

# GREATER SUDBURY SOURCE PROTECTION AREA

## UPDATED SOURCE PROTECTION PLAN

PREPARED ON BEHALF OF THE GREATER  
SUDBURY SOURCE PROTECTION  
COMMITTEE

UNDER THE CLEAN WATER ACT, 2006  
(ONTARIO REGULATION 287/07)

IN EFFECT AS OF  
APRIL 11, 2025



**CONSERVATION  
SUDBURY**

DRINKING WATER  
**SOURCE PROTECTION**  
Our Actions Matter

Ontario 

**The following amendments have been made to the original document**

| Date           | Type of Amendment  | Description   |
|----------------|--|---|
| April 11, 2025 | Minor/Typographical amendment under O. Reg 287/07 section 51(6)                            | Policy S5F-LUP was removed from applicable policies in the Ramsey Lake Issue Contributing Area to correct error.  |
| March 16, 2021 | Amendment resulting from the review under Section 36 of the <i>Clean Water Act, 2006</i> . | Policy PL1EF-SA and PL2F-SA were added to manage the establishment and operation of liquid hydrocarbon pipelines where this activity could pose a significant threat to drinking water. |
|                |  | Update to Policy M1EF-M to include a sampling frequency for monitoring sodium and phosphorus.   |
|                |  | Update to Policies Sa1EF-EO and S8EF-EO to incorporate additional outreach methods.   |
|                |  | Update to Map 7.1 to incorporate additional wells brought online during the development of the Source Protection Plan.  |
| March 2018     | Minor/Typographical amendment under O. Reg 287/07 section 51(6)                            | Map 1.2: The vulnerability score for the lake bottom was corrected to "9".  |
|                |  | Map 2.2: The Intake Protection Zone 3 was amended to correct buffers around regulated areas.  |

## EXECUTIVE SUMMARY

### **A Plan to Protect Municipal Drinking Water Sources in the Greater Sudbury Watersheds**

Drinking water in Ontario comes from both surface water and groundwater sources which can be contaminated from human activities and natural processes. The *Clean Water Act, 2006* was created by the Government of Ontario to protect drinking water sources. The Act includes provisions for the development and implementation of local Source Protection Plans to protect sources of municipal residential drinking water.

The Greater Sudbury Source Protection Area Source Protection Plan is a locally-developed, science-based plan that meets the requirements of the *Clean Water Act* by protecting sources of municipal residential drinking water from contamination. The plan outlines existing and future threats (as defined in Ontario Regulation 287/07) to these sources and prescribes policies, actions and programs to reduce or eliminate these threats.

Part I of the Greater Sudbury Source Protection Plan provides the context for the plan, which includes a brief history of source protection planning and the *Clean Water Act*, source protection plan objectives, and a description of the source protection area. This part also includes a description of plan components, key steps in the planning process, public consultation, source water threats, and guidance on how to read the plan. The Greater Sudbury Source Protection Area Assessment Report (please see Appendix B) is another key piece of background information as it provides the scientific foundation for the plan and contains critical information for understanding plan objectives and policies. The Risk Management Measures Evaluation Report (see Appendix E) explains how quantitative measures were considered in the development of water quantity policies.

Part II contains the source protection plan policies. These policies address the existing threats to drinking water as enumerated in the Assessment Report as well as potential future threats.

Part III of the plan provides details on the legal effects and effective dates of policies, plan implementation and annual review, and financing.

### **How the Greater Sudbury Source Protection Plan was developed**

The *Clean Water Act* prescribed a multi-stakeholder, science-based process for source protection planning to be developed in several stages. The first step was the formation of the Greater Sudbury Source Protection Committee in 2007, which was given the responsibility for developing the Terms of Reference, Assessment Report and Source Protection Plan for the Greater Sudbury watersheds.

Broad public engagement was conducted throughout the development of the Source Protection Plan, involving the City of Greater Sudbury, the Nickel District Conservation Authority, the Ontario Ministry of the Environment, Conservation and Parks, property owners, farmers, industry, businesses, community groups, public health officials, and First Nations. Key consultation mechanisms included meetings with stakeholders, public meetings and open houses, and opportunities to comment on discussion papers

and via the project website. Meetings were advertised and open to presentations from interested residents and organizations. As well information received from provincial and national stakeholders was considered by the Source Protection Committee.

### **Public Consultation on the Plan**

Consultation on the Proposed Source Protection Plan included two public meetings and two rounds of public consultation through the spring and summer of 2012. There was one public meeting opportunity and a public review period from December 16, 2013 to February 7, 2014 on revisions made to the proposed plan in 2013/14.

The 2020 updates to the Source Protection Plan were identified through Section 36 of the *Clean Water Act*. Implementing Bodies and stakeholders were provided the opportunity to comment through pre-consultation in March and April. The public was invited to comment on proposed updates in June, these updates were posted on the internet for 35 days.

## SOMMAIRE

### **Un plan visant à protéger les sources d'eau potable municipales dans les bassins hydrographiques du Grand Sudbury**

L'eau potable en Ontario provient de sources d'eau de surface et d'eau souterraine qui peuvent être contaminées par des activités humaines et des processus naturels. La *Loi sur l'eau saine, 2006* a été édictée par le gouvernement de l'Ontario en vue de protéger les sources d'eau potable. La Loi comprend des dispositions pour l'élaboration et la mise en œuvre de plans locaux de protection des sources visant à protéger les sources d'eau potable résidentielle municipales.

Le Plan de protection des sources d'eau potable pour la zone de protection des sources du Grand Sudbury est un plan scientifique élaboré en région qui satisfait aux exigences de la *Loi sur l'eau saine* en protégeant les sources municipales d'eau potable résidentielle contre la contamination. Le plan détermine les menaces potentielles qui existent actuellement et celles qui peuvent être établies (telles que définies dans la réglementation 287/07) pour ces sources, et il prescrit des politiques, des mesures et des programmes visant à atténuer ou à éliminer ces menaces.

La partie I du Plan de protection des sources du Grand Sudbury donne le contexte pour le plan, ce qui comprend un bref historique de la planification de la protection des sources et de la *Loi sur l'eau saine*, les objectifs du plan de protection des sources et une description de la région des sources d'eau potable. Elle inclut également une description des composantes du plan, des étapes clés du processus de planification, de la consultation publique, des menaces pour l'eau de source ainsi qu'un guide de lecture du Plan de protection des sources. Le Rapport d'évaluation de la zone de protection des sources du Grand Sudbury (veuillez consulter l'annexe B) est un autre élément d'information important car il établit le fondement scientifique pour le plan, et il contient les renseignements essentiels pour comprendre les objectifs et les politiques du plan. Le rapport d'évaluation sur les mesures de gestion des risques (voir l'appendice E) explique comment des mesures quantitatives ont été considérées dans l'élaboration des politiques de quantité d'eau.

La partie II renferme les politiques sur le Plan de protection des sources. Ces politiques abordent les menaces actuelles pour l'eau potable qui sont énumérées dans le Rapport d'évaluation ainsi que les menaces futures qui pourraient se réaliser.

La partie III du plan fournit les détails sur les effets légaux du plan, la date duquel le plan entre en vigueur, la mise en œuvre de même que la revue annuelle et le financement du plan.

### **Comment le Plan de protection des sources du Grand Sudbury a été élaboré**

La *Loi sur l'eau saine* prévoyait un processus scientifique multilatéral pour la planification de la protection des sources qui devait être élaboré en plusieurs étapes. La première étape consistait à créer en 2007 le Comité de protection des sources du Grand Sudbury, qui avait été chargé d'élaborer le mandat, le Rapport d'évaluation et le Plan de protection des sources pour les bassins hydrographiques du Grand Sudbury.

Ce comité avait donc effectué une vaste mobilisation du public tout au long de la période d'élaboration du Plan de protection des sources, sollicitant la participation de la Ville du Grand Sudbury, de l'Office de protection de la nature du District du Nickel, du ministère de l'Environnement de l'Ontario, des propriétaires de terrains, des agriculteurs, des représentants de l'industrie, des entreprises, des groupes communautaires, de la santé publique et des Premières nations. Parmi les principaux mécanismes de consultation employés, on compte des réunions avec les intervenants, des assemblées publiques et des journées portes ouvertes de même que des occasions de fournir des commentaires sur des documents de discussion en personne et par l'intermédiaire du site Web du projet. Les assemblées publiques ont été annoncées, accueillant des présentations de résidents et d'organisations intéressées. De plus, le Comité de protection des sources a considéré les renseignements fournis par les intervenants aux échelles provinciale et nationale.

### **Consultation publique sur le Projet du Plan**

La consultation sur le Plan de protection des sources proposé a compris deux assemblées publiques du type journée portes ouvertes et deux périodes de commentaires au cours du printemps et de l'été de 2012. Il y avait une réunion publique et une période d'examen public de 16 Décembre 2013 au 7 Février, 2014 pour la mise à jour proposée du plan de protection des sources.

