracking of prescribed instruments for this program area, see Questions 2-6 in Section 1.
MOECC: Water Takings	The ministry has a centralized data system (Integrated Divisional System - IDS), which is an integrated information repository to record, process, review and approve Prescribed Instrument applications. The ministry has a project underway to develop a new Information Technology Platform for electronic applications. The proposed source protection-related data input fields for approvals will allow for streamlined tracking of the prescribed instruments that are subject to source protection plan policies. The project is expected to be implemented in 2018. Source protection water quantity vulnerable area data has recently been made available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits within source protection water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19. The ministry has a Source Water Protection Information Atlas, including a mapping tool, in Geocortex platform that will allow staff to search a location for source protection water quantity vulnerability and follow the links to source protection plan policies and threats tool to find out if water taking is a drinking water threat and need to be managed using Permits To Take Water. Source protection layers have also been added to regional ArcGIS. The ministry has provided access and training to technical staff regarding the map tools and the Tier 3 water budget so that they have better understanding of the Tier 3 Water Budget and local risk assessment results. The ministry also plans to develop guidance material for proponents and qualified persons about using the source protection water budget science (including the input data, model and results) in their preparation of applications and for the Permit To Take Water decision-making process, particularly those for higher risk groundwater takings. In April 2016, the ministry developed a new Standard Operating Policy (SOP #PTTW-SP-PI-02) that updated the Standard Operating Policy that took effect January 2015. A summary of the ministry's Standard Operating Policies was published on the EBR in April 2015 (EBR #012-2968) and continues to be available. While the Standard Operating Policies summary from 2015 noted the ministry had determined instrument changes were not required to address the Permit To Take Water instrument policies, this new Standard Operating Policy provides staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) and new Permit To Take Water applications to conform with the source protection plan prescribed instrument policies where a water taking is or would be a significant water quantity threat (SDWT). To

	operationalize the Standard Operating Policy, the ministry initiated a training program in September 2016.
MOECC: Hauled Sewage/Biosolids	Since 2015 every hauled sewage site and biosolids site (aka processed organic waste) application submitted to MOECC District/Area offices has undergoing Source Protection Screening. Internal staff training, data tracking and program support materials have been developed and deployed for appropriate staff directly involved in screening and Environmental Compliance Approval review/approval activities. Other program upgrades are in development and are being/will be deployed in 2018 for external stakeholder use including updated application forms and guides and a new on-line Environmental Compliance Approval application platform. The Source Water Protection Information Atlas is available for external stakeholder use on the Ministry's public web site.
MOECC: Municipal water licences/works permits	Approvals & Licensing Staff in the Environmental Assessment and Permissions Branch (policy, review engineers) have all attended source protection training and are updated on source protection matters during regularly scheduled staff meetings. MOECC has built and provided province wide staff access to an online internal source protection resource library, where they can access source protection policies, protocols, legislation, plans, contacts, guidance and support. For Prescribed Instrument conformity, the Ministry has undertaken an exercise to identify all high risk fuel storage and handling associated with municipal residential drinking water systems. Through this review, the ministry identified 15 licenced municipal drinking water systems that include fuel handling and storage that is a significant drinking water threat. By the end of 2017, the MOECC amended the Municipal Drinking Water Licences for each of these systems to include new conditions that address the fuel storage risk.
OMAFRA: Nutrient Management	Other changes made: approvals process revised to delegate letter of conformity preparation for instruments not approved by OMAFRA to certified person.

	MOECC: Waste disposal – landfilling & storage	**MOECC: Sewage Works/ Wastewater**	**MOECC: Pesticides**	**MOECC: Water Takings**	**MOECC: Hauled sewage/biosolids**	**MOECC: Municipal water licences/works permits**	**OMAFRA: Nutrient Management**	**MNRF: Aggregates – Fuel storage**	**MTO: Aggregates – Fuel storage**
No changes made.	NO	NO	YES	YES	NO	NO	NO	NO	NO

If no changes made to business processes to integrate source protection, please explain the reason(s):	N/A	N/A	.		N/A	N/A	N/A	N/A	N/A
MOECC: Pesticides	Measures were implemented in 2015. Changes to the ministry's centralized data system (Integrated Divisional System IDS) for Pesticide Permit module were completed in 2017. This includes Source Protection Plan specific selections to facilitate extracting relevant source protection information from pesticide inspection reports. The modifications will enable automated tracking/reporting capabilities								
MOECC: Water Takings	The ministry has a centralized data system (Integrated Divisional System - IDS), which is an integrated information repository to record, process, review and approve Prescribed Instrument applications. The ministry has a project underway to develop a new Information Technology Platform for electronic applications. The proposed source protection-related data input fields for approvals will allow for streamlined tracking of the prescribed instruments that are subject to source protection plan policies. The project is expected to be implemented in 2018. Source protection water quantity vulnerable area data has recently been made available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits within source protection water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19. The ministry has a Source Water Protection Information Atlas, including a mapping tool, in Geocortex platform that will allow staff to search a location for source protection water quantity vulnerability and follow the links to source protection plan policies and threats tool to find out if water taking is a drinking water threat and need to be managed using Permits To Take Water. Source protection layers have also been added to regional ArcGIS. The ministry has provided access and training to technical staff regarding the map tools and the Tier 3 water budget so that they have better understanding of the Tier 3 Water Budget and local risk assessment results. The ministry also plans to develop guidance material for proponents and qualified persons about using the source protection water budget science (including the input data, model and results) in their preparation of applications and for the Permit To Take Water decision-making process, particularly those for higher risk groundwater takings. In April 2016, the ministry developed a new Standard Operating Policy (SOP #PTTW-SP-PI-02) that updated the Standard Operating Policy that took effect January 2015. A summary of the ministry's Standard Operating Policies was published on the EBR in April 2015 (EBR #012-2968) and continues to be available. While								

	the Standard Operating Policies summary from 2015 noted the ministry had determined instrument changes were not required to address the Permit To Take Water instrument policies, this new Standard Operating Policy provides staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) and new Permit To Take Water applications to conform with the source protection plan prescribed instrument policies where a water taking is or would be a significant water quantity threat (SDWT). To operationalize the Standard Operating Policy, the ministry initiated a training program in September 2016.

Question 12

Provide a brief description of each provincial ministry's process for ensuring PI decisions for incoming PI applications (new or amendments) conform with the significant drinking water threat PI policies applicable to each SPR/A (i.e., a description of the screening process in place) in the table below.

Ministry Program Area	Description
MOECC: Waste Disposal Sites – landfilling and storage	Since May 2015, the ministry has been screening environmental compliance approval (ECA) applications for waste disposal site activities to determine if the activity is located in an area where the activity could be a significant drinking water threat. This is called the primary screening. The vulnerable areas are the following: A wellhead protection area or intake protection zone with a vulnerability score of 8 or higher, an issues contributing area, or an event-based area. If any of the above criteria apply, the ECA application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy (SOP) is applied. As legally required, where a source protection policy that relies on a prescribed instrument to prohibit an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. It should be noted that an ECA application may also be refused for reasons outside of source protection policies. Where a source protection plan policy outcome is to manage the activity for a waste disposal site, the ministry will conform to the policy by continuing to apply protective requirements under the Environmental Protection Act, the Environmental Assessment Act, and existing regulations, policies, and guidelines. New waste disposal ECAs include stringent terms and conditions that consider the protection of drinking water sources, such as requirements for: - buffer lands, and appropriate setbacks from wellheads or intake zones; - financial assurance (for privately owned sites) to ensure that if a proponent is unable or unwilling to meet their responsibilities for the site or if the site is abandoned, the site is properly closed and maintained to ensure it does not pose a risk to the environment, including drinking water sources. In addition to the SOP, we have provided detailed guidance to affected municipalities Source Protection Information Bulletin: Environmental Compliance Approvals for Waste Disposal Sites (2015). The

	ministry emailed this draft information bulletin to municipalities affected by source protection plans in early June, 2015. A public version of all MOECC program area SOPs was posted on the EBR on April 1, 2015 under EBR #012-2968.
MOECC: Sewage works/wastewater	Since January 2015, every application for a new or amended prescribed instrument goes through a primary screening to determine if the activity associated with the application is located in one of the following: A wellhead protection area or intake protection zone with a vulnerability score of 8 or higher, an issues contributing area, or an event-based area. If any of the above criteria apply, the prescribed instrument application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy is applied. As legally required, where a source protection policy that relies on a prescribed instrument to prohibit an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. Source protection policies may be just one of the reasons an application is denied. Where a source protection plan policy outcome is to manage a significant threat to drinking water sources through the prescribed instrument for sewage works, the ministry is meeting the policy's obligations by including design and operational measures in an Environmental Compliance Approval. To assist in the implementation of this approach, anyone subject to policy requiring management of a significant drinking water threat is required to include in their application a description of the measures necessary to protect drinking water and submit a Source Protection Supplementary Report to outline how the activity for the sewage works will be managed so that the activity will not become a significant drinking water threat. As a precautionary and pollution prevention approach is fundamental to the design of all sewage works, additional measures are assessed on a site specific basis. In addition to this, sewage works that pose a significant threat to drinking water which are also eligible for the Transfer of Review Program require that the letter of recommendation from the municipality outline that the works was reviewed in accordance with the Clean Water Act and the local Source Protection Plan and is and will no longer pose a significant threat to drinking water as a result of the measures identified by the proponent and with appropriate ECA terms and conditions, if approved. In addition to the standard operating policies, we have provided detailed guidance to affected municipalities Source Protection Information Bulletin: Environmental Compliance Approvals for Sewage Works (2015). The ministry emailed this draft information bulletin to municipalities affected by source protection plans in early June, 2015. A public version of all MOECC program area standard operating policies was posted on the Environmental Registry on April 1, 2015 under EBR #012-2968.
MOECC: Pesticides	Since January 2015, every application for a new or amended prescribed instrument goes through a primary screening to determine if the activity associated with the application is located in one of the following: A land application of pesticides in a source protection area that includes any of the pesticide ingredients from the Tables of Drinking Water Threats under the Clean Water Act, 2006, A wellhead

	protection area or intake protection zone with a vulnerability score of 8 or higher, If any of the above criteria apply, the prescribed instrument application is flagged for a more detailed secondary screening to determine if the activity associated with the application is a significant drinking water threat. If yes, the appropriate standard operating policy is applied. As legally required, where a source protection policy that relies on a prescribed instrument for implementation prohibits an activity that is a significant drinking water threat, the ministry is conforming to the policy by refusing to issue an instrument for the activity. Source protection policies may be just one of the reasons an application is denied. When issuing pesticide permits for the application of pesticides on land in areas where this activity would be considered a significant drinking water threat, the ministry is including the following terms and conditions as per the standard operating policy: ensure the permit includes appropriate terms and conditions that address emergency response measures and spill contingency plans for any pesticide mixing, loading, and handling related to the proposed pesticide treatment which are protective of drinking water sources ensure the permit includes applicable terms and conditions related to site specific setbacks to watercourses, timing restrictions (including consideration of weather events) and spills/runoff management or other measures necessary to manage the significant threat activity in order to protect sources of drinking water.
MOECC: Water Taking	As part of the current Permit To Take Water review and decision making process, the ministry is using the best available science to assess the sustainability and potential impacts to municipal drinking water systems, other users, and the natural and built environments. The ministry is working to fully operationalize the new Standard Operating Policy. As per the Standard Operating Policy, the ministry staff are required to consider the information and conclusions of Tier 3 Water Budgets in addition to the site specific technical information provided in the support of the application for the purposes of incorporating Source Protection Plan policies into the Permit To Take Water review and decision making process.
MOECC: Hauled sewage/biosolids	Since January 2015, every application received by MOECC District/Area offices for a new or amended hauled sewage or biosolid spreading site prescribed instrument goes through a source protection screening performed Southwest Region staff to determine if the activity associated with the application is located in any of the following areas where the land application and/or storage of hauled sewage or Processed Organic Waste could be considered to be a significant drinking water threat, this includes sites located within: A wellhead protection area with vulnerability score of 10, an intake protection zone with vulnerability score of 8 or higher an issues contributing area linked to pathogens, phosphorus or nitrates If necessary, the prescribed instrument undergoes a more detailed screening (performed by southwest region or Source Protection Programs Branch) to help confirm the potential threat level of the operation at the site in question. Once the appropriate potential threat classification is determined the applicable standard operating policy is applied. As legally required, where a source protection policy that relies on a waste disposal site prescribed instrument issued under the Environmental Protection Act for implementation prohibits an activity that is a significant drinking water threat, the ministry is

	conforming to the policy by refusing to issue an approval for the activity in that area. Source protection policies may be just one of the reasons an application is denied. Note that an approval may still be issued for those portions of the site where the activity is not considered to be a significant drinking water threat. For applications proposing to apply or dispose of untreated hauled sewage (e.g. waste from septic tanks and holding tanks, etc.) to land in areas where this activity would be a significant drinking water threat, the ministry is not issuing an approval, even if a source protection plan policy allows for managing the threat through the environmental compliance approval. Note that an approval may still be issued for those portions of the site where the activity is not considered to be a significant drinking water threat. MOECC is responsible for regulating the land application of Processed Organic Waste (e.g. digested sewage biosolids, processed organic food waste, pulp and paper biosolids, off-spec composts and other organic wastes etc) on non-agricultural sites. At these sites, Processed Organic Waste storage and land application is regulated with an Organic Soil Conditioning Site environmental compliance approval issued under Part V of the Environmental Protection Act. To be consistent with O. Reg. 267/03 under the Nutrient Management Act, for applications seeking to store or land apply biosolids within 100 metres of a municipal well, the ministry is not issuing any approval for the land application or storage of this material regardless of the policy in the local source protection plan. Outside this zone, where the policy outcome is to manage the threat, MOECC is taking a local approach to any approvals for the land application or storage of this material.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Applications are screened to determine if fuel storage or handling activities are being proposed or altered. Such applications are reviewed in detail to ensure conformance with significant drinking water threat policies. In addition, where fuel storage and handling has been identified as significant threat in a drinking water system and conditions have been added to the prescribed instrument (municipal drinking water licence), all applications received for that system are screened in detail to ensure that fuel storage and handling activities remain in conformance with significant drinking water threat policies.
OMAFRA: Nutrient Management	Each new prescribed instrument application and application for amendment to exiting prescribed instruments that is received goes through a detailed screening for source water protection policies. The farm has a municipal tax roll number associated with it that is searched using a Geographic Information System (GIS) mapping application. Once the farm is located, several source water protection layers are turned on to determine if any policies apply to the area. If not, the review carries on as normal. If policies may apply then the vulnerability score is determined to see if the activity is a significant drinking water threat, and if so, we determine what policies apply and add applicable conditions, if necessary, to the prescribed instrument approval.
MNRF: Aggregates (Fuel	MNRF Aggregate Inspectors have received an overview of Source Protection and applicable Source Protection policies and have been instructed to screen new applications and amendments using the mapping tool developed by MOECC. To ensure decisions made on PI

storage)	applications conform with significant drinking water threats policies, all new aggregate licence and permit applications submitted to MNRF must be circulated to the Upper and Lower Tier Municipality for review and comment. In addition, all new licence applications must be circulated to the local Conservation Authority for review and comment. All new aggregate licences and permits issued since 1997 contain conditions prescribed in regulation that require a Spills Contingency Program to be developed prior to site preparation and that all fuel storage tanks must be installed and maintained in accordance with the Liquid Fuels Handling Code. All new aggregate licences and permits must also identify the location of existing and proposed fuel storage areas on the site plan. In addition, the site plans also identify the elevation of the water table and regulate extraction depths. All new aggregate licence and permit applications that propose to extract below the water table must complete a Hydrogeological Level 1 Report to determine the potential for adverse effects to groundwater and surface water resources and their uses. If the results of the Level 1 Report identify a potential for adverse effects, an impact assessment (Hydrogeological Level 2 Report) is required to demonstrate the significance of the effect and feasibility of mitigation. A Hydrogeological Level 2 Report must be completed by a qualified person and address the items specified in the Aggregate Resources of Ontario Provincial Standards (e.g. water wells, groundwater aquifers, springs, surface water courses and bodies). Monitoring programs or mitigation measures identified in the technical reports are written into the site plan to ensure their implementation and enforceability. A new licence or permit application in which a Level 2 Hydrogeological Report was completed must be circulated to the MOECC.
MTO: Aggregates -road construction (Fuel storage)	For applications that propose to extract material above the water table the permit application process includes the preparation of a water table summary report and/or hydrogeological studies undertaken by a Professional Engineer or Professional Geoscientist. Applications that propose extraction of aggregate material below or near the water table require a Level 1 Hydrogeological Report to determine the potential for adverse effects to groundwater and surface water resources and their uses. A Level 2 Hydrogeological Report is required if a potential for adverse effects is identified by the Level 1 Report. The Level 2 Report must demonstrate the significance of the effect and feasibility of mitigation, and is completed by a professional that is qualified to address items specified in the Aggregates Resources of Ontario Provincial Standards (AROPS). Any required monitoring programs or mitigation measures that result are incorporated into the site plans. In accordance with the mandatory requirements of the AROPS, all new aggregate and wayside permit applications must be circulated to the Upper and Lower Tier Municipality for review and comment. The Ministry of the Environment and Climate Change is sent those permit applications that require the completion of a Level 2 Hydrogeological Report for review. Feedback provided back to MTO is considered in the application review and approvals process.

Question 13

Provide a brief description of the approach each provincial ministry is taking for incoming PI applications (new or amendments) to have regard to any moderate and/or low drinking water threat policies that rely on PIs.

N/A

Question 14

Complete the tables below to assist with tracking decisions made on incoming PI applications (new and amendments) for significant drinking water threat activities indicated. The tables below can be completed by the data provided by the applicable ministries through their respective PI electronic/paper reporting forms. The data in the tables are the annual counts of actions taken on incoming applications (i.e., not the cumulative count).

