

AMENDED PROPOSED EXPLANATORY DOCUMENT: CTC Source Protection Region

PREFACE

This document was prepared by staff at the CTC (Credit Valley-Toronto and Region-Central Lake Ontario) Source Protection Region. The objective of this document is to provide the rationale for the policies that the CTC SPC has developed to protect existing and future municipal drinking water sources, and to demonstrate how the CTC SPC considered comments received during consultations with implementing bodies, residents and other stakeholders.

If you have any questions about this document or the CTC Source Protection Region, please contact the source protection staff at (416) 661.6600 ext. 5752, sourcewater@trca.on.ca, or go to www.ctcswp.ca for more information.

IMPORTANT NOTICE

This Explanatory Document pertains to the CTC Source Protection Plan, which includes the following areas:

- Credit Valley Source Protection Area
- Toronto and Region Source Protection Area
- Central Lake Ontario Source Protection Area

The Explanatory Document is intended to assist readers understanding of the CTC Source Protection Plan and how decisions were reached in the Plan.

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LIST OF ACRONYMS

ASM	Agricultural Source Material
CLOSPA	Central Lake Ontario Source Protection Area
CTC	Credit Valley, Toronto and Region, Central Lake Ontario
CVSPA	Credit Valley Source Protection Area
CWA	<i>Clean Water Act, 2006</i>
DNAPL	Dense Non-Aqueous Phase Liquid
ICA	Issue Contributing Area
IPZ	Intake Protection Zone
LUP	Land Use Planning
MNRF	Ministry of Natural Resources and Forestry
MOECC	Ministry of Environment and Climate Change
MTO	Ministry of Transportation
NASM	Non-Agricultural Source Material
NMA	<i>Nutrient Management Act</i>
NMP	Nutrient Management Plan
ODWSP	Ontario Drinking Water Stewardship Program
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
PI	Prescribed Instrument
RMO	Risk Management Official
RMP	Risk Management Plan
SDWT	Significant Drinking Water Threat
SGBLS	South Georgian Bay Lake Simcoe
SPA	Source Protection Authority
SPC	Source Protection Committee
SPP	Source Protection Plan
SPR	Source Protection Region
TCC	Trent Conservation Coalition
TRSPA	Toronto and Region Source Protection Area
TSSA	Technical Standards and Safety Authority
WHPA	Wellhead Protection Area

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PURPOSE AND OBJECTIVES OF THE EXPLANATORY DOCUMENT

This Explanatory Document explains how the policies in the Amended Proposed Source Protection Plan were developed and the summary of policy options that were considered. In short, it documents the ‘thinking’ behind the CTC Source Protection Plan. It also includes the comments received during all phases of consultation during the development of the Source Protection Plan. These comments and responses can be found under separate cover in a document called Summary of Consultation Comments available online at www.ctcswp.ca. These public consultations include pre-consultation with implementing bodies (2011), public consultation on the Draft Proposed Source Protection Plan (2012); on the Proposed Source Protection Plan (2012); on new draft water quantity policies arising from completion of additional Tier 3 Water Budgets (Halton 2013 and York/Durham 2014); and Amended Proposed Source Protection Plan (2014). The Source Protection Committee’s (SPC) response to comments and how they impacted policy development is also part of this document. The Explanatory Document adheres to Ministry guidelines and requirements as outlined in Ontario Regulation 287/07 and the Source Protection Planning Bulletin – Explanatory Document Requirements (February 18, 2011). The Explanatory Document will be of interest to the Source Protection Authority (SPA), stakeholders, the Minister, implementing bodies, as well as members of the general public who may wish to understand how the Source Protection Committee prepared the Source Protection Plan.

By explaining the underlying rationale that was used to select specific policy approaches, the Explanatory Document supports a transparent decision making process.

POLICY DEVELOPMENT PROCESS

EVALUATING POLICY OPTIONS

In order to draft policies for the Source Protection Plan (SPP), the Source Protection Committee first established a Source Protection Planning Working Group (comprised of Source Protection Committee members) and a Source Protection Planning Steering Committee (comprised of source protection and municipal staff) to begin the detailed research and consultation with experts needed to inform the work on policy development. The Working Group and Steering Committee worked with a planning consulting team to develop a series of background reports which summarized the nature of each of the prescribed threats, the locations and circumstances where they are or would be categorized as significant threats, and the range and suitability of tools available to address them. The background reports also included information on the mandatory and optional policy content of source protection plans, the policy development process, the definition and description of threats, existing significant threats in the CTC as identified through the Assessment Reports, available policy tools, and proposed policy evaluation criteria. This material has been summarized and included in the threat-specific chapters in the Plan.

These background reports were presented by the consulting team and discussed at six workshops held between January and May 2011. These workshops were attended by Source Protection Committee members, municipal staff, staff or Source Protection Committee members from adjacent Source Protection Regions (SPR) and subject-area experts (i.e., Ontario Farm-Environment Coalition, TSSA, Smart About Salt). Small break-out groups discussed the nature of the threats, appropriate policies to address the threats to drinking water sources, potential impacts to business or land owners undertaking the threat activities and who would be subject to the policies, and to determine how these policies could be achieved.

The *Clean Water Act, 2006 (CWA)* relies on a number of existing pieces of legislation, associated instruments, planning and non-regulatory tools which can be used by the Source Protection Committee to determine the most suitable approaches to achieving the mandated Source Protection Plan objectives of protecting existing and future sources of drinking water and ensuring that existing and future significant threat activities cease to be, or do not

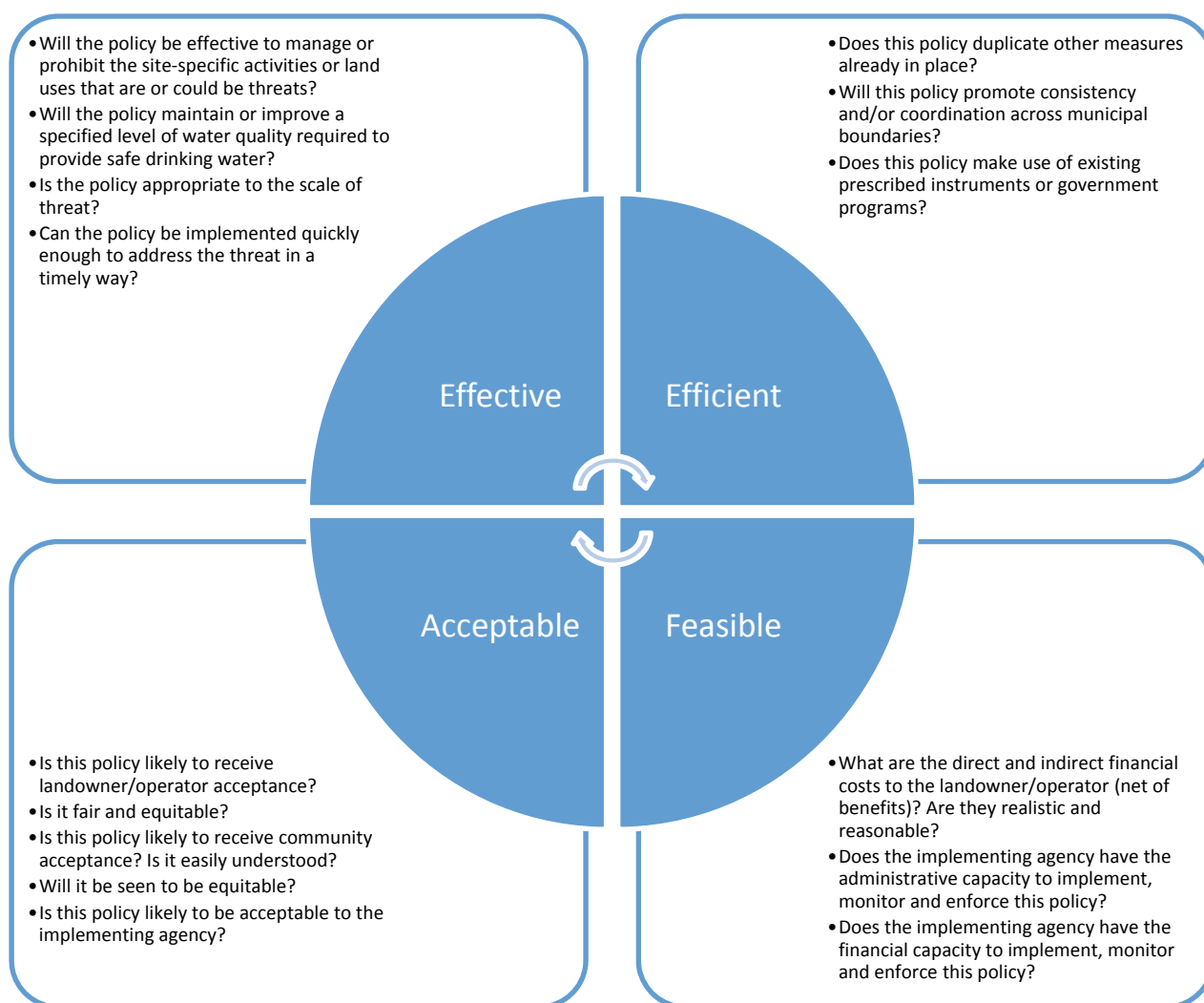
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become, a significant drinking water threat. These tools were identified by the Province and summarized for use by the Source Protection Committee in the planning consultants’ background report of January 5, 2011 and titled Groundwater Policy Options Discussion Paper Toolkit. This paper also included a discussion on the new CWA “Part IV” tools of s. 57 (Prohibition), s. 58 (Risk Management Plans) and s. 59 (Restricted Land Use), as well as outlining for Source Protection Committee consideration, several proposed policy evaluation criteria.

EVALUATION CRITERIA

A set of evaluation criteria was developed at the beginning of the policy development process by the Source Protection Planning Working Group and Steering Committee. These criteria (**Figure 1**) were discussed at the series of policy options workshops and framed the discussion on the various draft policy options.

FIGURE 1 - EVALUATION CRITERIA FOR POLICY OPTIONS AT POLICY DEVELOPMENT WORKSHOPS



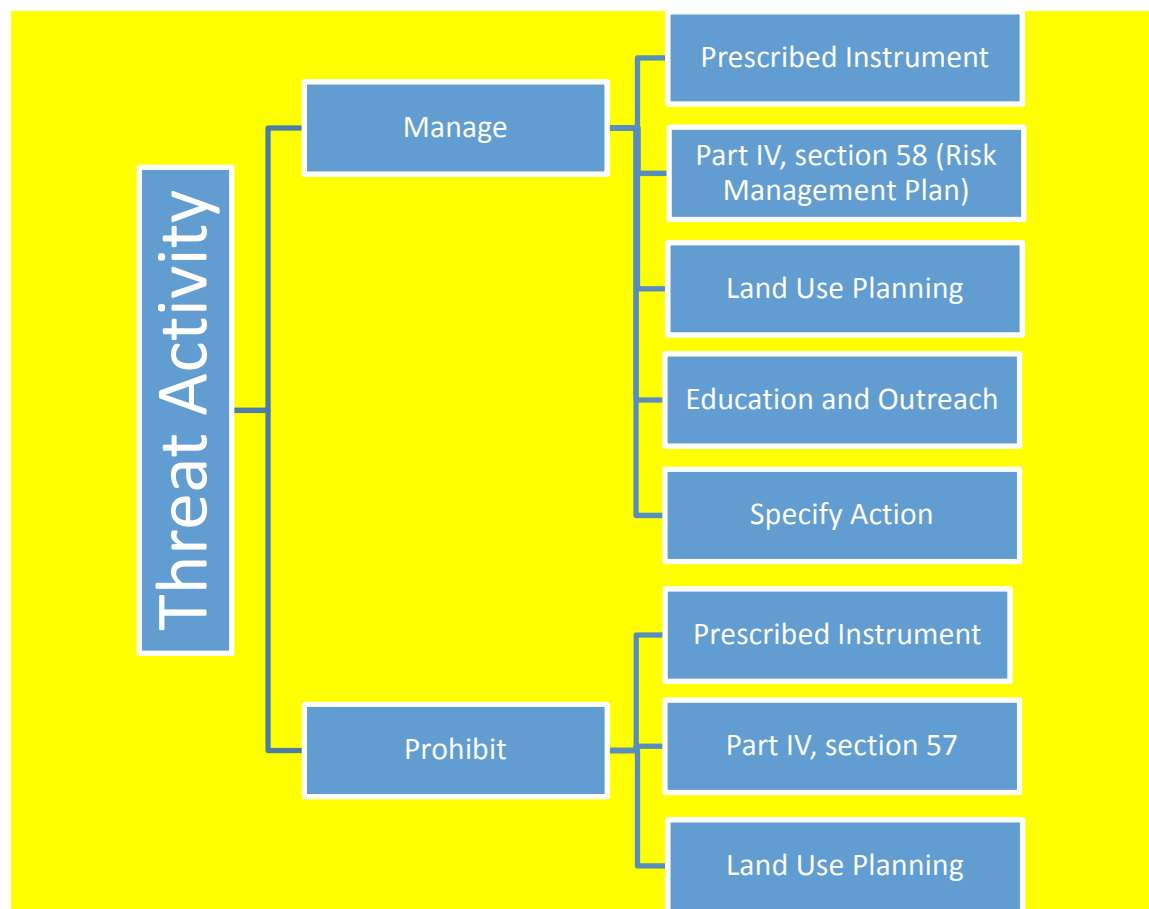
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POLICY DEVELOPMENT TIMELINE

PROPOSED SOURCE PROTECTION PLAN (2011-2012)

The workshops resulted in a set of draft policy options for groundwater quality threats that were presented to the Source Protection Committee at a two-day workshop in June 2011. The Source Protection Committee members reviewed each threat in detail and selected (by consensus or vote, if consensus was not achieved) what they believed was the most appropriate policy option to stop an existing activity from being a significant threat and to prevent an activity from becoming a significant threat in the future. **The first step was to decide if an activity could be managed or if it needed to be prohibited (Figure 2).** If it was decided that a threat activity could be allowed to proceed, the Source Protection Committee then had to select the most appropriate policy tool to manage that threat. Additional workshops for groundwater quantity threats and Lake Ontario threats were held in August and September, respectively. The CTC Source Protection Committee approved the draft policies for pre-consultation with implementing bodies in September 2011.

FIGURE 2- MANAGEMENT VERSUS PROHIBITION



A series of seven pre-consultation workshops on the draft policies were held across the CTC SPR in November and December, 2011 jointly with local municipalities, and members and staff of adjacent Source Protection Committees to explain the respective policies. These workshops provided the opportunity to hear feedback on both the CTC policies and those being proposed by adjacent Source Protection Committees (including South

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Georgian Bay Lake Simcoe (SGBLS), Halton-Hamilton, Trent Conservation Coalition (TCC), and Lake Erie, in an effort to harmonize the policies to the greatest extent possible. Written comments were requested from all implementing bodies by December 31, 2011. Working Groups of CTC Source Protection Committee members and staff were formed and a number of meetings were held in January and February, 2012 to analyze the comments received and to make recommendations as to how they should be addressed. Staff also participated in a series of meetings (including teleconferences) facilitated by MOECC for impacted SPRs to discuss comments and identify possible resolutions with provincial implementing bodies and agencies. Revisions to policies were made and at the meeting of March 8, 2012, the Source Protection Committee approved the Draft Proposed Source Protection Plan policies to release for public consultation from March 19 to May 1, 2012.

In addition to sending notice to municipalities and other implementing bodies and industries identified as significant threats to municipal drinking water systems in Lake Ontario, approximately 22,000 direct mailings were sent to residents and landowners potentially affected by significant threat policies. Mailings contained: notification of Draft Proposed Source Protection Plan public consultation, map of nearby vulnerable areas, magazine describing the Assessment Report process and findings, brochure about the Source Protection Plan process, and a comment form and a postage paid envelope to submit comments. These materials and a copy of the Draft Proposed Source Protection Plan were also posted online. Subscribers to the CTC electronic mailing lists were notified. Advertisements were placed in 17 local and regional newspapers covering the CTC Source Protection Region with information on open houses and where to view copies of the Source Protection Plan. Printed copies of the Draft Proposed Source Protection Plan were available at four Conservation Authority offices, and at 24 local libraries.

In April of 2012, a series of seven public open houses were held across the Source Protection Region to explain the Source Protection Plan to the public and hear their comments. At the May 1, 2012, CTC Source Protection Committee meeting, members received six invited deputations from representatives of industry and agriculture, and the municipalities impacted by water quantity policies in Dufferin County. A total of 54 comments were received from implementing bodies (municipalities, provincial and ministries and agencies), 10 comments from economic interests and 84 comments from the public.

Once again, the Working Groups were reconvened throughout May and early June to analyze the written comments received, discuss and evaluate possible changes to the draft policies and make recommendations for any changes to the Source Protection Committee. The CTC Source Protection Committee held four days of workshops between June 12 and July 19, 2012 to discuss policy revisions in detail. At both the Working Group and full Source Protection Committee workshops, invited municipal and provincial advisers were in attendance to observe and provide information as requested by members. The Proposed Source Protection Plan policies were formally approved by resolutions of the Source Protection Committee at their meeting of August 14, 2012, for submission to the Source Protection Authorities to undertake the second round of public consultation. The second consultation carried out under the direction of the three Source Protection Authorities, ran from September 7 through October 8, 2012. All documents and maps were posted on the website. Notice letters and electronic files were sent via courier to clerks of all municipalities, as well as a notice via email. All persons or organizations who had previously commented, as well as those subscribing to our email list were sent notices and advised where the Plan could be viewed or downloaded from the website. A USB key containing the files was sent upon request. Individuals who were newly impacted by the revised well head protection areas in Acton and Georgetown were mailed individual packages of information, including notice of the opportunity to comment on either or both the updated technical information and the Plan.

Comments were received from 4 provincial ministries and agencies; 9 municipalities; 1 conservation authority; 3 industry or business interests; 2 public interest groups; and 14 members of the public. The Chairs of the Source Protection Authorities jointly submitted the Plan, Explanatory Document and associated files to the Minister of the Environment on October 22, 2012 for his approval decision.

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AMENDED PROPOSED SOURCE PROTECTION PLAN (2012-2014)

Throughout 2012-2013, between submission of the Proposed Plan and receipt of comments from the Ministry of the Environment, the CTC Source Protection Region continued to engage implementing bodies in preparations for implementation of the Source Protection Plan. This included workshops on using the maps and determining if policies apply for municipal and conservation authority staff; launching an online map tool with searching functions to identify if a property was located in a vulnerable area and linked to the policies that could apply, as well as the verification of significant threats in parts of the Credit Valley Source Protection Area in the CTC Region. Also during this period technical work continued on reviewing the delineation of Issue Contributing Areas and Tier 3 Water Budgets. New policies were drafted to address new water quantity threats in vulnerable areas around wells serving Georgetown and Acton in Halton Region and around wells in York Region and parts of western Durham Region.

Although the formal review comments on the Proposed Source Protection Plan which was submitted in October 2012 were not received until June 18, 2014, Ministry of the Environment and Climate Change staff provided an iterative series of draft comments to the CTC beginning in October 2013 with initial comments on water quantity policies, initial groundwater quality comments in February 2014 and initial Lake Ontario policy comments in April. This allowed the CTC Source Protection Committee to begin revisions of the Source Protection.

WATER QUANTITY POLICIES

In the fall of 2013, consultation was undertaken to engage implementing bodies and inform affected property owners in Halton Region and the County of Wellington on new technical work (Issue Contributing Area re-delineation and Tier 3 water budget results) and policy work (new water quantity policies). This consultation included notification to clerks of affected municipalities (Region of Halton, Town of Halton Hills, County of Wellington, and Town of Erin). Approximately 3100 letters were mailed to properties in the Significant Water Quantity Threat Area, these were parcels which had not previously received any notifications. A public open house was held on Saturday October 19, 2013 from 8 AM to 12 noon at the Downtown Georgetown Farmers' Market. The comments received were considered in amending the proposed policies.