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## ACKNOWLEDGMENTS

The Greater Sudbury Source Protection Committee (SPC) wishes to acknowledge the collaborative effort of all our partners. The Greater Sudbury Source Protection Plan is a watershed-wide initiative that has been a five year collaboration bringing together representatives from all levels of government, the residents of Greater Sudbury, the Source Protection Committee, the Ministry of the Environment, Conservation and Parks and the Greater Sudbury Source Protection Authority (GSSPA). The SPC acknowledges the funding support provided by the government of Ontario for this project.

The SPC was assembled to implement the requirements of the *Clean Water Act, 2006*. The SPC worked to represent the broad interests of those that live and work within the Greater Sudbury Source Protection Area while preparing the Terms of Reference, the Assessment Report and the Source Protection Plan. The Minister of the Environment appointed the Chair of the SPC, Nels Conroy. The other nine (9) members of the SPC were appointed by the GSSPA and represent municipal government, industry and commercial business, the environmental non-profit sector, and the public at large. Additionally a number of non-voting liaisons sit with the committee representing First Nations, the Province of Ontario, public health and the GSSPA.

### GREATER SUDBURY SOURCE PROTECTION COMMITTEE MEMBERS

|   |   |
|---|---|
| <b>Chair</b>  | Nels Conroy – 2007 to 2018  |
| <b>Municipal representatives</b>                        | Paul Baskcomb – 2007 to 2015<br>Nick Benkovich – 2007 to 2017<br>Stephen Monet – 2007 to 2019   |
| <b>Industry and commercial business representatives</b> | Luc Bock – 2007 to present<br>Greg Haddad – 2007 to 2014<br>Wendy Wisniewski – 2007 to present  |
| <b>Public and non-profit sector representatives</b>     | Richard Bois – 2009 to 2019<br>Dan Mallette – 2007 to 2009<br>Lilly Noble – 2007 to 2019<br>Tim Worton – 2007 to 2018   |
| <b>SPC liaisons</b>                                     | Atikameksheng Anishnawbek (Whitefish Lake First Nation),<br>Wahnapiatae First Nation, Ministry of the Environment,<br>Conservation and Parks, Public Health Sudbury and Districts,<br>Greater Sudbury Source Protection Authority |

Advisors to the program during development of the plan included staff from the Ministry of the Environment, Conservation and Parks and Conservation Ontario. Special thanks to our MECP Liaison, Neil Gervais, for his ongoing advisement and to Heather Gardiner for her guidance and keen reviewing eye.

We would also like to thank municipal staff at the City of Greater Sudbury for their contributions to the process as well as the affected landowners and general public who have made the effort to become involved and provide their input. The dedication of project partners enabled us to meet our goals and we look forward to continuing to work with stakeholders to further protect the municipal drinking water sources in our watersheds.

During the development of the Assessment Report and the Source Protection Plan, Conservation Sudbury provided administrative, scientific, and technical support to the Source Protection Committee and the Greater Sudbury Source Protection Authority. Staff members involved in the project in alphabetical order are:

Sharon Bennett – Water Resources Specialist

Jessica Brunelle – Drinking Water Source Protection and Stewardship Technician

Brianne Carter – Communications Specialist

Natalie Gara-Boivin – Communications Specialist

Jamie Dumoulin – Geographic Information Systems Specialist

Linda Lachance – Administrative Assistant

Katherine Mackenzie – Policy & Planning Officer

Anoop Naik – Water Resources Technologist

Paul Sajatovic – Former Conservation Sudbury General Manager

Judy Sewell – Drinking Water Source Protection Program Co-ordinator

Melanie Venne – Policy & Planning Officer

# PART ONE

## INTRODUCTION AND BACKGROUND



This section provides the context of the Source Protection Plan.

It includes:

- A brief history of source protection planning and the *Clean Water Act*;
- A description of the watershed / source protection area;
- A description of the source water threats;
- A description of the planning process and plan components;
- An overview of public consultation; and
- Guidance on how to read the plan.

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## PART I – INTRODUCTION AND BACKGROUND

### 1.0 PURPOSE OF A SOURCE PROTECTION PLAN

The purpose of the *Clean Water Act, 2006* (CWA) is to protect Ontario’s **drinking water**<sup>1</sup> sources as part of an overall commitment to safeguard human health and the environment. This first round of source protection planning focuses on municipal residential drinking water sources. The CWA and Ontario Regulation 287/07 under the **Act** divide the drinking water source protection process into four steps:

1. Plan the work: prepare terms of reference for the work to be done;
2. Assess the risks: prepare an assessment report pulling together the results of the technical and scientific studies, identifying vulnerable areas and assessing the threats to drinking water sources;
3. Plan for source protection: prepare a source protection plan that addresses identified **drinking water threats**, particularly **significant threats**; and
4. Take action: implement the source protection plan, report on progress, and revise over time.

The *Clean Water Act* mandates the local **Source Protection Committee** to prepare a source protection plan for each **source protection area**. This plan for the Greater Sudbury Source Protection Area has been developed following a broad consultation process and consists of a range of policies that will reduce the risks posed by threats to sources of municipal drinking water.

### 2.0 PLAN COMPONENTS

Part I of the Source Protection Plan (SPP) provides the context for the plan, which includes a brief history of source protection planning and the *Clean Water Act*, SPP objectives, and a description of the watersheds in the source protection area. It also includes a description of plan components, key steps in the planning process, public consultation, **source water** threats, and guidance on how to read the plan.

The Greater Sudbury Source Protection Area Assessment Report is another key piece of background material, as it provides the foundation for the plan and contains critical information for understanding its objectives and policies. A summary of the contents of the Assessment Report is included in Section 3.2 and information about how to access the full report is included in Appendix B.

The Risk Management Measures Evaluation Report, in Appendix E, explains how quantitative measures were considered in the development of water quantity policies.

Part II of the Greater Sudbury Source Protection Plan contains the Source Protection Plan policies. These policies address the existing threats to drinking water and potential future threats.

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<sup>1</sup> **Bold text** indicates that a definition or additional detail is included in the Glossary of Terms – Appendix G.

Part III of the Greater Sudbury Source Protection Plan discusses plan administration and includes details on the legal effect and effective dates of policies and implementation.

### **Explanatory Document**

Ontario Regulation 287/07 Section 40 requires an explanatory document be prepared and submitted with each Source Protection Plan. The purpose of this document is to provide the rationale for the policies included in the Plan and to explain the Source Protection Committee's policy decisions. The document allows stakeholders, the general public, municipalities, and the Minister of the Environment to understand the history behind the policies. This document accompanied the proposed source protection plan for public consultation purposes. By providing the rationale for the policies, the explanatory document supports a transparent decision-making process.

The explanatory document was updated following consultation periods to reflect how policies were changed as a result of comments received. The source protection authority submitted the proposed source protection plan and the accompanying explanatory document to the Minister along with their comments on August 20, 2012. The explanatory document was updated again to reflect changes in the 2014 revised source protection plan.

The Minister will use the explanatory document to assist in understanding the rationale for the policies in the plan, but it is neither formally reviewed nor approved by the Minister. The Minister may request changes to the proposed source protection plan before it can be approved. If changes are made to the plan, the explanatory document must also be updated to reflect those changes to the plan.

The Explanatory Document must include the following content (where applicable):

- An explanation of the Source Protection Committee's policy decisions;
- The reasons that Section 57 prohibition is used to address the risk of an existing activity;
- A statement indicating that the Committee is of the opinion that non-regulatory measures are sufficient to address significant threats, when used as a stand-alone policy tool;
- A summary of comments received and an explanation of how they affected policy development;
- A summary of how financial implications may have affected policy decisions; and
- An explanation of how climate change considerations may have impacted policies.

The explanatory document is available on Conservation Sudbury website at: <http://www.sourcewatersudbury.ca>

Paper copies are also available; please contact Conservation Sudbury to request a copy.

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## 3.0 CONTEXT

### 3.1 WALKERTON AND THE CLEAN WATER ACT

In May of 2000 the drinking water collection and distribution system in the Town of Walkerton was contaminated by a bacterial outbreak. The **contamination** directly caused the deaths of seven persons and made some 2,300 others ill. The Province of Ontario responded by calling for a public inquiry looking into the causes and events of the tragedy. This public inquiry was led by Justice Dennis O'Connor.

Protecting water at its source is one of many ways to ensure safe drinking water in Ontario. The "multi-barrier approach" outlined in Justice O'Connor's report suggests that there are several key components to municipal drinking water protection, including:

- Source water protection;
- Adequate treatment;
- Secure distribution system;
- Monitoring and warning systems; and
- Well thought-out responses to adverse conditions.

The inquiry emphasized the importance of protecting the sources of municipal drinking water (our rivers, lakes, and ground water) as the first line of defence.

As part of implementing the recommendations set out in Justice O'Connor's report, *The Strategy for Safe Drinking Water*, the Province of Ontario drafted and enacted the *Clean Water Act, 2006*.

The thrust of the *Clean Water Act* is to empower local authorities to adopt and enact measures to protect and enhance the quality and quantity of their drinking water supplies. Source protection planning in Ontario occurs on a watershed basis because all watersheds are unique and water does not flow according to municipal boundaries.