MOECC: Waste disposal site – landfilling and storage (transfer/processing sites)

Number of applications that underwent detailed review for source protection	Number of PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Sewage works/wastewater

Number of applications that underwent detailed review for source protection	Number of PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Pesticides

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
1	0	0

MOECC: Water Taking

Number of applications that underwent detailed review for source protection	Number of PIs issued in WHPA Q1 where SDWT is managed through conditions
0	0

MOECC: Hauled Sewage

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Biosolids (Processed Organic Waste)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
0	0	0

MOECC: Municipal Drinking Water Licences and Drinking Water Works Permits (Fuel storage)

Number of applications that underwent detailed review for source protection	Number of PIs issued where SDWT is managed through conditions
0	0

OMAFRA: Nutrient Management Strategies (NMS)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

OMAFRA: Non-Agricultural Source Material (NASM) Plans

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Licenses (AL)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Permits (AP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MNRF: Aggregates (Fuel storage) – Site Plans/Wayside Permits (WP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

MTO: Aggregates – road construction (Fuel storage) – Site Plans/Wayside Permits (WP)

Number of applications that underwent detailed review for source protection	Number of decisions made where PIs issued where SDWT is managed through conditions	Number of PIs refused because SDWT is prohibited
NULL	NULL	NULL

Question 15

Provide a brief description of each provincial ministry's process for ensuring PIs that were previously issued or otherwise created before the plan took effect (i.e., existing PIs) conform with the significant drinking water threat policies in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	The ministry is currently identifying existing instruments where a waste disposal sites is located in an area that could be a significant drinking water threats activities. If an approved activity is deemed a significant drinking water threat, the ministry will review the activity and the environmental compliance approval to determine if changes are needed to meet the intent of the source protection policies. The ministry addresses drinking water threat activities that are regulated by ministry approvals and permits on a consistent province-wide basis and as such intends to review within 3 years from the time the plan took effect and amended within 12 months of the review, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
MOECC: Sewage	Ministry staff have developed a screening process to identify previously issued Environmental Compliance Approvals for sewage works located in vulnerable areas where prescribed instrument policies may apply. If an approved activity is deemed a

works/wastewater	significant drinking water threat, the ministry will review the Environmental Compliance Approval to determine if the terms and conditions of the approval are protective of drinking water sources. If updates to an approval are required, the ministry will contact the owner/operator of the works or site to discuss the next steps. The ministry addresses drinking water threat activities that are regulated by ministry approvals and permits on a province-wide basis and as such intends to review within 3 years from the time the plan took effect and amended within 12 months of the review, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
MOECC: Pesticides	
MOECC: Water Taking	
MOECC: Hauled sewage/biosolids	MOECC Standard Operating Policy for the Permit To Take Water program was developed in 2016. The Standard Operating Policy provides the staff with direction and guidance to screen/review/amend/approve previously issued (i.e., existing) Permits To Take Water and new Permit To Take Water applications to conform with the source protection prescribed instrument policies where a water taking is or would be a significant water quantity threat (significant drinking water threat - i.e., water takings without returning the water taken to the same aquifer). To date the only existing (i.e., previously issued) permits within a WHPA-Q1 with a significant stress/risk level are the permit(s) for the municipal taking. The Ministry will support municipalities as they work to determine if management measures are required for the long term sustainability of their taking. At this time, formal amendments to existing Permits To Take Water have not been initiated.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	The Ministry has undertaken an exercise to identify all high risk fuel storage and handling associated with municipal residential drinking water systems. Where fuel storage and handling is a significant threat, conditions have been added to the prescribed instrument (municipal drinking water licence) to address fuel storage risk.
OMAFRA: Nutrient Management	OMAFRA has identified the existing prescribed instruments that will need to be reviewed. The existing date was determined to be January 1, 2016 as this is when we were confident that our process was detailed enough for reviewing all new prescribed instruments. Every owner of a prescribed instrument has been contacted and informed that they have a nutrient management strategy or a Non-Agricultural Source Material (NASM) plan in an area to which local source water protection policies may apply. They must work with a certified person to evaluate their prescribed instrument, make any necessary modification to address local source water protection policies and resubmit the instrument for approval. OMAFRA will evaluate the amended prescribed instrument and issue an approval with conditions when the prescribed instrument is complete, compliant with Ontario

	Regulation 267/03 and conforms with significant drinking water threat policies.
MNRF: Aggregates (Fuel storage)	MNRF is in the process of reviewing existing instruments under the Aggregate Resources Act (e.g. licences and permits which authorize pits and quarries) issued prior to the effective date of the Source Protection Plan to determine if the applicable sites are storing and handling fuel in the vulnerable areas identified in the policy.
MTO: Aggregates -road construction (Fuel storage)	There were no existing prescribed instrument applications affected by source protection policies. All (existing and future) MTO aggregate/wayside permits, as well as existing dormant permits activated for a provincial highway contract, must contain fuel handling and storage conditions in the site plan, as prescribed by regulation. This includes installation of fuel storage tanks in accordance with the CSA B139 Installation Code for Oil Burning Equipment and compliance with the strict conditions specified by the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handing Code, 2007, as amended. Furthermore, MTO does not allow permanent or long term storage of fuel at MTO permit sites. Such requirements ensure the activity is managed in a manner that reduces the risk of contamination.

Question 16

The tables below assist with tracking the actions taken on previously issued (i.e., existing) PIs for significant drinking water threat activities indicated. The tables below can be completed using the data provided by the applicable ministries through their respective PI electronic/paper reporting forms. The data in the tables are reported on a cumulative basis meaning the counts are provided as a running tally of actions taken on previously issued or otherwise created PIs since the effective date of the SPP.

MOECC: Waste disposal site – landfilling and storage(transfer / processing sites)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	0	0	0	0	0	0	-

MOECC: Sewage works/wastewater
Baseline number of PIs that may be subject to SDWT policies and require review: 1

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
1	0	1	0	0	0	0	1	100%

MOECC: Water Taking
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	0	0	0	0	0	0	-

MOECC: Municipal Drinking Water Licences and Drinking Water Works Permits (Fuel storage)
Baseline number of PIs that may be subject to SDWT policies and require review: 2

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
1	0	2	0	0	0	0	2	100%

OMAFRA: Nutrient Management Strategies (NMS)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review	Number of PIs determined to be a SDWT	Number of PIs determined not to be a SDWT	Number of PIs amended or replaced	Number of PIs where no additional conditions were	Number of PIs revoked	Final Decision Pending	Total number of PIs reviewed and on which actions taken (columns	Cumulative Progress Made (%) on PIs reviewed and

(column A)	(column B)	(column C)	(column D)	needed (i.e., existing terms and conditions sufficient) (column E)	(column F)	(column G)	C+D+E+F+G)(column H)	actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

OMAFRA: Non-Agricultural Source Material Plans (NASM Plans)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
0	0	0	0	0	0	0	0	-

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Licenses (AL)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column

				terms and conditions sufficient) (column E)				H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MNRF: Aggregates (Fuel storage) – Site Plans/Aggregate Permits (AP)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MNRF: Aggregates (Fuel storage) - Site plans/Wayside Permits (WP)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)

NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

MTO: Aggregates – road construction (Fuel Storage) - Site plans/Wayside Permits (WP)
Baseline number of PIs that may be subject to SDWT policies and require review: 0

Number of PIs that completed detailed review (column A)	Number of PIs determined to be a SDWT (column B)	Number of PIs determined not to be a SDWT (column C)	Number of PIs amended or replaced (column D)	Number of PIs where no additional conditions were needed (i.e., existing terms and conditions sufficient) (column E)	Number of PIs revoked (column F)	Final Decision Pending (column G)	Total number of PIs reviewed and on which actions taken (columns C+D+E+F+G)(column H)	Cumulative Progress Made (%) on PIs reviewed and actioned (column H/Baseline number (column I)
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	-

Question 17

For the purposes of section 61 of O. Reg. 287/07 (exemption from RMP policy), complete the table below to indicate the number of notices or PIs issued by the applicable provincial ministries that state the PI conforms to the significant drinking water threat policies in the SPP (i.e., statement of conformity confirms the instrument holder is exempt from requiring a Risk Management Plan). Also, state the prescribed drinking water threat activity to which the statements of conformity pertain. (NOTE: May apply to instruments under the Safe Drinking Water Act, Pesticides Act, Nutrient Management Act or Aggregate Resources Act).

Response: 0

Additional comments:

PIs issued under the Nutrient Management Act (OMAFRA)

- We did not have any requests for a statement of conformity for a PI to be exempt from a section 58 RMP where we issued that statement (we had 2 requests for statements of conformity on NMSs that had previously expired and therefore we could not review and amend.)

PIs issued under the Aggregate Resources Act for road construction

- There were no existing PIs affected by Source Water Protection policies

Question 18

In situations where a provincial ministry does not issue or create the prescribed instrument, briefly describe what is being done by the ministry to ensure the PI conforms with the significant threat policies that use the PI tool. (NOTE: Applicable to only certain OMAFRA instruments issued under the Nutrient Management Act.)

Response: Guidance is currently being developed for RMOs, farmers and certified individuals that prepare NMPs to use to help determine if a PI conforms to the SDWT policies.

Prescribed Instruments - Inspections and Compliance - Questions 19 - 21

Question 19

Briefly describe how provincial ministry staff involved in inspections related to PIs have been trained in source protection for each of the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	Training: Online Training, Provincial Officer designation training, Source Protection Program Branch training, Specific program area inspections training. Environmental Officers need to complete extensive training programs and acquire Provincial Officer designation for the purpose of regulating and enforcing compliance under the Environmental Protection Act, Ontario Water Resources Act, Environmental Assessment Act, Nutrient Management Act and Pesticides Act. Starting in late 2014, general training on source protection, as well as Operations Division's implementation activities, was delivered to staff at large. Training sessions were held in each Region, and all staff were invited to attend. All new Environmental Officers are required to complete MOECC Foundations training, where they receive general Source Protection training that covers the following topics: Clean Water Act, scope of source protection program, source protection program structure and process, key players, assessment reports, source protection plans, risk management plans, vulnerable areas, water budgets and water quantity vulnerability analysis, prescribed drinking water threat activities, conditions and local threats, source protection tools, prescribed instrument and monitoring policies etc. Environmental Officers need to follow the ministry Inspection Guidance Manuals that outline the roles and

	responsibilities for provincial officers in conducting inspections. The General Inspection Guidance Manual (Part A) is intended to assist in carrying out all types of inspections. The specific Inspection Guidance Manuals (Part B) have been generated for individual inspection types including waste disposal site inspections.
MOECC: Sewage works/wastewater	Training: Online Training, Provincial Officer designation training, Specific program area inspections training, Technical guidance. Field officers who assess compliance with sewage prescribed instruments have received annual training specific to sewage works which may be, or are confirmed to be, a significant drinking water threat. Updated guidance, technical reference material and assistance when conducting inspections at sewage works with source water protection considerations is provided to all field inspectors.
MOECC: Pesticides	Training: Source Protection Program Branch training, Specific program area inspections training. Regional Pesticide Specialists were also trained in 2014 and keep current with program developments and changes. Source Protection Programs Branch delivered training to Operations Division District Offices in the Fall of 2014 and new/updated training in the fall of 2017. Regional Pesticide Specialists continue to provide technical support related to pesticide inspections to District Offices.
MOECC: Water Taking	Training: Online Training, Peer Training, Provincial Officer designation training, Source Protection Program Branch training, Specific program area inspections training, Technical guidance, Workshops. Environmental Officers need to complete extensive training programs and acquire Provincial Officer designation for the purpose of regulating and enforcing compliance under the Environmental Protection Act, Ontario Water Resources Act, Environmental Assessment Act, Nutrient Management Act and Pesticides Act. Starting in late 2014, general training on source protection, as well as Drinking Water and Environmental Compliance Division implementation activities, was delivered to staff at large. Training sessions were held in each Region, and all staff were invited to attend. All new Environmental Officers are required to complete MOECC Foundations training, where they receive general Source Protection training that covers the following topics: CWA, scope of SP program, SP program structure and process, key players, assessment reports, source protection plans, risk management plans, vulnerable areas, water budgets and water quantity vulnerability analysis, prescribed drinking water threat activities, conditions and local threats, source protection tools, prescribed instrument and monitoring policies etc. Environmental Officers need to follow the ministry Inspection Guidance Manuals that outline the roles and responsibilities for provincial officers in conducting inspections. The General Inspection Guidance Manual (Part A) is intended to assist in carrying out all types of inspections. The specific Inspection Guidance Manuals (Part B) have been generated for individual inspection types including the Permit To Take Water Inspection. There is an hour long online training module for Environmental Officers on “How to conduct a Permit To Take Water Inspection“. This training is intended

	to prepare an Environmental Officer to conduct a thorough and accurate inspection and enable them to make more informed decisions about what information needs to be collected, reviewed, reported on, and included in a completed Permit To Take Water Inspection. Participants are be able to: • Find relevant Legislation, Policies, Procedures and Guidance Documents. • List the five key resources required to conduct a detailed file review. • Search IDS for all sources of information regarding water takers. • Search the Environmental Registry for information regarding water taking applications. • List the six steps to a successful Permit To Take Water Inspection. • Understand critical areas to inspect during a site visit to assess whether adverse impacts may be occurring from the water taking.
MOECC: Hauled sewage/biosolids	Training: Peer Training, Provincial Officer Designation training, Technical guidance. No special training in the Clean Water Act/Source Protection is necessary for MOECC staff conducting inspections under the Nutrient Management Act. Ministry of the Environment and Climate Change inspectors are not designated under the Clean Water Act and have no authority to conduct inspections or undertake any compliance promotion activities under that Act. Rather the prescribed instruments subject to inspection by MOECC Environmental Officers for the Agricultural Source Material (ASM) and Non-Agricultural Source Material (NASM) subprograms are issued under the Nutrient Management Act. MOECC inspectors are designated Provincial Officers under the Nutrient Management Act (among other legislation) who have received mandatory training in order to receive their designation. MOECC inspectors of Agricultural Source Material and Non-Agricultural Source Material sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Nutrient Management Act or other legislation such as the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders. It should be noted that general training sessions have been made available to MOECC field inspectors on the fundamentals of the Clean Water Act as well as Source Protection implementation activities undertaken by the Ministry; however, completion of this training is not mandatory prior for field officers conducting inspection activities. Finally, new provincial officials do receive general Source Protection training as part of their officer designation training. No special training in the Clean Water Act/Source Protection is necessary for MOECC staff conducting inspections at hauled sewage sites or processed organic waste (aka biosolids) sites. Ministry of the Environment and Climate Change inspectors are not

	designated under the Clean Water Act and have no authority to conduct inspections or undertake any compliance promotion activities under that Act. Rather the prescribed instruments subject to inspection by MOECC Environmental Officers for the hauled sewage and processed organic waste subprograms are issued under the Environmental Protection Act. All MOECC inspectors are designated Provincial Officers under the Environmental Protection Act (among other legislation) who have received mandatory training in order to receive their designation. MOECC inspectors of hauled sewage/processed organic waste sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders. It should be noted that general training sessions have been made available to MOECC field inspectors on the fundamentals of the Clean Water Act as well as Source Protection implementation activities undertaken by the Ministry; however, completion of this training is not mandatory prior for field officers conducting inspection activities. New provincial officials do receive general Source Protection training as part of their officer designation training. Finally, Source Protection information is included as part of the annual inspection guidance provided to field staff. Specifically, Source Protection information is incorporated into the risk ranked lists that are provided to inspectors.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Training: Online Training, Peer Training, Source Protection Program Branch training, Specific program area inspections training, Technical guidance, Workshops.
OMAFRA: Nutrient Management	
MNRF: Aggregates (Fuel storage)	Training: Peer Training, Source Protection Program Branch training, Specific program area inspections training, Workshops. MNRF Aggregate Inspectors have received an overview of Source Protection and their role in inspecting aggregate licences/permits within WHPA-A, WHPA-B and IPZ-1 zones and the screening of new applications and amendments with regards to Source Protection policies.
MTO: Aggregates -road	Training: Peer Training, Specific program area inspections training, Technical guidance, Workshops. MTO Aggregate inspectors

construction (Fuel storage)	are re-trained at least bi-annually as to the formal protocol to ensure that source water protection and vulnerable areas are considered in the preparation of technical hydrogeological reports at the permit application stage. Aggregate staff are also trained to use the standardized text with respect to fuel storage and handling. Aggregate inspectors are trained to focus on fuel handling and storage during annual compliance inspections. In May 2016, the MTO Highway Standards Branch (Soils and Aggregates Section) provided training to the MTO Regional Aggregate Sections and MTO Aggregate Inspectors on source water protection and implementation requirements of source protection policies prepared under the Clean Water Act, 2006 (CWA). The training will be repeated in 2018. The role of the source protection program and plan policies as well as their legal effect and operational implications are the focus of training. Training also includes an overview of prescribed threats (specifically fuel handling and storage) and the vulnerability science applied (WHPA, IPZ, etc.). The above protocol is reaffirmed and amendments to the protocol implemented.

Question 20

Briefly describe, in general terms, how source protection is taken into consideration when planning for and prioritizing inspections for the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	The ministry's current program delivery model for proactive compliance inspection program is based on risk analysis. During Year-Start Planning (February-March of each year), inspection priorities are set for each program area at by Divisional Program Leads. The ministry uses a risk based approach to setting each program's priorities for inspection. Program diagnostics and analyses are conducted as part of the yearly compliance planning process and help inform inspection priorities in the upcoming year. This information along with program specific risk factors is used to identify compliance priorities for each program area. Source protection vulnerability is generally considered as one of the risk factors during risk analysis. District/Area offices use the Integrated Plan direction in conjunction with their own local knowledge and consideration of available resources to select the number and locations of facilities/sites for inspections.
MOECC: Sewage works/wastewater	The MOECC's compliance program includes an annual process to plan field inspections for each fiscal year. Planned inspections are determined based on a risk based methodology including many factors such as individual potential for environmental impacts

	and site history. Source Protection considerations have been incorporated into this annual risk based inspection planning process for municipal, industrial, commercial and private sewage inspections as a priority area of focus. This ensures that the specific risks associated with potential drinking water threats are included when planning field inspections. The lists of known prescribed instruments issued in vulnerable areas and any that have been determined to be a significant threat are included and considered during compliance assessment planning and prioritization activities.
MOECC: Pesticides	Inspection guidance is provided to District Offices as part of the Integrated Planning process. Regional Pesticide Specialists provide technical assistance to District Officers when undertaking Pesticides Inspections.
MOECC: Water Taking	The ministry's current program delivery model for proactive compliance inspection program is based on risk analysis. During Year-Start Planning (February-March of each year), inspection priorities are set for each program area at by Divisional Program Leads. The ministry uses a risk based approach to setting each program's priorities for inspection. Program diagnostics and analyses are conducted as part of the yearly compliance planning process and help inform inspection priorities in the upcoming year. This information along with program specific risk factors is used to identify compliance priorities for each program area. Source protection vulnerability is generally considered as one of the risk factors during risk analysis. District/Area offices use the Integrated Plan direction in conjunction with their own local knowledge and consideration of available resources to select the number and locations of facilities/sites for inspections. SP water quantity vulnerable area data has recently been available with the Drinking Water and Environmental Compliance Division of the ministry. Sites with active water taking permits located within SP water quantity vulnerable areas will be identified and compliance inspections will be planned based on risk analysis during Year-Start Planning process for FY 2018-19.
MOECC: Hauled sewage/biosolids	The MOECC carries out annual proactive inspections at agricultural operations operating under approved Nutrient Management Strategies, Plans and Non-Agricultural Source Material (NASM) Plans. Each year regulated operations are identified and each one is assigned an overall risk score. Several risk factors are considered and these vary somewhat depending on the sub-program involved; among the risk factors considered is Source Protection vulnerable area information. Sites that intersect with source protection vulnerable areas with the highest risk scores (ie. scores of 8 or greater) are assigned relatively higher inspection priority risk scores. This approach ensures that sites where regulated activities may be considered a significant drinking water threat are identified amongst the highest priority for inspection. Districts offices are instructed to select inspection targets from the risk ranked lists and are encouraged to select higher priority sites. Districts are responsible for the ultimate decision of which sites they chose

	to inspect and they rely on their local knowledge when making their final choices. The MOECC carries out annual proactive inspections at hauled sewage sites and processed organic waste sites. Each year regulated operations are identified and each one is assigned an overall risk score. Several risk factors are considered and these vary somewhat depending on the sub-program involved; among the risk factors considered is Source Protection vulnerable area information. Sites that intersect with source protection vulnerable areas with the highest risk scores (ie. scores of 8 or greater) are assigned relatively higher inspection priority risk scores. Districts are responsible for the ultimate decision of which sites they chose to inspect and they rely on their local knowledge when making their final choices. However, they are provided the risk ranked lists as a resource and are encouraged to select higher priority sites.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Safe Drinking Water Branch does not prioritize Municipal Drinking Water System inspections strictly based on source protection as the branch is mandated by the Compliance and Enforcement Regulation to inspect all municipal residential systems every year, without exception.
OMAFRA: Nutrient Management	NULL
MNRF: Aggregates (Fuel storage)	MNRF utilizes a risk based compliance approach to plan for aggregate inspections based on a scale of High, Medium and Low priority. Licences and Permits that fall within source protection policy areas and/or have fuel storage within areas identified by a source protection policy are considered High Risk for the purposes of planning for inspections.
MTO: Aggregates -road construction (Fuel storage)	All MTO permit sites are inspected every year by MTO staff and fuel storage is one of the prescribed elements that must be checked as part of the formal written compliance audit.