Draft comments on the water quantity policies were received from MOECC in October 2013 and a revised version in January 2014. The CTC Source Protection Committee considered revisions to these policies to respond to the comments on February 4, 2014. Planning staff initiated revisions to the Water Quantity policies based on direction received and delegations received. On March 20, 2014 CTC staff hosted a consultation working session on Water Quantity policy to review any outstanding concerns with affected implementing bodies. Following this session and taking the discussion into consideration staff made further revisions to the Water Quantity policies in preparation for further public consultation.

On February 4, 2014, Source Protection Committee members also directed staff to review and make the necessary revisions to Water Quantity policies to ensure they would be comprehensive enough to apply in the newly delineated Wellhead Protection Areas for quantity threats in parts of York and Durham, and in parts of Halton Region and Wellington County. Staff was also directed to arrange for consultation on both the Tier 3 water budget findings and quantity policies in York and Durham Regions. Pre-consultation with the MOECC, the CTC and neighbouring Source Protection Committees, affected municipalities and any other implementing body on the proposed revisions to Water Quantity policies was held prior to a joint public consultation with South Georgian Bay Lake Simcoe Source Protection Region. This public consultation was organized to streamline communication with residents affected by both the CTC and SGBLS Source Protection Plan and Assessment Report Update. This public consultation took place from April 24 - May 23, 2014 and consisted of newspaper advertising, posting of material online as well as a public open house held May 7, 2014 in Whitchurch-Stouffville.

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Following consideration of the comments, the Amended Proposed Water Quantity policies were approved by the CTC Source Protection Committee for public consultation at the June 24, 2014 meeting.

WATER QUALITY POLICIES

On February 7, 2014 CTC staff received initial comments from the MOECC on the water quality policies. On April 23, 2014, the CTC Source Protection Committee reviewed and provided direction to staff on the MOECC comments received on the Water Quality policies. While the Source Protection Committee made decisions on many of the comments at that meeting, a number of policies required further information prior to a formal Source Protection Committee decisions.

On May 7, 2014, Water Quality policies were discussed with Halton Region, Towns of Halton Hills and Erin, and County of Wellington staff. Staff attended another meeting with Halton Region and MOECC staff on May 22, 2014 to discuss prohibition policies in portions of Issue Contributing Areas.

Following these discussions, the Amended Proposed Water Quality policies were approved by the CTC Source Protection Committee for public consultation at the June 24, 2014 meeting.

LAKE ONTARIO POLICIES

On April 11, 2014 CTC staff received initial comments from the MOECC on the Lake Ontario policies which were submitted in the Proposed Source Protection Plan on October 22, 2012 to the Minister of the Environment. Staff and members of the Lake Ontario Working Group met to review the comments on April 24, 2014. At this meeting, Working Group members discussed the comments and provided direction to staff to move forward with policy revisions in preparation for the May 27, 2014 Source Protection Committee meeting.

Following these discussions, the Amended Proposed Lake Ontario Policies were approved by the CTC Source Protection Committee for public consultation at the June 24, 2014 meeting. However it was recognized that due to the late receipt of the formal comments from the Ministry on June 18, 2014, that the SPC had not had sufficient time to fully explore and discuss with ministry staff resolutions to their concerns with the Lake Ontario policies. Therefore the SPC undertook to revisit the comments on these policies in the fall of 2014 along with any additional comments received during the public consultation.

RECEIPT OF FORMAL COMMENTS AND CONSULTATION ON REVISED PLAN

On June 18, 2014 the three Source Protection Authority Chairs received the formal comments on the CTC Proposed Source Protection Plan from the Director, Source Protection Programs Branch. These comments built on the earlier draft comments. The Source Protection Committee had begun to, or had addressed many comments the Director outlined in her letter. On June 24, 2014 the CTC Source Protection Committee met and endorsed the Amended Proposed Source Protection Plan policies for a 35-day public consultation period and also posted the Director's letter as part of the consultation material.

The consultation took place from July 18 to August 22, 2014. The Amended Proposed Source Protection Plan and new explanatory material was posted on the CTC Source Protection Committee website www.ctcswp.ca along with telephone and email contact information to reach staff. Newspaper advertisements were placed in local weekly papers across the CTC Source Protection Region and in publications which target the agricultural community. In addition, notices and copies of the plan and explanatory materials were sent to all implementing bodies (municipal, provincial, source protection authority, federal and industry). Copies of materials were available for viewing at each source protection office.

Comments were received from 5 provincial ministries and agencies; 10 municipalities; 3 conservation authorities; 2

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industry or business interests; 3 public interest groups; and 3 members of the public. Following the consultation, staff provided the CTC Source Protection Committee with the comments and recommendations for further policy revisions on September 23, 2014. At that time there were still some outstanding concerns on some Lake Ontario policies, thus the Lake Ontario Working Group reconvened on October 21, 2014 and October 29, 2014 to make recommendations to the Source Protection Committee for their final approval on November 13, 2014.

Following the Source Protection Committee endorsement of the Amended Proposed Source Protection Plan on November 13, 2014, the Chairs of the Source Protection Authority jointly submitted the Amended Proposed Source Protection Plan and Explanatory Document to the Minister of the Environment and Climate Change on December 15, 2014.

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POLICY RATIONALE: INTRODUCTION

Source Protection Committees must develop policies to address the significant drinking water threat activities that have been identified, that may be occurring, or that might occur in the future in the vulnerable areas as identified in their respective Assessment Reports. The Source Protection Committee must be of the opinion that the policies, when implemented, will reduce or prevent the risk associated with the activity so that it ceases to be, or does not become, a significant threat to a municipal drinking water source. Source Protection Committees may also develop policies to address low or moderate drinking water threats.

Source Protection Committees are required (O. Reg. 287/07, section 40 (2)) to provide the rationale for the selection of their policies and how they meet the criteria mentioned above. This section provides the general rationale and considerations for the Water Quality, Quantity and Lake Ontario policies that can be found in the CTC Amended Proposed Source Protection Plan. All policies have been written on a Source Protection Region-wide basis, unless otherwise specified within the policies. **The policy rationale tables provide detailed rationale for each policy**, and summary of comments received during consultation can be found online at www.ctcswp.ca.

It is important to note that in assessing existing threats and proposing policies, there has been no consideration given as to whether there are risk management strategies already in place that reduce the threat to a drinking water source. For many threats, there may be such protection in place. Where policies direct that Risk Management Plans or Strategies be developed, or existing Prescribed Instruments (PI) be reviewed and amended to protect source water, there may be a determination by the implementing body that upon review, the existing provisions are sufficiently robust to protect the drinking water source from the significant threat activity, without further requirements. Scrutinizing the identified significant threat activity on a site specific basis against the appropriate policies will ensure that preventive actions are in place to protect source water: thus meeting the main objective of the *Clean Water Act, 2006*.

FINANCIAL CONSIDERATIONS

The CTC Source Protection Committee is very aware of the concerns of affected residents and implementing bodies about the costs of implementing policies, and that the burden of costs at some wells may be borne by property owners who may not even be serviced with municipal water. The Source Protection Committee has addressed this issue in two ways: 1) Policies have been developed recommending the continued funding of the Ontario Drinking Water Stewardship Program (ODWSP) to provide financial support to landowners to cover costs of eligible projects which help protect source water; and 2) The CTC Source Protection Committee have selected Prescribed Instruments as the main policy tool wherever they have been made available in the CWA. Having the Province responsible for implementing these policies, through existing mechanisms and instruments, ensures that the senior level of government exercises its authority and bears the costs, reduces duplication and minimizes the number of policies and associated costs directed to the municipality to implement Risk Management Plans.

Although municipalities have the opportunity and obligation to consider how to distribute costs in order to continue providing and protecting local water to their customers, the Province also needs to provide further direction and assistance on funding the costs of implementing policies.

NON-REGULATORY TOOLS

Education and outreach policies have been proposed as part of the suite of tools to ensure that the information from CTC Assessment Reports that delineates vulnerable areas and significant drinking water threat activities, along with actions that can be taken to reduce the threat, is made available to property and business owners in the vulnerable areas. Voluntary actions undertaken by individuals and businesses who know what to do to protect a drinking water source can be very effective as part of the protection approach.

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Where education and outreach policies have been chosen as the only tools to address a significant threat, Source Protection Committees are required to demonstrate why they feel that choosing only education and outreach policies would result in stopping a significant threat activity or not allow the activity to become a significant drinking water threat. Please see “[use of non-regulatory tool as the only tool to address a significant threat,](#)” below, for further details.

MONITORING POLICIES

Monitoring policies have been developed, as required, for every policy directed to the implementing body in order to provide information which the CTC Source Protection Committee can assess to determine how policies are being implemented. This will help the Source Protection Committee to determine the effectiveness of the policies and any barriers or problems with implementing the policies that will be useful in future reviews and updates of these policies. The Source Protection Authorities are also required to annually submit a report to the Minister summarizing the information received in these reports.

RESEARCH POLICIES

A number of research policies have been proposed where the CTC Source Protection Committee concluded there are data and knowledge gaps that should be filled in future Assessment Report and Source Protection Plan updates as part of the continuous improvement to protect source water.

COMPLEMENTARY POLICY TOOLS

The CTC Source Protection Committee has chosen in most cases to propose a suite of policies to address significant threats rather than choosing only one approach. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For example, for future threats there is generally a land use planning policy using Planning Act tools proposed to complement a Prescribed Instrument policy or risk management approach. This will also help ensure that a current or prospective property owner is aware of the special requirements that they would need to comply with or restrictions well before they would be applying to the other implementing authorities.

This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions. This approach parallels the Provincial approach in developing and using the Part IV tools under the CWA, in that a complementary Restricted Land Use policy (s. 59) is suggested by the Province to accompany all instances where a s. 57 (Prohibition) or s. 58 (Risk Management Plan) policy is proposed, in order to ensure land use planning decisions are made that are consistent with the use of these tools.

NOTE ON “PRESCRIBED INSTRUMENTS”

The CTC Source Protection Committee has used Prescribed Instruments as a preferred policy tool throughout the Source Protection Plan because it uses the mechanisms and regulatory instruments that already exist to protect drinking water sources. By preferring to use Prescribed Instruments when possible, the Source Protection Committee sought to avoid creating policies that duplicate or are redundant.

The Prescribed Instruments which can be used in the Source Protection Plan are defined in the CWA as the following provincial legislation:

The *Aggregate Resources Act*: Sections 8, 11, 13, 25, 30, 36, 37
 The *Environmental Protection Act*: Sections 29, 47.5

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The *Nutrient Management Act*: Sections 10, 14, 28, 15.2

The *Ontario Water Resources Act*: Sections 34, 53

The *Pesticides Act*: Sections 7, 11

The *Safe Drinking Water Act*: Sections 40, 44

CLEAN WATER ACT, 2006 PART IV TOOLS

Where the CTC Source Protection Committee has recommended the use of Section 57 (Prohibition) or Section 58 (Risk Management Plan), a complementary Section 59 (Restricted Land Use) policy is also included as recommended by Provincial staff. Section 59 policies are intended to ensure that a Risk Management Official is consulted and issues a notice that an activity is not subject to policies under Section 57 or 58; or if Section 58 applies, that the required Risk Management Plan has been prepared and agreed to; before a municipal approval is issued under the Planning Act or other authorities.

CLIMATE CHANGE CONSIDERATIONS

Our ability to protect future water quality and quantity will be influenced in part by the climatic conditions at the time. The amount of water available depends on how much precipitation there is, whether it comes as rain or snow, whether it infiltrates into the ground or runs into streams and lakes, and how hot it is and how much water evaporates. The quality of water can be influenced by factors such as intensity of storms that wash contaminants into surface water or cause ruptures of pipes or wash away protective soil covering them. In assessing threats, available information on what the future change in climate might be was considered in the Assessment Reports. In particular potential drought scenarios were considered in identifying significant water quantity threats in the Tier 3 water budget analyses completed in the CTC Source Protection Region. See the Assessment Reports at www.ctcswp.ca.

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SPECIAL RATIONALE CONSIDERATIONS FOR THE DEVELOPMENT OF SOURCE PROTECTION POLICIES

In addition to the general rationale outlined in the previous section, applicable to all water quality and quantity drinking water threats, this section provides greater detail on specific issues or policies requiring further rationale. The special rationale considerations are broken up by Groundwater Quality, Lake Ontario Quality and Groundwater Quantity policies to help provide greater detail on the decisions made for those respective threat activities.

GROUNDWATER QUALITY POLICIES

ISSUE CONTRIBUTING AREAS

In the Credit Valley Source Protection Area (CVSPA), Issue Contributing Areas (ICAs) have been delineated where a number of wells with “Issues” per the *CWA* (evidence of man-made contamination that is increasing over time and may render the water unsuitable as a source of drinking water if the trend continues) have been identified. Under the *CWA*, any prescribed drinking water threat activity located in an ICA which contributes to the Issue is a significant drinking water threat. Policies have been developed to address these threats that are in some cases more restrictive than policies for the same activity at wells where there is no Issue, recognizing that corrective action is required to reduce a demonstrated threat and to avoid introducing new threat activities through prohibition or careful management.

Although relevant activities are a significant threat everywhere in an ICA, the CTC Source Protection Committee chose to restrict future prohibition policies to the most vulnerable portions of the ICA for the wells with nitrate issues in response to concerns over implementation challenges. This change in policy direction was supported by additional technical consideration of drinking water risks. **Please see the explanatory notes for policies ASM-1 ASM-2 for more detail.**

In a number of cases, research into the Issue has been proposed to better understand the sources of the contaminant and if additional protection is required.

PROHIBITING EXISTING SIGNIFICANT THREATS

Where a Source Protection Committee has chosen to use prohibition to address existing significant threats using powers in Section 57 (“Part IV Tools”) of the *CWA*, they must consider and explain why this approach is considered necessary to reduce the threat as opposed to using tools to manage the threat. This requirement is to ensure that full consideration is given to policies that manage existing threat activities, where possible. Imposing prohibition on these existing activities can result in particular hardship for the property owner or business owner who has been operating in compliance with prior requirements. Committees were asked to first consider policies to protect source water by putting in place requirements to manage the activity in a way that reduces the threat to a drinking water source. However, a Source Protection Committee has the authority to propose prohibition policies where they are of the opinion that the threat to the drinking water source cannot be managed without the activity ceasing to exist.

This requirement for demonstrating that prohibition is a “last resort” does not apply to the prohibition of future significant threat activities. This difference recognizes that a policy approach to prohibit new threats to drinking water quality or quantity may be preferable (more protection provided for the source water and/or less regulatory burden and costs on all parties) than imposing requirements to manage and mitigate new significant threat activities.

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The CTC Source Protection Committee determined prohibition of existing activities was necessary in very few instances. The prohibition of existing activities were limited to application of Agricultural Source Material in a WHPA-A for farms not covered under the *NMA* (already prohibited under *NMA*); application of Non-Agricultural Source Material where it would be a significant threat (already prohibited in WHPA-A under *NMA*), the use of land as livestock grazing or pasturing land in WHPA-A only in an ICA for nitrates or pathogens; and the application of commercial fertilizer in WHPA-A. For explanations regarding these policy decisions, please see detailed rationale for [ASM](#), [NASM](#), [LIV](#) and [FER](#) policies.

USE OF NON-REGULATORY TOOL AS THE ONLY TOOL TO ADDRESS A SIGNIFICANT THREAT

Source Protection Committees are also required to provide more detailed rationale for their decisions to choose only an education or outreach approach (“soft tool”) to address existing or future significant drinking water threats. The requirement is to demonstrate why the Source Protection Committee concluded that this approach will meet the test of resulting in the activity ceasing to be, or not becoming, a significant drinking water threat without using the management or prohibition tools provided in the *CWA*.

Where the CTC Source Protection Committee has chosen an education and outreach approach as the only policy to address a significant drinking water threat, it is expected that the implementing body will develop and deliver an education and outreach campaign. The campaign is not a single mailing of information but a comprehensive program which will clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. The implementing body is directed to deliver the program in a manner that will be most effective for their jurisdiction. Implementers are encouraged to consider a wide range of delivery approaches, such as: using a variety of media to deliver content – print, web, social media, demonstrations or displays, radio and local television PSAs; and to collaborate with other municipalities, local businesses, conservation authorities, community groups and schools or local events such as Children’s Water Festivals. The campaign should also include measures to assess the effectiveness in ensuring property owners take the actions needed to protect the source of municipal drinking water.

Education and outreach policies have been proposed as the only tool to manage the following threats:

- Road salt threats for the application and storage of road salt on residential properties in an ICA where sodium and/or chloride are identified as issues;
- Application, handling and storage of commercial fertilizer for incidental or personal use.
- The handling and storage of fuel for residents and small businesses; and
- The handling and storage of DNAPLs (and Organic Solvents) for incidental or personal use.
- Storage of small quantities of hazardous and liquid industrial wastes.

Additional technical work was undertaken in the Credit Valley Source Protection Area to estimate the amount of salt applied for de-icing from the various activities within each ICA. Based on this technical work, it was concluded that the contribution from the single family residential use of road salt is a small percentage (~1%) of the total amount of salt applied annually within the ICAs. The CTC Source Protection Committee concluded that proposing policies which required management or prohibition approaches would be onerous to implement, difficult to enforce and not likely well received. Therefore, an education and outreach policy was considered appropriate for these activities.

For the same reasons, an education and outreach policy was used to manage the application, handling and storage of small quantities of commercial fertilizers, such as by individuals on their own residential property.

The storage and handling of fuel is highly regulated by the provincial agency called the Technical Standards and

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Safety Association (TSSA). TSSA develops educational materials, licenses and regulates the bulk suppliers/distributors of fuel, fuel oil and associated equipment, and requires that fuel oil distributors annually inspect the fuel tanks of their customers and refuse to provide service where a storage tank is at risk of leaking or not in compliance with current codes. In addition, insurance companies have become increasingly aware of the financial risks posed by spills from residential fuel storage and are taking proactive measures to require inspections and implementation of spill prevention measures by insured parties to reduce financial liability. Choosing a policy which would require that the Risk Management Official negotiate Risk Management Plans at potentially hundreds of single family homes and small businesses would be a large administrative burden and divert resources away from developing Risk Management Plans for other threat activities which are subject to risk management policies. For these reasons the Source Protection Committee selected managing the threat by education and outreach as the optimal approach that best meets the policy evaluation criteria.

The Source Protection Committee concluded that it would be inefficient to require Risk Management Plans at residences for incidental use of DNAPLs especially given that most DNAPLs available to households comprise a minute quantity of the product within which they are contained. The vulnerable area where the handling and storage of DNAPLs is significant comprises the entire Wellhead Protection Area-A, -B and -C. This includes thousands of properties in the CTC. DNAPLs in their pure and bulk form are highly regulated and generally not available for public purchase. The CTC Source Protection Committee followed the same rationale in choosing education and outreach tools for personal, incidental use of organic solvents. While the areas where these products are a significant threat is not as extensive as for DNAPLs, it does include numerous properties and therefore would pose a large administrative burden on the Risk Management Official.

The storage of small quantities of hazardous and liquid industrial wastes are exempt from a number of requirements (including no Environmental Compliance Approval) by regulation under the *Environmental Protection Act* provided the amounts stored do not exceed the quantities specified AND the property owner maintains a contract with a licensed hauler to pick up the wastes on a regular basis for transfer to licensed disposal facilities. The haulers are required by the Ministry to have proper approval and maintain records of where the wastes are picked up and transported. The types of activities that are included in this group include battery recycling drop off in an electronics store or containers that are damaged at a retail outlet containing these materials that are then defined as wastes when they aren't suitable for sale. The number of facilities that are covered in this category may be numerous in a vulnerable area that is near/in an urban area making it onerous to require the Risk Management Official to negotiate Risk Management Plans. Municipalities commented that it would be a large administrative burden and divert resources away from developing Risk Management Plans for other threat activities which would pose a more likely risk to drinking water. For these reasons the Source Protection Committee selected managing the threat by education and outreach as the optimal approach that best meets the policy evaluation criteria.