The *Clean Water Act* complements the responsibilities and tools that local municipalities already have in place to protect and deliver drinking water within their jurisdiction. The Act:

- Requires communities to look at the existing and potential threats to their drinking water sources and set out and implement the actions necessary to reduce or eliminate significant threats;
- Empowers communities to take action to prevent threats from becoming significant;
- Requires public participation on every local source protection plan; and
- Requires that all plans and actions are based on sound science.

The *Clean Water Act, 2006* also makes provision for the establishment of **Source Protection Authorities** (SPA). The jurisdictional boundaries of the Source Protection Authorities are based on watershed boundaries and the governance structure is similar to that of the existing conservation authorities. In the case of Greater Sudbury, the SPA is comprised of Conservation SudburyBoard.

The *Clean Water Act, 2006* established that Source Protection Committees (SPCs) made up of local representatives be created for each **Source Protection Area** or Region. As required, the Greater Sudbury SPC is comprised of three municipal representatives, three **industrial** and **commercial** business representatives, and three “other” representatives (in Greater Sudbury, these “other” members are from the environmental non-profit sector and the public at large). Additionally a number of non-voting liaisons sit with the committee representing the Province of Ontario, public health, First Nations and the Source Protection Authority.

The role of the SPC is to oversee the process of gathering information about the source protection area, assessing threats and ultimately assembling this information into a comprehensive municipal drinking water Source Protection Plan. The Greater Sudbury SPC has been working together since 2007 to complete this work.

### 3.2 THE GREATER SUDBURY SOURCE PROTECTION AREA ASSESSMENT REPORT

Since 2005, source water related research and technical studies have been conducted by Conservation Sudbury staff and consultants. These technical studies are summarized in the Greater Sudbury Source Protection Area (GSSPA) Assessment Report, which was approved by the Ministry of the Environment, Conservation and Parks in October 2011. Amendments were approved in 2014 to include additional **water budget** technical studies.

The Assessment Report examines and identifies:

- The general characterization of the watersheds;
- The vulnerable areas around municipal drinking water sources;
- The degree of sensitivity in vulnerable areas (groundwater vulnerability and **surface water** vulnerability);
- Where potential threats to water quality and quantity can be found in each area;
- The drinking water issues present in the GSSPA;<sup>2</sup>
- The activities that pose drinking water threats to human health;
- Areas that may be at risk for water quantity shortages; and
- The significance of the risks of these drinking water threats.<sup>3</sup>

The Assessment Report provides the basis for decision making for the policies contained in this Source Protection Plan. A link to the Assessment Report is included with this plan (please see Appendix B).

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<sup>2</sup> Drinking water issues are explained in Section 6.2.2 (Drinking Water Quality Threats – Issues Evaluation)

<sup>3</sup> Detailed information about how threats were determined to be significant is available in Section 6.2.1 (“Significant Drinking Water Threats in the GSSPA”). A threat is determined to be significant if it meets the criteria listed in the Ministry of the Environment, Conservation and Parks’s *Table of Drinking Water Threats*, which are technical documents written under the authority of the *Clean Water Act*. This table and the Act are available online.

### 3.3 THE SOURCE PROTECTION PLANNING PROCESS

The Source Protection Plan (SPP) outlines the actions required to address the threats to drinking water identified in the Assessment Report. To create the plan, a series of discussion papers were developed for each of the drinking water quality threats (see Section 6.2 for a list of the threats). The discussion papers provided background information on the drinking water threats and an assessment of the policy tools and approaches available for each threat. For water quantity threats a Risk Management Measures Evaluation Process was used to help refine options for water quantity policies.

After completion of the discussion papers the range of policy tool options were presented to the Policy Working Group, which is comprised of members of the Source Protection Committee. Local experts were also invited to Policy Working Group meetings to provide information. Recommendations from these meetings were incorporated into a revised set of policy options and subsequently presented to the SPC. The SPC examined the policy options and decided which options would go forward to consultation with the **implementing bodies** (those bodies responsible for implementing each policy, e.g. the City of Greater Sudbury, various Provincial ministries, etc).

The SPC was required to consider any comments on the draft policies made by the implementing bodies. After the consultation period with the implementing bodies in winter 2012, the revised policies were consolidated into one Draft Source Protection Plan. The Draft SPP underwent public consultation in spring 2012 (April 16<sup>th</sup> – June 4<sup>th</sup>), and the Source Protection Committee considered comments submitted in writing and during public meetings (open houses).

After this public consultation period, the Source Protection Committee submitted the revised Source Protection Plan to the Source Protection Authority (SPA). The SPA then published the Proposed SPP on the Internet for a 30 day public consultation period. After this public consultation period, the SPA submitted the Proposed SPP to the Ministry of the Environment, Conservation and Parks on August 20, 2012 for approval by the Minister.

Water quantity policies added during the 2013/14 updates were sent to implementing bodies for a pre-consultation period from April to November, 2013. Subsequently, a public consultation period spanning December 16, 2013 to February 7, 2014 provided the municipality, general public and all affected bodies with an opportunity to make comments on the updates to the Source Protection Plan.



## 4.0 PLAN OBJECTIVES

The Greater Sudbury Source Protection Plan (SPP) is a document that sets out the policies to protect sources of municipal **residential** drinking water against drinking water threats. The plan outlines how drinking water threats will be reduced, eliminated or monitored, who is responsible for taking action, timelines, and how progress will be measured.

The objectives of the SPP are detailed in section 22 of Ontario Regulation 287/07 made under the *Clean Water Act* and described below:

To ensure that, for every area identified in an assessment report as an area where an **activity** is or would be a **significant drinking water threat**,

- i. the activity never becomes a significant drinking water threat, or
- ii. if the activity is occurring when the source protection plan takes effect, the activity ceases to be a significant drinking water threat.

This means that the Source Protection Committee *must* develop policies for all significant threats that either are occurring or could possibly occur. Further information about how threats are identified can be found in Section 6.2.

The Regulation also states that the objective for policies within a Source Protection Plan relating to ‘conditions resulting from past activities’, will be to ensure that for every area identified as an area where a condition that results from a past activity is a significant drinking water threat, the condition ceases to be a significant drinking water threat. At this time, there are no identified conditions fitting the definition of the Act within the Greater Sudbury Source Protection Area.

## 5.0 PUBLIC AND STAKEHOLDER CONSULTATION

Consultation with the public and stakeholders is critical to developing a locally derived Source Protection Plan. Consultation is also required under the *Clean Water Act* at each key point in the source protection process. Local residents are important partners in the implementation of the source protection plan and need to have a role in policy and plan development.

To this end, property owners, municipalities, farmers, industry, businesses, industry and agricultural associations, community groups, public health officials, First Nations and the general public have been consulted numerous times throughout the source protection planning process. Input from these consultation activities has been integrated into the plan and helped to create fair, practical and implementable source protection policies.

The following sections provide the highlights of this engagement effort. The record of public consultation required by Regulation is found in Appendix C, Consultation Record. It consists of summaries of all consultation activities undertaken by the source protection committee during the preparation of the:

1. Terms of Reference;
2. Assessment Report; and
3. Source Protection Plan.

### 5.1 PUBLIC ENGAGEMENT

The primary goal of the Greater Sudbury Source Protection Committee is to arrive at a locally created source protection plan that respects the characteristics and composition of the source protection area and is also based on sound science. One of the keys to locally derived plans which can be effectively implemented is meaningful consultation with the local stakeholders and the public. To this end the SPC has been implementing a focused process of outreach and consultation.

These strategies have included:

- Print and broadcast media such as media releases, advertisements and public service announcements;
- Direct distribution of letters, facts sheets, brochures and pamphlets related to the Drinking Water Source Protection and Ontario Drinking Water Stewardship Programs;
- Online tools;
- Public events such as open houses, water-focused events, public meetings, and conferences;
- Presentations to City Council; and
- Presentations to local organizations including stewardship groups.

Opportunities for direct engagement with property owners included public meetings and open houses. A large direct mail-out to property owners in vulnerable areas where there are or could be significant threats was conducted in spring 2011 and in spring 2012; a focused mail-out for assessment report and plan updates was sent in 2013. Several public service announcements were issued to local media.

## 5.2 MUNICIPALITIES

Municipalities are key implementing partners of the source protection plan. The GSSPA includes a number of municipalities: the City of Greater Sudbury, the Town of Espanola, the Municipality of Markstay-Warren, the Municipality of Killarney and the Township of Nairn and Hyman. In addition to Markstay-Warren, there are unorganized parts of the Sudbury East Planning Board within the Source Protection Area, so the Planning board has also been included in consultation activities.

However, the Source Protection Plan only applies to the City of Greater Sudbury and the Municipality of Markstay-Warren. The City of Greater Sudbury is the only municipality with municipal drinking water sources within the source protection area, and Markstay-Warren is the only other municipality where a significant threat could occur in a **vulnerable area**. Therefore, the policies of the SPP only apply to these two municipalities. The other municipalities have been notified at every juncture of the process (e.g. during the development of the Terms of Reference and the Assessment Report).