Question 21

Briefly describe, in general terms, how each ministry program area ensures PI holders comply with their instrument for the program areas in the table below.

MINISTRY PROGRAM AREA	DESCRIPTION
MOECC: Waste Disposal Sites – landfilling and storage	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, Voluntary abatement measures.
MOECC: Sewage works/wastewater	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, Voluntary abatement measures.
MOECC: Pesticides	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Referral to internal investigations department, self-reporting, Voluntary abatement measures.
MOECC: Water Taking	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Provincial offense notice (ticket), Referral to internal investigations department, self-reporting, Voluntary abatement measures. The ministry conducts planned inspections to assess compliance of a water taking activity against the terms and conditions of an active Permit To Take Water and related regulatory requirements. Inspections also assess conformance to applicable policies, guidelines and procedures. Ministry staff may also conduct reactive inspections if they become aware of a complaint or concern linked to a particular site. Where a Permit To Take Water inspection finds non-compliance, Incident Response reporting and related abatement action will commence. Various approaches may be used by inspectors to require proponents to bring an operation into compliance with legal requirements including: Voluntary abatement, Issuance of Order or Ticket, Referral to the Ministry's Investigation and Enforcement Branch with a recommendation to undertake a prosecution The approach taken by the inspector will depend on the severity and nature of the violation as well as the compliance history of the party in question. Inspectors may refer to the Ministry's following documents to assist them in determining the most appropriate compliance approach in any particular instance: General Inspection Guidance Manual Part A, Inspection Guidance Manual Part B, Permit To Take Water, Compliance Policy: Applying Abatement and Enforcement Tools
MOECC: Hauled sewage/biosolids	Processes in place: Inspection, Order, Referral to internal investigations department, Voluntary abatement measures, Provincial offense notice (ticket). The ministry conducts inspections at agricultural operations to assess compliance with regulatory requirements. Ministry staff may also conduct reactive inspections if they become aware of a complaint or concern linked to a particular operation. Where non-compliance with prescribed instrument requirements or other regulatory requirements are identified the ministry takes action to bring sites into compliance. Various approaches may be used by inspectors to ensure

	proponents bring an operation into compliance with legal requirements. MOECC inspectors of hauled sewage/processed organic waste (aka biosolids) sites assess compliance with the terms/conditions within the applicable prescribed instrument(s) associated with the operation as well as other applicable regulatory requirements made under the Environmental Protection Act and Ontario Water Resources Act. In the event any terms or conditions are contained in an instrument to address Source Protection policy requirements, compliance with those terms/conditions is addressed as part of the regular inspection activities. When ministry inspectors identify non-compliance with legal requirements during an inspection, various abatement actions may be taken to address non-compliance, ranging from providing guidance and information to issuing corrective orders.
MOECC: Municipal drinking water licences/works permits (Fuel storage)	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, Referral to internal investigations department, Voluntary abatement measures. Municipal drinking water systems are inspected annually to confirm compliance with the requirements set out in their prescribed instrument (Municipal Drinking Water Licence and Drinking Water Works Permit).
OMAFRA: Nutrient Management	NULL
MNRF: Aggregates (Fuel storage)	Processes in place: Inspection, Primary/Secondary screening of PI Applications/Amendments, self-reporting.
MTO: Aggregates -road construction (Fuel storage)	Processes in place: Inspection, Order, Primary/Secondary screening of PI Applications/Amendments, self-reporting. Every MTO permit site, whether active or not, is inspected annually by MTO aggregates staff and a Compliance Assessment Report is filed with the MTO for the purpose of assessing compliance with the Aggregate Resources Act, Regulations, AROPS, the site plan, and any conditions of the permit. Fuel storage is one of the prescribed elements that is verified in the compliance assessment. When an MTO permit is actively being used by an MTO contractor, MTO Aggregate Inspectors have the legal authority to verify and enforce compliance with site plan and operational requirements, including fuel storage conditions. Contract Administrators are also required to verify that site plan conditions are being adhered to for the duration of an MTO contract.

Land Use Planning - Questions 22 - 23

Question 22a

Where the Ministry of Municipal Affairs (MMA) is the planning approval authority for day-to-day *Planning Act* decisions within source protection areas, or where MMA is the approval authority for the official plan and zoning by law conformity exercises municipalities are required to undertake, please provide a description of how MMA ensures their *Planning Act* decisions conform with the approved source protection plans (specifically, the policies on List A - Significant threat policies that affect decisions under the *Planning Act* and *Condominium Act*, 1998)?

Response: Through the review and approval of Official Plans, MMA, in consultation with MOECC, ensures Official Plan policies conform to the significant drinking water threat policies and have regard to other policies. In addition, MMA ensures designated vulnerable areas, as identified in approved assessment reports are identified in Official Plan schedules and protected, improved or restored as is required to be consistent with the Provincial Policy Statement.

Question 22b

In what other ways does MMA integrate source protection considerations into their business or operational processes? Please provide a brief description of each.

Response: MMA takes source protection into consideration in its review of new planning documents (official plans, comprehensive zoning bylaws) and development applications as applicable.

Question 23a

In total, how many municipalities (including upper-, lower-, and single-tier) within the SPR/A are required to complete:

i) Official Plan (OP) conformity exercises for source protection?

Response: 3

ii) Zoning by-law (ZBL) conformity exercises for source protection?

Response: 3

Question 23b

Of these municipalities, how many have:

i) how many have completed their OP conformity exercise

Response: 2

ii) completed OP conformity exercise but under appeal

Response: 0

iii) OP conformity exercise in process

Response: 1

iv) not started their OP conformity exercise

Response: 0

v) completed their ZBL conformity exercises

Response: 0

vi) completed ZBL conformity exercise but under appeal

Response: 0

vii) ZBL conformity exercise in process

Response: 2

viii) not started their ZBL conformity exercise

Response: 1

Education and Outreach - Question 24 - 26

Question 24a

(i) What method(s) are being used to implement E&O policies in the SPR/A?

Method	Municipalities	Ministry
Development and distribution of educational materials for general public	YES	NO
Development and distribution of educational materials for target audiences including developers, builders, landowners, farmers, etc.	YES	NO
In-person workshops	YES	NO
Site visits	YES	NO
Source protection content for websites	YES	NO
Educational videos (e.g., YouTube	NO	NO
Podcasts	NO	NO
Collaboration with other bodies (e.g., ministries, local organizations, etc.	YES	NO
Other	NO	NO

ii) Identify the ways in which outreach efforts were conducted to reach target audiences about source water protection? Choose all that apply.

Method	Municipalities	Ministry
Social media promotion	YES	NO
Traditional media advertising	YES	NO
Site visits	YES	NO
Integration with other outreach programs or campaigns (e.g., Community Environment Days, etc.)	YES	NO
Articles in publications	YES	NO

Information kiosks at events/festivals	YES	NO
Other	NO	NO

Question 24b

i) Describe how the SPA is evaluating the implementation of its E&O policies?

Thames Centre

No formal evaluation criteria has been set.

Central Elgin

Regarding the Elgin Area Primary water system intake protection zones, the population in the port community that surrounds this area can be transient in nature. A large number of boaters, cottagers and tourists who may be unfamiliar with the proximity of the intake come to the area during the summer months. To help to address this issue marinas up stream of the IPZ 1 and IPZ 2 have been approached and are willing participants in ongoing outreach and education. There is no formal evidence; however, marina operators continue to stock factsheets and maintain signs detailing the IPZ's at their facilities. With respect to evaluation of the effectiveness, the municipality will continue discussions with boaters etc. to gauge knowledge about Source Water Protection.

Central Elgin contracted Kettle Creek Conservation Authority to undertake a comprehensive outreach and education campaign which has included outreach to the general public as well as targeted audiences such as the Canadian Coast Guard and fire departments. Feedback from these presentations has been anecdotal. However, the Coast Guard was particularly appreciative of the information noting that they were unaware of the IPZs.

While there is no direct evaluation of this form of outreach, Facebook posts on the subject matter have been shared and liked. In addition, over 10,000 attended the public day of the Children's Water Festival which promoted the message of source water protection and conservation. The #ichoosetapwater campaign consisted of a video contest and a reusable water bottle giveaway. After learning more about source water protection and water conservation students were asked to take a water pledge. Fifty three students pledged to choose tap water and change everyday behavior in order to protect water sources.

Kettle Creek SPA

The SPA has been sharing E&O knowledge and information through Lake Erie Region's Implementation Working Group, however no formal evaluation process has been established.

Question 25

What did the E&O policy(ies) that were implemented target in the SPR/A?

Response: Threats (significant)

Signage - Question 27

Question 27

Complete the table below to indicate the number of source water protection signs that have been installed in the SPR/A for the reporting periods noted.

REPORTING PERIOD	Number of signs installed on provincial highways (Column A)	Number of signs installed on municipal roads (Column B)	Number of signs at other locations (if applicable) (Column C)	Total
Year 1 (from effective date of SPP to December 31 of same year)	0	0	0	0
Year 2 (January 1 to December 31 of calendar year following Year 1)	0	0	0	0
Year 3 (January 1 to December 31 of calendar year following Year 2)	0	0	0	0
Year 4 (January 1 to December 31 of calendar year following Year 3)				

Incentives - Question 28, 29

Question 28

If applicable to the SPR/A, complete the table below indicating the type of incentive(s) (e.g., PI application fees waived, funding, other non-financial incentives, etc.) that was made available (whether as a policy in the SPP or not), the source that provided the incentive(s), the prescribed drinking water threat activity(ies) to which it relates, the degree to which the incentive(s) assisted with the implementation of SPP policies that address significant drinking water threat activity(ies), and include any comments.

Type of Incentive	Source of Incentive	Prescribed Drinking Water Threat(s) (Select One or More)	Degree to which Incentive(s) Assisted with the Implementation of SPP Policies Addressing SDWTs	Comments
No incentives made available*	N/A	N/A	N/A	N/A

***** No incentives were offered in 2017 in Central Elgin and Malahide. Prior to that the municipality, paid to decommission abandoned wells within the WHPA A, B, and C for the Belmont Water Supply.

Sewage System Inspections - Questions 30a, 30b, 30c

Question 30a

How many on-site sewage systems in the SPA require inspections in accordance with the Ontario Building Code (OBC) (i.e., once every five years)?

Response: 0

Question 30b

Of these, how many on-site sewage systems were inspected (i.e., cumulative running tally of systems inspected?

Response: 0

Question 30c

How many of the on-site sewage systems inspected required:

Minor maintenance work (e.g., pump out)?

Response: 0

Major maintenance work (e.g., tank replacement)?

Response: 0

Environmental Monitoring - Questions 31

Question 31

If applicable to the SPR/A, complete the table below where information about drinking water issues is available. Begin by identifying the drinking water system(s) and any associated drinking water issue(s)/parameter(s) (chemical or pathogen) that have been identified, then indicate whether an Issue Contributing Area (ICA) was delineated for the identified issue(s), and any observations in the concentration or trend for each issue.

Drinking Water System	Drinking Water Issue / Parameter	ICA Delineated For This Issue	Observations	Actions/Behavioural Changes Contributing to Change in Observations (Optional)
N/A	N/A	N/A	N/A	N/A

Transport Pathways - Questions 32 - 34

Question 32a

How many notices about transport pathways (meaning a condition of land resulting from human activity (e.g., pits and quarries, improperly abandoned wells, geothermal system, etc.) that increases the vulnerability of a raw water supply of a drinking water system) did the SPA receive from municipalities in this reporting period (as per O. Reg. 287/07, ss. 27(3))?

Response: 0

Question 32b

What actions did the SPR/A take as a response to receiving these notices (e.g., SPR/A provided information to municipalities about changes in vulnerability, etc.)? Please describe below.

Response: N/A

Question 33

Provide specific information on actions taken by any person or body to reduce the impacts that transport pathways could have on sources of drinking water (e.g., number of wells properly abandoned by municipalities and/or private landowners in accordance with O. Reg. 903, etc.)?

Response: No actions this reporting period. All transport pathways were abandoned previously in 2014 under an incentive program.

Municipal Integration - Questions 35 - 38

Question 35a

In total, how many municipalities (including upper-, lower-, and single-tier) within the SPR/A are subject to SPP policies (any policy tool)?

Response: 3

Question 35b

Complete the table below by indicating the number of municipalities (including upper-, lower-, and single-tier) within the SPR/A that have integrated/are integrating source protection knowledge/science into the following municipal program areas/activities.

Municipal Program Areas/Activities	Number of municipalities that have integrated/are integrating source into program areas/activities
Road salt storage/application	3
Snow storage	3
Pesticide storage/application	3
Hazardous waste storage	3
Organic solvents storage	3
Municipal fuel storage (e.g., for heating, maintenance vehicles, etc.)	3
Municipal well maintenance and operations	3
Municipal water quantity	3
Stormwater infrastructure maintenance	3
Other. Please provide a description below.	0

Question 36a

Of the total number of municipalities within the SPR/A that are subject to SPP policies and have a legal responsibility for day-to-day land use planning or municipal building permit decisions, how many are integrating source protection requirements into the following program areas?

Number of municipalities within SPR/A with day-to-day responsibility for land use planning decisions (column A)	Number of municipalities integrating source protection requirements into land use planning decisions (column B)	Percent Integrating Source Protection Column B / Column A
3	3	100%

Number of municipalities within SPR/A with day-to-day responsibility for building permit decisions (column A)	Number of municipalities integrating source protection requirements into building permit decisions (column B)	Percent Integrating Source Protection Column B / Column A
3	3	100%

Question 36b

Indicate the number or estimated percentage of subject municipalities (including upper-, lower-, and single-tier) that are integrating source protection into the business processes listed in the table below.

Business Processes	Number or estimated percentage of subject municipalities integrating source protection
Staff involved with land use planning and/or section 59 policies trained in source protection	3
Staff guidance documents updated/produced for evaluating land use planning applications conforming with/having regard to SPP policies	1
Planning design and technical guidelines updated/produced for source protection considerations for applicants	1
Strategy and timeline established to undertake OP & ZBL conformity exercise	1
Planning documents updated	3
Planning maps/schedules updated to show vulnerable areas	3
Siting/placement of activities away from vulnerable areas	3
Complete planning application requirements (i.e., supporting documentation such as stormwater management plan, master environmental servicing plan,	3

lot grading plan, etc. needed)	
Procedures in place to flag where section 59 policies apply including mechanism/process to facilitate exchange of information about development application process and the issuance of section 59 notices	3
Steps taken (e.g., municipal by-law, conservation authority regulation, etc.) to reduce the number of applications that require RMO screening	1
Public works operations	3
Other. Please provide a description.	0

Enumerated Threats - Question 39a

Question 39a

Complete the table below by first indicating which of the listed significant drinking water threats were being engaged in (i.e., enumerated as 'existing' significant threats/threats) at the time of SPP approval. Lead SPAs will be maintaining a running tally of progress made in addressing significant threats that were on the ground before plans were approved. The running tally consists of the formula: A+B-C-D where:
A = Original estimate of SDWT engaged in/enumerated when SPP approved
B = Additional SDWT identified after first SPP approved as a result of field verification (i.e., not part of original estimate of SDWT)
C = SDWT included in enumeration estimates at time of plan approval but subsequently determined through field verification that: (i) it was not actually engaged in at a particular location after all OR (ii) it was no longer engaged in (e.g., land may still have an agricultural operation but owner no longer applying pesticides for their own reasons)
D = SDWT addressed because policy is implemented* (*Note: Where multiple policy tools address any given threat sub-category, implemented means that actions associated with at least one policy tool have been completed/are in place.) SPAs may use their local discretion in which policy tool they wish to reflect as being implemented.

Threat ID	Prescribed Drinking Water Threats	A	B	C	D	Remaining (A+B-C-D)
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act.	0	0	0	0	0
2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.	0	0	0	0	0
3	The application of agricultural source material to land.	0	0	0	0	0
4	The storage of agricultural source material.	0	0	0	0	0
5	The management of agricultural source material.	0	0	0	0	0
6	The application of non-agricultural source material to land.	0	0	0	0	0

7	The handling and storage of non-agricultural source material.	0	0	0	0	0
8	The application of commercial fertilizer to land.	0	0	0	0	0
9	The handling and storage of commercial fertilizer to land.	1	0	1	0	0
10	The application of pesticide to land.	0	0	0	0	0
11	The handling and storage of pesticide.	0	0	0	0	0
12	The application of road salt.	0	0	0	0	0
13	The handling and storage of road salt.	0	0	0	0	0
14	The storage of snow.	0	0	0	0	0
15	The handling and storage of fuel.	1	0	0	1	0
16	The handling and storage of a dense non-aqueous phase liquid.	0	0	0	0	0
17	The handling and storage of an organic solvent.	0	0	0	0	0
18	The management of runoff that contains chemicals used in the de-icing of aircraft.	0	0	0	0	0
19	The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard. O. Reg. 385/08, s. 3.	0	0	0	0	0
20	Water taking from an aquifer without returning the water to the same aquifer or surface water body.	0	0	0	0	0
21	Reducing recharge of an aquifer.	0	0	0	0	0
22	Local Threat: Transportation of Oil and Fuel Products Through a Pipeline	0	0	0	0	0
	Total	**2**	**0**	**1**	**1**	**0**

Question 39b

Please provide comments below to explain the overall progress made in addressing these significant threats. Include the percentage of overall progress made in the comments provided. The percentage of overall progress made in addressing local threats and conditions that are taking place on the landscape is determined by taking the total number in column D (i.e., SDWT addressed because policy is implemented) from the table above (reportable #39a) and dividing it into the number that is derived by adding the total numbers in columns A and B and then subtracting this sum total from the total in column C. In other words, overall progress made = D/A+B-C.