LAKE ONTARIO POLICIES

The Source Protection Committee received comments and advice from the Ministry of Environment and Climate Change (MOECC) on the Proposed Plan that a number of Lake Ontario policies directed at future technical work or wide scale spills response were considered 'out of scope' of what can be included in the Source Protection Plan. Throughout the process of amending the plan, careful consideration was paid to the revision of these policies. Through ongoing dialogue with the Committee, impacted municipalities, and the Province, policy consensus was achieved that addressed the MOECC staff's previous concerns while ensuring protection of Lake Ontario-based drinking water supplies through the Source Protection Plan.

Given the critical importance of Lake Ontario as a source of drinking water in the CTC and beyond, the nature and scale of the significant threats that have been identified, and the importance of continuing the technical and scientific work to fully assess and manage these and potential other significant drinking water threats, the CTC Source Protection Committee concluded that implementation of these policies is essential to protect Lake Ontario as a source of municipal drinking water. The amended policies contain all the key elements originally proposed by the CTC SPC, but the implementing approach has been revised with the direction to MOECC to create a Lake

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Ontario Collaborative Group to share in determining the tasks to be undertaken and the respective responsibilities to carry out and fund these tasks. Further, the municipalities of Peel, Toronto and Durham are required to participate as members of the group.

GROUNDWATER QUANTITY POLICIES

The Tier 3 Water Budget for Orangeville and the surrounding area was the first completed in the Province under the source water protection program. It was carried out under the direction of the Ministry of Natural Resources and has been used to establish the technical guidance directing other Tier 3 studies. One vulnerable area was identified with a significant risk level meaning that significant threat policies in the plan apply to both existing and future activities that take water from the aquifer and do not return it to the same source or reduce recharge to the aquifer.

In the fall of 2013 a Tier 3 Water Budget Study was completed for Halton Region wells located in the Town of Halton Hills. Around some of the wells serving Acton the vulnerable area was assigned a significant risk level. The vulnerable area around the wells serving Georgetown was assigned a moderate risk level and therefore only future activities are deemed to be significant threats to which policies apply.

In May 2014 the Tier 3 Water Budget study was completed for wells in York Region and the Uxville wells in Durham Region which resulted in delineation of a vulnerable area which was assigned a moderate risk level and therefore only future activities are deemed to be significant threats to which policies apply in this area.

DEMAND AND RECHARGE THREATS

The CTC Source Protection Committee has developed a comprehensive suite of policies that address both activities that take water from the aquifer (any such activity is defined as a significant drinking water threat within the vulnerable area) and activities that reduce recharge. The Tier 3 studies have identified the vulnerable area and existing and proposed significant drinking water threat activities. In order to ensure sustainable water policies deal with demand for water from population growth, managing demand through water conservation, regional water management planning, and protection of recharge are all required.

USING TIER 3 WATER BUDGET TOOLS IN DECISION-MAKING

The CTC Source Protection Committee is of the opinion that the Tier 3 water budget studies have provided a valuable technical tool in the calibrated water budget model that has been developed, that can and should be used on an on-going basis to support decisions. There has been a substantial public investment in developing this model which should be maintained and leveraged to support future decisions.

JOINT MUNICIPAL WATER MANAGEMENT

One of the recommendations from the Tier 3 water budget in the Orangeville area was that a regional water management strategy would help optimize the management of the water supply in Orangeville, Amaranth and Mono.

The CTC Source Protection Committee agrees and has encouraged the development of a Joint Municipal Water Supply Management model to manage and plan the existing and future water systems in this area. This policy recognizes that there are several municipalities who own and/or operate water systems in the area identified with water quantity threats. To properly manage the supply to meet the various needs requires technical coordination and mechanisms to share the resource.

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LAND USE PLANNING TO MANAGE FUTURE THREATS

A number of proposed policies to manage future threats rely on land use planning tools. The CTC Source Protection Committee concluded that these tools can address the issues of ensuring that development proceeds in a manner that protects water quantity through protecting recharge and balancing population growth with the protection of sustainable water supplies.

It is important when implementing policies to ensure that current recharge is maintained post development and that the areas which have been identified as ICAs for sodium and chloride are also protected from any activity that would introduce these contaminants as this would be a significant drinking water quality threat activity.

PROVINCIAL ROLE IN MANAGING FUTURE GROWTH

The CTC Source Protection Committee has recommended a policy directing provincial ministries responsible for planning and growth to work with local municipalities to ensure that growth proceeds in a manner that reduces or prevents the significant water quantity stress identified in a Tier 3 water budget.

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POLICY RATIONALE

TRANSITION PROVISION

Transition Provision	<p>The Transition Provision policy outlines the circumstances under which a future significant drinking water threat activity may be considered an existing significant drinking water threat activity.</p> <p>The <i>Clean Water Act, 2006</i> requires source protection plans to contain policies to address both existing and future threat activities. The Act further specifies that all policies will come into effect upon the plan approval date or an effective date specified by the Minister of the Environment and Climate Change. Transition provisions have been developed to recognize those situations where an applicant has either obtained an approval-in-principle to proceed with a development application, or where a complete application has already been made to a planning approval authority that are “in process” on the date the source protection plan comes into effect. They are not designed to allow proponents to ignore or circumvent the provision contained in this plan. They will allow the applications to proceed subject to existing significant drinking water threat policies.</p> <p>The CTC Source Protection Committee concluded a transition provision should be included in the plan to be fair to those with applications in progress or that have received an approval in principle to proceed with works. The policy will allow those with complete applications made under the <i>Planning Act</i> or <i>Condominium Act</i>, building permits submitted in compliance with Division C.1.3.1.3 (5) of the <i>Ontario Building Code Act</i>, development permits under the Niagara Escarpment Development Control Area, or an application for the issuance or amendment of a Prescribed Instrument prior to the day the source protection plan comes into effect to be treated as existing threat activities.</p>
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GENERAL/OTHER POLICIES

GEN-1	<p>Policy GEN-1 manages existing and future activities within vulnerable areas where the activity would be a significant drinking water threat as designated under Section 59 of the <i>Clean Water Act</i>, by requiring Risk Management Officials to screen applications for works proposed under the <i>Planning Act</i>, <i>Condominium Act</i> and Building Code.</p> <p>Where the activities are or would be a significant drinking water threat, this policy requires municipalities to designate land uses within their official plans and zoning by-laws. This will allow for the pre-screening by the Risk Management Official, via Section 59 of the <i>Clean Water Act</i>, 2006. Section 59 policies require that municipalities put a process in place to “flag” for the Building Official and the Planning Department applications made under the <i>Planning Act</i> or <i>Condominium Act</i> or an application for a building permit that is within a vulnerable area where a threat could be significant and where Part IV authorities are being used to prohibit or manage activities. The “flag” would indicate to the Building Official or the Planning Department that the proposal needs to be reviewed by the Risk Management Official. Once the Risk Management Official is satisfied that the applicable Part IV policies are addressed, he/she would issue a “notice to proceed”. This notice is used to let the Building Official or Planning Department know they can proceed in processing the proposal.</p>
GEN-2	<p>Policy GEN-2 requires the Risk Management Official and Risk Management Inspector to establish a priority for how inspections of Risk Management Plans will be conducted to ensure that activity ceases to be or does not become significant.</p> <p>Prioritized inspections are required at least once every 5 years or on a basis deemed necessary by the Risk Management Official. If inspections are to be conducted at a frequency of less than once every 5 years then the Risk Management Official must provide rationale in their annual report to the Source Protection Authority outlining the reasoning behind the reduced inspection frequency.</p> <p>The CTC Source Protection Committee concluded that regular inspection for compliance with Risk Management Plans is essential to ensure that the source of municipal drinking water is protected by the risk management measures required under the Risk Management Plan. This policy requires that inspections are conducted on an ongoing basis and the implementing body is also required to report on their inspection activities.</p>
GEN-3	<p>Policy GEN-3 requests the appropriate Provincial Ministry undertake compliance/verification inspections to confirm that any new or amended condition of approval are implemented by facility owners so that the activity ceases to be or does not become significant.</p> <p>Inspections are required at least once every 5 years or on a basis deemed necessary by the Issuing Director. If inspections are to be conducted at a frequency of less than once every 5 years then the Issuing Director must provide rationale in their annual report to the Source Protection Authority outlining the reasoning behind the reduced inspection frequency.</p> <p>The CTC Source Protection Committee concluded that regular inspection for compliance with approvals under a Prescribed Instrument is essential to ensure that the source of municipal drinking water is protected by the risk management measures required under the Prescribed Instrument. This policy requires that inspections are conducted on an ongoing basis and the implementing body is also required to report on their inspection activities.</p> <p>Since the policy only applies to those Prescribed Instruments in vulnerable areas where the activity is a significant drinking water threat and the re-inspections are only required every five years, the number of inspections required annually is expected to be small.</p>

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GEN-4	<p>Policy GEN-4 encourages the Ministry of the Environment and Climate Change to maintain and expand the Ontario Drinking Water Stewardship Program which has been established under Section 97 of the <i>Clean Water Act, 2006</i>. Provincial funding had been provided to support eligible early actions by landowners who took voluntary actions to protect municipal drinking water sources.</p> <p>The CTC Source Protection Committee concluded that this was a very useful and effective program and would like the Ministry of the Environment and Climate Change to continue to explore funding the program after approval of the Source Protection Plan. In particular, consideration should be given to landowners who are required to take action to protect municipal drinking water sources to which they are not connected and/or where the municipal water source serves another municipality.</p> <p>Other eligible projects within the incentive program could include handling and storage of fuel and water conservation measures on farm properties (such as irrigation equipment upgrades), soil testing for Agricultural Source Material application rates (as per ASM-1), fencing to restrict livestock (as per LIV-1), cost to install a covered fertilizer storage (as per FER-2), etc.</p>
GEN-5	<p>Policy GEN-5 encourages municipalities to consider providing incentive programs to encourage actions to reduce the risk to source water.</p> <p>The municipality must consider providing incentive programs related to any of the 21 significant drinking water threats. A number of municipalities within the CTC already have incentive programs for activities such as well decommissioning and other rural water protection which might be expanded to cover actions in vulnerable areas to protect municipal drinking water. Information outlining how incentive programs were considered and the outcome would be required as part of the annual monitoring report to the source protection.</p>
GEN-6 GEN-7	<p>Policies GEN-6 and GEN-7 apply to areas where “Issues” have been identified in accordance with the Technical Rules for the preparation of Assessment Reports issued by the Ministry of the Environment and Climate Change pursuant to the <i>Clean Water Act, 2006</i>.</p> <p>The CTC Source Protection Committee concluded that additional technical work and regular water quality monitoring is warranted in these areas to ensure the protection of the long term sustainability of the source of municipal water (s. 45 of the <i>Clean Water Act, 2006</i> and Section 26 of Ontario Regulation 287/07). The review of ongoing monitoring will provide information on whether the “Issue” is changing – improving or worsening – and will aid in determining if additional measures are required.</p>
GEN-8	<p>Policy GEN-8 encourages municipalities to deliver education and outreach materials to properties and business in low and moderate threat areas where materials are being delivered to significant threats areas.</p> <p>The intent of this policy is to encourage municipalities to expand the areas where they deliver education and outreach programs. Actions taken outside of the required areas will help protect other drinking water sources (such as private wells).</p>

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WASTE POLICIES

WST-1	<p>Staff will be providing additional clarification about the wastes covered by these policies so that the SPC can confirm the appropriate policy tool. Staff is not certain that they properly conveyed the description of all the different waste/types and volumes at the September 23 meeting, nor the decisions taken by the SGBLS. When policy confirmed, ED text will be finalized to reflect the SPC rationale for these activities.</p>
WST-2	<p>Policy WST-2 manages the existing and future storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste, or in clause (d) of the definition of liquid industrial waste through the use of education and outreach targeted towards ensuring facilities that generate small quantities of waste.</p> <p>This policy is the only one to deal with the threat posed by the storage of wastes described in clauses (p), (q), (r), (s), (t) or (u) of the definition of hazardous waste, or in clause (d) of the definition of liquid industrial. The circumstances surrounding (p), (q), (r), (s), (t) or (u) or (d) typically represent small amounts of wastes from residues left in drums to quantities of wastes ranging from 1-25 litres. While small quantities of waste are exempt from generator registration and manifesting requirements, the small quantity is still waste, and must be transported by an approved waste carrier and disposed of at an approved waste receiver. Further information provided from the Ministry of the Environment and Climate Change indicated that battery and paint recycling drop-off locations are captured under the Tables of Circumstances. At this time, the full extent of threat subcategory is unknown.</p> <p>After much consideration, the Source Protection Committee concluded that a comprehensive education and outreach program targeting the proper handling and storage of small quantities of waste would be an effective tool at managing the significant drinking water threat as it would be difficult to determine when and where a Part IV policy would apply. Once the full extent of the threat subcategory is understood the Source Protection Committee may reconsider the policy approach in future Source Protection Plan updates.</p> <p>Therefore, the Source Protection Committee concluded that this policy is an appropriate balance between protecting the municipal source of drinking water and avoiding the workload burden on the Risk Management Official and costs to landowners that would result from requiring a Risk Management Plan.</p> <p>An education and outreach strategy should be developed by the municipality that includes a suite of actions to ensure that affected property owners understand and take actions to protect municipal supplies. This should include ongoing efforts and follow-up analysis to assess effectiveness as this is a standalone policy, not a companion to other policies directed at the same threat activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). This could include providing information to all owners/tenants of residences and small businesses located in the vulnerable areas on the importance of protecting the source of drinking water and the need to dispose of household hazardous materials to authorized local recycling facilities and information on the location of the recycling facilities. Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>

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WST-3	<p>Policy WST-3 prohibits the application of untreated septage to land for future and existing activities in WHPA-A; and for future activities in WHPA-B (VS=10), WHPA-E (VS ≥ 8) and the remainder of an Issue Contributing Area for nitrates or pathogens. The existing application of untreated septage to the foregoing vulnerable areas outside of WHPA-A may continue only until the expiry of the current approval, after which time it would be considered a future activity and be prohibited.</p> <p>This policy deals with the land application of wastes from the pump out of septic systems. It is important that a septic system is pumped regularly so that it continues to perform properly. There is an effort by the Ministry of the Environment and Climate Change to generally ban land application of untreated septage because of the potential threat to human health and the environment; but where there is not sufficient municipal sewage treatment plant capacity there is still need for this disposal option.</p> <p>The CTC Source Protection Committee concluded that the prohibition of the existing activity in WHPA-A is the only tool that can ensure protection of the municipal water supply. Such prohibition is consistent with the policies prohibiting existing spreading of Agricultural Source Materials and Non-Agricultural Source Materials in WHPA-A which is already a provincial requirement for properties subject to the <i>Nutrient Management Act</i>.</p> <p>Under this policy renewal of an existing approval is considered a future activity and has been included in the prohibition of new activities within the additional areas where they would be a significant drinking water threat. No instances of existing threat activities were identified within the vulnerable areas and as such, it is anticipated that the prohibition of existing activities and renewing approvals should have no to minimal impact on the sector. The municipality should work with any private operators who may be impacted by this policy to ensure that they have access to dispose of this material at the municipal sewage treatment plant to ensure proper treatment before being released into the environment.</p>
WST-4	<p>Policy WST-4 prohibits future waste disposal sites and manages existing waste disposal sites through the Prescribed Instrument.</p> <p>The CTC Source Protection Committee took into consideration the burden of being required to move existing waste disposal sites and as such only applied prohibition to future activities. Prohibiting future new threat activities is seen as being precautionary as managing leachate from waste disposal sites in the long term is complex and expensive, requiring ongoing actions and costs for many years after closure. Remediation of groundwater is often impossible due to cost and technical challenges and the only option maybe abandoning the municipal well.</p>
WST-5	<p>Policy WST-5 uses land use planning to prohibit future waste disposal sites in conjunction with WST-4.</p> <p>The CTC Source Protection Committee has chosen in most cases to propose a suite of policies to address significant threats rather than choosing only one approach. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For example, for future threats there is generally a land use planning policy using <i>Planning Act</i> tools proposed to complement a Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements that they would need to comply with or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions. This approach parallels the Provincial approach in developing and using the Part IV tools under the <i>Clean Water Act, 2006</i>, in that a complementary Restricted Land Use policy (s. 59) accompanies all instances where a s. 57 (Prohibition) or s. 58 (Risk Management Plan) policy is proposed, in order to ensure land use planning decisions are made that are consistent with the use of these tools.</p>

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WST-6	<p>Policy WST-6 prohibits future storage of PCB waste and manages existing storage of PCB waste requiring a risk management plan.</p> <p>The CTC Source Protection Committee took into consideration the burden of being required to move existing waste disposal sites and as such only applied prohibition to future activities. Prohibiting future new threat activities is seen as being precautionary as managing leachate from spillage at PCB storage sites in is complex and expensive. Remediation of groundwater is often impossible due to cost and technical challenges and the only option maybe abandoning the municipal well.</p>
WST-7	<p>Policy WST-7 manages existing and future temporary waste destruction units for PCBs.</p> <p>The CTC Source Protection Committee was informed through Ministry of the Environment and Climate Change comments that PCB destruction sites are necessary when PCBs need to be removed from a transformer or other large or permanent equipment. The approach in Ontario is for the site to obtain an Environmental Compliance Approval under the <i>Environmental Protection Act</i> for a mobile PCB waste destruction unit to come on site and destroy the PCBs. This approach is significantly safer than extracting the PCBs from the equipment and transporting the PCBs off site for disposal or destruction elsewhere. The Environmental Compliance Approval that is obtained for this purpose is used for a few days to a few weeks, and only during that time the site is considered a waste disposal site.</p> <p>As a policy that prohibits the future establishment of a PCB waste storage site could result in the need for the higher risk action of transporting the PCBs off site, the CTC Source Protection Committee has chosen to manage this threat by permitting the use of temporary waste destruction sites. Since the activity is of a short duration, it is more likely that the chance of spills and accidents is lessened.</p>

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SEWAGE POLICIES

SWG-1	<p>Policy SWG-1 is a Specify Action policy which manages existing and future septic systems governed under the <i>Building Code Act</i> through prioritized septic inspections conducted under the Ontario <i>Building Code Act</i>.</p> <p>Under the <i>Building Code Act</i> and regulations, timelines for completing the first set of inspections is five years from the approval of the vulnerable area mapping in an Assessment Report. In the CTC, these Assessment Reports were first approved in January 2012, so that the first inspections must be completed by January 2017. Municipalities have been encouraged to start this work without waiting for the Source Protection Plan to be approved as their inspection timeline has already been established under the other legislation. The local Chief Building Official and Risk Management Office staff should consult to determine local priorities and concerns. Prioritization can consider factors such as age of the system, location, and local concerns. For example, inspections may occur around wells with nitrate or pathogen Issue Contributing Areas before other wells as the existing elevated levels of contamination may be due to improperly functioning septic systems nearby. In the annual monitoring report to be submitted the Source Protection Authority, the municipality should describe the factors used in determining the order that inspections were conducted along with describing the inspection process, findings and plans for scheduling ongoing inspections.</p>
SWG-2	<p>Policy SWG-2 manages existing and future septic systems governed under the <i>Building Code Act</i> through the use of education and outreach materials targeted towards landowners with small septic systems.</p> <p>The intent of this policy is to reduce the burden on municipalities and unnecessary duplication of effort by requesting the Ministry of the Environment and Climate Change provide information related to actions an owner can take in the operation and maintenance of their septic system to protect municipal sources of drinking water related to operation of septic systems. The materials must be made available for the municipality to deliver. The municipality is directed to deliver the program in a manner that will be most effective for their jurisdiction. Municipalities are encouraged to consider a wide range of delivery approaches, such as: using a variety of media to deliver content – print, web, social media, demonstrations or displays, radio and local television PSAs; and to collaborate with other municipalities, local businesses, conservation authorities, community groups and schools or local events such as Children’s Water Festivals.</p> <p>The Ministry of the Environment and Climate Change is already working on preparing a catalogue of educational materials related to septic systems to support municipal implementation and has made initial information to municipal staff through webinars and posted links on the web.</p> <p>Education and outreach policies have been proposed as part of the suite of tools to ensure that the information from CTC Assessment Reports that delineates vulnerable areas and significant drinking water threat activities, along with actions that can be taken to reduce the threat, is made available to property and business owners in the vulnerable areas. Actions undertaken by individuals and businesses who know what to do to protect a drinking water source can be very effective as part of the protection approach.</p>