There has been ongoing dialogue with City of Greater Sudbury municipal staff and council throughout the source protection planning process. As noted previously, three municipal staff are members of the Source Protection Committee. Numerous other staff members have been engaged throughout the policy development process. Representatives from Emergency Management and Roads and Transportation attended SPC meetings and provided valuable information and comments on policy options, and there was ongoing communication between conservation authority staff and City staff from a range of departments (Water and Wastewater, Growth and Development and Infrastructure Services in particular).

In addition to the above engagement, the required pre-consultation (Section 15, CWA and Section 28 O. Reg. 287/07) was undertaken with the City of Greater Sudbury and the Municipality of Markstay-Warren in January and February 2012. There was pre-consultation again with the City of Greater Sudbury from April to November, 2013 for updates to the Source Protection Plan. The resulting comments and the manner in which the SPC addressed those comments are found in the Explanatory Document as well as in Appendix C, Consultation Record.

## 5.3 FIRST NATIONS

There are two First Nations located within the Greater Sudbury Source Protection Area. Both Wahnapiatae First Nation and Atikameksheng Anishnawbek (Whitefish Lake First Nation) appointed members to sit as community representatives on the Source Protection Committee.

Any formal comments received from First Nations and the manner in which the SPC addressed those comments can be found in the Explanatory Document as well as in Appendix C, Consultation Record.

## 6.0 THE GREATER SUDBURY SOURCE PROTECTION AREA

### 6.1 DESCRIPTION OF THE GREATER SUDBURY SOURCE PROTECTION AREA

The Greater Sudbury Source Protection Area (GSSPA) includes all of the Vermilion, Wanapitei and Whitefish River watersheds. This is the same jurisdictional area as the Nickel District Conservation Authority (or Conservation Sudbury)(Ontario Regulation 284/07) but also includes the bottom reaches of the Whitefish River and Wanapitei River watersheds. The GSSPA has an area of 9,150 km<sup>2</sup> and is home to over 160,000 residents. It includes the City of Greater Sudbury and parts of the Town of Espanola, the Municipality of Markstay-Warren, the Municipality of Killarney, the Township of Nairn and Hyman, and the Sudbury East Planning Board.

The policies in the Source Protection Plan only apply to the City of Greater Sudbury and the Municipality of Markstay-Warren because the other communities do not have municipal drinking water systems or the associated vulnerable areas that fall within the GSSPA.

At the time of writing the assessment report, there were eight drinking water systems in the GSSPA including both **surface water** and **groundwater** systems:

- Ramsey Lake (surface water)
- Wanapitei River (surface water)
- Vermilion River (surface water)
- Valley, including Capreol (groundwater)
- Garson (groundwater)
- Falconbridge (groundwater)
- Onaping (groundwater)
- Dowling (groundwater)

The Ramsey Lake, Wanapitei River and Garson groundwater systems have since been combined to form the Sudbury system, so there are now six licensed municipal residential systems in the source protection area. There are three municipal water treatment plants (WTPs) with surface water intakes and 24 municipal wells under Ontario Regulation 170/03.

The Wanapitei River and Ramsey Lake supply a large portion of Greater Sudbury's residents with their drinking water, approximately 90,000 people. The Vermilion River WTP (owned by Vale supplies 13,000 people in the western part of Greater Sudbury. The 24 municipal wells combined supply approximately 45,000 people.

### 6.2 DRINKING WATER THREATS

Section 1.1 of Ontario Regulation 287/07, made under the *Clean Water Act*, identifies 22 activities as prescribed drinking water threats. This includes 19 drinking water quality threats and two drinking water quantity threats. The list of 22 threats is provided below and descriptions of each threat can be found in Appendix A. A summary of the technical studies used to identify the threats found in the Greater Sudbury Source Protection Area can be found in the Assessment Report.

There are two categories of threats:

- Water quality threats (including **chemicals** and **pathogens**); and
- Water quantity threats.

Chemical threats include solvents, fuels, fertilizers, pesticides and similar products. They can be found in

many different places such as factories, storage depots, gasoline stations or farms.

A pathogen is a micro-organism (e.g. bacteria, virus or parasite) that causes disease. Pathogens come from human or animal waste. Common sources of pathogens include septic tanks and farm manure.

Water quantity threats are activities that reduce the ability of water to “recharge” or move from the surface to an aquifer, and activities that contribute to the overuse of water in an area.

The following activities are prescribed in Ontario Regulation 287/07 as drinking water threats for the purpose of the definition of “drinking water threat”:

1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act*.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material. (aquaculture)
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid.
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
22. The establishment and operation of a liquid hydrocarbon pipeline.

### **6.2.1 SIGNIFICANT DRINKING WATER THREATS IN THE GSSPA**

Of the 22 threats listed above, 20 are applicable to the Greater Sudbury Source Protection Area (GSSPA). Threat number five (management of agricultural source material – aquaculture) cannot be a significant drinking water threat.

Additionally, the transportation of hazardous substances along transportation corridors was identified as a local threat by the SPC and approved by the MECP’s Director of the Source Protection Programs Branch on November 26, 2010. The transportation of septage, sulphuric acid and liquid fuel are included in this local threat.

Not all threats to municipal drinking water are equal. The level of risk to human health posed by particular chemicals and pathogens depends on several factors including:

- Quantity;
- Toxicity level;
- How it behaves in the environment (e.g. does the chemical move rapidly or slowly through the ground or surface water to the municipal drinking water source?);
- Intrinsic vulnerability of the area; and
- Type of vulnerable area in which the activity is located.

A threat is determined to be significant if it meets the criteria listed in the Ministry of the Environment, Conservation and Parks's *Table of Drinking Water Threats*, which are technical documents written under the authority of the *Clean Water Act* (these tables and the Act are available online). There are two types of criteria:

1. Where the threat activity is occurring (e.g. is it occurring in an area with a **vulnerability score** that is high enough to make the threat significant?)
2. How the threat activity is occurring. That is, for each threat there are specific circumstances, based on scientific risk assessments, which determine if the activity is of such a magnitude as to be considered a significant threat. For example, in order for the above grade storage of fuel to be a significant threat, over 2,500 litres must be stored.

Unlike water quality threats, where the threat level is the product of vulnerability score and characteristics of the activity, water quantity threats are a function of exposure and tolerance. Exposure refers to the likelihood that the drinking water system could require more water under average monthly pumping conditions than is available in the local area under modeled scenarios of drought. Tolerance refers to the predicted ability of the water system to meet peak demands under modeled scenarios of drought. A water quantity threat is determined if a significant risk to water quantity is identified in the Tier 3 Water Budget and risk assessment analysis.

An explanation of how vulnerability scores for all of the areas surrounding sources of municipal drinking water in the GSSPA were determined can be found in Chapter 2 of the Assessment Report.

The Assessment Report identifies **existing** and **future** threats to the safety of municipal drinking water systems. Section 2.3 of the Assessment Report provides a detailed explanation of how threats were assessed.

A threat on a property does not necessarily mean there is an immediate risk to drinking water. During the implementation of the Source Protection Plan policies, a designated official may verify the existence of significant threats.

The Source Protection Committee *must* develop policies for all existing and future significant threats that either are occurring or could possibly occur.

### 6.2.2 DRINKING WATER QUALITY THREATS – ISSUES EVALUATION

A drinking water issue is an existing water quality problem that has been trending upward over time at the surface water intake or groundwater well. Based on this, sodium (salt) was identified as a drinking water issue for the Ramsey Lake drinking water system. The occurrence of Microcystin LR in Ramsey Lake also allowed it to be identified as an issue.

Microcystin LR is a toxin sometimes produced by cyanobacteria (also known as blue-green algae) and is listed as a parameter in the Ontario Drinking Water Quality Standards. High levels of phosphorous tend to promote cyanobacteria, some of which produce Microcystin; therefore the presence of phosphorous is associated with this issue.

The Ramsey Lake **Issue Contributing Area** is comprised of all three of the **Intake Protection Zone (IPZ)** areas (1, 2 and 3).

Phosphorus is associated with microcystin LR, and therefore some of the policies addressing threats that involve phosphorus apply to the entire Ramsey Lake Issue Contributing Area. Those threats are:

- The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act*.
- The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
- The application of agricultural source material to land.
- The storage of agricultural source material.
- The application of non-agricultural source material to land.
- The handling and storage of non-agricultural source material.
- The application of commercial fertilizer to land.
- The handling and storage of commercial fertilizer.
- The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.

The threats that are associated with the sodium issue in the Ramsey Lake Issue Contributing Area are:

- The application of road salt.
- The handling and storage of road salt.
- The storage of snow.

Table 1 in Section 7.3 below provides a list of the policies that apply to the Ramsey Lake Issue Contributing Area that addresses these threats.