Response: For the Kettle Creek Source Protection Plan there were no significant drinking water threats identified for the Belmont Well system. For the Elgin Area Primary Water Supply, there were two drinking water threats identified. The first was bulk storage of commercial fertilizer. This practise was ceased in 2014 and the storage tank that was utilized by McAsphalt Industries was removed in January 2018. The final significant drinking water threat was for the bulk storage of fuel. This location was

identified as the bulk storage container at the Elgin Area Primary Water supply for the stand by generator. This threat has since been mitigated through a Risk Management Plan.

Assessment Report Information Gaps - Question 40

Question 40

Provide a summary of steps taken to further assess or implement the work plans described in technical rules #30.1 (Water Budget Tier 3), #50.1 (GUDI for WHPA-E or F), and #116 (ICA) through amendments carried out under section 34 or section 36 of the Clean Water Act.

Response: N/A

Other Reporting Items - Question 41

Question 41

Does the SPA have any other item on which it wishes to report? If so, please explain.

Response: Kettle Creek Source Protection Authority, in collaboration with Lake Erie Source Protection Region, has developed and produced a Kettle Creek Source Protection Area Annual Report. The report is written for the public, the SPC and local stakeholders. It provides a snapshot of the program's progress in the Kettle Creek watershed and is designed to complement the provincially-required Annual Progress Report and Supplemental Form.

Source Protection Outcomes - Question 42

Question 42

What positive outcomes (e.g., less water consumption, changes in behaviour, reduction in phosphorus and nitrogen concentrations, less chloride from road salt, reduction in algal blooms, human health protected, etc.), if any, have potentially resulted from the implementation of SPP policies? Please describe the outcomes below.

Response: A local campaign spearheaded by Kettle Creek Conservation Authority and Elgin St. Thomas Public Health promoted the importance of keeping our municipal drinking water safe. The #ichoosetapwater campaign consisted of a video contest and a reusable water bottle giveaway. The contest invited Grades 3 to 7 classes to submit a video highlighting the importance of choosing tap water over bottled water. Classrooms were provided messaging on the importance of keeping municipal drinking water safe to be incorporated into the videos. The winning entry was awarded a cash prize.

Achievement of SPP Objectives - Question 43

Question 43a

In the opinion of the Source Protection Committee (SPC), to what extent have the objectives of the SPP been achieved in this reporting period?

Progressing well/on target – majority of the source protection plan policies have been implemented and/or are progressing well.	✓
Satisfactory - Some of the source protection plan policies have been implemented and/or are progressing well.	
Limited progress made - A few of source protection plan policies have been implemented and/or are progressing well.	

Question 43b

Please provide comments to explain how the SPC arrived at its opinion. Include a summary of any discussions that might have been had amongst the SPC members, especially where no consensus was reached.

Response: Only two existing significant drinking water threats were identified in the Kettle Creek Source Protection Area when the Plan took effect. Since implementation of the plan, both threats (100%) have been addressed: one no longer exists and the other was managed through a Risk Management Plan (RMP). Additionally, many of the applicable plan policies (68%) that address significant drinking water threats are implemented or in progress.

Appendix C

Kettle Creek Annual Report

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

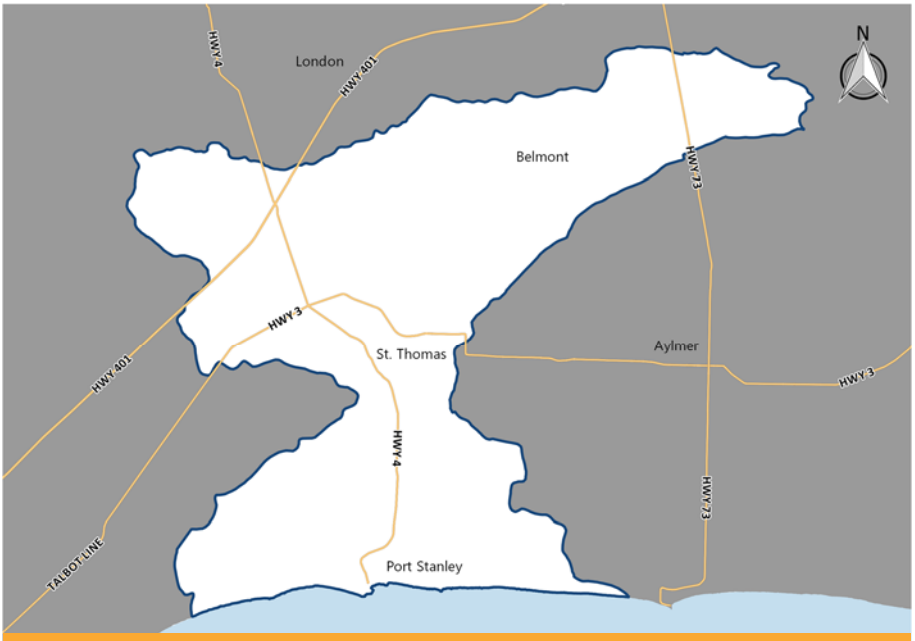
Kettle Creek Source Protection Area

2017 Annual Report

This page is intentionally left blank.

Kettle Creek Source Protection Area

2017 Annual Report



MAP OF THE KETTLE CREEK SOURCE PROTECTION AREA

Kettle Creek's 2017 Annual Report is a reflection of Source Water Protection Program implementation efforts and more broadly, a snapshot of the program's progress in the Kettle Creek watershed .

This is the second Annual Report on the progress of the Source Water Protection Program in the Kettle Creek Source Protection Area.

This report is produced by the Lake Erie Source Protection Region and written for the citizens of the Kettle Creek watershed, the Lake Erie Region Source Protection Committee, and local stakeholders.

The report uses Source Water Protection Program categories developed by the Ministry of the Environment and Climate Change (MOECC). The categories help tell the story of progress towards full implementation of Source Protection Plans and the protection of municipal drinking water sources.

After the initial year of implementation in 2015, the Source Water Protection Program is moving into a steady state in the Kettle Creek Watershed. The significant Drinking Water Threats identified in the plan have been addressed or eliminated. As of 2017, an outreach and education program is now in place and will continue in the coming years. We acknowledge and recognize the efforts made by our local municipalities, stakeholders and Source Protection Committee in the development of the Source Protection Plan, implementation of Source Water Protection policies and development of this annual report.

Clean Water Act

The Ontario government passed the *Clean Water Act* in 2006 to implement some of the recommendations of the Walkerton Inquiry. The *Clean Water Act* ensures communities protect their drinking water supplies through prevention - by developing collaborative, watershed-based Source Protection Plans that are locally driven and based on science.

Source Water Protection Program

The *Clean Water Act* led to the creation of the Source Protection Program, establishing Source Protection Regions and Source Protection Areas. Ontario has 19 Source Protection Regions and 38 Source Protection Areas. The Lake Erie Source Protection Region is made up of four watersheds or Source Protection Areas: Grand River, Long Point Region, Catfish Creek and Kettle Creek. Each watershed has its own Source Protection Plan. The Kettle Creek Source Protection Plan (the Plan) was approved on September 11, 2014 and went into effect January 1, 2015.

Kettle Creek Source Protection Area

The Kettle Creek Source Protection Area includes Kettle Creek and its tributaries. They drain 520 square kilometres of agricultural and urban lands before entering Lake Erie at Port Stanley. The area includes parts of Elgin County, Middlesex County, the City of St. Thomas, and City of London.

Two municipal drinking water systems serve the communities of the watershed: a well system in Belmont and the Elgin Area Primary Water Supply System (EAPWSS) in Port Stanley. The Plan established policies to address significant drinking water threats for both systems.

LOCATION OF MUNICIPAL WELLS AND INTAKE

Only two existing significant drinking water threats (SDWT) were identified in the Kettle Creek Source Protection Area when the Plan took effect. Since that time, both threats have been addressed: one no longer exists and the other was managed through a Risk Management Plan.

Due to the low number of significant threats, many of the policies in the Plan focus on education and outreach efforts and prohibition of future activities that may become significant drinking water threats.

Outcomes documented in this report reflect the limited number of identified threats.

Population: 52,000

Size: 520km^2

Drinking Water Systems: 2

Municipal Wells and Intakes: 2

SDWTs at Plan Approval: 2

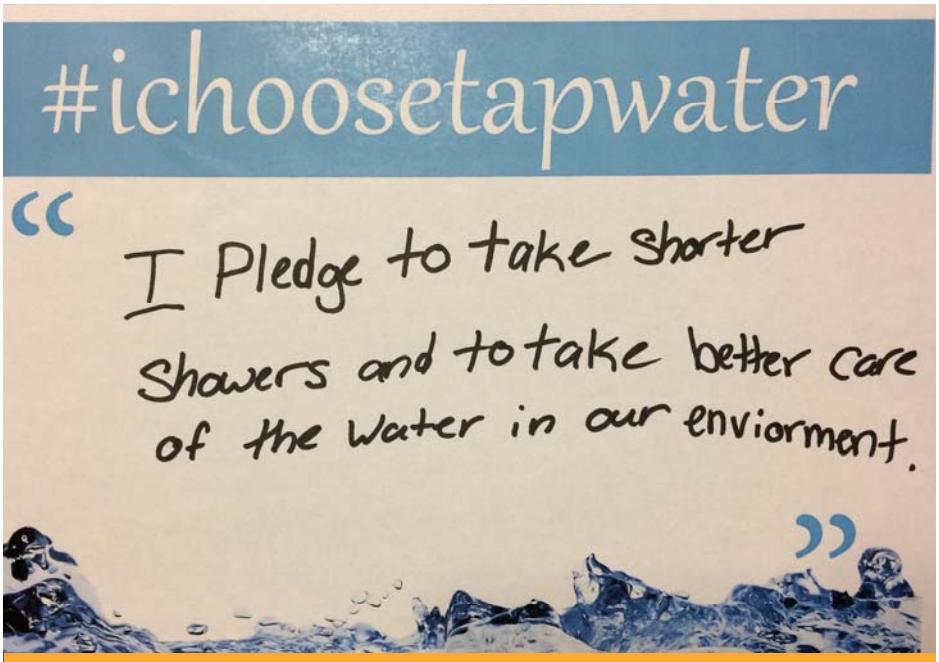
SDWTs Addressed: 2

Implementing Bodies: 3*

- Township of Malahide
- Municipality of Thames Centre
- Municipality of Central Elgin

*Elgin County has not been included as it is only responsible for implementing one policy.

KETTLE CREEK QUICK FACTS



A STUDENT'S PLEGE

Left: After learning more about source water protection during classroom programming, students were asked to take a water pledge. Many chose to drink tap water and committed to conserving water. Learn more about the #ichoosetapwatercampaign on page 5.

Method of Evaluation

The Source Protection Program's progress in the Kettle Creek Source Protection Area is measured through a Program Assessment – a high-level evaluation tool developed by the MOECC for implementation reporting purposes.

This report showcases a selection of annual reporting results that measure policy implementation efforts made from January 1 to December 31, 2017. The annual reporting results are sorted according to the implementation category or 'outcomes' they best describe, *e.g. Stakeholder Promotion*.

Want More Detail?

The Kettle Creek Annual Progress Report Supplemental Form includes additional reportables and information on implementation progress in the Kettle Creek watershed.

Find out more information about the Source Water Protection Program at sourcewater.ca.

Program Assessment

Measure of the Program's Progress in the Kettle Creek Source Protection Area

☑ Progressing Well	☐ Satisfactory	☐ Limited Progress Made
Most of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.	Some of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.	A few of the source protection plan policies have been implemented and/or are progressing according to the timelines in the source protection plan.

Outcome: Awareness and Willingness

Description: Implementing bodies are willing to integrate source protection into day-to-day business.

Figure 1. Illustrates the percentage of municipalities integrating source protection into various business processes. *Official Plan (OP) and Zoning By-law (ZBL) policies have been established, however they will not be up for review until 2018, and will be updated at that time.

Figure 1. Percentage of Municipalities Integrating Source Protection into Various Business Processes.

100%	• Land use planning and/or s. 59 policy staff trained in source protection • Maps and schedules include vulnerable areas • Complete planning application requirements
100%	• Has a public works operation • Sitting/placement of activities are away from vulnerable areas • S. 59 procedures are in place
33%	• Land use planning guidance documents updated/produced to include source protection • Applicant planning design and technical guidelines updated/produced for source protection • Planning documents updated
33%	• Reduce the number of applicants that need RMO screening • Source protection integrated into other business processes • Official Plan (OP) and Zoning Bylaw (ZBL) strategy/timeline in place*

OUTREACH AND EDUCATION SPOTLIGHT: EMERGENCY RESPONSE

A Boating Accident Protocol was formalized and provided to the Canadian Coast Guard (St. Williams Auxiliary Station). The protocol described the individuals/organizations that must be contacted in the event of a marine spill in the Port Stanley Intake Protection Zone (IPZ). This protocol was presented to the Coast Guard through a presentation on June 8, 2017.

An Emergency Management Plan was also formalized and provided to the Municipality of Central Elgin's Fire Rescue. The protocol described the individuals/organizations that must be contacted in the event of a spill in the Belmont Wellhead Protection Area and the Port Stanley IPZ. It was shared with fire rescue services in Yarmouth, Belmont and Union.

Outcome: Stakeholder Promotion

Description: Methods used to raise awareness and promote source protection.

The following chart details the education and outreach methods used to raise awareness and promote source protection within the watershed. Kettle Creek Conservation Authority (KCCA) works collaboratively with the Municipality of Central Elgin to design an outreach and education program that is delivered throughout the watershed as required. The following summarizes some highlights from the 2017 campaign.

Education and Outreach Methods	
Social Media	Social media content for both Twitter and Facebook was created detailing ways to protect drinking water sources. In 2017 there were 3 Facebook posts with a total of 1,031 impressions and 42 engagements as well as 3 Twitter tweets with a total of 1,828 impressions and 21 engagements.
Website Update	The KCCA website contains a source protection web page which contains information about source protection history and the Plan. Primers, fact sheets and an interactive mapping tool are features.
Youth Outreach	The Source Water Protection Education Program was delivered to three student groups in 2017. The program was part of the #ichoosetapwater campaign, a partnership between Kettle Creek Conservation Authority and St. Thomas Elgin Health. The #ichoosetapwater campaign consisted of a video contest and a reusable water bottle giveaway. After learning more about source water protection and water conservation, students were asked to take a water pledge. Many committed to choosing tap water, conserving water while undertaking daily activities and taking actions to help water quality in the environment.
Newsletters/ Mail-Outs	Content was written and provided for the Central Elgin Buzz, a community bulletin featured in a number of local newspapers throughout June and July. A factsheet about how the public can protect sources of municipal drinking water was mailed out to 2,989 landowners in the Municipality of Central Elgin (Page 7). In addition, marinas in Port Stanley agreed to display the Port Stanley Intake Protection Zone fact sheet in their store and/or club house.
Emergency Plans	An Emergency Management Plan was formalized and provided to the Municipality of Central Elgin's Fire Rescue. The protocol describes individuals/organizations that must be contacted in the event of a spill.
Signage	24 MOECC approved road signs have been installed on municipal roadways throughout the Belmont WHPA and the Port Stanley IPZ. These signs raise awareness about the presence of the drinking water protection zones. In addition, the municipality maintains a sign in Port Stanley at the public boat launch to educate boaters, typically visitors to the area, about the IPZ.

Outcome: Changes in Public and Stakeholder Behaviour

Description: Implementing bodies display positive changes in behaviour as a result of knowledge.

The St. Thomas Elgin Children's Water Festival was held in May 2017 at Pinafore Park in St. Thomas. Over 3,500 grades two to five students attended the Festival and participated in hands-on and interactive activity stations linked to the Ontario Curriculum. The activities taught students about wellhead protection, where their drinking water comes from and proper disposal of hazardous waste.

Ultimately, the goal of the Children's Water Festival is to motivate behavioral changes in students and stress the importance of clean, safe water in their lives and communities.

In addition, the Festival held its first Public Day as part of the City of St. Thomas' Canada Day celebrations to further promote the messages of water conservation and protection. The Public Day was well attended with over 10,000 adults and children attending.

A local campaign spearheaded by Kettle Creek Conservation Authority and Elgin St. Thomas Public Health promoted the importance of keeping our municipal drinking water safe. The #ichoosetapwater campaign consisted of a video contest and a reusable water bottle giveaway. The contest invited Grades 3 to 7 classes to submit a video highlighting the importance of choosing tap water over bottled water. Classrooms were provided messaging on the importance of keeping municipal drinking water safe to be incorporated into the videos. The winning entry was awarded a cash prize.

STUDENT OUTREACH AND EDUCATION

In October 2017, KCCA hosted a Lake Erie Student Conference in Port Stanley for 125 high school students from St. Thomas, Elgin County and London. The Conference featured presentations and hands-on activities that taught students about the importance of Lake Erie as a drinking water source and the lake's current water quality issues.

Additional source water protection programming was conducted in local classrooms throughout the year.

Outcome: Threats Cease To Be

Description: Plan Polices have been implemented to address significant drinking water threats

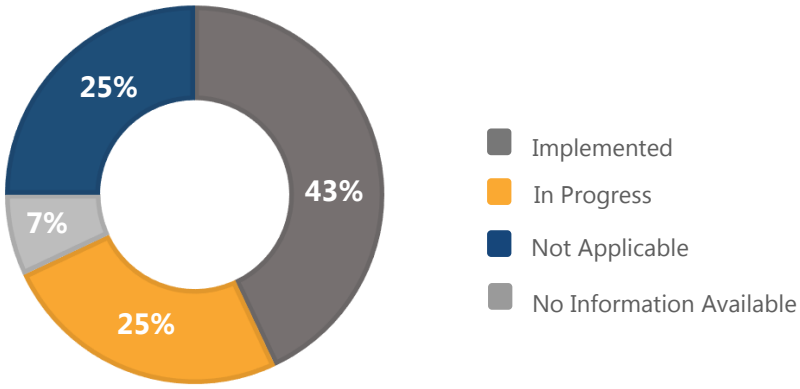


Figure 2. Illustrates the implementation of policies that address drinking water threat activities expressed as a percentage.