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SWG-3	<p>Policy SWG-3 is a land use planning policy for future septic systems governed under the <i>Building Code Act</i> ensuring that vacant lots of record be subject to site plan control so that the location of the individual on-site sewage systems and replacement bed are only permitted so as to not become a significant drinking water threat.</p> <p>The CTC Source Protection Committee recognizes that prohibiting a septic system on a vacant lot where there is no municipal sewer connection available may make it impossible to build on such a lot which has received prior approval for such a use from the municipality. This was deemed to be a significant hardship for the landowner. For this reason the Source Protection Committee has provided through this policy for the municipality to subject vacant lots of record to site plan control to ensure sewage systems and replacement beds are only permitted if they can be appropriately sited and constructed to protect the municipal well.</p>
SWG-4	<p>Policy SWG-4 is a land use planning policy prohibiting new lots requiring septic systems governed under the <i>Building Code Act</i> to be established in WHPA-A.</p> <p>The CTC Source Protection Committee has chosen a land use planning policy to limit the creation of new lots requiring a septic system where the septic system would be partially or wholly in WHPA-A. In the remainder of the areas where the septic system would be a significant drinking water threat, the municipality shall review a site specific hydrogeological assessment to decide if the threat to the municipal drinking water source can be managed. It is expected that the requirement to hire qualified persons to carry out the study and prepare a report, the cost of the study and costs for review would be the responsibility of the landowner. The municipality has the ability to approve or not, or require special conditions to protect the source of the municipal drinking water. It is the responsibility of the municipality to determine what specific information is required in the study. The municipality may wish to engage qualified staff at the Source Protection Authority to assist in setting study parameters, advise on the quality of the study and/or interpretation of the results.</p>
SWG-5	<p>Policy SWG-5 is a Specify Action policy requesting the Ministry of Municipal Affairs and Housing to amend the <i>Building Code Act</i> to permit municipalities to require higher standards for septic systems governed under the <i>Building Code Act</i> to deal with nitrate and pathogen threats.</p> <p>The CTC Source Protection Committee had considered a policy that required special technology be used for septic systems where they would be a significant drinking water threat but were advised that the <i>Building Code Act</i> sets out the requirements for suitable systems. This policy is intended to request that the Ministry of Municipal Affairs and Housing amend the <i>Building Code Act</i> to provide the ability for a municipality to require specific systems where there is a need for additional treatment technologies to protect the source of municipal drinking water beyond the minimum acceptable treatment set out in the Building Code. As an alternate approach the Ministry of Municipal Affairs and Housing may wish to set more stringent performance criteria for such systems directly in the Building Code.</p>
SWG-6	<p>Policy SWG-6 is a Specify Action policy encouraging municipalities to pass by-laws under the <i>Municipal Act</i> to require mandatory connections to the municipal sewer system for new developments and existing systems and decommissioning of existing systems, where municipal sanitary sewers and capacity are available. This policy is applicable to both septic systems governed under the <i>Building Code Act</i> and <i>Ontario Water Resources Act</i>.</p> <p>Eliminating individual septic systems in areas where they are significant drinking water threats through the provision of municipal sewer connections can be a very effective management strategy to protect municipal drinking water. Experience in the CTC has shown that property owners may not pay to connect to the available sewer and properly decommission their septic systems unless required to do so or are provided an incentive.</p>

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SWG-7	<p>Policy SWG-7 is a Specify Action policy directed towards municipalities in cooperation with local health units and Source Protection Authorities to provide education and outreach materials to landowners with septic systems in an Issue Contributing Area for sodium and chloride. This policy is applicable to septic systems governed under the <i>Building Code Act</i> and <i>Ontario Water Resources Act</i>.</p> <p>This policy applies only in Issue Contributing Areas for sodium or chloride. It addresses the significant threat from these contaminants reaching the aquifer via the septic system associated with the operation of water softeners. The chemicals used in the water softeners contain high amounts of salts containing sodium which reach the septic system when the unit backwashes and also from the discharge of softened water to the septic. More efficient models of water softeners use lower amounts of softening chemicals. If less water is softened this will also reduce both the amount of chemicals required and the volume of treated water discharged onto the ground or into the septic. Sodium levels in municipal water above 20 milligrams per litre triggers an automatic notification of the local Medical Officer of Health so that area physicians are informed and can properly advise patients with high blood pressure about their intake of sodium through their drinking water and how to take corrective action. Where there is a water softener in a private residence, the residents may not be aware of their potential exposure to high levels of sodium in the water they are drinking. Since this is a public health concern, working with the Medical Officer of Health is advisable so that both the source water protection and public health concerns can be addressed collaboratively.</p> <p>The Source Protection Authority is named as an implementing body alongside the municipality because materials on water softener risks to septic systems have already been developed as part of the Ontario Drinking Water Stewardship Program that can be shared with the municipalities.</p>
SWG-8	<p>Policy SWG-8 prohibits future septic systems regulated under the <i>Ontario Water Resources Act</i> in WHPA-A. Septic systems governed under the <i>Ontario Water Resources Act</i> are otherwise managed through the Prescribed Instrument. This policy should be implemented in conjunction with SWG-9.</p> <p>The CTC Source Protection Committee chose to use the Prescribed Instrument of the Environmental Compliance Approval to deal with this threat. Environmental Compliance Approvals have been a long-standing requirement for these types of systems and are considered an effective tool, with clear criteria for implementation.</p>

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SWG-9	<p>Policy SWG-9 is a land use planning policy prohibiting future septic systems under the <i>Ontario Water Resources Act</i> in WHPA-A. Future septic systems governed under the <i>Ontario Water Resources Act</i> are otherwise managed. This policy should be implemented in conjunction with SWG-8.</p> <p>The CTC Source Protection Committee has chosen two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For future threats there is a land use planning policy using <i>Planning Act</i> tools proposed to complement the Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements with which they would need to comply or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions.</p> <p>The definition of “development” is the same as the Provincial Policy Statement, 2014: Development: means the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the <i>Planning Act</i>, but does not include: a) activities that create or maintain <i>infrastructure</i> authorized under an environmental assessment process; b) works subject to the <i>Drainage Act</i>; or c) for the purposes of policy 2.1.4(a), underground or surface mining of <i>minerals</i> or advanced exploration on mining lands in <i>significant areas of mineral potential</i> in Ecoregion 5E, where advanced exploration has the same meaning as under the <i>Mining Act</i>. Instead, those matters shall be subject to policy 2.1.5(a).</p> <p>The reference to “an approved Environmental Assessment or similar planning process” means that the proponent will have to demonstrate that it is necessary for the development to be serviced by septic system(s) wholly or partially located within a vulnerable area where the system is a significant drinking water threat AND that the construction and operation of the septic system can be managed in such a way as to protect the safety of the drinking water system.</p> <p>Depending on the size and location of the development site, it may be possible to locate parts or the whole septic system on a portion of the site which is not a vulnerable area where the septic system is deemed to be a significant threat. This type of analysis should be considered in the development process.</p>
SWG-10	<p>Policy SWG-10 is a Specify Action policy requesting the Ministry of the Environment and Climate Change to develop guidelines for managing significant drinking water threats from septic systems with subsurface disposal of effluent for distribution to developers, municipalities and other affected parties. This policy applies only to those septic systems regulated by the <i>Ontario Water Resources Act</i>.</p> <p>The intent of this policy is to reduce the burden on municipalities and unnecessary duplication by requesting the Ministry of the Environment and Climate Change to provide information related to measures to protect municipal sources of drinking water related to operation of large septic systems (capacity greater than 10, 000 litres per day) for which the Ministry of the Environment and Climate Change is the approval authority.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>

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SWG-11	<p>Policy SWG-11 prohibits future discharge from a stormwater retention pond in WHPA-A. Discharge from a stormwater retention pond is otherwise managed through the Prescribed Instrument. This policy should be implemented in conjunction with SWG-12.</p> <p>While policy SWG-11 is directed to the Ministry of the Environment and Climate Change to implement, consultation with municipal staff and bodies responsible for road maintenance is recommended to avoid to the extent possible through the land use design, directing drainage from roads and parking lots to storm water ponds or discharges outside the vulnerable area.</p> <p>There are additional requirements for storm water management ponds and discharges that are located in an Issue Contributing Area for sodium or chloride. These requirements are included to reduce the infiltration of storm water containing road salt which can be a major contributor to the elevated salt levels at the municipal well. To achieve the required protection of municipal drinking water sources, road maintenance practices that limit the use of road salt or which use alternative de-icing materials that do not contain sodium or chloride or reduced amounts, may be required.</p> <p>“Where possible” includes assessing the feasibility and other constraints that may limit achieving the conditions listed. The CTC Source Protection Committee felt it was important to provide the Issuing Director flexibility in considering an individual application. Where the conditions listed cannot be met, the rationale and description of the analysis undertaken and any alternative measures or conditions imposed to protect the municipal drinking water should be set out in the annual monitoring report to the Source Protection Authority.</p>
SWG-12	<p>Policy SWG-12 is a land use planning policy prohibiting future discharge from a stormwater retention pond in WHPA-A. Future discharge from a stormwater retention pond is otherwise managed. This policy should be implemented in conjunction with SWG-11.</p> <p>The CTC Source Protection Committee has chosen two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For future threats there is a land use planning policy using <i>Planning Act</i> tools proposed to complement the Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements with which they would need to comply or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions.</p> <p>The reference to “an approved Environmental Assessment or similar planning process” means that the proponent will have to demonstrate that it is necessary for storm water discharge is wholly or partially located within a vulnerable area where the activity is a significant drinking water threat AND that the construction and operation of the storm water pond discharge can be managed in such a way as to protect the safety of the drinking water system.</p> <p>Depending on the size and location of the development site, it may be possible to locate the storm water discharge on the site which is not a vulnerable area where the discharge is deemed to be a significant threat. This type of analysis should be considered in the development process.</p>

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SWG-13	<p>Policy SWG-13 manages existing and future sanitary sewers and related pipes it is or would be a significant drinking water threat. This policy should be implemented in conjunction with SWG-14.</p> <p>The CTC Source Protection Committee chose to use the Prescribed Instrument of the Environmental Compliance Approval to deal with this threat. Environmental Compliance Approvals have been a long-standing requirement for these types of systems and are considered an effective tool, with clear criteria for implementation.</p> <p>“Where possible” includes assessing the feasibility and other constraints that may limit achieving the conditions listed. The CTC Source Protection Committee felt it was important to provide the Issuing Director flexibility in considering an individual application. Where the conditions listed cannot be met, the rationale and description of the analysis undertaken and any alternative measures or conditions imposed to protect the municipal drinking water should be set out in the annual monitoring report to the Source Protection Authority.</p>
SWG-14	<p>Policy SWG-14 is a land use planning policy managing future sanitary sewers and related pipes where they would be significant drinking water threats. This policy should be implemented in conjunction with SWG-13.</p> <p>The CTC Source Protection Committee has chosen two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For future threats there is a land use planning policy using <i>Planning Act</i> tools proposed to complement the Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements with which they would need to comply or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions.</p> <p>The reference to “an approved Environmental Assessment or similar planning process” means that the proponent will have to demonstrate that it is necessary for the development to be serviced by sanitary sewers and pipes wholly or partially located within a vulnerable area where they are a significant drinking water threat AND that the construction and operation of the sewers can be managed in such a way as to protect the safety of the drinking water system.</p> <p>Depending on the size and location of the development site, it may be possible to locate parts or the whole sanitary sewers and pipes on a portion of the site which is not a vulnerable area where they are deemed to be a significant threat. This type of analysis should be considered in the development process.</p>
SWG-15	<p>Policy SWG-15 prohibits future storage of sewage in WHPA-A, WHPA-E (VS ≥ 9) and WHPA-E (VS ≥ 4.5) in an Issue Contributing Area for nitrates or pathogens. Storage of sewage is otherwise managed through the Prescribed Instrument. This policy should be implemented in conjunction with SWG-16.</p> <p>The CTC Source Protection Committee chose to use the Prescribed Instrument of the Environmental Compliance Approval to deal with this threat. Environmental Compliance Approvals have been a long-standing requirement for these types of systems and are considered an effective tool, with clear criteria for implementation. The CTC Source Protection Committee did not prohibit the existing storage of sewage to not cause hardship in relocating existing structures. The prohibition of future storage of sewage in particularly vulnerable areas is seen as a precautionary measure.</p>

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SWG-16	<p>Policy SWG-16 is a land use planning policy prohibiting future storage of sewage in WHPA-A, WHPA-E (VS ≥ 9) and WHPA-E (VS ≥ 4.5) in an Issue Contributing Area for nitrates or pathogens. Future storage of sewage where it would be a significant drinking water threat is otherwise managed. This policy should be implemented in conjunction with SWG-15.</p> <p>The CTC Source Protection Committee has chosen two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For future threats there is a land use planning policy using <i>Planning Act</i> tools proposed to complement the Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements with which they would need to comply or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions.</p> <p>The reference to “an approved Environmental Assessment or similar planning process” means that the proponent will have to demonstrate that it is necessary for new sewage storage facilities to be wholly or partially located within a vulnerable area where the system is a significant drinking water threat AND that the construction and operation of these facilities can be managed in such a way as to protect the safety of the drinking water system.</p> <p>Depending on the size and location of the development site, it may be possible to locate parts of these facilities on a portion of the site which is not a vulnerable area where the facility is deemed to be a significant threat. This type of analysis should be considered in the development process.</p>
SWG-17	<p>Policy SWG-17 prohibits future sewage works (combined sewer discharge, sewage treatment bypass discharge to surface water, sewage treatment plant effluent discharge) in WHPA-E (VS ≥ 8), WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for nitrates or pathogens, and the remainder of an Issue Contributing Area for nitrates or pathogens. In addition, this policy prohibits industrial effluent discharges in WHPA-E (VS ≥ 8), WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for nitrates, pathogens or chloride, and the remainder of an Issue Contributing Area for nitrates, pathogens or chloride. Existing sewage works where it would be a significant drinking water threat is otherwise managed. This policy should be implemented in conjunction with SWG-18.</p> <p>The CTC Source Protection Committee chose to use the Prescribed Instrument of the Environmental Compliance Approval to deal with this threat. Environmental Compliance Approvals have been a long-standing requirement for these types of systems and are considered an effective tool, with clear criteria for implementation. The CTC Source Protection Committee did not prohibit the existing storage of sewage to not cause hardship in relocating existing structures. The prohibition of future storage of sewage in particularly vulnerable areas is seen as a precautionary measure.</p>

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SWG-18	<p>Policy SWG-18 is a land use planning policy prohibiting future sewage works (combined sewer discharge, sewage treatment bypass discharge to surface water, sewage treatment plant effluent discharge) in WHPA-E (VS \geq 8), WHPA-E (VS \geq 4.2) in an Issue Contributing Area for nitrates or pathogens, and the remainder of an Issue Contributing Area for nitrates or pathogens. In addition, this policy prohibits industrial effluent discharges in WHPA-E (VS \geq 8), WHPA-E (VS \geq 4.2) in an Issue Contributing Area for nitrates, pathogens or chloride, and the remainder of an Issue Contributing Area for nitrates, pathogens or chloride. This policy should be implemented in conjunction with SWG-17.</p> <p>The CTC Source Protection Committee has chosen two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction. For future threats there is a land use planning policy using <i>Planning Act</i> tools proposed to complement the Prescribed Instrument policy. This will also help ensure that a current or prospective property owner is aware of the special requirements with which they would need to comply or restrictions well before they would be applying to the other implementing authorities. This approach also ensures that municipal planning and building permit staff are aware of the new source water protection plan policies when providing advice and making decisions.</p>
SWG-19	<p>Policy SWG-19 is a research policy directed towards the Town of Orangeville to assess the extent to which the sodium and chloride loading from the Town's Water Pollution Control Plant outfall into WHPA-E for Well 10 influences the rising sodium and chloride levels measured at this well.</p> <p>The CTC Source Protection Committee requested additional analysis be conducted for each Issue Contributing Area on the relative loadings from the existing activities that could be contributing to the "Issue" in part to help guide their policy development. For Orangeville Well10, the consultant estimated that 70% of the total loading to the entire Issue Contributing Area (WHPA-A, B, C, D, and E) was from the sewage treatment plant discharge in the WHPA-E based on the concentration of sodium and chloride in the effluent and measured in the WHPA-E. However sewage works (including combined sewage discharge, sewage treatment bypass discharge to surface water, and sewage treatment plant effluent discharge) are not significant drinking water threats for sodium or chloride based on the provincial table of drinking water threats. Therefore in order for the sewage treatment plant effluent discharge to be considered a significant drinking water threat for sodium and chloride, it would need to be added as a local threat. The CTC Source Protection Committee concluded that a research policy is necessary in order to determine if this threat needs to be named as a Local Threat in the CTC. If the sewage treatment plant effluent discharge is determined to be Local Threats then policies SWG-17 and SWG-18 would apply.</p>