## 7.0 HOW TO READ THIS PLAN

### 7.1 UNDERSTANDING SOURCE PROTECTION PLAN POLICIES

The Source Protection Plan (SPP) is required to contain policies that prohibit and/or manage the risks from existing and future significant drinking water threats to ensure these threats cease to be or do not become significant. These policies are included in Part II, Sections 8-16.

Policies in the SPP are based on delineated areas, meaning that they are specific to a particular vulnerable area around a wellhead or surface water intake. Education and outreach programs or incentives can apply to a broader area. Vulnerable areas were delineated using a standardized scientific approach and are mapped in the local assessment report. Maps illustrating each area where policies apply can be found in Appendix H.

Each policy contained in Part II addresses a particular threat or group of threats and states what tool will be used and names the body responsible for implementing the policy. The policies provide direction for actions where necessary and include various levels of detail.

The policies contained in Part II address both existing and future significant threats. In some cases, one policy may address both existing and future occurrences of the activity; in other cases policies may address them separately. Future threat policies are developed based on an analysis of the current level of vulnerability, potential future trends, as well as the future level of protection required for the municipal drinking water supply.

For every area identified in the assessment report where there could be a significant threat, a monitoring policy is also required. Monitoring policies are intended to track and measure whether or not policies are being successfully implemented and can be found in Sections 15 and 16 in Part II.

Depending on a number of factors, the policies have different **legal effects**. Section 17.1 provides a detailed explanation of the range of possible legal effects, and explains which policies fall under which legal effect provision. Appendix D of the Source Protection Plan consists of lists of policies that ensure that the policies are designated for the appropriate legal effect provision as outlined in Section 34 of Ontario Regulation 287/07.



## 7.2 POLICY IDENTIFIER

To assist the reader and to organize the policies, an identifier has been designated for each policy in order to efficiently provide information regarding the threat being addressed, whether the policy addresses existing and/or future threats, and the policy tool being used. Each policy is given an identifier with the following components:

1. Threat
2. Policy Number for the Threat Category
3. Existing and/or Future
4. Policy Tool

For example, the first policy's identifier is "Ag1EF-EO", where:

Ag = Agriculture (Nutrient)

1 = the first policy addressing the nutrient-related agricultural threats

EF = the policy applies to both existing and future threats

EO = Education & Outreach

There are 12 threat categories with the following abbreviations:

Ag = Agriculture (nutrient related)

AirD = Aircraft De-icing Fluid

DOS = DNAPLs and Organic Solvents

F = Fuel

P = Pesticides

PL= Pipeline

M = Monitoring

MI = Monitoring of Issues

Sa = Salt and Snow

S = Sewage

T = Transportation

W = Waste

WQ = Water Quantity There are 8 policy tool types with the following abbreviations:

EO = Education & Outreach

LUP = Land Use Planning

M = Monitoring

PI = Prescribed Instrument

RMP = Section 58 Risk Management Plan<sup>4</sup>

SA = **Specify Action**

s57 = Section 57 Prohibition

TP = Transition Provisions

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<sup>4</sup> All s.57 Prohibition and s.58 Risk Management Plan policies include an accompanying s.59 Restricted Land Uses policy, which identifies the land uses and the areas where s.57 and s.58 apply. The s.59 Notice to Proceed will be applicable law for building permits and required as part of complete applications under the *Planning Act*. The s.59 policy would only apply to areas where Part IV policies apply, so not all building permits or planning applications will need to be reviewed. Further explanation on the s.59 restricted land use tool can be found in sub-section 7.4.3

### 7.3 IF YOU LIVE / OWN PROPERTY IN A SOURCE WATER PROTECTION AREA

This section assists in identifying whether a property is in a vulnerable area, and if so, if there are policies that apply to that area. Please also note that if you live in an area where there are or could be significant threats occurring and there are policies that apply to your area, you would have received a letter in the mail in spring 2012 indicating this. A small number of additional letters were sent in late 2013 as part of the proposed source protection plan update.

Appendix H contains the maps for all of the vulnerable areas where there are or could be significant threats, and therefore where there are policies that apply.

This Source Protection Plan also addresses some moderate fuel handling and storage threats where the tanks are located close to wellheads and surface water intake pipes, and the moderate and low transportation of hazardous substances threats. The areas where these policies apply are also shown in Appendix H.

The majority of water quality threat policies in this plan apply to:

- **Intake Protection Zone (IPZ) 1** (vulnerability score of 10) and IPZ 2 with a score of 9;
- **Wellhead Protection Areas (WHPA) A and B** (vulnerability score of 10); and/or
- The Ramsey Lake **Issue Contributing Area (ICA)**.<sup>5</sup>

A handful of threats also apply to other areas (IPZ 2, IPZ 3 areas with a vulnerability score of 8, and WHPA C).

Water quantity threat policies apply to areas known as Wellhead Protection Areas – Quantity, which are also referred to as “**local areas**”; water quantity policies may affect properties serviced by the water distribution system for the local water supply area.

Using the maps in Appendix H you can identify whether you live in a vulnerable area to which policies apply. The maps are:

Map 1.1 - Ramsey Lake Intake Protection Zones 1 and 2

Map 1.2 - Ramsey Lake Intake Protection Zones 1, 2 and 3

Map 1.3 - Ramsey Lake Issue Contributing Area

Map 2.1 - Wanapitei River Intake Protection Zones 1 and 2

Map 2.2 - Wanapitei River Intake Protection Zones 1, 2 and 3 with a vulnerability score of 6 or higher

Map 3.1 - Vermilion River Intake Protection Zones 1 and 2

Map 3.2 - Vermilion River Intake Protection Zones 1, 2 and 3 with a vulnerability score of 6 or higher

Map 4.1 - Valley and Capreol Wellhead Protection Areas

Map 5.1 - Garson and Falconbridge Wellhead Protection Areas

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<sup>5</sup> Explanation of the Issue Contributing Area can be found in Section 6.2.2 and it is also defined in the glossary.

Map 6.1 - Dowling and Onaping Wellhead Protection Areas

Map 7.1 – Valley Wellhead Protection Areas - Quantity

Map 7.2 – Valley Distribution System

Once you have identified where you live or own property using the maps, you can refer to the table below in order to identify the applicable policies.

**Table 1. Applicable Policies by Vulnerable Area<sup>6</sup>**

| VULNERABLE AREA <sup>7</sup>                                     | APPLICABLE POLICIES   |
|--|---|
| IPZ 1  | <p><b>Agriculture:</b> Ag1EF-EO, Ag2F-s57, Ag3EF-RMP, Ag4EF-RMP<br/> <b>Fuel:</b> F1E-RMP, F2EF-PI, F3F-s57, F4EF-PI<br/> <b>Pesticide:</b> P1EF-EO, P2EF-PI, P3EF-SA, P4EF-RMP, P5E-RMP, P6F-s57<br/> <b>DNAPLs &amp; Solvents:</b> DOS1E-RMP, DOS2F-s57, DOS3EF-EO, DOS4EF-SA<br/> <b>Aircraft De-icing Fluid:</b> AirD1EF-EO<br/> <b>Pipeline:</b> PL1EF-SA, PL2F-SA<br/> <b>Salt &amp; Snow:</b> Sa1EF-EO<sup>8</sup>, Sa2EF-SA<sup>8</sup>, Sa3EF-RMP<sup>8</sup>, Sa4E-RMP, Sa5F-s57, Sa6F-SA<br/> <b>Sewage:</b> S1EF-SA, S2EF-EO, S3F-PI, S4EF-PI, S5F-LUP, S6EF-SA, S7F-LUP, S8EF-EO<br/> <b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br/> <b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI</p> <p>For Ramsey Lake IPZ-1, the policies listed for Ramsey Lake Issues Contributing Area also apply.</p> |
| Ramsey Lake IPZ 2  | <p><b>Fuel:</b> F4EF-PI<br/> <b>Pesticide:</b> P2EF-PI, P3EF-SA, P4EF-RMP, P5E-RMP, P6F-s57<br/> <b>Aircraft De-icing Fluid:</b> AirD1EF-EO<br/> <b>Pipeline:</b> PL1EF-SA, PL2F-SA<br/> <b>Sewage:</b> S3F-PI<br/> <b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI</p> <p>The policies listed for Ramsey Lake Issues Contributing Area also apply.</p>   |
| Ramsey Lake IPZ 3 score 9+                                       | <p><b>Fuel:</b> F4EF-PI<br/> <b>Pesticide:</b> P2EF-PI, P3EF-SA, P4EF-RMP, P5E-RMP, P6F-s57<br/> <b>Aircraft De-icing Fluid:</b> AirD1EF-EO<br/> <b>Pipeline:</b> PL1EF-SA, PL2F-SA<br/> <b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI</p> <p>The policies listed for Ramsey Lake Issues Contributing Area also apply.</p>  |
| Ramsey Lake Issue Contributing Area (Ramsey Lake IPZ-1, 2 and 3) | <p><b>Agriculture:</b> Ag1EF-EO, Ag2F-s57, Ag3EF-RMP, Ag4EF-RMP<br/> <b>Salt &amp; Snow:</b> Sa1EF-EO, Sa2EF-SA, Sa3EF-RMP, Sa4E-RMP, Sa5F-s57, Sa6F-SA<br/> <b>Sewage:</b> S1EF-SA, S2EF-EO, S4EF-PI, S6EF-SA, S7F-LUP, S8EF-EO, S9EF-SA<br/> <b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br/> <b>Issues Monitoring:</b> MI1EF-M</p>  |

<sup>6</sup> Please note that this table is provided for general information purposes only.