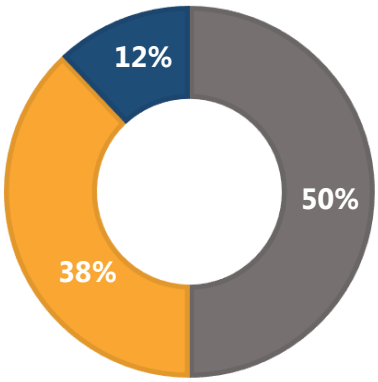


Figure 3. Illustrates the implementation status of policies not directly associated with addressing drinking water threat activities expressed as a percentage.

FACT SHEET AND NEWSLETTER CONTENT

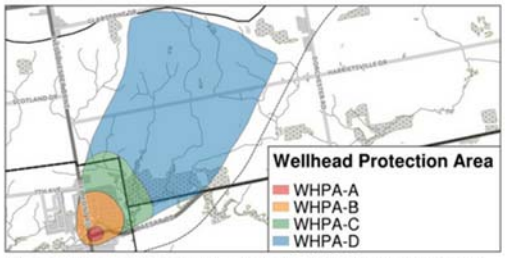
Source Water Protection

Within the Municipality of Central Elgin there are two sources of municipal drinking water: the Elgin Area Primary Water Supply System (EAPWSS) and the Belmont Water Supply System (BWSS). The EAPWSS, located east of Port Stanley, has a treatment capacity of 91 million litres of water per day and serves a population of approximately 112,000 individuals in the cities of London and St. Thomas, the municipalities of Bayham, Central Elgin, and Dutton Dunwich, the townships of Malahide and Southwold, and the town of Aylmer. The BWSS operates two artesian wells that supply 500 cubic metres of water per day to 1,900 individuals within the village of Belmont.

How can you help?

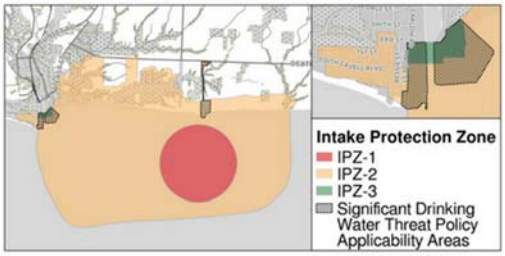
- Do not dispose of chemicals down the drain, toilet, or storm sewer.
- Take care when refueling gas tanks to avoid spilling fuel.
- Clean up pet waste to prevent nutrients and pathogens from entering storm sewers during heavy rains.
- Prevent pollutants from entering runoff by reducing or eliminating the use of fertilizers, sidewalk salts, and by not overwatering your lawn.
- Keep your septic system in proper working order and empty the tank regularly.
- Protect vegetation along the banks of watercourses. This helps improve water quality and reduces erosion.
- Protect and maintain your private well. Wells provide pathways for contaminants to enter the groundwater system.
- Dispose of hazardous waste and pharmaceuticals properly. Take unused products to your local hazardous waste facility and return unused pharmaceuticals to your pharmacy.
- For more information, please visit the Lake Erie Source Protection Region's website at www.sourcewater.ca.

Belmont Wellhead Protection Area



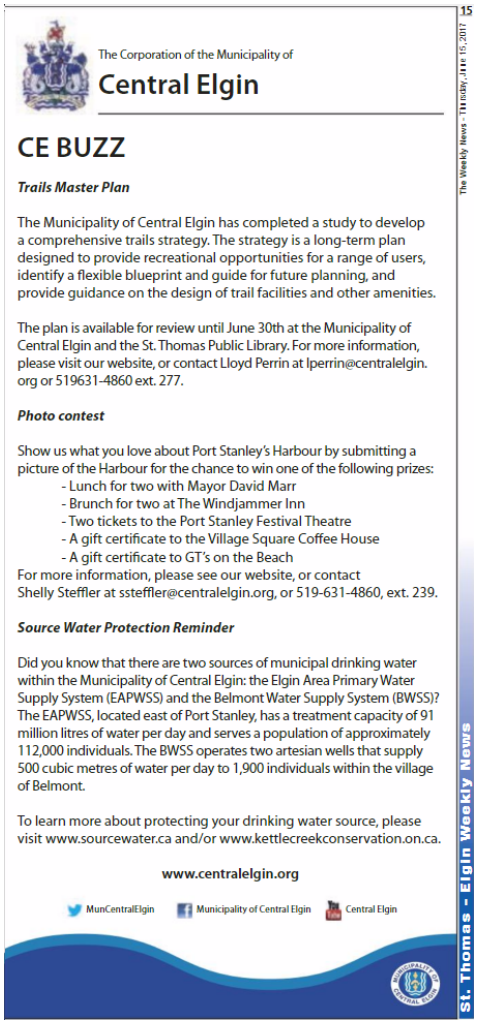
WHPA-A represents a 100 metre radius around the wellheads. WHPA-B, WHPA-C, and WHPA-D represent a 2-year time of travel, 5-year time of travel, and 25-year time of travel, respectively. This means that it would take a contaminant 2-years, 5-years, or 25-years to reach the wellhead.

Port Stanley Intake Protection Zone



IPZ-1 represents a 1 kilometre radius around the intake pipe. IPZ-2 represents a 2-hour time of travel to the intake pipe. This means that it would take 2-hours for a contaminant to reach the intake pipe from anywhere within IPZ-2. IPZ-3 is an event based area in the event of a fertilizer or fuel spill in large quantities.

Completed through a partnership between Kettle Creek Conservation Authority and the Municipality of Central Elgin.



15

The Corporation of the Municipality of
Central Elgin

CE BUZZ

Trails Master Plan

The Municipality of Central Elgin has completed a study to develop a comprehensive trails strategy. The strategy is a long-term plan designed to provide recreational opportunities for a range of users, identify a flexible blueprint and guide for future planning, and provide guidance on the design of trail facilities and other amenities.

The plan is available for review until June 30th at the Municipality of Central Elgin and the St. Thomas Public Library. For more information, please visit our website, or contact Lloyd Perrin at lperrin@centralelgin.org or 519631-4860 ext. 277.

Photo contest

Show us what you love about Port Stanley's Harbour by submitting a picture of the Harbour for the chance to win one of the following prizes:

- Lunch for two with Mayor David Marr
- Brunch for two at The Windjammer Inn
- Two tickets to the Port Stanley Festival Theatre
- A gift certificate to the Village Square Coffee House
- A gift certificate to GT's on the Beach

For more information, please see our website, or contact Shelly Steffler at ssteffler@centralelgin.org, or 519-631-4860, ext. 239.

Source Water Protection Reminder

Did you know that there are two sources of municipal drinking water within the Municipality of Central Elgin: the Elgin Area Primary Water Supply System (EAPWSS) and the Belmont Water Supply System (BWSS)? The EAPWSS, located east of Port Stanley, has a treatment capacity of 91 million litres of water per day and serves a population of approximately 112,000 individuals. The BWSS operates two artesian wells that supply 500 cubic metres of water per day to 1,900 individuals within the village of Belmont.

To learn more about protecting your drinking water source, please visit www.sourcewater.ca and/or www.kettlecreekconservation.on.ca.

www.centralelgin.org

MunCentralElgin Municipality of Central Elgin Central Elgin

The Weekly News - Thursday, June 15, 2017

St. Thomas - Elgin Weekly News

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

Kettle Creek Source Protection Area

Lake Erie Region Source Protection Area

c/o Grand River Conservation Authority
400 Clyde Rd, Cambridge ON, N1R 5W6

Appendix D

Annual Reporting Letter to SPA

DRINKING WATER SOURCE PROTECTION
Our Actions Matter

LAKE ERIE SOURCE PROTECTION REGION

April 5, 2018

Heather Jackson, Chair
44015 Ferguson Line
St. Thomas ON, N5P 3T3

Dear Ms. Jackson:

The Kettle Creek Source Protection Plan has been in effect since January 1, 2015 with the primary objective to protect current and future sources of drinking water from contamination and overuse.

In accordance with Ontario Regulation 287/07 s.52, Kettle Creek Source Protection Authority (SPA) is required to submit source protection plan annual progress reports to the Ministry of the Environment and Climate Change (MOECC) by May 1, 2018. The reports provide valuable information about the implementation of the Kettle Creek Source Protection Plan and the overall success of the program. The first Kettle Creek Annual Progress Report and Supplemental Form reflect implementation efforts from January 1, 2015 to December 31, 2017 (see attached).

In addition to the prescribed annual progress reports, Kettle Creek Conservation Authority in collaboration with Lake Erie Region staff, have developed a 2017 Kettle Creek Annual Report. The report provides a snapshot of the program's progress in the Kettle Creek watershed and is designed to complement the Annual Progress Report and Supplemental Form (see attached).
On April 5, 2018 the Lake Erie Region Source Protection Committee passed the following resolution:

> *THAT in the opinion of the Lake Erie Region Source Protection Committee, implementation of the Kettle Creek Source Protection Plan has progressed well and is on target towards achieving the plan objectives.*
>
> *AND THAT the Lake Erie Region Source Protection Committee releases the first Kettle Creek Annual Progress Report and Supplemental Form to the Kettle Creek Source Protection Authority for submission to the Ministry of the Environment and Climate Change, along with any Source Protection Committee comments, in accordance with S.46 of the Clean Water Act, 2006 and any Director's instructions established under O. Reg. 287/07 S.52.*

As such, this letter serves as a notice pursuant to the annual progress reporting administrative protocol, adopted by the Lake Erie Source Protection Region Management Committee (see attached management committee report 17-01-03), to submit the final Kettle Creek Annual Progress Report and Supplemental Form to the Kettle Creek Source Protection Authority.

Achievement of Source Protection Plan Objectives

It is the opinion of the Lake Erie Region Source Protection Committee that the objectives of the Kettle Creek Source Protection Plan has been progressing well and is on target towards achieving the plan objectives in this reporting period (January 1, 2015 - December 31, 2017).

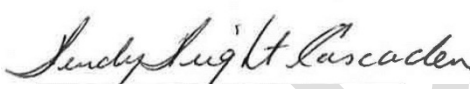
Rationale
Only two existing significant drinking water threats were identified in the Kettle Creek Source Protection Area when the plan took effect. Since implementation of the plan, both threats (100%) have been addressed: one no longer exists and the other was managed through a Risk Management Plan (RMP). Additionally, many of the applicable plan policies (68%) that address significant drinking water threats are implemented or in progress.

(Insert additional committee comments if applicable).

On behalf of the Lake Erie Region Source Protection Committee, the SPA is now tasked with considering the provincially-required annual progress reports and submitting them to the MOECC, together with the committee's comments, and any comments the SPA wishes to make.

If you have any questions regarding this letter, or the Kettle Creek Annual Progress Report and Supplemental Form, please contact Ilona Feldmann at 519-621-2763 ext. 2318 or ifeldmann@grandriver.ca.

Sincerely,



Wendy Wright-Cascaden
Chair, Lake Erie Region Source Protection Committee

cc:
Elizabeth VanHooren, General Manager/Secretary-Treasurer, KCCA

LAKE ERIE SOURCE PROTECTION REGION

REPORT NO. 17-01-03 **DATE:** January 31, 2017

TO: Lake Erie Source Protection Region Management Committee

SUBJECT: Annual Progress Reporting – Proposed Administrative Protocol

---

RECOMMENDATION:

THAT the Lake Erie Source Protection Region Management Committee adopt the Proposed Administrative Protocol for the preparation and submission of Annual Progress Reports.

REPORT:

- The requirement for source protection annual reporting is established in the *Clean Water Act, 2006 (CWA)* and in Lake Erie Source Protection Region monitoring policies.

- Source Protection Authorities (SPA) are required to provide annual reports to the Ministry of the Environment and Climate Change (MOECC) in accordance with S.46 of the CWA and any Director's instructions established under O. Reg. 287/07 S.52. The first Lake Erie Region Annual Progress Reports are due for submission to the Ministry May 1, 2018 (Catfish and Kettle SPA); Long Point Region and Grand River SPA Annual Progress Reports are due May 1, 2019. Adopting the administrative protocol one year prior to the submission of the first Annual Progress Reports will allow for the process to be tested, refined and finalised for 2018.

  CWA, S. 46: Annual progress reports

  46. (1) The source protection authority shall annually prepare and submit to the Director and the source protection committee in accordance with the regulations a report that,

  (a) describes the measures that have been taken to implement the source protection plan, including measures taken to ensure that activities cease to be significant drinking water threats and measures taken to ensure that activities do not become significant drinking water threats;

  (b) describes the results of any monitoring program conducted pursuant to section 45;

  (c) describes the extent to which the objectives set out in the source protection plan are being achieved; and

  (d) contains such other information as is prescribed by the regulations.2006, c. 22, s. 46 (1).

  Submitting report to source protection committee

  (2) At least 30 days before submitting the report to the Director under subsection (1), a source protection authority shall submit the report to the source protection committee.2006, c. 22, s. 46 (2).

  Review by source protection committee

  (3) After receiving the report from the source protection authority, the source protection committee shall review the report and provide written comments to the source protection authority about the extent to which, in the opinion of the committee, the objectives set out

in the source protection plan are being achieved by the measures described in the report. 2006, c. 22, s. 46 (3).

Including comments of source protection committee

(4) If the source protection committee provides comments to the source protection authority under subsection (3) before the report is submitted to the Director under subsection (1), the source protection authority shall include a copy of the comments in the report. 2006, c. 22, s. 46 (4).

Available to public

(5) Subject to subsection (6), the source protection authority shall ensure that the report is available to the public as soon as reasonably possible after it is submitted to the Director. 2006, c. 22, s. 46 (5).

No personal information

(6) When a report is made available to the public under subsection (5), the source protection authority shall ensure that it does not contain any personal information that is maintained for the purpose of creating a record that is not available to the public. 2006, c. 22, s. 46 (6).

Summary of progress reports

(7) The Minister shall include a summary of the reports submitted by source protection authorities under this section in the annual report prepared by the Minister under subsection 3 (4) of the Safe Drinking Water Act, 2002. 2006, c. 22, s. 46 (7).

- The information required to complete the Annual Progress Reports will be generated from Municipal Annual Reports – as required by Lake Erie Source Protection Plan policies – and from RMO Annuals Reports, as per S.81 of the CWA and in accordance with O. Reg. 287/07 S.65. Both reports are required to be submitted annually by February 1 to the respective SPA.

- Lake Erie Region staff have reviewed the legislated process and requirement for the development and submission of Annual Progress Reports and have prepared a Proposed Administrative Protocol (see Appendix). The legislation as outlined above assigns the SPA a larger role than in the pre-plan approval period. However, the MOECC has encouraged source protection areas and regions to maintain established SPC and SPA roles and responsibilities. The aim of the proposed protocol is to define a simplified and standardized procedure that can be used on an annual basis.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M.Sc.
Source Protection Program Manager

Appendix

Source Protection Planning – Lake Erie Source Protection Region

Proposed Administrative Protocol

Prepared January 31, 2017

Annual Progress Reporting

Preparation and Submission of Annual Progress Report

- Following receipt of municipal, provincial, and RMO annual reports on February 1 of each year, Lake Erie Region staff will prepare a draft Annual Progress Report for each of the four watersheds in the Lake Erie Region to be presented to the Lake Erie Region Source Protection Committee at the April Source Protection Committee meeting.
- Together with the draft Annual Progress Reports, Lake Erie Region staff will also prepare and present to the committee at the April committee meeting a draft letter to each of the four Source Protection Authorities in the Lake Erie Region. The draft letter will include comments about the extent to which the objectives set out in the source protection plan are being achieved by the measures described in the draft Annual Progress Reports.
- At the April Source Protection Committee meeting, members will review and discuss the draft Annual Progress Reports and draft letters to the four Source Protection Authorities and will provide direction to Lake Erie Region staff to finalise the reports and letters. The committee will provide specific comments about the extent to which, in the opinion of the committee, the objectives set out in the source protection plan are being achieved by the measures described in the draft Annual Progress Reports.
- Lake Erie Region staff will finalise the Annual Progress Reports and letters and submit the reports to the respective Source Protection Authority at their next regular Source Protection Authority meeting. Each of the four Source Protection Authorities in the Lake Erie Region will submit the Annual Progress Report together with the comments (letter) from the Lake Erie Region Source Protection Committee to the Director of the Source Protection Programs Branch at the Ministry of the Environment and Climate Change.

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-04 **DATE:** April 5, 2018

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: **Progress Report Grand River Assessment Report and Source Protection Plan Update**

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-18-04-04 – Progress Report Grand River Assessment Report and Source Protection Plan Update – for information.

REPORT:

This report provides an update on progress of technical studies in the Grand River watershed. The majority of projects are on track, with one large Tier 3 study requiring additional time. Progress reports and results of technical studies will be presented to the Source Protection Committee as they are completed with recommendations to update the Grand River Assessment Report and Source Protection Plan. Source Protection Plan policies will need to be developed (water quantity) or possibly revised (water quality). Lake Erie Region staff will return to the Source Protection Committee with updated timelines as needed.

Technical Studies

St. George (Brant County) / Lynden (City of Hamilton)

Both the communities of St. George and Lynden are drilling new municipal supply wells to meet capacity needs. The GRCA is managing the St. George portion of the project on behalf of Brant County and is working jointly with the City of Hamilton to develop a groundwater model that will cover both communities and develop WHPAs for the two communities in one project. The development of the model is proceeding and the project is scheduled to be completed in the spring of 2018.

Dundalk (Township of Southgate)

This study, managed by the GRCA on behalf of the Township of Southgate, is to develop WHPAs for a new supply well as a part of the Dundalk drinking water system and update WHPAs for the existing wells.

This study was completed in March 2018 and results are recommended to be included in the updated Grand River Assessment Report. Details on the study are presented in Report SPC-18-04-06, Dundalk Water Quality Technical Study.

Guelph-Eramosa (Hamilton Drive, Rockwood), Bethel (Brant County), and Bright (Oxford County)

Provincial funding was received to update quality-related WHPAs and vulnerability assessments for municipal wells located in Tier 3 study areas. The objective is to provide continuity in the models used to delineate both quality and quantity WHPAs. Tier 3 models represent the best currently available data, whereas some of the older quality WHPAs were mapped based on now outdated geological interpretations.

The Guelph-Eramosa study is expected to be completed in the summer 2018. The Bethel study will be commencing shortly and the Bright study has been completed. Details on the Bright study are presented in Report SPC-18-04-07, Bright Water Quality Technical Study – late starter.

Whitemans Creek Tier 3

In 2014, EarthFX Inc. commenced the Whitemans Creek Tier 3 Water Budget project to consider risks to the municipal water supplies in the Village of Bright and the Town of Paris Bethel well field. The preliminary report on the risk assessment results was presented to the peer review team at the end of October, 2017. The consultant is finalizing responses to the peer review comments and a draft final report in due at the start of April. Completion of the risk assessment and technical file transfer is anticipated by May 2018.