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AGRICULTURAL SOURCE MATERIAL (ASM) POLICIES

ASM-1	<p>Policy ASM-1 prohibits existing and future application of agricultural source material to land in WHPA-A and future application of agricultural source material to land in WHPA-B (VS=10) in an Issue Contributing Area for pathogens and WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for Nitrates or Pathogens. The application of agricultural source material to land is otherwise managed through the Prescribed Instrument.</p> <p>The prohibition of the existing application of agricultural source material to land in WHPA-A is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms.</p> <p>The CTC Source Protection Committee concluded that wherever the land application of agricultural source material is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from application of agricultural source material within the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens to warrant extra protection. Prohibiting future new threat activities is seen as being precautionary.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration of excess nitrate or pathogens in the remainder of Issue Contributing Area. The CTC Source Protection Committee has chosen to include requirements for soil testing to ensure that excess agricultural source material is not applied and to limit application periods to when the agricultural source material can be broken down and utilized as a nutrient source. These requirements are in line with current best management practices recommended by the Ministry of Agriculture, Food and Rural Affairs. To ensure necessary information to assess the amount of agricultural source material that should be applied to a specific crop and location, the nutrient levels in the agricultural source material should also be tested annually to ensure the correct application rate.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue.</p>
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ASM-2	<p>Policy ASM-2 prohibits existing and future application of agricultural source material to land in WHPA-A and future application of agricultural source material to land in WHPA-B (VS=10) in an Issue Contributing Area for pathogens and WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for Nitrates or Pathogens. The application of agricultural source material to land is otherwise managed requiring a risk management plan.</p> <p>The prohibition of the existing application of agricultural source material to land in WHPA-A is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms. The WHPA-A is highly vulnerable and the potential for contamination of a municipal well from activities taking place in this area is high and therefore other tools, such as risk management plans, were not considered adequate to protect the drinking water source. By prohibiting agricultural activities that are significant drinking water threats in the WHPA-A the CTC Source Protection Committee applied the intent of the <i>Nutrient Management Act</i> equitably to all farms. Only some wells in the CTC are located on agricultural lands and where they are, only a small area of farmland will be affected by the prohibition in WHPA-A (the 100 metre radius around a municipal well); and the affected activities could be easily directed elsewhere on the property outside of the WHPA-A as the application of agricultural source materials doesn't require structures (barns, etc.) to be moved. The CTC Source Protection Committee considered that the financial implications to affected farming operations would not be onerous.</p> <p>The CTC Source Protection Committee concluded that wherever the land application of agricultural source material is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from the application of agricultural source material within the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens to warrant extra protection. Prohibiting future new threat activities is seen as being precautionary.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration of excess nitrate or pathogens in the remainder of Issue Contributing Area. The CTC Source Protection Committee has chosen to include requirements for soil testing to ensure that excess agricultural source material is not applied and to limit application periods to when the agricultural source material can be broken down and utilized as a nutrient source. These requirements are in line with current best management practices recommended by the Ministry of Agriculture, Food and Rural Affairs. To ensure necessary information to assess the amount of agricultural source material that should be applied to a specific crop and location, the nutrient levels in the agricultural source material should also be tested annually to ensure the correct application rate.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue.</p>
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ASM-3	<p>Policy ASM-3 prohibits the future storage of agricultural source material in WHPA-A, WHPA-B (VS=10) in an Issue Contributing Area for nitrates or pathogens and WHPA-E (VS \geq 4.2) in an Issue Contributing Area for Nitrates or Pathogens. The storage of agricultural source material is otherwise managed through the Prescribed Instrument.</p> <p>The CTC Source Protection Committee concluded that wherever the storage of agricultural source material is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from storage of agricultural source material within WHPA-A and in the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens to warrant extra protection. Prohibiting future new threat activities is seen as being precautionary.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration. The Source Protection Committee did not want to create undue hardship on farmers by prohibiting existing agricultural source material storage in vulnerable areas due to the difficulties of moving the structure and the investment already made where there is a structure. Where existing agricultural source material is being stored, constructing a new storage structure is allowed per the existing activity definition where it provides greater protection than existing storage. It is expected that any existing uncovered storage of agricultural source material in an area where it is a significant drinking water threat will require a new structure to ensure that it is covered to reduce runoff and infiltration. This policy allows such risk management measures to be implemented. However where a new structure for existing storage activities can be located outside of a vulnerable area, this is preferred.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue. The prohibition of future new activities does not limit the current farming practices. The definition of existing activities in this plan recognizes that an activity which had been engaged in on a site within the preceding ten years prior to plan approval is deemed an existing activity and therefore not subject to prohibition that only apply to future activities.</p>
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ASM-4	<p>Policy ASM-4 prohibits the future storage of agricultural source material in WHPA-A, WHPA-B (VS=10) in an Issue Contributing Area for nitrates or pathogens and WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for Nitrates or Pathogens. The storage of agricultural source material is otherwise managed requiring a risk management plan.</p> <p>The CTC Source Protection Committee concluded that wherever the storage of agricultural source material is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from storage of agricultural source material within WHPA-A and in the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens to warrant extra protection. Prohibiting future new threat activities is seen as being precautionary.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration. The Source Protection Committee did not want to create undue hardship on farmers by prohibiting existing agricultural source material storage in vulnerable areas due to the difficulties of moving the structure and the investment already made where there is a structure. Where existing agricultural source material is being stored, constructing a new storage structure is allowed per the existing activity definition where it provides greater protection than existing storage. It is expected that any existing uncovered storage of agricultural source material in an area where it is a significant drinking water threat will require a new structure to ensure that it is covered to reduce runoff and infiltration. This policy allows such risk management measures to be implemented. However where a new structure for existing storage activities can be located outside of a vulnerable area, this is preferred.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue. The prohibition of future new activities does not limit the current farming practices. The definition of existing activities in this plan recognizes that an activity which had been engaged in on a site within the preceding ten years prior to plan approval is deemed an existing activity and therefore not subject to prohibition that only apply to future activities</p>
ASM-5	<p>Policy ASM-6 prohibits the existing and future managed of agricultural source material (aquaculture).</p> <p>Based on technical work in the CTC, no existing aquaculture activities which would result in the management of agricultural source material (from the ponds) were identified where they would be significant drinking water threats, therefore the CTC Source Protection Committee does not think that there is any impact from prohibiting existing activities. prohibition of future activities is seen as being precautionary.</p>

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NON-AGRICULTURAL SOURCE MATERIAL (NASM) POLICIES

NASM-1	<p>Policy NASM-1 prohibits the existing and future application of non-agricultural source material (Category 1) to land in WHPA-A. The application of non-agricultural source material (Category 1) to land is otherwise managed requiring a risk management plan.</p> <p>The CTC was advised that there is no Prescribed Instrument issued for this activity under the <i>Nutrient Management Act</i>. The CTC Source Protection Committee determined any application of non-agricultural source material within close proximity to the municipal well or intake would provide an unnecessary risk to drinking water. The Source Protection Committee concluded that Section 57 will effectively achieve prohibition in WHPA-A while maintaining the goal of protecting source water and ensuring these threats cease to be or do not occur in the future. The prohibition of the existing application of Category 1 non-agricultural source material in WHPA-A mimics the prohibition under the <i>Nutrient Management Act</i> for other farming activities. No existing threats from this activity were identified in the CTC so prohibition of existing activities will likely have no impact.</p> <p>Application of non-agricultural source material outside of WHPA-A is allowed subject to the appropriate risk management requirements as set out in a Risk Management Plan.</p> <p>Category 1 non-agricultural source material is made up of uncomposted leaf materials and vegetable peelings which does not contain any animal matter and thus has low likelihood of containing pathogens.</p>
NASM-2	<p>Policy NASM-2 prohibits future handling and storage of non-agricultural source material (Category 1) in WHPA-A. The handling and storage of non-agricultural source material (Category 1) is otherwise managed requiring a risk management plan.</p> <p>The CTC Source Protection Committee did not want to create undue hardship on farmers by prohibiting existing storage of non-agricultural source material (Category 1) due to the difficulties of moving the structure and the investment already made. Where existing non-agricultural source material (Category 1) storage exist, constructing a new structure is allowed per the existing activity definition where it provides greater protection than the existing storage. However, where a new structure can be located outside of a vulnerable area, this is preferred. Prohibiting future new threat activities is seen as being precautionary.</p> <p>Category 1 non-agricultural source material is made up of uncomposted leaf materials and vegetable peelings which does not contain any animal matter and thus has low likelihood of containing pathogens.</p>

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NASM-3	<p>Policy NASM-3 prohibits future application of non-agricultural source material (Category 2 and 3) to land where it would be a significant drinking water threat. The existing application of non-agricultural source material (Category 2 and 3) to land may continue only until the expiry of the current approval, after which time it would be considered a future activity.</p> <p>The CTC Source Protection Committee concluded that wherever the application of non-agricultural source material (Categories 2 or 3) is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from the application of non-agricultural source material (Categories 2 or 3) within WHPA-A, WHPA-B (with a vulnerability score of 10) and WHPA-E (with a vulnerability score equal to or greater than 8) and the remainder of the Issue Contributing Area for nitrates or pathogens to warrant extra protection. Prohibiting future threat activities is seen as being precautionary.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing practices to continue until expiry of any existing approvals.</p> <p>The threats verification work by the Source Protection Authority has not identified any sites where there is existing application of non-agricultural source material that would be a significant drinking water threat. Therefore, the CTC Source Protection Committee considered that the financial implications to affected farming operations would not be onerous.</p> <p>Non-agricultural source material categories are defined under the <i>Nutrient Management Act</i> – a variety of vegetable processing wastes (Category 2); or other organic wastes such as meat processing, municipal or industrial sewage or other wastes that meet the contaminant guidelines (Category 3). Category 2 or 3 non-agricultural source materials are generally imported to the agricultural property for application and subject to time limited approvals to prevent the buildup of persistent contaminants in the soil.</p>
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NASM-4	<p>Policy NASM-4 prohibits existing and future handling and storage of non-agricultural source material (Category 2 and 3) where it would be a significant drinking water threat.</p> <p>The CTC Source Protection Committee concluded that wherever the handling and storage of non-agricultural source material (Categories 2 or 3) is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat. The CTC Source Protection Committee considers the threat from the handling and storage of non-agricultural source material (Categories 2 or 3) within WHPA-A, WHPA-B (with a vulnerability score of 10) and WHPA-E (with a vulnerability score equal to or greater than 8) and the remainder of the Issue Contributing Area for nitrates or pathogens to warrant extra protection. The CTC Source Protection Committee concluded that the threat to sources of drinking water was higher from Category 2 and 3 non-agricultural source materials due to the nature of the materials included (particularly from pathogens and nitrates) than in Category 1, and therefore other tools, such as risk management plans, were not considered adequate to protect the drinking water source. Prohibiting future threat activities is seen as being precautionary.</p> <p>The technical work did not identify any sites where there is existing storage of non-agricultural source material (Category 2 or 3) and therefore no storage facilities would be impacted. Therefore, the CTC Source Protection Committee considered that there was unlikely any financial implications to farming operations.</p> <p>Non-agricultural source material categories are defined under the <i>Nutrient Management Act</i> – a variety of vegetable processing wastes (Category 2); or other organic wastes such as meat processing, municipal or industrial sewage or other wastes that meet the contaminant guidelines (Category 3). Category 2 or 3 non-agricultural source materials are generally imported to the agricultural property for application and subject to time limited approvals prevent the buildup of persistent contaminants in the soil.</p>
NASM-5	<p>Policy NASM-5 manages the application, handling and storage of non-agricultural source material through the use of education and outreach targeted towards landowners and haulers that have a NASM Plan or Environmental Compliance Approval to haul, store or apply non-agricultural source material.</p> <p>Education and outreach policies have been proposed as part of the suite of tools to ensure that actions that can be taken to reduce the threat is made available to property owners in the vulnerable areas. Actions undertaken by individuals and businesses who know what to do to protect a drinking water source can be very effective as part of the protection approach.</p>

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LIVESTOCK POLICIES

LIV-1	<p>Policy LIV-1 prohibits the existing and future use of land as livestock grazing or pasturing land (with an animal density of >1 Nutrient Unit per acre) in WHPA-A in an Issue Contributing Area for nitrates or pathogens. The use of land as livestock grazing or pasturing land is otherwise managed requiring a risk management plan.</p> <p>The CTC Source Protection Committee considers the threat from livestock grazing and pasturing within an Issue Contributing Area for nitrates or pathogens to warrant extra protection. While the <i>Nutrient Management Act</i> does not apply to livestock grazing and pasturing, the CTC Source Protection Committee felt the threat from this activity where the density of animals is greater than 1 nutrient unit per acre is comparable to the application of agricultural source material. The WHPA-A is highly vulnerable and the potential for contamination of a municipal well from activities taking place in this area is high and therefore other tools, such as risk management plans, were not considered adequate to protect the drinking water source. Therefore, the CTC Source Protection Committee concluded that prohibition in WHPA-A in an Issue Contributing Area for nitrate or pathogens is consistent with the prohibition of agricultural source material application.</p> <p>In terms of impact on landowners only some wells in the CTC are located on agricultural lands and where they are, only a small area of farmland may be affected by the prohibition in WHPA-A (the 100 metre radius around a municipal well) if the livestock density is greater than 1 nutrient unit per acre; and therefore the CTC Source Protection Committee concluded that moving grazing and pasturing from WHPA-A to other areas of the farm or reducing the livestock density in WHPA-A below the threshold is a feasible risk prevention measure with limited impact. Therefore, the CTC Source Protection Committee considered that the financial implications to affected farming operations would be minimal.</p>
LIV-2	<p>Policy LIV-2 prohibits the future use of land as an outdoor confinement area or a farm-animal yard in WHPA-A, WHPA-B (VS=10) in an Issue Contributing Area for nitrates or pathogens and WHPA-E (VS ≥ 4.2) in an Issue Contributing Area for nitrates and pathogens. The use of land as an outdoor confinement area or a farm-animal yard is otherwise managed through the Prescribed Instrument.</p> <p>The prohibition of the expansion of the capacity or siting a new farm-animal yard or outdoor confinement area in WHPA-A is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms.</p> <p>The CTC Source Protection Committee concluded that wherever this is a significant drinking water threat as defined by the <i>Clean Water Act, 2006</i> that the activity should be carefully assessed. The <i>Nutrient Management Act</i> was passed prior to the Province developing its scoring system for an activity deemed to be a significant drinking water threat.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration. The CTC Source Protection Committee did not want to create undue hardship on farmers by prohibiting existing livestock confinement areas or farm animal yards due to the difficulties of moving the structure and the investment already made. Where existing outdoor confinement areas or animal yards exist, constructing a new structure is allowed per the existing activity definition where it provides greater protection than the existing storage. However, where a new structure can be located outside of a vulnerable area, this is preferred. Prohibiting future new threat activities is seen as being precautionary.</p> <p>The CTC Source Protection Committee considers the threat from outdoor confinement areas or farm-animal yards within an Issue Contributing Area for nitrates or pathogens to warrant extra protection. Thus the policy for future prohibition also applies to the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens.</p>

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LIV-3	<p>Policy LIV-3 prohibits the future use of land as an outdoor confinement area or a farm-animal yard in WHPA-A, WHPA-B (VS=10) in an Issue Contributing Area for nitrates or pathogens and WHPA-E (VS≥4.2) in an Issue Contributing Area for nitrates and pathogens. The use of land as an outdoor confinement area or a farm-animal yard is otherwise managed requiring a risk management plan.</p> <p>The prohibition of the expansion of the capacity or siting a new farm-animal yard or outdoor confinement area in WHPA-A is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms and wanted to maintain consistency between farms phased-in and not phased-in to the <i>Nutrient Management Act</i> requirements.</p> <p>This policy is a balance between protecting the municipal source of drinking water and allowing existing farming practices to continue with the implementation of management practices to reduce runoff or infiltration. The CTC Source Protection Committee did not want to create undue hardship on farmers by prohibiting existing livestock confinement areas or farm animal yards due to the difficulties of moving the structure and the investment already made. Where existing outdoor confinement areas or animal yards exist, constructing a new structure is allowed per the existing activity definition where it provides greater protection than the existing activity. However, where a new structure can be located outside of a vulnerable area, this is preferred. Prohibiting future new threat activities is seen as being precautionary.</p> <p>The CTC Source Protection Committee considers the threat from outdoor confinement areas or farm-animal yards within an Issue Contributing Area for nitrates or pathogens to warrant extra protection. Thus the policy for future prohibition also applies to the most vulnerable portions of the Issue Contributing Area (WHPA-B with a vulnerability score of 10 and WHPA-E) for nitrates or pathogens.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue.</p>
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FERTILIZER POLICIES

FER-1	<p>Policy FER-1 prohibits the existing and future application of commercial fertilizer in WHPA-A and the future application of commercial fertilizer in WHPA-E (VS \geq 4.5) in an Issue Contributing Area for Nitrates. The application of commercial fertilizer is otherwise managed through the Prescribed Instrument.</p> <p>The CTC Source Protection Committee chose to apply prohibition to the existing and future application of commercial fertilizer to land in WHPA-A as it is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms and wanted to maintain consistency between farms phased-in and not phased-in to the <i>Nutrient Management Act</i> requirements.</p> <p>The CTC Source Protection Committee considers the threat from application of nitrate containing fertilizer within an Issue Contributing Area for nitrates to warrant extra protection. Thus the policy for future prohibition applies beyond the WHPA-A in an Issue Contributing Area for nitrates in the WHPA-E where excess fertilizer can leach into the surface water. The CTC Source Protection Committee concluded that the precautionary approach be applied when dealing with a WHPA-E in an Issue Contributing Area for nitrates due to their sensitive nature.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue.</p>
FER-2	<p>Policy FER-2 prohibits the existing and future application of commercial fertilizer in WHPA-A and the future application of commercial fertilizer in WHPA-E (VS \geq 4.5) in an Issue Contributing Area for Nitrates. The application of commercial fertilizer is otherwise managed by requiring a risk management plan.</p> <p>The CTC Source Protection Committee chose to apply prohibition to the existing and future application of commercial fertilizer to land in WHPA-A as it is already a requirement under the <i>Nutrient Management Act</i> for phased-in farms. The WHPA-A is highly vulnerable and the potential for contamination of a municipal well from activities taking place in this area is high and therefore other tools, such as risk management plans, were not considered adequate to protect the drinking water source. By prohibiting agricultural activities that are significant drinking water threats in the WHPA-A the CTC Source Protection Committee applied the intent of the <i>Nutrient Management Act</i> equitably to all farms. Only small areas of farmland will be affected by the prohibition in WHPA-A (the 100 metre radius around a municipal well) and the affected activities could be easily directed elsewhere on the property outside of the WHPA-A as the application of commercial fertilizer doesn't require structures (barns, etc.) to be moved. The CTC Source Protection Committee considered that the financial implications to affected farming operations would be minimal.</p> <p>The CTC Source Protection Committee considers the threat from application of nitrate containing fertilizer within an Issue Contributing Area for nitrates to warrant extra scrutiny. Thus the policy for future prohibition also applies to the most vulnerable portion of the Issue Contributing Area (WHPA-E) for nitrates.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the Issue.</p>

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<p>FER-3</p>	<p>Policy FER-3 prohibits the future handling and storage of commercial fertilizer in WHPA-A. The handling and storage of commercial fertilizer is otherwise managed by requiring a risk management plan.</p> <p>The <i>Nutrient Management Act</i> does not have provisions regarding the storage of commercial fertilizer and as such the CTC Source Protection Committee chose to apply Part IV tools to farms and other lands where the handling and storage of commercial fertilizer is or would be a significant drinking water threat. The CTC Source Protection Committee took into consideration the burden of being required to move existing structures used in the storage of commercial fertilizer and as such only applied prohibition within the WHPA-A for future activities. The CTC Source Protection Committee concluded that future facilities can be located outside of WHPA-A when dealing with large farm properties.</p> <p>For both existing and future large quantities of fertilizer storage, the Source Protection Committee is requiring mandatory storage within a covered structure to reduce accidental release, along with any other provisions deemed necessary in the Risk Management Plan.</p> <p>The municipality is also required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the nitrate Issue.</p>
<p>FER-4</p>	<p>Policy FER-5 manages the existing and future application, handling and storage of commercial fertilizer through the use of education and outreach targeted towards individuals as well as non-agricultural lands.</p> <p>This policy is the only one to deal with the threat posed by the application, handling and storage of small quantities of commercial fertilizers by individuals for use on their personal property which is a significant drinking water threat only within an Issue Contributing Area for nitrates. The CTC Source Protection Committee is required to develop a policy to address this threat.</p> <p>Therefore, the Source Protection Committee concluded that this policy is an appropriate balance between protecting the municipal source of drinking water and avoiding the workload burden on the Risk Management Official and costs to landowners that would result from requiring a Risk Management Plan.</p> <p>An education and outreach strategy should be developed by the municipality that includes a suite of actions to ensure that affected property owners understand and take actions to protect municipal supplies. This should include ongoing efforts and follow-up analysis to assess effectiveness as this is a standalone policy, not a companion to other policies directed at the same threat activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p> <p>Furthermore, the municipality is required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the nitrate Issue.</p>