<sup>7</sup> Maps of vulnerable areas are shown in Appendix G.

<sup>8</sup> These policies do not apply to the application of road salt for IPZ-1 for the Vermilion River intake because this vulnerable area does not have the required impervious surface area to make the threat significant.

|  |  |
|--|--|
| <b>Wanapitei River IPZ 2</b>                     | <b>Agriculture:</b> Ag1EF-EO<br><b>Fuel:</b> F4EF-PI<br><b>Sewage:</b> S4EF-PI, S6EF-SA, S7F-LUP, S8EF-EO<br><b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br><b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI   |
| <b>Wanapitei River IPZ 3 score 8+</b>            | <b>Agriculture:</b> Ag1EF-EO<br><b>Fuel:</b> F4EF-PI<br><b>Sewage:</b> S4EF-PI, S6EF-SA, S7F-LUP, S8EF-EO<br><b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br><b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI   |
| <b>Vermilion IPZ 2 and 3 score 6+</b>            | <b>Transportation:</b> T1EF-SA, T3EF-SA, T4EF-PI   |
| <b>Wellhead Protection Area (WHPA) A &amp; B</b> | <b>Agriculture:</b> Ag1EF-EO, Ag2F-s57, Ag3EF-RMP, Ag4EF-RMP<br><b>Fuel:</b> F1E-RMP, F2EF-PI, F3F-s57, F4EF-PI<br><b>Pesticide:</b> P2EF-PI, P3EF-SA, P4EF-RMP, P5E-RMP, P6F-s57<br><b>DNAPLs &amp; Solvents:</b> DOS1E-RMP, DOS2F-s57, DOS3EF-EO, DOS4EF-SA<br><b>Aircraft De-icing Fluid:</b> AirD1EF-EO<br><b>Pipeline:</b> PL1EF-SA, PL2F-SA<br><b>Salt &amp; Snow:</b> Sa1EF-EO <sup>9</sup> , Sa2EF-SA <sup>9</sup> , Sa3EF-RMP <sup>9</sup> , Sa4E-RMP, Sa5F-s57, Sa6F-SA<br><b>Sewage:</b> S1EF-SA, S2EF-EO, S3F-PI, S4EF-PI, S5F-LUP, S6EF-SA, S7F-LUP, S8EF-EO<br><b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br><b>Transportation:</b> T1EF-SA, T2EF-SA, T3EF-SA, T4EF-PI |
| <b>WHPA C</b>                                    | <b>DNAPLs &amp; Solvents:</b> DOS1E-RMP, DOS2F-s57, DOS3EF-EO, DOS4EF-SA<br><b>Fuel:</b> F4EF-PI<br><b>Sewage:</b> S4EF-PI<br><b>Waste:</b> W1EF-RMP, W2E-PI, W3F-PI<br><b>Transportation:</b> T1EF-SA, T3EF-SA, T4EF-PI   |
| <b>WHPA D &amp; E</b>                            | <b>Transportation:</b> T1EF-SA, T3EF-SA, T4EF-PI   |
| <b>WHPA Q1 and Q2 (Local Area A)</b>             | <b>Water Quantity:</b> WQ1EF-SA, WQ2EF-LUP, WQ3EF-PI   |

<sup>9</sup> These policies do not apply to the application of road salt because these vulnerable areas do not have the required impervious surfaces to make the threat significant.

## 7.4 SOURCE WATER PROTECTION POLICY TOOLS

The *Clean Water Act* and Ontario Regulation 287/07 identify policy tools available to Source Protection Committees to address drinking water threats. There are several types of regulatory and non-regulatory policy approaches permitted. In short they are:

- Land Use Planning
- **Prescribed Instruments**
- *Clean Water Act* Part IV Tools:
  - Section 57 Prohibition
  - Section 58 Risk Management Plans
  - Section 59 Restricted Land Uses
- Education and Outreach
- Stewardship and incentive programs
- Best management practices, pilot programs and research
- Other actions

### 7.4.1 LAND USE PLANNING

The *Planning Act* and *Condominium Act* in Ontario provide tools with which municipalities can regulate development as they plan their communities. The *Clean Water Act* provides for the implementation of Source Protection Plan (SPP) policies through this existing land use planning framework. Municipalities' zoning bylaws and official plans could be changed to prohibit or restrict new development in vulnerable areas that would create new significant threats. For example, a municipality might prohibit new waste disposal sites near municipal wells, or chemical storage facilities just upstream from a river intake. Land use planning affects broad categories of land uses, rather than specific activities. As explained in Section 7.5, all planning approval authorities decisions must **conform with** significant threat policies and have regard to moderate and low threat policies in the Source Protection Plan. Official Plans and zoning by-laws must be amended to align with the source protection plan.

### 7.4.2 PRESCRIBED INSTRUMENTS

A “prescribed instrument” is a permit or other legal document issued by the provincial government allowing an activity to take place. These instruments usually contain provisions to protect human health and the environment. All decisions by the approving Director must conform with significant threat policies and have regard to moderate and low threat policies in the SPP. This includes decisions made by the Ministry responsible and the Environmental Review Tribunal. The following is a list of prescribed instruments that could be used for the purposes of source protection planning:

- Environmental Compliance Approvals (sewage and waste) (formerly “Certificates of Approval”);
- Renewable Energy Approvals;
- Pesticide Permits;
- Municipal Drinking Water Licenses and Drinking Water Works Permits;
- Aggregate Resources Act Instruments;
- Nutrient Management Act Instruments; and
- Permits to Take Water.

SPP policies using these prescribed instruments can be general or prescriptive (including detailed requirements). A general policy would require the prescribed instrument to be examined and amended to ensure an activity ceases to be a significant threat. A prescriptive policy could require specific content to be included in an Environmental Compliance Approval.

### **7.4.3 PART IV TOOLS UNDER THE *CLEAN WATER ACT***

The *Clean Water Act* provides new tools to prohibit or manage the threats to drinking water in specific vulnerable areas, where the threats could be significant if established or if allowed to continue. These tools are:

- Section 57: Prohibition
- Section 58: Risk Management Plans
- Section 59: Restricted Land Use

These Part IV tools will be administered by the Risk Management Official and/or Inspector, a new position created when Part IV authorities are used under the *Clean Water Act*. The Risk Management Official, as mandated in the *Clean Water Act*, is a new responsibility given to the municipality responsible for the municipal residential drinking water supply (the City of Greater Sudbury). The municipality may negotiate and enter into an agreement to assign or share this responsibility with the Source Protection Authority, other municipalities, planning boards, or health unit.

#### **Section 57 Prohibition**

Under the *Clean Water Act*, Section 57 Prohibition means that an activity is not allowed to occur in an area where it is or would be a significant threat. In most cases the prohibition of existing activities is considered to be a very severe approach. For existing significant threats, this tool would only be used as a last resort. Whenever possible, it is preferable to use other available tools to adequately reduce the risk created by an existing threat. Choosing to manage rather than prohibit an existing threat can help ensure that existing activities and businesses are not penalized unfairly due to their historic existence.

Choosing prohibition as a policy approach for future threats may provide advantages. If activities that would be significant drinking water threats are not already established, prohibition can be a very effective and efficient tool to prevent them from establishing and becoming significant risks to local drinking water sources.

#### **Section 58 Risk Management Plans**

The *Clean Water Act* permits Source Protection Committees to use Section 58 Risk Management Plans as a means to address significant drinking water threats. A risk management plan is site specific and locally negotiated between the risk management official and the person engaged in the threat activity.

Protective or safety measures can reduce the risk posed by a significant threat. For example, a business or farm that stores chemicals or fuel could develop a spill response program or install alternate storage containers. The Act states that the risk management official shall include all measures necessary to ensure that the threats cease to be significant (e.g. are adequately managed).

The plan would impact the current landowner, although the impact could be minimal if the landowner is operating within certain safety mechanisms and standards (because the plan may simply reflect these existing practices and not require a great deal more). A new plan would be negotiated with a future owner as long as the activity continues.

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### **Section 59 Restricted Land Uses<sup>10</sup>**

Section 59 Restricted Land Uses is a screening tool that flags the area and land uses where Section 57 Prohibition and Section 58 Risk Management Plans are in effect so that the municipal development and building permit application may be reviewed early in the planning process. This tool is also intended to assist landowners/proponents to understand the restrictions to development/the establishment of specific activities on certain parcels of land. These areas where Section 57 Prohibition and Section 58 Risk Management Plans apply would be shown on a municipal land use map/schedule.