Guelph-Guelph/Eramosa Water Quantity Policy Development Study

The Guelph-Guelph/Eramosa (GGET) Water Quantity Policy Development Study, which includes technical work (Risk Management Measures Evaluation Process (RMMEP)) and the development of a water quantity discussion paper, is underway. The RMMEP is near completion with the drafting of the Threats Management Strategy underway. Work on the RMMEP and discussion paper is expected to be complete by the beginning of June 2018. See report SPC-18-04-05 – Progress Report Guelph-Guelph/Eramosa Water Quantity Policy Development Study, for more detail.

Centre Wellington Scoped Tier 3 Water Budget study

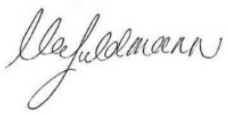
The Centre Wellington Scoped Tier 3 Water Budget Study began in August 2016 to assess potential risks to the Centre Wellington municipal drinking water system. The project is managed by the GRCA on behalf of the Township of Centre Wellington. The study is being completed in coordination with the Township's Growth Management Strategy and Long Term Water Supply Master Plan.

The project consultants have recently completed the groundwater flow model; a peer review meeting to present model results was held on March 29th. The next Community Liaison Group meeting is scheduled for the evening of May 15th.

Information about the Centre Wellington study including background reports, a document of Frequently Asked Questions, and the Terms of Reference for the Community Liaison Group is available at www.sourcewater.ca/CW-Scoped-Tier3.

Table 1 below provides a summary of the status of the Tier 3 water budget studies and peer review in the Grand River watershed.

Prepared by:



Ilona Feldmann
Source Protection Program Manager

Prepared by:

Stephanie Shifflett, P.Eng.
Water Resources Engineer

Prepared by:

Sonja Strynatka, P.Geo.
Senior Hydrogeologist

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager

Table 1: Water Budget Report and Peer Review Status

Tier 3 Project	Study Started	Conceptual Model		Numeric Model		Risk Assessment		RMMEP	Expected Completion
		Report	Peer Review	Report	Peer Review	Report	Peer Review		
Guelph	Oct-07	Jul-11	Yes	Aug-11	Yes	Apr-17	Yes	Underway	June-18
Rockwood & Hamilton Drive *(included in Guelph study)*	May-13	Jul-11	Yes	Aug-11	Yes	Apr-17	Yes	Underway	June-18
Whitemans Creek (Paris-Bethel, Bright)	Jul-14	Sep-15	Yes	Nov-16	Yes	Dec-17	YES	TBD	May-18
Centre Wellington (Fergus-Elora)	Oct-16	Jun-17	Jun-17	Mar-18	Mar-18	TBD	TBD	TBD	TBD

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-05 **DATE:** April 5, 2018

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: **Progress Report Guelph-Guelph/Eramosa Water Quantity Policy Development Study**

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-18-04-05 – Progress Report Guelph-Guelph/Eramosa Water Quantity Policy Development Study – for information.

REPORT:

Background

The City of Guelph and Township of Guelph/Eramosa (GGET) Tier 3 Water Budget and Risk Assessment, presented to the Lake Erie Source Protection Committee on April 6, 2017 (Report SPC 17-04-04) identified groundwater quantity vulnerable areas (WHPA-Qs) for the City of Guelph's and Guelph/Eramosa Township's wells, and a surface water quantity vulnerable area (IPZ-Q) upstream of the City's surface water intake on the Eramosa River, where municipal drinking water systems could be affected by other existing, new, or expanded water takings. The GGET Tier 3 Assessment predicted that the Township's Rockwood wells can meet current and future water demands, and the respective WHPA-Qs for these wells were assigned a low risk level.

The Tier 3 Assessment also predicted that the City's and Township's Hamilton Drive wells can meet current water demands. However, the assessment predicted that the City's Queensdale municipal well would be unable to meet future needs under average climate conditions and during sustained drought. All the City's other wells and the Township's Hamilton Drive wells are expected to be able to meet future needs, but some other City wells were close to their limit and there is a high level of uncertainty with the results for the City's Arkell Well 1. As a result of these assessments, and since the City's drinking water system is dependent on the contribution of water from the Eramosa River intake, the City's WHPA-Q and IPZ-Q were assigned a significant risk level.

As part of the GGET Tier 3 Assessment, significant water quantity threats were identified, as per the prescribed drinking water quantity threat activities in Section 1.1 of O. Reg. 287/07. These include all existing and new consumptive water takings and activities that reduce groundwater recharge within the significant WHPA-Q and IPZ-Q, as follows:

- Municipal permitted water takings
- Non-municipal permitted water takings
- Non-municipal, non-permitted water takings (e.g., domestic takings)
- Recharge reduction activities

The next step after the completion of the GGET Tier 3 Assessment was to undertake a further technical study (Risk Management Measures Evaluation Process / RMMEP).

Technical Study (RMMEP)

The purpose of this technical study (RMMEP) is to rank the identified significant drinking water threats to ascertain the water takings with the greatest quantity impact on municipal supplies. Further, using Tier 3 groundwater modelling scenarios, the aim of the study is to explore effective risk management measures to address the identified threats. The results of the technical study, including the threats ranking and identified risk management measures, summarized and documented in a Threats Management Strategy (TMS), provide technical input that provide a foundation for policy development.

The Project Team is currently completing the technical study and finalizing the results, which is taking longer than originally expected. The final results, including the threats ranking, Tier 3 groundwater modeling scenarios used to test the risk management measures, and categories of recommended risk management measures will be summarized and documented in the Threats Management Strategy, and presented to the Lake Erie Region Source Protection Committee at the next meeting on June 21, 2018.

Water Quantity Policy Development Discussion Paper

In parallel to the technical study (RMMEP), the Project Team, with input from municipal stakeholders through the Municipal Implementing Group (IMG) and Community Liaison Group (CLG), has initiated a study to develop a water quantity policy development discussion paper.

The goal of the discussion paper is to:

- describe the water quantity threats as defined under the *Clean Water Act, 2006*;
- list the threats in the Guelph-Guelph/Eramosa WHPA-Q / IPZ-Q;
- provide an overview of the legislative framework, policies and programs with respect to consumptive water use and groundwater recharge reduction as drinking water threats;
- evaluate the policy tools available under the *Clean Water Act, 2006* to address the identified significant drinking water threats; and
- provide a short list of the most promising tools and approaches that could be used to reduce the identified risks.

Appendix A provides a description of the water quantity threats, and overview of the legislative framework with respect to consumptive water use and groundwater recharge reduction threats. The locations of identified water quantity threats in the Guelph-Guelph/Eramosa WHPA-Q and IPZ-Q are presented in **Appendix B**. Work is ongoing on the evaluation of policy tools and shortlisting the most promising approaches to address the identified drinking water quantity threats

Together, the Threats Management Strategy and Water Quantity Policy Development Discussion Paper will provide the necessary foundation to develop policy approaches to address the identified threats. A complete discussion paper and draft policy approaches will be presented to the Lake Erie Region Source Protection Committee at the next meeting on June 21, 2018. Draft water quantity policies (policy text) are expected to be presented to the committee by October 2018.

The project team will meet with the GGET Community Liaison Group (CLG) this spring to present results of the technical study and receive feedback on the draft water quantity policy approaches. Input from the CLG and Implementing Municipalities Group (IMG) will inform draft policy development as the project progresses. Results from the technical study and water quantity policies will be incorporated into the updated Grand River Assessment Report and Source Protection Plan.

Prepared by:

Ilona Feldmann
Source Protection Program Assistant

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager

Appendix A

Description of Water Quantity Threats and Overview of the Legislative Framework

Appendix A

1. Description of the Drinking Water Quantity Threats

Definitions

Prescribed Drinking Water Threat #19

Prescribed drinking water threat Number 19 listed in Regulation 287/07 under the *Clean Water Act, 2006* (CWA) is, “an activity that takes water from an aquifer or surface water body without returning the water taken to the same aquifer or surface water body”. For this drinking water threat, an aquifer is defined as an underground saturated permeable geological layer that is capable of holding water in sufficient quantities to serve as a source of groundwater supply.

Threat 19 occurs when water is taken and not returned and is no longer available for other users of the same water source. This is called consumptive use. The taking of water from a municipal aquifer or surface water body (without returning it to the same source) could result in a depletion of available supply that could impair the long-term viability of a drinking water system.

Unlike water quality threats, where the threat level is a product of the vulnerability score and the hazard score (of the activity), water quantity threats are a function of exposure and tolerance. Consumptive water taking is or would be a significant drinking water threat in WHPA-Qs and IPZ-Qs that are assigned a significant risk level.

Prescribed Drinking Water Threat #20

Prescribed drinking water threat Number 20 listed in Regulation 287/07 under the CWA is, “an activity that reduces the recharge of an aquifer."

Threat 20 occurs when an activity reduces recharge of the water table. Examples of activities that could reduce the infiltration of water into the ground include paving of parking lots, construction of buildings and the pumping of water out of the ground rather than allowing water in. A reduction in recharge could result in a depletion of available supply that may impair the long-term viability of a drinking water system.

Recharge reduction is or would be a significant drinking water threat in WHPA-Qs and IPZ-Qs that are assigned a significant risk level.

Identifying Consumptive Use and Recharge Reduction as Significant Drinking Water Threats

Below is a modification of Table 5 from the Updated CWA Technical Rules which describes the circumstances surrounding how and where consumptive use (**Table 1**)

and recharge reduction (**Table 2**) activities are considered Significant Drinking Water Threats.

Table 1: Circumstances in which consumptive use is considered a Significant Drinking Water Threat

Column 1	Reference #	Circumstances	Column 3
Activity (Drinking Water Threat)	**Column 2**		**Areas where Activity is a Significant Drinking Water Threat**
An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.	1	1. An existing taking, an increase to an existing taking or a new taking.	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of significant in accordance with Part IX.
		2. The water is or would be taken from within an IPZ-Q.	
	2	1. An existing taking, an increase to an existing taking or a new taking.	WHPA-Q1 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of significant in accordance with Part IX.
		2. The water is or would be taken from within a WHPA-Q1	
	3	1. An existing taking, an increase to an existing taking or a new taking.	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.
		2. Section 34 of the *Ontario Water Resources Act* requires a permit to take water in respect of the increase or new taking.	
		3. The water is or would be taken from within an IPZ-Q.	
		4. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the increase to the existing taking or the new taking were factored into the risk level assessment.	
	4	1. An increase to an existing taking or a new taking.	WHPA-Q1 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of moderate in accordance with Part IX.
		2. The water is or would be taken from within a WHPA-Q1.	
		3. Section 34 of the *Ontario Water Resources Act* requires a permit to take water in respect of the increase or new taking.	
		4. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest	

Table 1: Circumstances in which consumptive use is considered a Significant Drinking Water Threat			
Column 1	**Reference #**	**Circumstances**	**Column 3**
Activity (Drinking Water Threat)	**Column 2**		**Areas where Activity is a Significant Drinking Water Threat**
		assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the increase to the existing taking or the new taking were factored into the risk level assessment.	

Table 2: Circumstances in which recharge reduction is considered a Significant Drinking Water Threat			
Column 1	**Reference #**	**Circumstances**	**Column 3**
Activity (Drinking Water Threat)	**Column 2**		**Areas where Activity is a Significant Drinking Water Threat**
An activity that reduced recharge to an aquifer.	5	1. An existing activity, a modified activity or a new activity.	IPZ-Q where the water is or would be taken if the area relates to one or more surface water intakes and the local area was assessed to have a risk level of significant in accordance with Part IX.
		2. The activity is or would be wholly or partly located within an IPZ-Q.	
	6	1. An existing activity, a modified activity or a new activity.	WHPA-Q2 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of significant in accordance with Part IX.
		2. The activity is or would be wholly or partly located within a WHPA-Q2.	
	7	1. A modified activity or a new activity.	IPZ-Q where the water is or would be taken if the area relates to one
		2. The activity is or would be wholly or partly located within an IPZ-Q.	

Table 2: Circumstances in which recharge reduction is considered a Significant Drinking Water Threat

Column 1	Reference #	Circumstances	Column 3
Activity (Drinking Water Threat)	**Column 2**		**Areas where Activity is a Significant Drinking Water Threat**
		3. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the modified activity were factored into the risk level assessment.	or more surface water intakes and the local area was assessed to have a risk level of moderate in accordance with Part IX.
	8	1. A modified activity or a new activity.	WHPA-Q2 where the water is or would be taken if the area relates to one or more wells and the local area was assessed to have a risk level of moderate in accordance with Part IX.
		2. The activity is or would be wholly or partly located within a WHPA-Q2.	
		3. Despite the local area from which the water is or would be taken having been assessed for the purposes of the latest assessment report to have a risk level of moderate in accordance with Part IX, the local area would be assessed to have a risk level of significant if the modified activity were factored into the risk level assessment.	

Drinking Water Quantity Threats Identified in Guelph-Guelph/Eramosa

A review of the significant drinking water threats identified in the Guelph-Guelph/ Eramosa Tier 3 Water Budget and Local Area Risk Assessment indicates that a number of drinking water threat activities related to consumptive use (**Table 3**) and recharge reduction (**Table 4**) are located/present in significant water quantity vulnerable areas (WHPA-Q Area A, IPZ-Q) in the City of Guelph, Guelph/ Eramosa Township (County of Wellington), Township of Puslinch (County of Wellington) and the Town of Erin (County of Wellington) within the Grand River Source Protection Area. Significant threat activities related to consumptive use include municipal, non-municipal permitted and non-municipal non-permitted takings. The locations of identified water quantity threats in the Guelph-Guelph/ Eramosa WHPA-Q Area A and IPZ-Q are presented in **Appendix B**. WHPA-Q Areas B, C and D were assigned a low risk level during the risk assessment process, therefore no water quantity threats were identified.

Table 3: Summary of Permits To Take Water (PTTW) identified as significant drinking water threats in the Guelph-Guelph/ Eramosa Tier 3 WHPA-Q and IPZ-Q related to an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body

Municipality	Number of Significant Threats	
	WHPA-Q	IPZ-Q
City of Guelph	47	-
County of Wellington - Puslinch	41*	7**
County of Wellington – Guelph/Eramosa	12	6***
County of Wellington - Erin	-	10

* This includes the City of Guelph's Eramosa River Intake

** This includes the 6 Arkell wells

*** This includes the 3 Rockwood wells

Table 4: Presence of significant drinking water threats identified in the Guelph-Guelph/Eramosa Tier 3 WHPA-Q and IPZ-Q related to any future activity that reduces the recharge of an aquifer

Municipality	Recharge Reduction Threats Present
City of Guelph	Yes
County of Wellington - Puslinch	Yes
County of Wellington – Guelph/Eramosa	Yes
County of Wellington - Erin	Yes

2. Existing Legislation, Policies and Other Programs

Federal

This section has been included to provide context for water management in Canada. Water management in Canada is a joint responsibility of indigenous peoples, federal and provincial governments, municipalities, conservation authorities, and all water users. Aboriginal rights and treaty rights, including certain customs and practices, became constitutionally protected in 1982; and these rights may take priority over all other uses. Canada's approach to water law varies significantly from province to province, but has a basis in English common law. The *Constitution Act, 1867* (&

Constitution Act, 1982) lays out the split in responsibilities with respect to water resources between the federal and provincial governments.

International Boundary Water Treaty Act and International River Improvement Act
The federal government is responsible for waters that have inter-provincial or international boundary considerations. Two main federal acts regulate use of waters along the Canada-United States (US) border: the International Boundary Waters Treaty Act and the International River Improvement Act. Within Canada, a number of inter-jurisdictional water boards have been established to focus on specific water issues that have implications for more than one province or territory.

Great Lakes Water Quality Agreement (GLWQA)
The GLWQA includes annexes on groundwater and climate change that speak to increasing understanding of groundwater resources, and coordinating with water quantity management actions taken by the International Joint Commission (IJC).

Federal Water Policy (1987)
The policy encourages the management and use of freshwater in a wise, efficient, and equitable manner consistent with the social, economic, and environmental needs of present and future generations.

Fisheries Act
This Act is the principal federal statute conserving and protecting Canadian fisheries resources.

Species at Risk Act
This Act works on protecting and saving indigenous Canadian species and distinct populations from becoming extirpated or extinct.

Navigation Protection Act
This Act prohibits the dewatering of any navigable water.

Canadian Environmental Assessment Act
This Act focuses on potential adverse environmental effects that are within federal jurisdiction.

Provincial

Ontario Water Resources Act, 1990
To protect the sustainability of the Province of Ontario's water resources, the Ontario Water Resources Act requires those taking greater than 50,000 litres per day to obtain a Permit to Take Water (PTTW) with exceptions for residential use (less than 379,000 litres per day), livestock watering, frost protection and firefighting. No permit can be issued for more than ten years.

The purpose of the Permit to Take Water (PTTW) program is to ensure the conservation, protection and wise use and management of the waters of the province. The chief considerations in the review of PTTW applications are the potential for impacts to the natural and built environment. Guelph currently maintains 22 PTTWs, Guelph/Eramosa Township maintains 3 PTTWs.

Clean Water Act, 2006

The *Clean Water Act, 2006* enables the protection of existing and future sources of municipal drinking water through source protection plans, which contain policies to address activities identified as threats to municipal drinking water sources. Under this Act, PTTWs are provincial prescribed instruments that can be used to manage activities that take water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body. There is no provincial instrument prescribed under this Act that is available to be used in source protection plan policies to address recharge reduction.

Additionally, where a Wellhead Protection Area (WHPA)-Q has been assigned a significant water quantity risk level, the Risk Management Measures Catalogue can be used as part of a RMMEP to help select and evaluate preferred measures to manage water quantity threats and inform the policy development process. A variety of tools are available under the Act to address water taking and recharge reduction, including Part IV tools, prescribed instruments (water taking only), land use planning, incentives, and education and outreach (see section 4).

Environmental Protection Act, 1990

This Act is the primary pollution control legislation in Ontario. Under Part II.2 of the Act – Water Taking Regulation (O. Reg. 63/16) under the Environmental Protection Act, a registration process has been established for certain lower risk water takings through the Environmental Activity and Sector Registry (EASR). These include takings for construction site dewatering or road construction purposes.

Endangered Species Act, 2007

Works to protect and save species at risk and their habitat in Ontario. Consumptive water taking and recharge reduction activities that damage or destroy such habitat may be prohibited under this Act.

Public Lands Act, 1990

Authorizes the Ministry of Natural Resources and Forestry to acquire land for their purposes while also guiding disposition of Crown land resources via a permitting process (e.g., peat, vegetation removal, etc.).