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PESTICIDE POLICIES

PES-1	<p>Policy PES-1 manages the existing and future application of pesticide to land where it is or would be a significant drinking water threat.</p> <p>Where the application of pesticides to land is or would be a significant drinking water threat, risk management plans via section 58 of the Clean Water Act were considered among the most effective approaches to address the threat because there is no existing Prescribed Instrument for pesticides.</p> <p>The CTC Source Protection Committee considered the circumstances listed in the Ministry of the Environment and Climate Changes threat tables and found that the <i>Clean Water Act, 2006</i> is only applicable to 12 pesticide chemicals and only a few are commonly used in today's farming practices. The Source Protection Committee wanted to work with farmers on Risk Management Plans to avoid noxious weeds and ensure other harsher chemicals would not be used as a substitute for those listed within the table of circumstances. This policy was considered the most effective approach for managing existing and future significant drinking water threats.</p>
PES-2	<p>Policy PES-2 manages the existing and future handling and storage of pesticide where it is or would be a significant drinking water threat and prohibits the future handling and storage of pesticide in WHPA-A.</p> <p>The CTC Source Protection Committee considers the threat from the storage of pesticides to be greater than from application as spillage during the loading and unloading of pesticides which are often in liquid form may result in higher levels of release at the storage site than during application. Note than only storage sites with more than 2500 litres or 2500 kilograms of the specified pesticides are significant drinking water threats. Prohibition of new storage facilities in WHPA-A is considered a precautionary approach.</p>
PES-3	<p>Policy PES-3 manages the existing and future application, handling and storage of pesticide through the use of education and outreach.</p> <p>Education and outreach policies have been proposed as part of the suite of tools to ensure that the information from CTC Assessment Reports that delineates vulnerable areas and significant drinking water threat activities, along with actions that can be taken to reduce the threat, is made available to property and business owners in the vulnerable areas. Actions undertaken by individuals and businesses who know what to do to protect a drinking water source can be very effective as part of the protection approach.</p>
PES-4	<p>Policy PES-4 manages the existing application, handling and storage of pesticide through the use of incentives.</p> <p>The CTC Source Protection Committee concluded that incentive programs encouraging best management practices for agricultural/rural landowners is an effective way of ensuring the threat ceases to be significant.</p>

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SALT POLICIES

SAL-1	<p>Policy SAL-1 manages existing and future application of road salt by requiring a risk management plan where it is or would be a significant drinking water threat on unassumed roads and private parking lots of greater than 200 square metres (or approximately 8 spaces).</p> <p>The application of road salt is a significant drinking water threat in the CTC Source Protection Region only within an Issue Contributing Area for sodium or chloride. Based on technical work, the application of road salt on private parking lots is estimated to be a major component of annual salt loading within the Issue Contributing Area. The relative estimates vary for each Issue Contributing Area based on the existing land uses and density of roads and parking lots, along with other sources such as road salt and snow storage, and sewage or septic discharges.</p> <p>The most prevalent Issue identified in the CTC is associated with road salt in areas where the municipal wells are fairly shallow and directly influenced by surface water (i.e. have a WHPA-E).</p> <p>The CTC Source Protection Committee determined that risk management plans would allow for the existing and future application of road salt in order to maintain public safety, while ensuring that the appropriate application measures were put in place in order to limit the risk to drinking water. Low density residential properties are exempted from this policy through the 200 square metres threshold since the intent of the policy is to target federal, provincial, and municipal authorities, which are the greatest users of road salt. In addition, it was not the intent of the policy to have Risk Management Officials create a Risk Management Plan for each residential property that uses road salt on their driveway. Under the <i>Canadian Environmental Protection Act</i>, many municipalities are already mandated to have a salt management plan in place and therefore the financial impact has already been anticipated. The policy was considered the most effective approach for managing current and future significant drinking water threats.</p>
SAL-2	<p>Policy SAL-2 manages existing and future application of road salt by requiring a risk management plan where it is or would be a significant drinking water threat on public roads.</p> <p>The CTC Source Protection Committee received information from a number of parties that there are many risk management measures that can be implemented to reduce the amount of de-icing salt that is applied while still meeting safety requirements. This policy is one of a suite of policies intended to protect sources of municipal water. Risk Management Officials are encouraged to consult with the municipal staff responsible for road design and maintenance, the Ministry of Transportation, industry and non-profit organizations such as the Smart About Salt Council to get information about current best management practices, training and certification programs and to share information about where the vulnerable areas are located that require special care to protect the municipal water supply so that collaborative efforts are undertaken.</p> <p>The municipality is required to continue to monitor the aquifer and report on the results (see GEN-7). Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the road salt Issue.</p>

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SAL-3	<p>Policy SAL-3 is a land use planning policy related to the application of road salt.</p> <p>The CTC Source Protection Committee has chosen to include as one of the suite of policies a land use planning policy using <i>Planning Act</i> tools for future threats associated with road salt application in parking lots. Information was provided to the CTC Source Protection Committee that the need for re-application of salt can be reduced through the design of parking lots to prevent ponding. At the planning phase there is also the opportunity to select the location and design of storm water management facilities to help protect the source of municipal water (see related policy SWG-12). This policy is intended to also help ensure that a current or prospective property owner is aware of the special requirements that they would need to comply with or restrictions well before they would be applying to the other implementing authorities.</p>
SAL-4	<p>Policy SAL-4 is a Specify Action policy to promote best management practices for the application of road salt.</p> <p>The CTC Source Protection Committee concluded that provincial leadership in the development and promotion of the need for measures to reduce the overuse of road salt is necessary and will be more effective than requiring individual municipalities to carry out these tasks on their own. This policy (in association with SAL-5) is directed to the Ministry of the Environment and Climate Change in recognition of their responsibility for the <i>Clean Water Act, 2006</i> and ability to bring the required parties together.</p> <p>The CTC Source Protection Committee concluded that it is important to encourage and support the use of best management practices on salt alternatives, new mitigation technologies, and innovative practices that reduce the amount of salt being applied to municipal roads and commercial properties.</p>
SAL-5	<p>Policy SAL-5 is a Specify Action policy to encourage the development of a licensing and accreditation program for Snow and Ice Contractors for the application of road salt.</p> <p>The CTC Source Protection Committee concluded that provincial leadership in the development and promotion of the need for measures to reduce the overuse of road salt is necessary and will be more effective than requiring individual municipalities to carry out these tasks on their own. This policy (in association with SAL-4) is directed to the Ministry of the Environment and Climate Change in recognition of their responsibility for the <i>Clean Water Act, 2006</i> and ability to bring the required parties together.</p> <p>The Source Protection Committee has concern about private contractors with no formal body to oversee them. As one of the suite of policies for this threat, the Source Protection Committee concluded that a formal training and certification program should be made available that includes focus on protecting municipal drinking water sources as part of the curriculum. While the Smart About Salt Council offers a program, the Source Protection Committee was not able to determine if it is sufficient and therefore recommends that the Province should establish the requirements for such a program which could then be delivered by others.</p>
SAL-6	<p>Policy SAL-6 is a Specify Action policy related to the application of road salt.</p> <p>As the Ministry of Transportation is the lead provincial agency dealing with road salt they have implemented many best management practices to reduce unnecessary salt application on provincial highways that can serve as a model for municipalities who are responsible for their local roads. However, the best practices do not include special measures to be taken where the sources of municipal drinking water are located near or adjacent to provincial highways. In the CTC there are several municipal wells located near provincial highways in the Orangeville area that have been identified with salt Issues. This policy is intended to identify the additional actions that can be taken to reduce the impact of road salt applications and thereby manage this significant drinking water threat.</p>

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SAL-7	<p>Policy SAL-7 manages the existing handling and storage of road salt by requiring a risk management plan and prohibits future handling and storage of road salt where it is a significant drinking water threat. This policy excludes incidental quantities for personal use and is not intended to apply to the handling and storage of small quantities of road salt at single family dwellings, which is covered by policy SAL-8.</p> <p>Local impacts from road salt are typically caused by inappropriate handling and storage facilities and practices. Handling practices where impacts to the environment result from the loading and unloading of trucks, stormwater run-off from the site, and the release of water used to wash equipment. Salt storage should be out of direct contact with precipitation and run-off to reduce dissolution. The Risk Management Plan will include appropriate terms and conditions that mirror a salt management plan and, at a minimum, comply with contemporary standards to ensure the handling and storage of road salt ceases to be a significant drinking water threat.</p>
SAL-8	<p>Policy SAL-8 manages the existing and future application, handling and storage of road salt through the use of education and outreach targeted towards individuals as well as industrial and commercial users.</p> <p>This policy is the only one to deal with the threat posed by the storage of the small quantities of salt by individuals for use on their personal property which is a significant drinking water threat only within an Issue Contributing Area for sodium or chloride. Additional technical work was undertaken to estimate the relative use of salt applied for de-icing from the various activities within each Issue Contributing Area. Based on this technical work, it was concluded that the contribution from the single family residential use of road salt is a small percentage (~1%) of the total amount of salt applied annually within the Issue Contributing Areas. The CTC Source Protection Committee concluded that proposing policies which required management or prohibition approaches would be onerous to implement, difficult to enforce and not likely well received.</p> <p>Therefore, the Source Protection Committee concluded that this policy is an appropriate balance between protecting the municipal source of drinking water and avoiding the workload burden on the Risk Management Official and costs to landowners that would result from requiring a Risk Management Plan.</p> <p>An education and outreach strategy should be developed by the municipality that includes a suite of actions to ensure that affected property owners understand and take actions to protect municipal supplies. This should include ongoing efforts and follow-up analysis to assess effectiveness as this is a standalone policy, not a companion to other policies directed at the same threat activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>
SAL-9	<p>Policy SAL-9 is a monitoring policy associated with the application, handling and storage of road salt. This policy requires that the municipality undertakes more specific monitoring than that set out in policy GEN-7 and report on the results. The reporting can be included as part of the annual report submitted to the Source Protection Authority.</p> <p>Should the contaminant levels continue to increase, it may be necessary to review this policy and others associated with the road salt Issue.</p>

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SAL-10 SAL-11 SAL-12 SAL-13	<p>Policies SAL-10 through SAL-13 apply to low and moderate threat areas.</p> <p>The CTC Source Protection Committee has chosen to also include a land use planning policy using <i>Planning Act</i> tools and a number of Specify Action policies where this threat is low or moderate in recognition that road salt application and storage are activities carried out throughout all source protection areas; chloride and sodium are very mobile chemicals that move easily and rapidly into and through aquifers; and that there are many other sources of drinking water that may be protected as well through implementation practices to reduce the threat.</p> <p>All of these low and moderate threat policies are non-legally binding. Each specific implementer must have regard for the policy in making decisions but has the flexibility of determining what action(s) will be taken. While an implementer is not required to provide a report on their actions on implementing low or moderate threat policies, the CTC Source Protection Committee encourages them to provide information that will help in future review and revision of policies.</p>
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SNOW POLICIES

SNO-1	<p>Policy SNO-1 manages the existing storage of snow outside of WHPA-A by requiring a risk management plan and prohibits existing snow storage in WHPA-A and future snow storage where it is a significant drinking water threat. In emergency situations, the storage of snow may be permitted outside of WHPA-A in the future as determined by the RMO.</p> <p>Storage of snow can pose a significant drinking water threat depending on the geographic location of the storage area and whether the snow is stored above or below grade. In general, the greater the snow storage area, the greater the risk to drinking water. Generally snow storage is a seasonal activity that takes place on roadsides, parking lots and vacant land without the construction of permanent facilities. The CTC Source Protection Committee encourages where possible that the existing storage of snow (which often contains road salts and other contaminants) be located outside of vulnerable areas where possible.</p>
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FUEL POLICIES

FUEL-1	<p>Policy FUEL-1 manages existing and future significant drinking water threats from the handling and storage of fuel at a municipal wellhead.</p> <p>Standby generators are required at municipal wells to provide power in the event of electrical power outages. These generators are often diesel-powered and thereby require storage of diesel on-site. The CTC Source Protection Committee recognizes that a policy that prohibits diesel generators may pose a significant financial burden on the municipality and have therefore proposed a management policy. The CTC Source Protection Committee concluded that since the municipality is responsible for implementing measures to protect their own source of drinking water that the operators should be aware of the threat posed by the fuel and be vigilant in ensuring the measures to reduce the threat are always in effect.</p> <p>However, the municipality is encouraged to consider replacing the diesel generators with propane fuelled ones which are not a threat to drinking water as part of their future equipment replacement program or when installing a new well as this would guarantee that fuel storage for stand-by generators is not a threat at the well head.</p>
FUEL-2	<p>Policy FUEL-2 manages existing and prohibits future handling and storage of fuel at an aggregate extraction site.</p> <p>At large aggregate sites, equipment is often re-fuelled within the extraction site. The CTC Source Protection Committee concluded that future handling and storage of fuel should be located outside of the vulnerable area where this would be a significant threat to the source of municipal drinking water. A fuel spill within the vulnerable area within an aggregate site has the potential to quickly reach the aquifer as aggregate sites are generally composed of sand and gravel or limestone which allow for rapid infiltration. It is very difficult to remediate an aquifer that has been contaminated with fuel.</p>

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FUEL-3	<p>Policy FUEL-3 (part 1 and 2) manages the existing handling and storage of fuel by requiring a risk management plan and prohibits the future handling and storage of fuel where it is or would be a significant drinking water threat. This policy applies to non-residential and multi-unit residential properties using quantities ≥ 2500 litres above or below grade; this policy does not apply to single family dwellings, which is covered by policy FUEL-4.</p> <p>The provincial regulation of fuel storage and handling is highly regulated by the Ministry of Government and Consumer and Commercial Services through the arms-length Technical Standards and Safety Authority (TSSA). However, there is no Prescribed Instrument that can be used to implement policies to protect sources of municipal drinking water from this threat activity.</p> <p>TSSA's Fuels Safety Program regulates the transportation, storage, handling and use of fuels as to ensure conformance to the <i>Technical Standards and Safety Act, 2000</i>, and applicable regulations, codes and standards. TSSA is an Administrative Authority mandated by the Government of Ontario to regulate key sectors of the economy, including Fuels. TSSA is a not-for-profit and self-funded organization. TSSA develops educational materials in support of its risk priorities; licenses and regulates the bulk suppliers/distributors of fuel, fuel oil and associated equipment; and requires that fuel oil distributors annually inspect the fuel tanks of their customers and refuse to provide service where a storage tank is at risk of leaking or not in compliance with current codes.</p> <p>Policy FUEL-3 (part 3) manages the existing handling and storage of fuel which requires collaboration between the Source Protection Authority, Risk Management Official and TSSA. The CTC Source Protection Committee concluded that TSSA should have a role in helping the Source Protection Authority and Risk Management Officials in reducing or avoiding the threat from fuel storage to sources of municipal drinking water and this policy is intended to require TSSA support.</p> <p>The Source Protection Authority should scope all information requests to TSSA geographically by mailing address, as TSSA does not use GIS parameters to sort its data. All information requests submitted to TSSA are subject to TSSA's Access and Privacy Code as well as any required fees (TSSA may consider waiving fees for limited requests from public sector partners). Similarly, as TSSA operates on a cost recovery model, all inspections conducted by TSSA will be subject to a fee charged either to an operator or to the Risk Management Official/Source Protection Authority if the operator was found to be in compliance with the regulation.</p>
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FUEL-4	<p>Policy FUEL-4 manages existing and future handling and storage of fuel through the use of education and outreach targeted towards residential and non-residential users.</p> <p>This policy is the only one to deal with the threat posed by the handling and storage of fuel at single family dwellings. The CTC Source Protection Committee concluded that an education and outreach policy is sufficient for manage the threat to sources of municipal drinking water from fuel storage at single family dwellings for the following reasons:</p> <ol style="list-style-type: none"> 1) Through regulation by the TSSA (see notes for policy FUEL-3), fuel suppliers are required to annually inspect to ensure that storage tanks at single family dwellings meet safety codes before filling; 2) Home owner insurance companies have become increasingly aware of the financial risks posed by spills from residential fuel storage and are taking proactive measures to require inspections and implementation of spill prevention measures by insured parties to reduce financial liability; 3) Choosing a policy which would require that the Risk Management Official negotiate Risk Management Plans at potentially hundreds of single family homes and small businesses would be a large administrative burden and divert resources away from developing Risk Management Plans for other threat activities which are subject to risk management policies. <p>Therefore, the Source Protection Committee concluded that this policy is an appropriate balance between protecting the municipal source of drinking water and avoiding the workload burden on the Risk Management Official and costs to landowners that would result from requiring a Risk Management Plan.</p> <p>An education and outreach strategy should be developed by the municipality that includes a suite of actions to ensure that affected property owners understand and take actions to protect municipal supplies. This should include ongoing efforts and follow-up analysis to assess effectiveness as this is a standalone policy, not a companion to other policies directed at the same threat activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>
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DNAPL POLICIES

DNAP-1	<p>Policy DNAP-1 manages the existing handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs) by requiring a risk management plan and prohibits the future handling and storage of organic solvents where it is or would be a significant drinking water threat. This policy excludes incidental quantities for personal use and is not intended to apply to the handling and storage of small quantities of DNAPLs at single family dwellings, which is covered by policy DNAP-2.</p> <p>DNAPLs are a group of organic substances that, because of their density, sink vertically, below the water table. These liquids dissolve sparingly into the groundwater, creating a contaminant plume. The improper handling and storage of DNAPLs can result in the release of these chemicals into the environment which are very difficult to remediate. DNAPLs include dioxane-1, 4, polycyclic aromatic hydrocarbons, tetrachloroethylene (also known as perchloroethylene), trichloroethylene and vinyl chloride.</p> <p>The CTC Source Protection Committee concluded that prohibiting future new handling and storage is a precautionary approach and that existing threats could be managed through Risk Management Plans.</p>
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DNAP-2	<p>Policy DNAP-2 manages the existing and future handling and storage of Dense Non-Aqueous Phase Liquids (DNAPLs) through the use of education and outreach targeted towards individuals as well as industrial and commercial users.</p> <p>This policy is the only one to deal with the threat posed by the storage of small quantities of dense non-aqueous phase liquids (DNAPLs) by individuals for their personal use. This threat is comprised of a short list of chemicals as set out in the provincial Table of Drinking Water Threats which are generally used in industrial or commercial applications (dioxane-1,4, polycyclic aromatic hydrocarbons, tetrachloroethylene also known as perchloroethylene, trichloroethylene and vinyl chloride). The CTC Source Protection Committee concluded that an education and outreach policy is sufficient to manage the threat under these circumstances for the following reasons:</p> <ol style="list-style-type: none"> 1) There is no minimum threshold below which DNAPLs are not a significant threat; 2) The vulnerable area where the handling and storage of DNAPLs is significant comprises the entire WHPA-A, -B and -C. This includes thousands of properties in the CTC; 3) DNAPLs in their pure and bulk form are highly regulated and generally not available for public purchase; and 4) It would be impractical and create large burden on Risk Management Officials and costs to individuals to require Risk Management Plans at residences for incidental use of DNAPLs especially given that most DNAPLs available to households comprise a minute quantity of the product within which they are contained. <p>Therefore, the Source Protection Committee concluded that this policy is an appropriate balance between protecting the municipal source of drinking water and avoiding the workload burden on the Risk Management Official and costs to landowners that would result from requiring a Risk Management Plan.</p> <p>An education and outreach strategy should be developed by the municipality that includes a suite of actions to ensure that affected property owners understand and take actions to protect municipal supplies. This should include ongoing efforts and follow-up analysis to assess effectiveness as this is a standalone policy, not a companion to other policies directed at the same threat activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>
DNAP-3	<p>Policy DNAP-3 is a low/moderate threat policy to manage existing and future handling and storage of dense non-aqueous phase liquids (DNAPLs) by encouraging the municipality to promote best management practices for industrial, commercial and industrial land uses.</p> <p>The CTC Source Protection Committee concluded that it is important to extend this policy to low and moderate threats; it is non-legally binding. Each specific implementer must have regard for the policy in making decisions but has the flexibility of determining what action(s) will be taken. While an implementer is not required to provide a report on their actions on implementing low or moderate threat policies, the CTC Source Protection Committee encourages them to provide information that will help in future review and revision of policies.</p>