Section 59 Restricted Land Uses requires applicants to seek a “Section 59 Notice” from the Risk Management Official in order to continue with their proposed new development or building permit application. This process ensures applicants are aware as soon as possible if the land use or activity they are intending to pursue is either prohibited or requires management via a Risk Management Plan. It can be seen as an early warning system to municipal staff to inadvertently avoid approving applications or permits for activities that would conflict with source protection plan policies. In this plan, all Section 57 Prohibition and Section 58 Risk Management Plan policies are accompanied by Section 59 Restricted Land Uses.

#### **7.4.4 OTHER TOOLS**

In addition to the tools listed above, which result in legal restrictions being placed on activities and land uses, a SPP can utilize a number of additional tools to manage existing and future drinking water threats. The following are the tools provided by the *Clean Water Act*.

##### **Education and Outreach and Incentive Programs**

Education and Outreach and Incentive Programs can be used to inform residents and property owners of the significant threats associated with their property and provide them with means, such as financial assistance or information, to mitigate or manage these threats. Incentive programs are for the encouragement of an action by means of support, usually financial.

##### **Stewardship Programs**

Stewardship programs are collaborative partnerships between an organization and individuals, where the organization provides financial, technical assistance, information, or data to help individuals take action on a local scale. With this tool, a policy contained in a Source Protection Plan can direct certain bodies to establish stewardship programs or promote the continuation/expansion of existing ones.

##### **Best Management Practices**

Best Management Practices are methods or techniques found to be the most effective and practical means of achieving an objective while making the optimum use of the resources available. A SPP can support the continuation or implementation of best management practices and encourage their use at other sites where similar threat activities occur.

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<sup>10</sup> This does not have the same meaning as in the *Planning Act*.



### **Research**

Research as a policy tool can be used to gather information for the purpose of initiating, modifying or terminating a particular project. With this tool, the source protection committee may recommend research to develop new methods or new technologies for addressing certain threats or to better understand where targeted action to address threats would have the most benefit. Other partners with experience in the field, such as universities, private companies, or conservation authorities may also be identified to undertake the research.

### **Specify Actions**

Within the SPP source protection committees can include specific actions to be taken to achieve the plan's objectives. Policies using this tool often rely on existing regulatory measures for its authority. For example, municipalities can use their authority under the *Municipal Act*, which gives them authority to enact by-laws about the economic, social, and environmental well-being of the municipality, and about the health, safety, and well-being of people.

## 7.5 RELATIONSHIP TO EXISTING PLANS, LEGISLATION AND POLICIES

This section describes how Source Protection Plans relate to existing provincial and municipal plans and policies.

### 7.5.1 PROVINCIAL PLANS AND POLICIES

In a situation where there is a conflict between a source protection plan and another provincial plan or policy (including the Provincial Policy Statement), the policy/legislation that is the most protective of the quality and quantity of water will prevail. The same is true for municipal instruments.

### 7.5.2 THE *PLANNING ACT* AND *CONDOMINIUM ACT*

All decisions made by municipalities, a local board, the Province, or the Ontario Municipal Board or Environmental Review Tribunal, under the *Planning Act* or the *Condominium Act*, must conform with policies in Source Protection Plans that address significant threats. Where policies address moderate and low threats, decisions must have regard for the Source Protection Plan policies. This rule does not apply however to a policy statement issued under section 3 of the *Planning Act* or a minister's order under section 47 of the *Planning Act*.

### 7.5.3 OFFICIAL PLANS AND ZONING BY-LAWS

Municipal Official Plans and zoning by-laws must be amended or updated no later than the next 5-year review as required under s. 26 of the *Planning Act* to ensure they conform with the policies in the Source Protection Plan that address significant threats. Decisions on land use planning matters, including Official Plan amendments and zoning by-laws must have regard to low and moderate threat policies.

### 7.5.4 PRESCRIBED INSTRUMENTS

Persons or bodies making decisions on the prescribed instruments listed below must ensure their decisions conform with policies that address significant threats. If a prescribed instrument has already been issued at the time the Source Protection Plan takes effect, it may also be required to be reviewed to ensure it conforms with significant threat policies in the Plan. This means that the existing instruments may need to be amended. The following permits and approvals are prescribed under Ontario Regulation 287/07 s. 1.0.1 for source protection planning purposes:

- Certificates of Approval / Environmental Compliance Approval (sewage and waste);
- Renewable Energy Approvals;
- Pesticide Permits;
- Municipal Drinking Water Licenses and Drinking Water Works Permits;
- *Aggregate Resources Act* instruments (some permits);
- *Nutrient Management Act* instruments (some permits); and
- Permits to Take Water.

# PART TWO

## PLAN POLICIES



This section contains the source protection plan policies, organized by category of threat. The policies address the existing and future threats to sources of drinking water as prescribed in the *Clean Water Act*.

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## PART II – PLAN POLICIES

Part II contains the Source Protection Plan (SPP) policies. The policies are organized by threat category as follows:

- Section 8: Agriculture
- Section 9: Chemicals
- Section 10: Salt and Snow
- Section 11: Sewage
- Section 12: Waste
- Section 13: Water Quantity
- Section 14: Transportation of Hazardous Substances
- Section 15: Water Quality Monitoring for Issues (Data Collection)
- Section 16: Monitoring Policies (Policy Implementation)
- Section 17: Transition Provisions Policy

As stated in Section 7.1, the policies are area based, meaning that they are specific to a particular area around a wellhead and/or surface water intake. The areas where water quality policies apply around wellheads are called “Wellhead Protection Areas” (WHPA) and the areas around surface water intakes are “Intake Protection Zones” (IPZ). The areas where water quantity policies apply are called “Wellhead Protection Areas - Quantity” (WHPA-Q).

The majority of water quality threat policies in this SPP apply to IPZ 1 (vulnerability score of 10), WHPA A and B (vulnerability score of 10), and/or the Ramsey Lake Issue Contributing Area (ICA). A handful of policies address threats in other areas (e.g. IPZ 2, IPZ 3 areas with a vulnerability score of 8, and WHPA C with vulnerability score of 8). Water quantity policies apply to Local A (WHPA-Q1A and WHPA-Q2A). Maps illustrating these vulnerable areas are in Appendix H.

Almost all of the policies in this SPP address areas where threats could be significant – the only exceptions are the transportation of hazardous substances (local threat) policies that also address moderate and low threats, and fuel policy F4EF-PI that addresses moderate and low threats of fuel stored near ground water source wellheads or water treatment plant surface water intakes.

There are certain circumstances associated with each water quality threat – these are listed in the MECP *Table of Drinking Water Threats*, described in Section 6.2.1. The *Table* include the criteria that determine when a threat is significant or not. For example, some threats require a minimum quantity of a substance stored at a location in order to be a significant threat.

## 8.0 AGRICULTURE POLICIES

- Ag1EF-EO The City of Greater Sudbury and the Municipality of Markstay-Warren shall create and deliver an education and outreach program to all of the vulnerable areas where the following threats could be significant:
- Application to land and storage of agricultural source material;
  - Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard;
  - Application to land and handling and storage of non-agricultural source material; and
  - Application to land and handling and storage of commercial fertilizer.

The education and outreach program may include, but is not limited to, the following:

- Descriptions of the threat activities and why they pose a risk to drinking water;
- Source Protection Plan content related to the above threats to inform residents of the new restrictions in effect and the location of the vulnerable areas; and
- The proper application of commercial fertilizers and best management practices.

Monitoring policy M4 applies<sup>11</sup>.

- Ag2F-s57 The following threats are prohibited and therefore designated for the purpose of Section 57 of the *Clean Water Act* in the vulnerable areas where they could be significant within the City of Greater Sudbury:
- Application to land and storage of agricultural source material (future);
  - Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard (future); and
  - Application to land and handling and storage of non-agricultural source material (future).

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the above listed threats would be significant.

Monitoring policy M2 applies.

- Ag3EF-RMP The following threats are designated for the purpose of Section 58 of the *Clean Water Act* requiring Risk Management Plans where they could be significant within the City of Greater Sudbury:
- Application to land and storage of agricultural source material (existing);
  - Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard (existing);

<sup>11</sup> Monitoring policies are listed in section 15.0

- Application to land and handling and storage of non-agricultural source material (existing); and
- Handling and storage of commercial fertilizer (existing and future).

In the Ramsey Lake Issue Contributing Area, section 58 risk management plans are required where 2,500 kg and greater of commercial fertilizer is stored. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the above listed threats could be significant.

Monitoring policy M2 applies.

Ag4EF-  
RMP

Where it could be a significant threat within the City of Greater Sudbury, the application to land of commercial fertilizer (existing and future) is designated for the purpose of Section 58 of the *Clean Water Act*, requiring risk management plans. In the Ramsey Lake Issue Contributing Area, this policy applies only to those properties that have a minimum of 1 hectare of land to which commercial fertilizer could be applied. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 restricted land uses under the *Clean Water Act* in the vulnerable areas where the application of commercial fertilizer (existing and future) could be a significant threat.

Monitoring policy M2 applies.