Conservation Land Act, 1990
Authorizes private land owners to grant easements or enter into a covenant with one or more conservation bodies for the protection of water quality and quantity, including protection of drinking water sources and for watershed protection and management.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
OMAFRA supports programs for the agricultural sector that assist in maintaining potable water supplies, supporting the use of efficient irrigation and drainage methods. OMAFRA also works with Agriculture and Agri-Food Canada on the Environmental Farm Plan (EFP) program, which is delivered by the Ontario Soil and Crop Association.

Building Code Act, 1992
Objectives of the Building Code include limiting the probability that the design or construction of buildings, or supporting infrastructure will cause a resource to be exposed to unacceptable risk of depletion. A number of changes regarding water conservation/reuse where made in 2014 that promote water efficiency.

Water Opportunities and Water Conservation Act, 2010
The Lieutenant Governor in Council may, by regulation, require public agencies to prepare water conservation plans. These plans will allow the Minister of the Environment and Climate Change to require municipalities to develop water conservation plans. Further the Minister can establish performance indicators and targets for municipal water, wastewater and stormwater services and operations.

Ontario Environmental Assessment Act, 1990
Provides for the protection, conservation and wise management of the environment, generally requiring an environmental assessment of any major public or designated private undertaking. Common and/or important issues identified in Environmental Assessments related to water projects include fish and fish habitat, water levels and flows, and competing or complementary interests of nearby land owners, water-resource users and water-related natural resource users.

The Act also establishes a “Class Environmental Assessment” process for planning certain municipal projects. For water projects, the purpose of the municipal class environmental assessment is to ensure that projects will be "undertaken to address problems affecting the operation and efficiency of existing water systems, to accommodate future growth of communities, or to address water source contamination problems". Relating to source water protection, once an Environmental Assessment is complete for a planned municipal water supply source, the well/intake is defined as a “planned source” under the *Clean Water Act, 2006*; meaning it must be included in the Assessment Report and Source Protection Plans.

Conservation Authorities Act, 1990

Allows the formation of Conservation Authorities by municipalities, in order to protect and manage natural resources, other than gas, oil, coal and minerals, on a watershed scale. The Act enables conservation authorities to regulate activities that may interfere with a watercourse or wetland, and regulate development in areas prone to water-related hazards (floodplains, shorelines) for impacts to the control of flooding, erosion, dynamic beaches, pollution or conservation of land.

Planning Act, 1990

Requires that the Minister of Municipal Affairs, Ontario Municipal Board and other planning bodies across Ontario have regard to various matters of provincial interest, including but not limited to the protection of ecological systems, conservation and management of natural resources, and the efficient use and conservation of energy and water. The Act provides for and supports the control of land use and development throughout Ontario. The Provincial Policy Statement, 2014 (PPS), which is issued under section 3 of the Planning Act, applies province-wide. Its policies set out the government's land use vision for how land and resources are managed, and all decisions affecting land use planning matters "shall be consistent with" the PPS. The PPS requires wise use and management of resources, including water.

The Act requires that planning authorities (e.g. municipalities) ensure the long-term protection of natural heritage and water resource systems, as well as the conservation and management of natural resources, and the efficient use and conservation of energy and water. Under the Provincial Policy Statement (PPS), planning authorities are required to protect, improve or restore the quality and quantity of water and designated hydrologic functions or features; plan efficient and sustainable water use; and use water conservation practices. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters. Using the Planning Act, municipalities control planning and development through a variety of tools.

Municipal Act, 2001

Provides municipalities with broad powers to provide "any service or thing that the municipality considers necessary or desirable for the public" and they have broad powers to pass by-laws concerning the "economic, social and environmental well-being of the municipality" and the "health, safety and well-being of persons" as long as they do not frustrate provincial acts and regulations. Municipalities have powers to regulate tree cutting and site alteration which can affect the control of recharge, they can also use offer programs that encourage or incentivize recharge. The City of Guelph regulates tree cutting and site alteration through the development approval process and through related supporting by-laws.

Places to Grow Act, 2005

Growth Plan for the Greater Golden Horseshoe

Mandates population and employment targets which must be conformed to as part of the next municipal comprehensive review process. The Plan is about accommodating forecasted growth in complete communities. The Plan contains specific density targets for growth and implementing policies to ensure that the growth targets and complete community objectives are achieved. As set out on Schedule 3 to the Growth Plan, the City of Guelph will be increasing in population by 2041 to 191,000 people and 101,000 jobs. The Places to Grow plan is about accommodating forecasted growth in complete communities. As the growth targets are mandated by the Province and must be conformed with, the decision to not accommodate growth to manage the risk associated with this threat is not an option. As set out on Schedule 3 to the Growth Plan, the City of Guelph will be increasing in population by 2041 to 191,000 people and 101,000 jobs. The Plan contains specific policies regarding planning for new and expanded infrastructure, including municipal water systems. These water system-related policies provide direction for the protection, conservation, enhancement and restoration of quality and quantity of water within a watershed.

Provincial Water Quality Objectives, 1994

The Ontario Ministry of Environment and Energy issued the Provincial Water Quality Objectives in 1994, which gives direction on the management of the province's water resources. The inter-relationship of and between surface and ground water quality and quantity is to be recognized in water management decision making processes. The guidelines speak to water quantity management principles including: avoiding interference between users, water conservation, and protection of significant infiltration areas.

Lakes and Rivers Improvement Act, 1990

Regulates the public and private use of Ontario's lakes and rivers, and the land under them, including for the construction, repair and use of dams. It empowers the Ministry of Natural Resources (MNRF) to regulate the construction and operation of water works, and requires that new water works be approved.

Drainage Act, 1990

Allows for the construction of drains to serve as a communal drainage system for an area of landowners.

Tile Drainage Act and Tile Drainage Installation Act, 1990

Both acts enable improvement of agricultural land productivity via drainage systems. While drainage may allow for increased surface recharge, it can also lessen the amount of water available for taking, through drainage of surface and groundwater.

Ontario Low Water Response (OLWR)
This program is a mitigation strategy, intended to reduce the effects of low water or drought periods. Under OLWR, watershed-based water response teams (WRT) coordinate local activities, with these teams consisting of local water users and local and provincial water managers.

Environmental Bill of Rights, 1993 and Environmental Registry
Serves to notify the public of important environmental decisions and to solicit public comment. Through the EBR, the public has the right to request reviews of inadequate laws, regulations, policies or instruments as well as to comment on proposed legislation and regulations.

Great Lakes Strategy, 2012
Lays out a vision for drinkable, swimmable and fishable Great Lakes.

Great Lakes Protection Act, 2015
Reflects the goals and principles of the Strategy. The Act supports: economic opportunities and innovation through environmentally sustainable use of natural resources; and allows public bodies to target actions on priority issues and problem areas through the Great Lakes Guardian Community Fund.

Assessment Act, 1990
The Assessment Act sets out eligibility criteria for lands that can receive property tax exemptions under the Conservation Land Tax Incentive Program (CLTIP) and the Managed Forest Tax Incentive Program (MFTIP). Under the CLTIP, provincially significant conservation lands, such as wetlands and community conservation lands, are eligible for property tax relief.

Municipal

At the local level, municipalities and local bodies such as conservation authorities also have discrete water management responsibilities, many which have been mandated or delegated to them by the province, such as through the Municipal Act, Planning Act, regional planning initiatives, *Clean Water Act, 2006*, *Building Code Act*, and *Conservation Authorities Act.* Other initiatives and programs undertaken at local levels can include: integrated watershed management, watershed planning, local drought contingency projects and planning, and stewardship and education/outreach initiatives.

City of Guelph

Water Efficiency Strategy Update, 2016
Includes a number of programs, initiatives and strategies, that work together to help protect the City's water supply by reducing water demand on a daily basis to ensure that water is available for future use and meet the targets of the 2014 Water Supply Master

Plan. From 2006 to 2014, the City's water efficiency programs have reduced demands by about 6.6 million litres per day with about 42 percent of this savings (2.8 million litres per day) attributable to the City's water loss reduction program. The reduction in Guelph's residential water demands has been the result of the effectiveness of the City's water efficiency programs combined with changes to the Ontario Building Code, more efficient plumbing fixtures and appliances, public awareness of the need to use our natural resources wisely, and customer response to annual water/wastewater user rate price increases.

Water Supply Master Plan, Updated in 2014

The Water Supply Master Plan aims to ensure the long-term water supply capacity to allow for growth within the City of Guelph. The Plan evaluated water needs associated with community growth over a 25-year planning period and identified a series of preferred water supply projects to meet the City's future community water supply requirements. Through this detailed Master Plan, water capacity reclaimed through water conservation and efficiency was identified as the most cost–effective and immediate source of available water supply. While the City's overall water demands will continue to increase because of the growing population, per capita demands are projected to decline on an annual basis due to effective water conservation programming and changes to the building code.

Water and Wastewater Servicing Master Plan, 2008

Assessed each system to enhance reliability, efficiency and capability to service existing and new city residents. The Plan identified preferred servicing strategies and related system improvements for water distribution/ storage and wastewater conveyance and identified the need for the development of a water distribution hydraulic model to assist water loss management. Additional recommendations included a study of a large scale wastewater reuse initiative. The 2009 Wastewater Treatment Master Plan identified water conservation initiatives as a key component of the master plan and as a non-expansion, source control alternative.

Stormwater Management Master Plan

To satisfy the first phases of an Environmental Assessment and to create a framework for the future development, the City of Guelph has prepared a Master Plan for stormwater management. The Stormwater Management Master Plan is a long-term plan for the safe and effective management of stormwater runoff from existing urban areas, while improving the ecosystem health and ecological sustainability of the Eramosa and Speed Rivers and their tributaries. The Plan's overall objective is to integrate flood control and stormwater drainage with opportunities to improve and protect groundwater and surface water quality and the natural environment. Three key areas are addressed in the plan. These include management of stormwater runoff as it related to aquifer

recharge, low impact development to increase the efficient use of outdoor water and water sensitive urban design to minimize impacts to water quality.

Urban Forest Management Plan, 2012
Ensures a healthy urban forest which cleans air, conserves energy, decreases water use, increases property values and makes Guelph's neighbourhoods more beautiful and enjoyable. Guelph is committed to having the highest tree canopy among comparable municipalities.

Official Plan
Establishes a statement of goals, objectives and policies for growth and development for the next 20 years. The Official Plan is focused on sustainability and establishes policies that have a positive effect on the social, economic, cultural and natural environment of the city. It includes policies for the protection of water resources including the City's drinking water sources, as well as, surface water and groundwater features.

The City of Guelph has been proactive in addressing issues relating to aquifer recharge through the Official Plan. The City of Guelph has current Official Plan policies recognizing the entire City as a recharge area. For newly developing communities, a secondary plan process is undertaken by the City, as is currently underway for the Clair Maltby Area. This secondary plan process includes an assessment of infrastructure including stormwater to inform the policies for development within the area.

Natural Heritage Action Plan
Looking at potential opportunities for review and update of existing subwatershed plans. As part of development approvals, the City requires pre to post water balance on site as the minimum storm water management criteria unless subwatershed studies provided alternative targets. For any development applications which are proximate or within the Natural Heritage System, an environmental impact study is required. "Sensitive ground water features" identified to date include those areas to support recharge/discharge as identified through subwatershed studies relating to streams and wetlands or significant landform as set out within the Natural Heritage System.

Outside Water Use Program
The Outside Water Use Program (OWUP) was created in 2002 in response to the Ontario Low Water Response Plan. The OWUP program objectives are to conserve Guelph's groundwater supply and protect against the impact of drought during the hot, dry summer months. The Program has three levels that affect residential outside water use. These levels are triggered by dry weather and local watershed conditions, and range from every other day lawn watering (level blue and yellow) to banning of lawn watering during drought conditions (level red) along with other water uses. A large

education and outreach component of this program is the Healthy Landscapes Program. This program provides a method in which the City can communicate with water customers about their outdoor water use while showing them how to improve their landscaping to ensure it is water efficient and suitable for the City's climate and soil conditions. This includes the promotion of trees to assist with the urban tree cover, the planting of non-invasive plants and best irrigation practices. Further, the program forges relationships with the community and local businesses.

Water Conservation Program

The City has undertaken and implementation an extensive water conservation program as outlined in the Water Efficiency Strategy. The program has achieved a benefit of approximately $2.70 for each dollar they spent on their water efficiency programming between 2006 and 2014. While the potential to save money by deferring or downsizing infrastructure expansion projects is often one of the primary drivers for communities to implement water efficiency programs, there are also many other co-benefits to municipalities such as reducing operational costs (i.e., energy costs) and greenhouse gas emissions.

The City's water conservation program is also considered in the MOECC's application review process for a new or renewed PTTW. Not maintaining a robust conservation program could jeopardize the City of Guelph's ability to obtain new water supplies. Furthermore, if the PTTW is approved, the City of Guelph conservation programs become a regulatory requirement of the PTTW upon issuance. Any revisions to current conservation programs will need to be incorporated in renewals to PTTWs in ensure ongoing compliance.

Incentive Programs

The City of Guelph offers a number of incentive programs for residential, multi-residential, industrial, commercial and institutional sectors as outlined in the Water Efficiency Strategy. Examples of incentive programs include: the Royal Flush Rebate Program, Water Efficient Landscaping Incentives, Multi-residential Audit Program and Sub-metering programs, Industrial, Commercial, and Institutional Capacity Buyback Program and, the Water Loss Management Program. Additionally, the City of Guelph have developed a credit program for industrial, commercial, institutional (ICI) and multi-residential properties of six units or more where land owners who reduce stormwater runoff on private property can obtain a credit towards the stormwater service fee they are required to pay as outlined in the Stormwater Master Plan.

Municipal Facility Upgrades Program

The City will continue to lead by example and make water saving upgrades in City buildings and conducting pilot and research projects within municipal facilities (e.g.,

rainwater harvesting and wastewater reuse). Funding and program details are provided in the Water Efficiency Strategy

Water Loss Management Program

The City's goal is to achieve and maintain distribution system leakage at the lowest economically viable level. The City utilizes District Metered Areas and a leak detection program (sounding and correlation of water mains) where possible to manage system leakage. The City will continue its current leak detection and sounding programs and it has commissioned an additional 20 district metered areas between the years of 2016-2018, bringing the total number to 27.

Public Outreach/Education Programs

The City provides public education programs/activities to support and facilitate a number of program initiatives as outlined in the Water Efficiency Strategy. These include the Mobile Water Engagement Application which allows users to track their water consumption data, school presentations, and the Outdoor Water Use Program which ensures community members are aware of the summer outdoor water use by-law and how they can reduce their outdoor water use.

Research

There are a number of ongoing and planned studies the City is engaged in related to water management and conservation. A few examples of these studies include: Distribution System Pressure Management, Water Conservation and Rebound Effects, Water Softener Pilot, Automated Meter Reading and, Municipal Upgrades Best Practices.

Wellington County

Official Plan

Section 4.9 of the Wellington County Official Plan pertains to Water Resources and includes policies on watershed planning, surface and groundwater protection, source water protection and specific policies on the protection of the Paris and Galt Moraine. The Paris and Galt Moraine is protected through Policy Area policies in Section 4.9.7 and shown on Schedules B-2, 3 and 7.

Township of Puslinch

Municipal Servicing Feasibility Study

In 2017, the Township of Puslinch initiated a feasibility study for municipal servicing (water and wastewater) within the GGET Tier 3 study area. More information can be found at www.puslinch.ca as the study is ongoing.

Puslinch Groundwater Monitoring Network

The Township has been measuring sixteen groundwater monitoring wells for quality and quantity since 1994. These wells provide ambient groundwater conditions unassociated with development within the Township. The groundwater monitoring network includes overburden wells completed in the Paris Moraine, Galt Moraine and the Aberfoyle Outwash deposits. The network also includes wells drilled into the Guelph and Gasport bedrock aquifers. The results of the monitoring can be found at www.hardenv.com\mill_creek.html.

The monitoring program provides the Township of Puslinch with quarterly groundwater levels and annual groundwater quality and is used to evaluate impacts from major water takings in the Township including that from the City of Cambridge and the City of Guelph.

Guelph/Eramosa Township

Water Conservation

The Township of Guelph/Eramosa municipal water system has a water supply that relies heavily upon the use of groundwater. As a result, the Township has established outside water use restrictions to balance demand with the available water supply. Restrictions are in place for residents using the Municipal Water Supply. The Township also operates a toilet rebate program for Rockwood residents that upgrade their toilets to approved high efficiency (3.0L and 4.8L) and dual flush (3/4.8L or 3/6L) models.