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ORGANIC SOLVENT POLICIES

OS-1	<p>Policy OS-1 manages the existing handling and storage of organic solvents by requiring a risk management plan and prohibits the future handling and storage of organic solvents where it is or would be a significant drinking water threat.</p> <p>Organic solvents that are a significant threat comprises of four specific chemicals (carbon tetrachloride, chloroform, dichloromethane and pentachlorophenol) that are stored in quantities greater than 25 litres as set out in the provincial Table of Drinking Water Threats. They are generally used in industrial or commercial applications.</p> <p>The CTC Source Protection Committee concluded that prohibiting future new handling and storage is a precautionary approach and that existing threats could be managed through risk management plans.</p>
OS-2	<p>Policy OS-2 manages the existing and future handling and storage of organic solvents through the use of education and outreach targeted towards individuals as well as industrial and commercial users.</p> <p>Education and outreach policies have been developed by the CTC Source Protection Committee as part of the suite of tools to address this activity. Education and outreach materials should clearly set out actions that property owners should take to reduce the threat in the vulnerable areas. Where education and outreach materials have been prepared by the Ministry of the Environment and Climate Change the municipality shall deliver those materials, otherwise the municipality shall develop their own materials for delivery.</p> <p>Municipalities are also encouraged to distribute these materials to property owners in areas where the threat to municipal drinking water is low or moderate where action can also help to protect sources of other drinking water supplies (see GEN-8). Voluntary actions undertaken by individuals and businesses to protect a drinking water source can be very effective as part of the protection approach.</p>
OS-3	<p>Policy OS-3 is a low/moderate threat policy to manage existing and future handling and storage of organic solvents by encouraging the municipality to promote best management practices for industrial, commercial and industrial land uses.</p> <p>The CTC Source Protection Committee concluded that it is important to extend this policy to low and moderate threats; it is non-legally binding. Each specific implementer must have regard for the policy in making decisions but has the flexibility of determining what action(s) will be taken. While an implementer is not required to provide a report on their actions on implementing low or moderate threat policies, the CTC Source Protection Committee encourages them to provide information that will help in future review and revision of policies.</p>

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DE-ICING POLICIES

DI-1 DI-2	<p>Policy DI-1 manages the existing and future run-off that contains chemicals used in the de-icing of aircraft where it would be a significant drinking water threat.</p> <p>Policy DI-2 encourages the siting of future facilities for the de-icing of aircraft to be located outside of areas where the activity would be a significant drinking water threat.</p> <p>The CTC Source Protection Committee has chosen in this case to propose two policies to address this significant threat. This is intended to ensure that all responsible authorities are working in concert in making decisions. The CTC Source Protection Committee recognizes that reducing or avoiding significant drinking water threats is facilitated when each decision-maker is working under the same policy direction.</p> <p>There have been no existing threats from de-icing aircraft identified within vulnerable areas in the CTC Source Protection Region, however the CTC Source Protection Committee has included policy DI-1 should new municipal wells be located where an existing activity would be a threat or in the case an existing threat has not been identified.</p>
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LAKE ONTARIO POLICIES

LO-G-1	<p>Policy LO-G-1 is a Specify Action policy regarding spill prevention/contingency and emergency response. This policy applies to IPZ-3.</p> <p>The intent of this policy is ensure that effective spill prevention/contingency/emergency plans are in place in order to protect drinking water sources from spill along highways, shipping lanes and rail ways. The requirements for effective spill prevention/contingency/emergency plans are also included for the policies dealing with Lake Ontario Modelled Significant Drinking Water Threats. The desired outcome is to ensure that there is appropriate, clear and consistent procedures in place on when municipal plant operators will be notified based on spill magnitude. Magnitude refers to matters such as size, duration and type of spill. The proposed two year time frame to consider the policy is needed to ensure that Risk Mitigation/Risk Reduction/Risk Contingency Plans are effective. Within the policy there is an additional timeline to conduct a test of the contingency measures within three years and at regular intervals thereafter. The timeline for the future review is to be determined by the appropriate bodies which should include the municipalities who having drinking water systems in Lake Ontario which may be impacted by spills.</p>
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LO-G-2	<p>Policy LO-G-2 is Specify Action policy regarding the establishment of a Lake Ontario Collaborative Group. This policy applies to IPZ-1, 2 and 3.</p> <p>The intent of this policy is to establish a Lake Ontario Collaborative Working Group (LOCG), to undertake a number of activities related to Lake Ontario monitoring, modelling and assessments of drinking water threats to support implementation of other policies in this plan to ensure that existing and future activities cease to be or do not become significant drinking water threats. The LOCG is to be chaired by the Ministry of the Environment and Climate Change, with the municipalities of Durham, Peel and Toronto participating. Invitations to participate should also be sent to other source protection authorities and municipalities who were part of the original Lake Ontario Collaborative. Technical work modelling threats has shown that impacts may extend into or from adjacent source protection areas. The affected municipalities are Niagara Region, City of Hamilton, Halton Region, Port Hope, Town of Cobourg and Wellington County and the affected Source Protection Regions/Areas are Niagara, Halton-Hamilton, Trent Conservation Coalition and Quinte. Other stakeholders and partners such as, Environment Canada, National Energy Board and Ontario Energy Board, and facility owners should also be invited to participate as appropriate. The Ministry of the Environment and Climate Change and CTC municipalities shall jointly formulate and approve a Terms of Reference which will address matters such as roles and responsibilities and financing.</p> <p>The objectives of the LOCG are to undertake actions to provide technical tools and information is available to properly so the threat to municipal drinking water is managed to ensure protection of and public confidence in the source of municipal drinking water.</p> <p>It is acknowledged that due technical issues that it may not be possible to guarantee 100% availability of data; however the goal is to establish continuous real-time monitoring.</p> <p>Due to the complexity and dynamics of Lake Ontario flows and circulation, 3-D modelling is critical to properly understand and predict the extent and duration of threats. This better understanding will inform notification protocols and contingency planning. The model can be used to proactively model different scenarios to provide guidance to first responders and to inform spill response strategies, notification protocols, and to develop and implement enhanced risk mitigation and spill prevention actions.</p> <p>The Lake Ontario Collaborative (LOC) used event-based modelling for the identification of significant threats to Lake Ontario drinking water intakes. A three dimensional hydrodynamic model (Danish Hydraulic Institute DHI Mike-3) was selected for a number of reasons. Two dimensional models historically used are unidirectional and it has been shown that they do not adequately simulate flows, currents, and horizontal and vertical dispersion properties that apply to a large inland body of water such as Lake Ontario. A 3-D model is critical in the representation of the vertical stratification, currents, thermodynamics, seasonal variations, upwelling and down welling characteristics and overall dynamic nature of the lake. It is also important to note that the intakes are located near the bottom of the lake where the third dimension is essential to the simulation of potential impacts. Advanced monitoring technology exists and is already for the most part in place to provide the necessary inputs to these types of models. Given the size, nature and multi-jurisdictional concerns of Lake Ontario, it is appropriate for a Provincial level agency to maintain the appropriate monitoring stations and 3-D models to manage and protect Great Lakes water resources.</p> <p>Clause 3a is intended to address, activities that were not previously modeled /assessed to determine if they are a threat to drinking water. Additional threat scenario modeling would be required. Clause 3a would also require the assessment of spills that indirectly enter storm sewers (spills occur on-site but drain off site via ditches and eventually enter storm sewers that outlet into Lake Ontario) as moderate or low threats in IPZ- 1 and 2. The assessment should include identifying the number of activities that are considered low and moderate threats. This assessment</p>
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	<p>should be used to help inform future updates of the Source Protection Plan. Updates would need to consider the scope of the threats as well as appropriate tools to address the threats. Spills have the potential to cross municipal boundaries; as a result the future updates of the Source Protection Plans should consider provincial wide action to ensure a consistent approach throughout area of concern.</p> <p>Clause 4 in the policy is intended to ensure that new land-based activities which might pose a significant threat to drinking water, such as a new municipal sewage or industrial outfall or pipeline, are assessed at the planning stage so that actions can be taken to avoid new threats rather than relying on only spill contingency and response measures. These latter tools are all that is possible for the existing threats that have been identified.</p> <p>In the Great Lakes, serious impacts on municipal water intakes have occurred from pathogens other than <i>E. coli</i> (e.g., in Milwaukee WI and Collingwood ON related to <i>Cryptosporidium</i>). Limited assessment has been done of the extent, nature and type of pathogens present in source of municipal drinking water. These other pathogens are not as easily treated with standard filtration and disinfection treatment and therefore pose a higher risk if present in source water. As a result, this policy also includes a provision for development of pathogen risk assessment.</p>
LO-G-3	<p>Policy LO-G-3 is a Specify Action policy regarding the establishment of a Lake Ontario Collaborative Group (LOCG). This policy applies to IPZ-1, 2 and 3.</p> <p>The intent of LO-G-3 is to ensure that municipalities of Peel, Toronto and Durham who responsible for the provision of water are part of the LOCG and play a role on carrying out listed provisions including addressing matters such as funding.</p>
LO-G-4	<p>Policy LO-G-4 is an Education and Outreach policy regarding communicating the importance of protecting Lake Ontario drinking water. This policy applies to IPZ-1, 2 and 3.</p> <p>Lake Ontario is an international water body subject to federal regulation and international treaties. As part of the existing arrangements for international cooperation and research it is important to share the findings of the source water protection technical assessments with these other agencies to encourage further research and recognition of the need for action to protect the most important source of municipal drinking water in the province.</p>

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LO-NGS-1	<p>Policy LO-NGS-1 is a Specify Action policy regarding risk management, spill prevention/contingency and emergency response. This policy applies to IPZ-3.</p> <p>Based on information provided by Ontario Power Generation (OPG) there are some enhancements required to the current provincial response protocols for responding to events where the discharge of radioactivity from Ontario's nuclear power plants may result in radioactive concentrations at nearby water intakes that may exceed the Ministry of the Environment and Climate Change standards. Based on information from OPG, the following concerns with the existing response protocol have been noted:</p> <ul style="list-style-type: none"> • Generally, the modelled tritium spill identified as a significant drinking water threat would not trigger the Provincial Nuclear Emergency Response Plan (PNEP) unless the PNEP has been or will be triggered by another co-occurring event. • A full-scale exercise is to be held annually, rotating between Bruce Power, Pickering and Darlington. The Province has declined to participate at the last few drills OPG has conducted. • A Province/OPG/Bruce Power Committee is supposed to meet annually to review procedures. This has not happened in several years and OPG has tried to get the Province to meet to discuss needed changes to the procedure. <p>The proposed three year time frame is needed to ensure that Risk Mitigation/Risk Reduction/Risk Contingency Plans are updated to protect municipal drinking water in a timely manner.</p>
LO-SEW-1	<p>Policy LO-SEW-1 is a Prescribed Instrument policy regarding spill prevention and contingency plans. This policy applies to IPZ-3.</p> <p>The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage are subject to provincial Environmental Approvals. As a result, this policy requires the Province to review these Environmental Approvals to ensure that there are conditions/requirements for effective Spill Prevention and Contingency Plans directed towards protecting the source of municipal drinking water. Policy LO-SEW-1 (c) does not limit the ability of the Ministry of the Environment and Climate Change to apply other conditions as warranted. Under the <i>Clean Water Act</i>, the Source Protection Committee is limited to using these Prescribed Instruments and not Part IV tools for sewage and waste significant drinking water threats.</p>
LO-SEW-2	<p>Policy LO-SEW-2 is a Prescribed Instrument policy regarding spill prevention and contingency plans. This policy applies to IPZ-3.</p> <p>The intent of this policy is to require the review of Environmental Compliance Approvals to ensure that spill prevention and contingency measures are incorporated. The policy also includes provisions to gather information that will help identify where the infrastructure is at higher risk of failing as it crosses streams (sanitary sewer and to inform where actions are needed by facility owners to implement risk avoidance and mitigation strategies to ensure the threat ceases to be or never becomes a significant drinking water threat). Example information includes:</p> <ol style="list-style-type: none"> a) the state of the infrastructure (e.g., age, design life, pipe size, quantity and type of products transported) to assess the potential threats; b) depth of cover to assess susceptibility of erosion; c) a map of the location of each crossing to produce a composite map; d) a prioritized list of facilities to be inspected/maintained based on potential risk to drinking water; and e) identification of additional risk management measures to be implemented.

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LO-PIPE-1	<p>Policy LO-PIPE-1 is a Specify Action policy regarding spill prevention/contingency plans. This policy applies to IPZ-3.</p> <p>The intent of LO-PIPE-1 is to require the Ministry of the Environment and Climate Change to work with facility owners and provincial and federal regulators to ensure spill prevention, management and reductions plans, notification protocols and appropriate communication to responsible parties are addressed.</p> <p>This policy also includes provisions to gather information that will help identify where the infrastructure is at higher risk of failing as it crosses streams (petroleum pipeline spill) and to inform where actions are needed by facility owners to implement risk avoidance and mitigation strategies to ensure the threat ceases to be or does not become a significant drinking water threat. Example information includes:</p> <ul style="list-style-type: none"> a) the state of the infrastructure (e.g., age, pipe size, design life, quantity and type of products transported) to assess the potential threats; b) depth of cover to assess susceptibility of erosion; c) a map of the location of each crossing to produce a composite map; d) a prioritized list of facilities to be inspected/maintained based on potential risk to drinking water; e) all petroleum pipeline system failure (spill) sensing and shut down measures and policies; and f) the facility owner is responsible for assessing and reporting on their assurance that their pipes have been assessed and not at risk of rupture at tributary crossings where a spill is a significant drinking water threat.
LO-FUEL-1	<p>Policy LO-FUEL-1 is a Specify Action policy regarding spill prevention/contingency plans. This policy applies to IPZ-3.</p> <p>The intent of the policy is to have the Ministry of the Environment and Climate Change “work with Technical Standards and Safety Authority (TSSA)/ Ministry of Government and Consumer and Commercial Services (MGCS)” as the wording specifies that the Ministry of the Environment and Climate Change should carry out the recommended actions in consultation. The <i>Clean Water Act</i> does not prescribe any approvals under the legislation and regulations governing fuel storage and handling, so there is no Prescribed Instrument tool available. TSSA is an arms-length agency of the Ontario Government and is not on the list of bodies required to comply with policies. Although it is acknowledged that TSSA/MGCS do have regulatory powers, their regulatory powers appear to be weak on actions to protect municipal drinking water sources. As a result, it is recommended that the Ministry of the Environment and Climate Change remain as the implementing body for this policy.</p>
LO-FUEL-2	<p>Policy LO-FUEL-2 is an Education and Outreach policy regarding communicating the importance of protecting Lake Ontario drinking water. This policy applies to IPZ-1, and 2.</p> <p>The intent of this policy is to ensure the Ministry of the Environment and Climate Change has discussions with fuel tank farms that are low and moderate threats in order to support consideration of appropriate spill prevention and contingency plans and operational best management practices.</p>

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QUANTITY POLICIES

DEM-1	<p>Policy DEM-1 is a Prescribed Instrument policy that manages activities that take water from an aquifer without returning the water to the same aquifer through the Prescribed Instrument (Permit-To-Take-Water). This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level, and to future threats in a WHPA-Q1 with a moderate risk level and also to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown.</p> <p>The intent of this policy is to ensure the Ministry of the Environment and Climate Change reviews existing Permits to Take Water within three years to ensure appropriate conditions are included to protect the sources of municipal drinking water considering the results of the Tier 3 Water Budget analysis for the area. Any new permits will be issued only after ensuring that the new taking will not become a threat to drinking water by using as part of the assessment the modelling approach and any updated information consistent with the Tier 3 Water Budget analysis. Additional conditions that may be included in such permits could be setting specific trigger levels when water taking would need to be reduced to protect the municipal supply; requiring installation and reporting of water levels in a comprehensive set of sentry wells to assess changes to the aquifer; or monitoring the impact to base flow in areas important for spawning in cold-water fisheries or for maintaining provincially significant wetlands in areas that have been identified as impacted in the Tier 3 water budget study to support the environmental protection requirements of the Permit-to-Take-Water process under the <i>Ontario Water Resources Act</i> and associated regulations and directives.</p> <p>This policy also applies to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown to ensure that the quantity of water in Beeney Creek is maintained. In the Tier 3 Water Budget Study completed for the Region of Halton's wells, it was found that surface water in Beeney Creek moves into the aquifer upgradient from some of the municipal wells serving Georgetown. This influx of surface water is estimated to provide 40% of the groundwater used by these municipal wells (Lindsay Court and Princess Anne). Therefore it is important that implementing bodies ensure that the water quantity in Beeney Creek is protected when considering approval of future activities that could be significant drinking water threats.</p>
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DEM-2	<p>Policy DEM-2 is a land use planning policy that manages activities that take water from an aquifer without returning the water to the same aquifer. This policy applies to new development in a WHPA-Q1 with a significant risk level, and in a WHPA-Q1 with a moderate risk level and also to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown.</p> <p>The intent of the policy is to ensure that the Planning Approval Authority has the most updated information and tools available through the Tier 3 Water Budget analysis to ensure decisions at a local level do not result in the new development becoming a significant drinking water threat within a WHPA-Q1. The local Source Protection Authority has the model files and information to support this analysis, but the applicant will have to retain qualified expertise to do the analysis. By using the current version of the Tier 3 water budget model and updated information should ensure that the results are technically robust and comparable to the original analysis. The Ministry of the Environment and Climate Change is the approval authority for whether or not to issue a Permit to Take Water for any new taking and only reviews applications which have been favourably reviewed by planning approval authority. So any planning approvals should be made contingent on the applicant subsequently receiving their Permit to Take Water.</p> <p>The intent of Part 3a) is to direct the body with the authority for approving expansions to settlement area boundaries to take account of water quantity threats related to the existing wells and permitted takings to determine how additional water could be provided to supply new demands that would result from an increase to the area proposed for development BEFORE a decision is made to expand the settlement area. The additional water may be sourced from existing wells coupled with actions to implement risk management measures or from developing new sources (see also related policy DEM-9).</p> <p>The intent of part 3b) is to ensure baseflow and overland flows into surface water is maintained to provide sufficient waste water assimilation in locations where maintaining this use has been identified as a threat. The surface water flow or quantity required for assimilation is usually set out in other instruments such as a Permit-to-Take-Water or Environmental Compliance Approval.</p> <p>This policy also applies to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown to ensure that the quantity of water in Beeney Creek is maintained. In the Tier 3 Water Budget Study completed for the Region of Halton's wells, it was found that surface water in Beeney Creek moves into the aquifer upgradient from some of the municipal wells serving Georgetown. This influx of surface water is estimated to provide 40% of the groundwater used by these municipal wells (Lindsay Court and Princess Anne). Therefore it is important that implementing bodies ensure that the water quantity in Beeney Creek is protected when considering approval of future activities that could be significant drinking water threats.</p>
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DEM-3	<p>Policy DEM-3 is a Specify Action policy that directs provincial agencies responsible for setting population targets and growth areas that may require additional or new municipal water supplies to consider the significant water quantity threats analysis. This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level, and to future threats in a WHPA-Q1 with a moderate risk level and also to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown.</p> <p>The intent of the policy is to ensure the different provincial ministries and municipalities communicate, coordinate and consider the Tier 3 Water Budget findings and most current information when setting provincial targets and policies directing population growth so that these do not create new threats or increase the threats of existing activities.</p> <p>This policy also applies to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown to ensure that the quantity of water in Beeney Creek is maintained. In the Tier 3 Water Budget Study completed for the Region of Halton's wells, it was found that surface water in Beeney Creek moves into the aquifer upgradient from some of the municipal wells serving Georgetown. This influx of surface water is estimated to provide 40% of the groundwater used by these municipal wells (Lindsay Court and Princess Anne). Therefore it is important that implementing bodies ensure that the water quantity in Beeney Creek is protected when considering approval of future activities that could be significant drinking water threats.</p>
DEM-4	<p>Policy DEM-4 is a Specify Action policy that requires municipalities to implement water conservation plans as part of their risk management approach. This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level and to future threats in a WHPA-Q1 with a moderate risk level.</p> <p>The intent of this policy is for the municipalities who are responsible for the supply and distribution of municipal water sourced from wells within a WHPA-Q1 to implement effective water conservation plans as part of their risk management strategy to reduce the threat from existing or future water demand by all users who receive water from this source. Some municipalities may already have such plans in place and after review no further actions may be required.</p> <p>In developing or updating water conservation plans, a municipality is encouraged to consider using a wide range of approaches in combination such as: incentives for retrofits; introducing local by-laws and requirements under building permissions to mandate installation of low water use plumbing fixtures; setting differential pricing rates to reward low consumption; requiring or encouraging reuse of gray water for irrigation; and lawn watering restrictions. Municipal staffs are encouraged to collaborate and consult with others who may have already implemented such plans and thereby reduce the workload and benefit from their knowledge and expertise.</p>