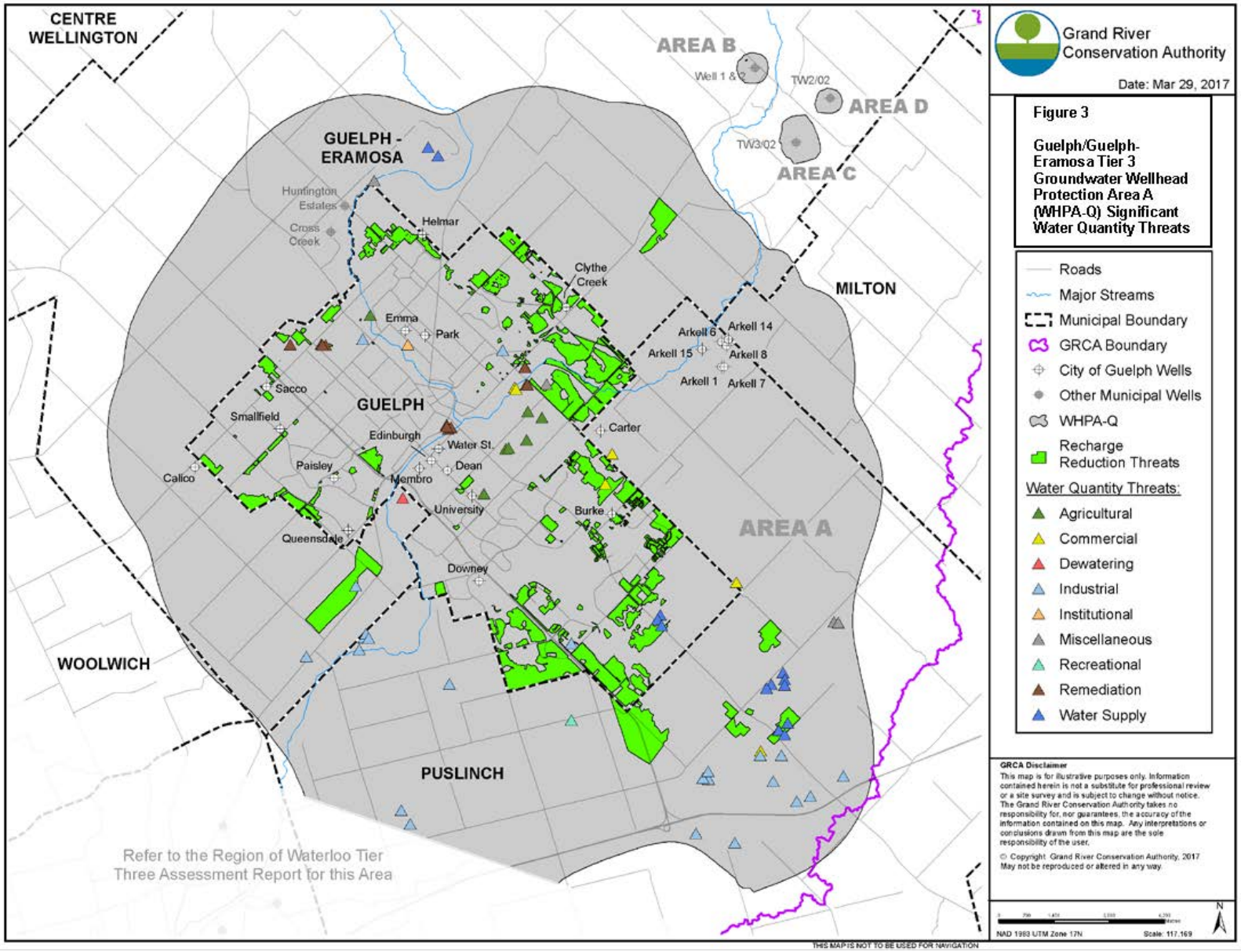
Other Programs

Integrated Watershed Management (IWM)

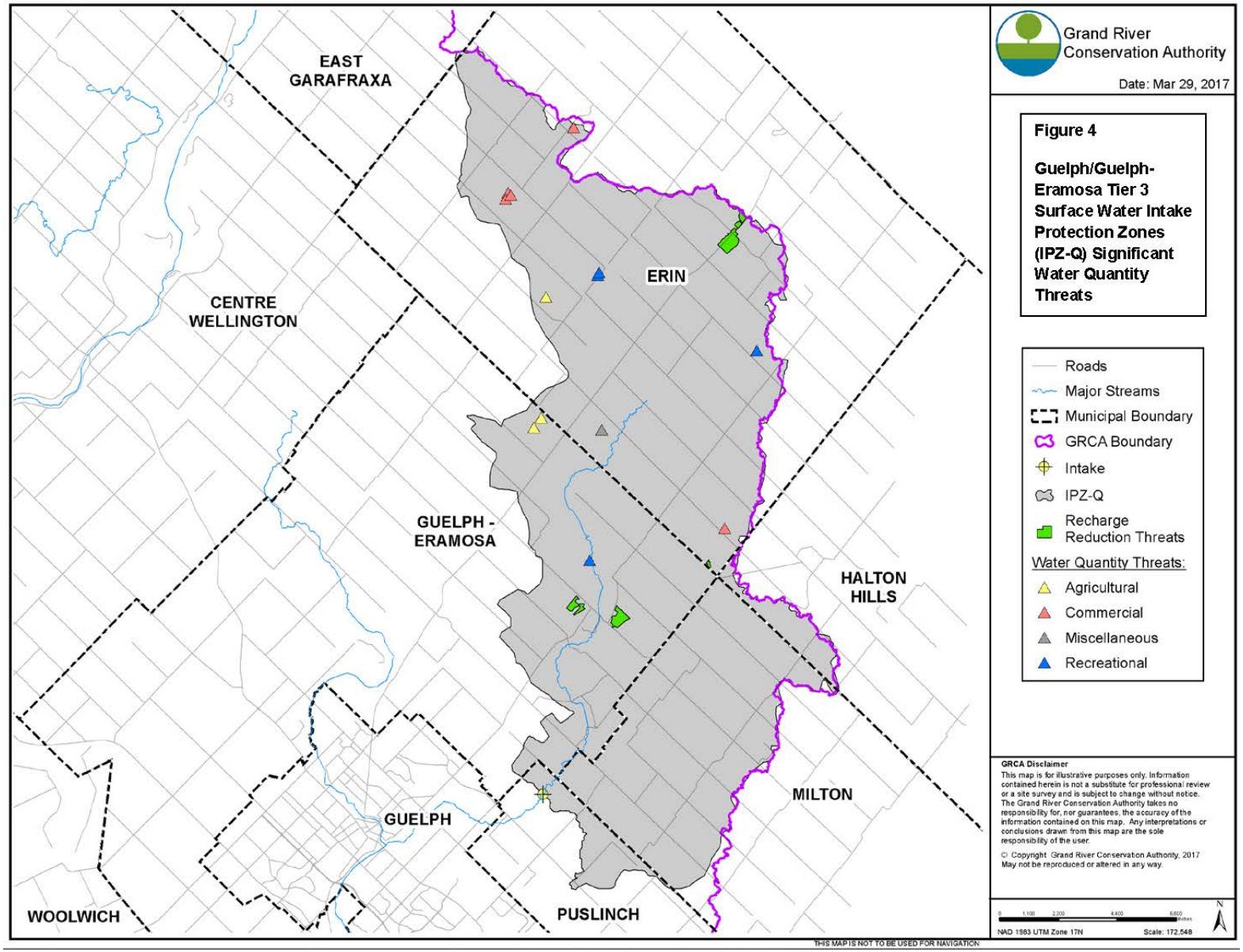
Establishes a process of managing human activities and natural resources in an area defined by watershed boundaries. It is an evolving and continuous process through which decisions are made for the sustainable use, development, restoration and protection of ecosystem features, functions and linkages. While yet to be formally adopted in Ontario, it is firmly established in the initiatives of conservation authorities and within the limited scope of drinking water source protection planning.

Appendix B

Locations of Identified Water Quantity Threats in the Guelph-Guelph/Eramosa WHPA-Q and IPZ-Q



Guelph-Guelph/ Eramosa Tier 3 Wellhead Protection Area A Water Quantity (WHPA-Q) Threats



Guelph-Guelph/ Eramosa Tier 3 Intake Protection Zone Water Quantity (IPZ-Q) Threats

LAKE ERIE REGION SOURCE PROTECTION COMMITTEE

REPORT NO. SPC-18-04-06 **DATE:** April 5, 2018

TO: Members of the Lake Erie Region Source Protection Committee

SUBJECT: Dundalk Water Quality WHPA Update Technical Study

RECOMMENDATION:

THAT the Lake Erie Region Source Protection Committee receives report SPC-18-04-06 – Dundalk Water Quality WHPA Update Technical Study - for information.

AND THAT the Lake Erie Region Source Protection Committee direct staff to incorporate the results of the Dundalk Water Quality WHPA Update Technical Study into the Draft Updated Grand River Watershed Assessment Report.

SUMMARY:

Two groundwater supply wells, D3 and D4, currently provide municipal water to the Village of Dundalk. A third well, D5 has recently been constructed and will be brought online in the near future. Wellhead Protection Areas (WHPAs) were last delineated for wells D3 and D4 in 2010 using a groundwater flow model developed in 2007. As a part of this current study, the groundwater model was updated to incorporate well D5. WHPAs using current pumping rates, and vulnerability scores were then completed for the three municipal wells.

Results are recommended to be incorporated into the update to the Draft Updated Grand River Watershed Assessment Report.

REPORT:

System Overview

The Village of Dundalk is located in the Township of Southgate, County of Grey and is situated in the most northern part of the Grand River Watershed. The groundwater supply system for Dundalk consists of two bedrock wells referred to as D3 and D4. Well D3 was drilled in 1975 and is located in the south end of Dundalk. Well D4 was drilled in 2002 to replace wells D1 and D2 and is located northeast of the Village. The wells range in depth from approximately 87 metres (m) below ground surface (bgs) at D3 to 101 m bgs at D4.

An exploratory drilling and testing program was initiated to address the need for a third groundwater supply well. A new well referred to as D5 was constructed on the east side of Dundalk between wells D3 and D4. The well was constructed in 2016 to a depth of approximately 96 m bgs. A long-term pumping test was conducted at the well in January 2017. The new well will provide an additional groundwater source and will become part of the Dundalk groundwater supply system.

Wellhead Protection Areas

Within the area of the groundwater supply wells the bedrock surface is generally highest in the east and slopes towards the west. This corresponded to interpreted overburden thicknesses ranging from approximately 5 m in the east to over 40 m in the southwest. The uppermost bedrock formation (Guelph through Gasport) is estimated to be 88 m thick. Groundwater supply wells are completed within this portion of the bedrock sequence and the Guelph to Gasport Formations form the active municipal groundwater system. The municipal aquifer is mainly overlain by drumlinized till plains, locally characterized as Elma Till and Catfish Creek Till.

The numerical groundwater model developed as a part of the 2003 Grey and Bruce Groundwater Studies (and its subsequent updates in 2007 and 2010), was used as the starting point for the construction of the current model. The model was updated to incorporate the new municipal supply well using refined bedrock geology. The refined bedrock geology interpretation divides the portion of the Guelph-Gasport aquifer below the contact aquifer zone into three hydrostratigraphic units: a shallow zone of lower permeability, an intermediate zone of higher permeability, and a deep zone of lower permeability. In addition, the upper surface of the till unit was assumed to be impacted by weathering, therefore having a higher hydraulic conductivity in the upper portion of the unit.

The pumping rates used to determine the WHPAs are based on the allocated quantity of water. In each scenario, the allocated quantity of water or the total pumping rate for the wellfield was 1,344 m^3/day. This is based on an estimate of the 20- year forecast planned demand provided by Triton Engineering, which represents the existing average day demand over the past three years for 1,799 people (490 m^3/day), plus a committed demand over the next 10 years for 2,111 people (574 m^3/day) and a planned demand for the next 20 years for 1,028 people (280 m^3/day).The WHPAs for Dundalk wells D3, D4, and D5 were determined by running the model with four different scenarios to represent possible combinations of future pumping from the wells, as summarized in Table 1 below.

Table 1: Simulated Pumping Rates for WHPA Delineation

Well	Forecast Pumping Rate (m^3/day)			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
D3	448	672	672	0
D4	448	672	0	672
D5	448	0	672	672

The resulting WHPAs are shown on **Figure 1**. The outline of the 2010 WHPAs are also shown on **Figure 1**. Generally, the WHPAs extend north-northeast from the village in the direction (upgradient) of local groundwater flow through the bedrock. A comparison of the new WHPAs to the previous WHPAs indicates the new WHPAs are more “rounded” and extend further out from the supply wells compared to the previous WHPAs. Differences between the 2010 and 2017 WHPA shape and size result from a number of factors including:

- An increase in wellfield pumping from 854 m^3/day to 1,344 m^3/day,
- Pumping at 3 wells compared to 2 wells, and
- Revised conceptual model now includes the bedrock aquifer divided into three layers.

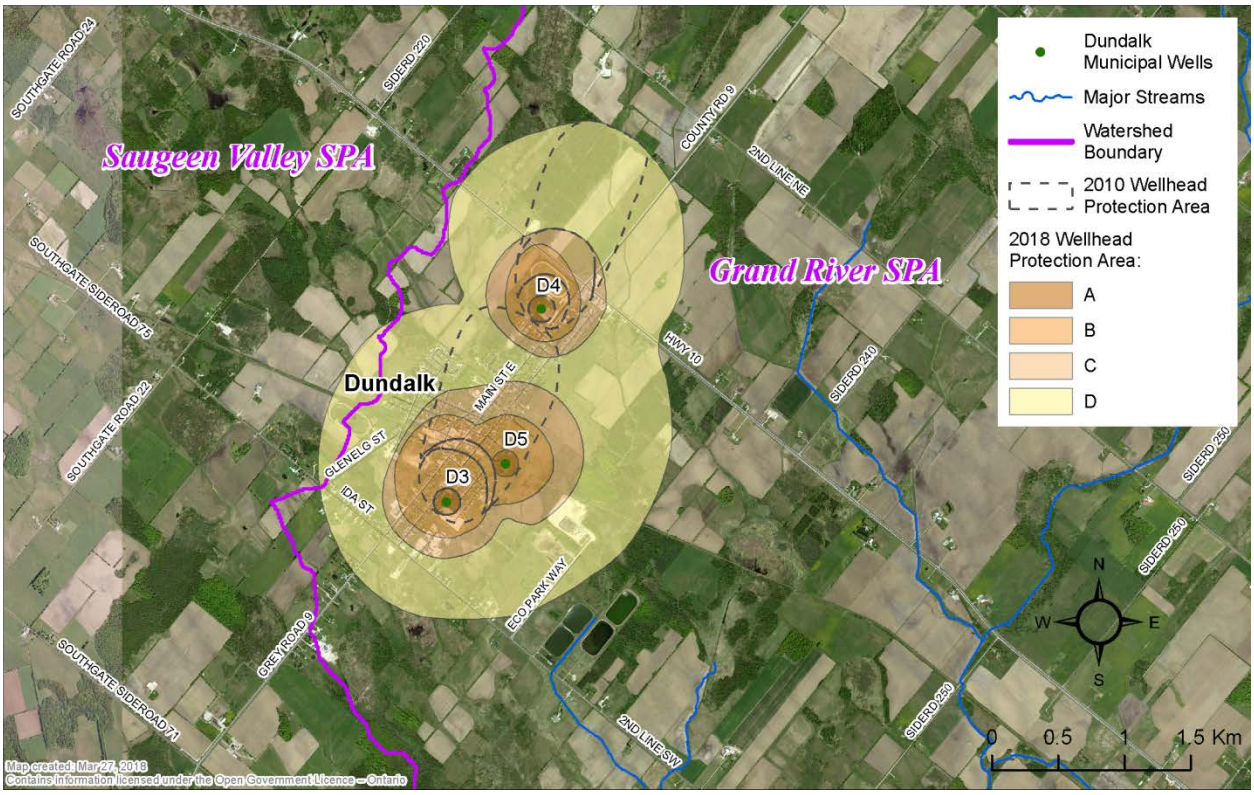


Figure 1: Dundalk WHPAs. Dashed lines represent WHPAs developed in 2010.

Wells D3, D4 and D5 are classified as non-GUDI and hence a WHPA-E was not delineated. Delineation of a WHPA-F was not required based on the absence of a WHPA-E.

Vulnerability Scoring

Regional vulnerability work was completed using the Surface to Aquifer Advective Time (SAAT) method. Within the WHPAs, the vulnerability of the aquifers was scored as in Table 2.

Table 2: WHPA Vulnerability Scores – SAAT

Groundwater Vulnerability Category	**Location Within a Wellhead Protection Area**			
	WHPA-A	WHPA-B	WHPA-C	WHPA-D
High	10	10	8	6
Medium	10	8	6	4
Low	10	6	2	2

The resulting map with vulnerability scores within the new WHPAs is shown on **Figure 2**. Most of the area within the WHPA is considered low vulnerability with some medium vulnerability in the eastern edge of the WHPA.

The Technical Rules allow for an increase in the vulnerability where man-made transport pathways can decrease the time for contaminants to reach a water supply source. Potential

preferential pathways reviewed as part of this study include existing wells or boreholes, unused or abandoned wells, pits, quarries and areas licensed for aggregate extraction, mines, construction activities, septic systems, storm water infiltration, and municipal underground services. Most of the potential preferential pathways are shallow (excluding wells) compared to the thickness of the aquitard overlying the municipal aquifer (i.e., they do not breach the aquitard) therefore, the risk factor for potential preferential pathways was considered low and no changes to the vulnerability were made.

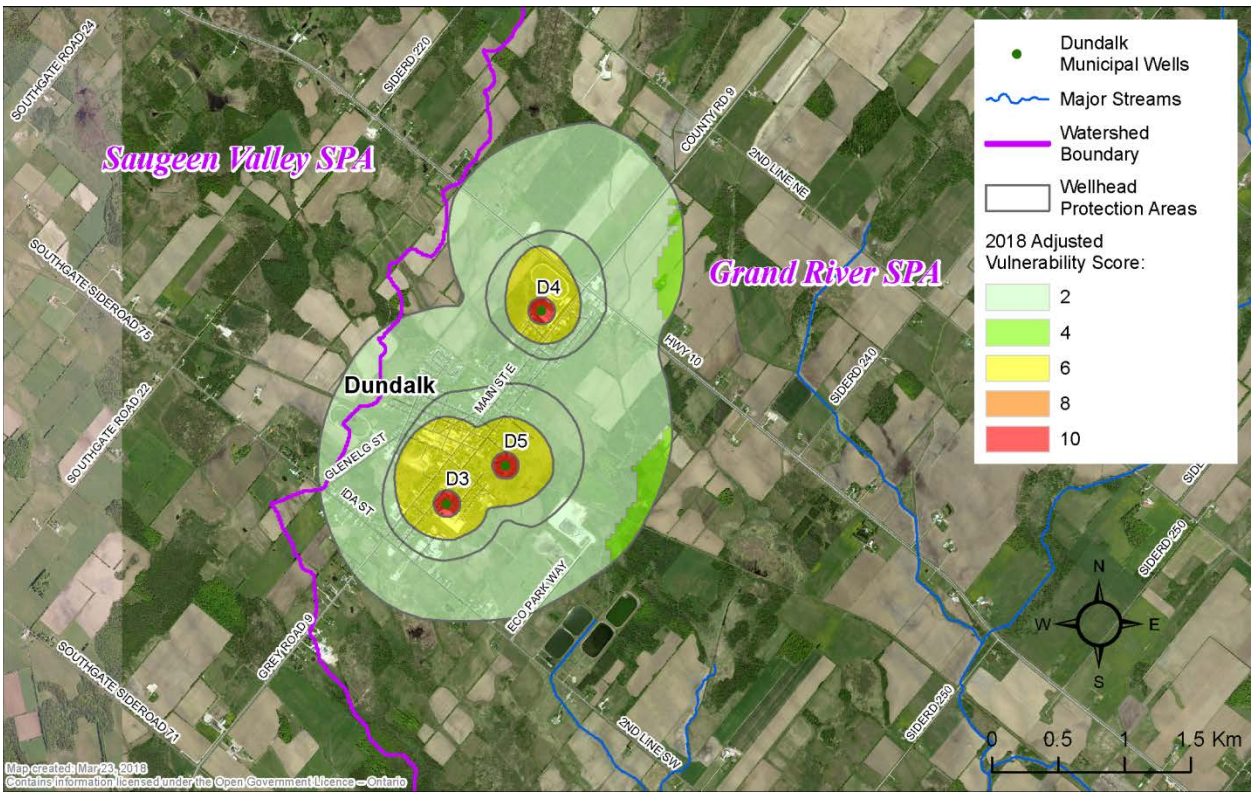


Figure 2: Vulnerability scoring within Dundalk WHPAs

Next Steps

The results of this study are recommended to be incorporated into the Draft Updated Grand River Watershed Assessment Report.

Prepared by:

Emily Hayman, M.Sc., P.Geo.
Source Water Hydrogeologist

Reviewed by:

Sonja Strynatka, P.Geo.
Senior Hydrogeologist

Approved by:

Martin Keller, M. Sc.
Source Protection Program Manager