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DEM-5	<p>Policy DEM-5 is an Education and Outreach policy to manage an activity that takes water from an aquifer without returning the water to the same aquifer by requiring the municipality to advise property owners and businesses of the actions they can take to reduce their use of water. This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level.</p> <p>This policy applies to municipalities who:</p> <ul style="list-style-type: none"> a) are responsible for the supply and distribution of municipal water sourced from wells within a WHPA-Q1; and/or b) have lands within their municipal boundaries that fall within a WHPA-Q1 <p>The intent of this policy is to implement effective education and outreach as part of their risk management strategy to reduce the threat from existing or future water demand by all users who receive water from this source. Some municipalities may already have such plans in place.</p> <p>The Ministry of the Environment and Climate Change is encouraged to provide a list of available education and outreach materials to municipalities to reduce the duplication of effort, especially by small municipalities with limited capacity. Municipalities have advised the CTC Source Protection Committee that this support is needed.</p> <p>Municipalities are encouraged to deliver the program through methods and means that are most effective for their local situation and to: consider a wide range of delivery approaches, such as: using a variety of media to deliver content – print, web, social media, demonstrations or displays; radio and local television Public Service Announcements; collaborate with local businesses, community groups and schools or local events such as Children’s Water Festivals or local fair or farmer’s market to reach different audiences; partner with conservation authorities; sponsor contests; promote other municipal water conservation programs such as distributing rain barrels or low flow nozzles for faucets; promote low water use landscaping; install demonstration projects on public sites such as schools, boulevards, or parks.</p>
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DEM-6	<p>Policy DEM-6 is a Specify Action policy requiring municipalities who have a water system located in the WHPA-Q1 with a significant risk level around Orangeville, Amaranth, East Garafraxa and Mono to jointly develop and implement a water management model as part of their risk management approach. The goal is to facilitate the planning and management of water supply sources to ensure sustainability of a long term water supply in each municipality and ensure that water quality and quantity is maintained or improved such that the activity ceases to be, or does not become, a significant drinking water threat.</p> <p>As part of the risk management strategy to reduce existing and avoid future threats, the Dufferin municipalities located in the WHPA-Q1 for this area are required to work together to jointly develop a local collaborative approach to manage their shared sources of municipal drinking water.</p> <p>Through the assessment of the water quality and quantity threats in this area it has been demonstrated that the vulnerable areas for many of the wells owned and operated by these municipalities overlap each other in some cases and also extend across municipal boundaries. A Risk Management Measures Evaluation pilot project undertaken by consultants reporting jointly to the Ministries of Environment and Climate Change and Natural Resources and Forestry has identified and assessed a number of possible risk management measures that could be implemented that would reduce the threat from existing activities. This work can be used as a starting point. To be successful, risk management measures must be implemented in a coordinated and complementary manner by all municipalities.</p> <p>The role of the Ministries of Environment and Climate Change and Municipal Affairs and Housing is that of providing guidance, assistance and to facilitate the local municipalities to reach a local decision. The CTC Source Protection Committee concluded that the local municipalities should have the opportunity and responsibility to develop local solutions with support from these Ministries. Municipal Affairs and Housing is the ministry responsible for both the <i>Municipal Act</i> and the <i>Planning Act</i> and has a range of tools and responsibilities to ensure that the municipalities work together to achieve mutually beneficial solutions.</p>
DEM-7	<p>Policy DEM-7 is a Specify Action policy to manage activities that take water from an aquifer without returning the water to the same aquifer. This policy applies within a WHPA-Q1 with a significant risk level within Orangeville, Amaranth, East Garafraxa and Mono.</p> <p>The intent of this policy is for the Ministry of the Environment and Climate Change and other relevant organizations to support the creation and provide assistance in the development of a mutually beneficial solution to the Dufferin County municipalities that share a water source within the Tier 3 WHPA-Q1. While the primary responsibility for developing the local plan has been assigned to the municipalities, the CTC Source Protection Committee recognizes that there is a need for the province to provide support to these small and rural municipalities to create local capacity to protect sustainable sources of municipal water required to meet provincial targets for population growth and economic development.</p> <p>The role of the Ministries of Environment and Climate Change and Municipal Affairs and Housing is that of providing guidance, assistance and to facilitate the local municipalities to reach a local decision. The CTC Source Protection Committee concluded that the local municipalities should have the opportunity and responsibility to develop local solutions with support from these Ministries. Municipal Affairs and Housing is the ministry responsible for both the <i>Municipal Act</i> and the <i>Planning Act</i> and has a range of tools and responsibilities to ensure that the municipalities work together.</p>

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DEM-8	<p>Policy DEM-8 is a Specify Action policy directed to the Ministry of the Environment and Climate Change to ensure that the Tier 3 Water Budget is maintained with current information and used for decisions that may result in significant threats from activities that take water from an aquifer without returning the water to the same aquifer. This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level, and to future threats in a WHPA-Q1 with a moderate risk level and also to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown.</p> <p>The provincial funding of technical work to assess threats to the source of municipal drinking water has resulted in substantial advancement in the knowledge of the groundwater resources where Tier 3 water budget studies have been completed. These models can and should be used to support a number of future decisions such as Permits to Take Water and land use planning. However information in the models needs to be kept up to date as Permits are amended, cancelled or newly issued and as land use changes in order to be useful. The CTC Source Protection Committee concluded that the Ministry of the Environment and Climate Change is best placed to ensure that there is sustainable funding and oversight to maintain and ensure use of the Tier 3 Water Budget models. There is also the need to enhance the monitoring of ground and surface water flows in some areas, including installing flow gauges at key locations.</p> <p>The Ministry of the Environment and Climate Change is encouraged to maintain partnerships with source protection authorities, municipalities and other partners to undertake this maintenance, data collection and analysis. The Ministry of the Environment and Climate Change is also encouraged to consider ways to finance this aspect through a variety of methods such as: conditions of approval for Permits-to-Take-Water; require municipalities operating wells in these areas to be responsible for monitoring and data collection and transfer; and/or direct provincial funding.</p> <p>This policy also applies to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown to ensure that the quantity of water in Beeney Creek is maintained. In the Tier 3 Water Budget Study completed for the Region of Halton's wells, it was found that surface water in Beeney Creek moves into the aquifer upgradient from some of the municipal wells serving Georgetown. This influx of surface water is estimated to provide 40% of the groundwater used by these municipal wells (Lindsay Court and Princess Anne). Therefore it is important that implementing bodies ensure that the water quantity in Beeney Creek is protected when considering approval of future activities that could be significant drinking water threats.</p>
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DEM-9	<p>Policy DEM-9 is a Specify Action policy to encourage municipalities who require additional municipal water to locate sources outside of the existing vulnerable area to avoid creating new or increasing existing water quantity threats from activities that take water from an aquifer without returning the water to the same aquifer. This policy applies to existing and future threats in a WHPA-Q1 with a significant risk level, and to future threats in a WHPA-Q1 with a moderate risk level and also to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown.</p> <p>The intent of this policy is not to promote the introduction of lake-based supplies nor to conflict with the Greenbelt Plan policies. Rather the municipality is encouraged as <u>part</u> of their risk management strategy to locate new groundwater supplies outside of a WHPA-Q1 with a significant risk level or a WHPA-Q1 with a moderate risk level where the new or increased taking would create significant water quantity impacts.</p> <p>While the CTC Source Protection Committee is aware of the Ministry of the Environment and Climate Change concern that policies should apply to activities within the WHPA-Q1, it is of the opinion that this policy is intended to ensure that future municipal water takings do not become a significant drinking water threat within the WHPA-Q1. The municipality should try to reduce demand for new sources of water first by optimizing the use of its existing water supplies through a robust evaluation and implementation of other risk management measures before looking for new sources.</p> <p>This policy also applies to future threats in the WHPA-Q2 with a moderate risk level for wells serving Georgetown to ensure that the quantity of water in Beeney Creek is maintained. In the Tier 3 Water Budget Study completed for the Region of Halton's wells, it was found that surface water in Beeney Creek moves into the aquifer upgradient from some of the municipal wells serving Georgetown. This influx of surface water is estimated to provide 40% of the groundwater used by these municipal wells (Lindsay Court and Princess Anne). Therefore it is important that implementing bodies ensure that the water quantity in Beeney Creek is protected when considering approval of future activities that could be significant drinking water threats.</p>
DEM-10	<p>Policy DEM-10 is a Specify Action policy directed to York Region to implement the drought management plan as part of their risk management measures for activities that take water from an aquifer without returning the water to the same aquifer. This policy applies to future threats in the WHPA-Q1 with a moderate risk level.</p> <p>The intent of this policy is to require York Region to implement the risk management measures assessed as part of the Tier 3 water budget study so that the risk level of the WHPA-Q1 is maintained as moderate. In the Tier 3 Water Budget analysis, the risk level in the WHPA-Q1 was initially categorized as significant due to predicted impacts at some municipal wells pumping their allocated rates under drought scenarios. However York Region's distribution system is sufficiently integrated to permit optimizing pumping at wells to minimize impacts. When the scenarios were re-assessed considering the implementation of their planned drought management strategy including these operating measures, the risk level in the WHPA-Q1 was reduced to moderate.</p>

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REC-1	<p>Policy REC-1 is a land use planning policy that manages activities that reduce recharge to an aquifer. This policy applies to existing and future threats in a WHPA-Q2 with a significant risk level and to future threats in a WHPA-Q2 with a moderate risk level.</p> <p>The intent of the policy is to ensure that the Planning Approval Authority makes decisions that do not result in recharge reduction from new development becoming a significant drinking water threat within a WHPA-Q2. The Planning Approval Authority, through the Plan Review process (i.e. <i>Planning Act</i> applications) will determine what is required, and determine the acceptability of the proposed actions, in the water balance assessments.</p> <p>The CTC Source Protection Committee wants the Planning Approval Authority to have the flexibility to require the appropriate level of detail in a specific water balance assessment commensurate with the scale and location of a proposed development. For example, within the WHPA-Q2 are areas that have been identified as Significant Groundwater Recharge Areas which are particularly important due to the nature of the soils and slope that permit higher than average infiltration of precipitation to replenish the groundwater. These areas should be given particular protection. Other areas may not be important for recharge and cannot provide the required infiltration due to the local soil and slope conditions. Site specific assessment and identification of the recharge characteristics of the site should be part of such water balance assessments. Where a detailed assessment is warranted, using the current version of the Tier 3 water budget model and updated information should ensure that the results are technically robust and comparable to the original analysis. The local Source Protection Authority has the model files and information to support this analysis, but it is envisioned that an applicant will have to retain qualified expertise to do the analysis.</p> <p>The Source Protection Committee encourages the “complete application” check list be updated to include the Water Balance Assessment.</p> <p>The intent of Part 1 of the policy is to avoid the burden on individual residential owners or agricultural operations by requiring that they undertake expensive hydrogeological assessments but to protect recharge by requiring instead that they implement best management practices that will reduce or eliminate any impact from their building or development activities that are subject to planning approvals. In general on low density and agriculturally zoned lands, it is possible to ensure that roof and impermeable surface run-off can be directed to on-site infiltration and thus maintain recharge without requiring technical assessments.</p> <p>The intent of Part 2) of this policy is to ensure all types Planning Act applications (excluding single family dwellings and agricultural lands) include an assessment of the potential reduction in recharge so that specific measures are identified and implemented to ensure the proposal does not result in recharge reduction becoming a significant drinking water threat within a WHPA-Q2. This requirement applies to development on lands with the greatest potential for reducing recharge such as commercial, employment, institutional, industrial uses and includes residential subdivisions but not applications for approvals on single lots zoned for single family dwellings.</p> <p>The intent of Part 2b) is to allow the municipality the option where it meets local requirements to require the applicant to locate compensating recharge on another site within the WHPA-Q2 where it is not feasible to protect pre-development recharge within the development site. The CTC Source Protection Committee concluded that the local municipality is best placed to determine the optimal actions to protect recharge and this provides them some local flexibility in their decision-making.</p> <p>The intent of Part 3 is to ensure municipalities evaluate planned growth against recharge reduction at a large scale and only proceed if the planned growth will not result in new significant drinking water threats. Once feasibility of the growth is confirmed, development proponents are subject to</p>
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	<p>Parts 1 and 2 of this policy which are site-specific.</p> <p>Part 5) of this policy applies ONLY to those parts of a WHPA-Q2 which are also within an Issue Contributing Area for sodium, chloride or nitrate. These areas are shown on the maps in the appendices in the Source Protection Plan and also will be provided by the Source Protection Authority in other formats upon request to municipalities or other planning approval authorities. This requirement is intended to ensure that any risk management measure that is implemented to maintain recharge does not create a threat to source water quality. For example, infiltration of storm water containing road salt in an Issue Contributing Area for sodium or chloride is a significant drinking water threat and subject to policies SWG-11 and SWG-12. The CTC Source Protection Committee has included Part 5) of this policy for clarity to ensure that an implementing body does not inadvertently approve an activity to protect water quantity that is a threat to water quality.</p>
REC-2	<p>Policy REC-2 is a Part IV, s.58 tool that is implemented by the Risk Management Official to manage an activity that reduces recharge to an aquifer. This policy applies to threats in a WHPA-Q2 with a significant risk level but not to future threats in a WHPA-Q2 with a moderate risk level.</p> <p>The intent of this policy is to ensure that any municipal approval for an activity in a WHPA-Q2 which is classified as a significant drinking water threat but not captured through the plan review process has been assessed to ensure that the appropriate risk management measures are implemented. If the activity has been reviewed through a plan review process (as a result of REC-1) and proposed risk management measures have been required to protect the municipal drinking water supply, it is not necessary to also require a Risk Management Plan at the building permit stage.</p> <p>Planning and building permit staff are encouraged to work with their municipal Risk Management Official to develop internal businesses process so the review is efficient and effective.</p> <p>The policy does not apply to a WHPA-Q2 with a moderate risk level since all the land uses which have <i>Planning Act</i> approvals were already assessed for the potential threat of recharge reduction and found not to result in the area being assigned a significant risk level as part of the Tier 3 Water Budget study. In contrast new applications under the <i>Planning Act</i> have not been assessed and are therefore deemed significant water quantity threats in a WHPA-Q2 with a moderate risk level and subject to policy REC-1.</p>

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REC-3	<p>Policy REC-3 is a Specify Action policy to manage activities that reduce recharge to an aquifer. This policy applies to existing threats in a WHPA-Q2 with a significant risk level.</p> <p>The intent of this policy is to address existing recharge reduction threats and for the municipality to take action in providing Education and Outreach material and other approaches to inform property owners about water recharge concerns and actions they can take to enhance recharge.</p> <p>Municipalities are encouraged to deliver the program through methods and means that are most effective for their local situation. Municipalities are encouraged to: consider a wide range of delivery approaches, such as: passing a by-law to require downspout disconnection, using a variety of media to deliver content – print, web, social media, demonstrations or displays; radio and local television Public Service Announcements; collaborate with local businesses, community groups and schools or local events such as Children’s Water Festivals or local fair or farmer’s market to reach different audiences; partner with conservation authorities; sponsor contests; promote actions such as adding dry wells to smaller yards to allow for slow infiltration of clean precipitation on-site; discourage adding hard surface landscaping or channelling water off-property; encourage or build demonstration projects in public sites such as schools or parks.</p> <p>The Ministry of the Environment and Climate Change is encouraged to provide a list of available education and outreach materials to municipalities to reduce the duplication of effort, especially by small municipalities with limited capacity. Municipalities have advised the CTC Source Protection Committee that this support is needed.</p>
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MONITORING POLICIES

Monitoring policies have been developed, as required, for every policy directed to the implementing body in order to provide information required in the annual report to be submitted to the Minister of the Environment and Climate Change by the Source Protection Authority under S. 46 of the *Clean Water Act, 2006*.

One report may be submitted capturing all the policies for which the implementing body is responsible. The Ministry of the Environment and Climate Change has advised that they will be providing specific guidance and templates for annual reporting to help both implementing bodies and the source protection authorities in meeting their obligations.

Implementing bodies are directed to provide their assessment of the effectiveness of, as well as quantitative information on, the actions taken to implement policies. The CTC Source Protection Committee has not prescribed details in order to provide the implementing body flexibility in determining the specific content appropriate for the policy. However, the CTC Source Protection Committee has directed that all implementing bodies should include as part of their report information that is consistent with that required under Section 65 of Ontario Regulation 287/07 in the annual report from the Risk Management Official.

The monitoring information will help the Source Protection Committee determine the effectiveness of the policies and any barriers or problems with implementing the policies that will be useful in future reviews and updates of these policies.

MON-1	Policy MON-1 is used to monitor the implementation of policies by the municipalities/planning approval authorities under the source protection plan. Through the policy, the Source Protection Authority can monitor actions taken by the municipality to reduce risks to drinking water. This will help to facilitate the monitoring process and advise the Source Protection Committee to of any issues related to the policies.
MON-2	Policy MON-2 is used to monitor the implementation of Part IV powers through the Risk Management Official. Through the monitoring policies, risk management plans, prohibition and restricted land use can be documented by the Source Protection Authority. This will help to determine the effectiveness of the Part IV powers and meet the Ministry of the Environment and Climate Changes Risk Management Official reporting requirements. Notwithstanding other reporting requirements, Risk Management Officials should provide a list of the inspections completed including date of inspections, address, municipality and Risk Management Plan or file reference number in the monitoring report to the lead SPA. This list could be provided as an appendix to the report, allowing the lead Source Protection Authority to forward this list to the provincial regulatory authorities for information. This information, provided in the winter of every year, would be useful to inform provincial regulatory authorities on recent Risk Management Official inspections in their areas and assist in work planning for Risk Management Plan inspections.
MON-3	Policy MON-3 is used to monitor the implementation of policies by the Source Protection Authority under the Source Protection Plan. Through the monitoring, risk reduction efforts throughout the year can be documented by the Source Protection Authority. This will help to determine the effectiveness of the policies and advise the Source Protection Committee of any issues related to the policies.

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MON-4	<p>Policy MON-4 is used to monitor the implementation of policies by the named provincial ministry under the Source Protection Plan. Through the policy, the Source Protection Authority can monitor actions taken by the named provincial ministries to reduce the risks to drinking water. This will help to facilitate the monitoring process and advise the Source Protection Committee of any issues related to the policies.</p> <p>Notwithstanding other reporting requirements, Provincial regulatory authorities should provide a list of the inspections completed including date of inspections, address, municipality and Prescribed Instrument reference number in the monitoring report to the lead Source Protection Authority. This list could be provided as an appendix to the report, allowing the lead Source Protection Authority to forward this list to the Risk Management Officials for information. This information, provided in the winter of every year, would be useful to inform Risk Management Officials on recent inspections in their municipalities and assist in work planning for Risk Management Plan inspections.</p>
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