## 9.0 CHEMICAL POLICIES

P = Pesticides

F = Fuel

AirD = Aircraft deicing fluid

PL= Pipeline

DOS = DNAPLs (Dense Non-Aqueous Phase Liquids) and organic solvents

**P1EF-EO** The City of Greater Sudbury shall inform applicable property owners that the application of glyphosate to land could be a significant threat in an IPZ-1 with a vulnerability score of 10. The education and outreach program will encourage property owners to avoid applying glyphosate and provide them with a list of safer alternatives. This education and outreach policy requires a one-time communication – it is not an ongoing, annual requirement.

Monitoring policy M16 applies.

**P2EF-PI** Where the application of pesticide to land could be a significant threat, the Ministry of the Environment, Conservation and Parks shall ensure that permits issued under the *Pesticide Act* contain conditions that ensure that pesticide application ceases to be a significant drinking water threat. The MECP should consider including conditions regarding emergency response measures and spill contingency planning.

Monitoring policy M1 applies.

**P3EF-SA** To ensure that the existing and future application of pesticide ceases to be or does not become a significant drinking water threat, the City of Greater Sudbury shall undertake a pesticide management plan for municipal properties. This plan will evaluate the use (volume and application) of pesticides, reductions, and alternatives to their use where possible in the vulnerable areas where the activity could be a significant threat. This policy will come into effect within one year of the source protection plan taking effect.

Monitoring policy M9 applies.

**P4EF-RMP** The existing and future application of pesticide to land is designated for the purpose of section 58 of the *Clean Water Act* requiring Risk Management Plans in the vulnerable areas where the activity is or would be a significant threat. This policy applies only to application of the following pesticides:

- MCPA (2-methyl-4-chlorophenoxyacetic acid)
- MCPB (4-(4-chloro-2-methylphenoxy)butanoic acid) Mecoprop
- Metalaxyl
- Metolachlor or s-Metolachlor
- Atrazine
- Dicamba
- Dichlorophenoxy Acetic Acid (D-2,4)
- Dichloropropene-1, 3, to land

- Pendimethalin, to land.

All land uses in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 restricted land uses under the *Clean Water Act* in the vulnerable areas where the application of pesticide to land (existing and future) could be a significant threat.

Monitoring policy M2 applies

**P5E-RMP** The existing handling and storage of pesticide is designated for the purpose of section 58 of the *Clean Water Act* requiring Risk Management Plans in the vulnerable areas where the activity is a significant threat.

Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the handling and storage of pesticide could be a significant threat.

Monitoring policy M2 applies.

**P6F-s57** The future handling and storage of pesticide is prohibited and therefore designated for the purpose of Section 57 of the *Clean Water Act* where the activity would be a significant threat.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the future handling and storage of pesticide would be a significant threat.

Monitoring policy M2 applies.

**F1E-RMP** The existing handling and storage of fuel is designated for the purpose of Section 58 of the *Clean Water Act* requiring Risk Management Plans in the vulnerable areas where the activity is a significant threat.

The risk management plan must at a minimum meet the standards set forth in the *Technical Standards and Safety Act, 2000* and related regulations (O. Reg. 213/01 [Fuel Oil] and O. Reg. 217/01 [Liquid Fuels]) as amended from time to time, including the Code of Adoption document and associated Director's Orders. It must also require reporting any spills of fuel that enter or are likely to enter waters to the MECP Spills Action Centre. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the handling and storage of fuel is a significant threat.

Monitoring policy M2 applies.



F2EF-PI Where the handling and storage of fuel (existing and future) could be a significant threat the approving director under Part V of the *Safe Drinking Water Act* shall require the drinking water system owner to manage the fuel threat so that it ceases to be or does not become a significant threat. This may include, but is not limited to, the following alterations of the works and operating procedures:

- a. Secondary containment;
- b. Spill/leak detection and spill response procedures as per Condition 16 of the license;
- c. Collision protection; and
- d. Protection of oil lines from physical damage.

The director shall require the owner to amend their Drinking Water Works Permit / Municipal Drinking Water License to include the required alterations/operations procedures and apply to the Ministry within 90 ninety days of receiving the Director's notification. The MECP review of the license shall ensure that the spills response procedures prepared by the owner as per item b above include the required reporting to the MECP Spills Action Centre.

Monitoring policy M1 applies.

F3F-s57 The future handling and storage of fuel is prohibited and therefore designated for the purpose of Section 57 of the *Clean Water Act* where the activity would be a significant threat.

This policy does not apply to those future facilities that would be regulated under a Municipal Drinking Water License (e.g. fuel storage for back-up power generators at municipal drinking water intake pump houses).

All land uses in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the future handling and storage of fuel would be a significant threat.

Monitoring policy M2 applies.

F4EF-PI Where the handling and storage of fuel (existing and future) could be a moderate or low threat, the approving director under Part V of the *Safe Drinking Water Act* should require the drinking water system owner to manage the fuel threat so that it does not become a significant threat. This may include, but is not limited to, the following alterations of the works and operating procedures:

- a. Secondary containment;
- b. Spill/leak detection and spill response procedures as per Condition 16 of the license;
- c. Collision protection; and
- d. Protection of oil lines from physical damage.

The director should require the owner to amend their Drinking Water Works Permit / Municipal Drinking Water License to include the required alterations/operations procedures

and apply to the Ministry within 90 ninety days of receiving the Director’s notification. The MECP review of the license should ensure that the spills response procedures prepared by the owner as per item b above include the required reporting to the MECP Spills Action Centre.

Monitoring policy M17 applies.

AirD1EF-EO The City of Greater Sudbury shall inform regulating authorities, including the airport authority or operator, of the vulnerable areas where runoff containing de-icing materials from a regional or national airport would be a significant threat. This education and outreach policy requires a one-time communication – it is not an ongoing, annual requirement.

Monitoring policy M16 applies.

PL1EF-SA Where the conveyance of a liquid hydrocarbon by way of a pipeline within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or that is subject to the National Energy Board Act is or could be a significant threat.

Spill Prevention/Emergency Response Plan

Pipeline owners/operators are encouraged to include the following drinking water source protection information in their spills response plan:

- Mapping of vulnerable areas
- Locations of municipal intakes
- Actions to protect drinking water sources should an incident occur
- Procedures for responding to a rupture
- Notifying local water treatment plant operators in the event of a rupture
- Include design, monitoring and maintenance practices that would prevent the pipeline from becoming a significant threat

Monitoring policy M21 applies.

PL2F-SA Where the conveyance of a liquid hydrocarbon by way of a pipeline within the meaning of the Ontario Regulation 210/01 under the Technical Standards and Safety Act, or that is subject to the National Energy Board Act is or could be a significant threat.

When the Canada Energy Regulator (CER) or Ontario Energy Board (OEB) receives an application for a pipeline through a vulnerable area where it could pose a significant threat the CER or OEB is encouraged to undertake the following actions:

- Notify the Source Protection Authority and City of Greater Sudbury of pipeline location
- Require consideration of vulnerable areas for the protection of drinking water sources in site selection encourage pipeline owners/operators to include design, monitoring and maintenance practices that would prevent the pipeline from becoming a significant threat

Monitoring policy M22 applies.

DOS1E-RMP The existing handling and storage of dense non-aqueous phase liquids (DNAPLs) and organic solvents is designated for the purpose of section 58 of the *Clean Water Act* requiring Risk Management Plans in the vulnerable areas where the activity is a significant threat.

This policy applies only when 25L or more of DNAPLs and organic solvents are stored on site. Expansions to existing activities are permitted provided that the activity can be adequately managed.

The risk management plan may include, but is not limited to, the following:

- That DNAPLs and organic solvents be properly managed, stored, and disposed of. Relevant legislation to be followed includes: Fire Code, Building Code, City of Greater Sudbury Sewer Use By-Law, Occupational Health and Safety Act as amended from time to time;
- That employees receive training on Best Management Practices for DNAPLs and organic solvents handling, storage and disposal;
- Best Management Practices as found in the City of Toronto's *Environmental Regulations & Best Management Practices For Automotive Repair Operations in the City of Toronto*;
- Appropriate containment and barriers;
- The inclusion of a spill contingency plan; and
- Annual inspection of the property to ensure that the Risk Management Plan is being followed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the existing handling and storage of DNAPLs and organic solvents is a significant threat.

Monitoring policy M2 applies.

DOS2F-s57 The future handling and storage of dense non-aqueous phase liquids (DNAPLs) and organic solvents in amounts greater than 25L is prohibited and therefore designated for the purpose of Section 57 of the *Clean Water Act* in the vulnerable areas where the activity would be a significant threat.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the future handling and storage of DNAPLs and organic solvents would be a significant threat.

Monitoring policy M2 applies.

DOS3EF-EO The City of Greater Sudbury shall create and deliver an education and outreach program regarding the handling and storage of dense non-aqueous phase liquids (DNAPLs) and organic solvents in the vulnerable areas where the activities could be a significant threat.

The program will educate residents and businesses about:

- Best management practices for the handling and storage of DNAPLs and organic solvents;
- Proper disposal of hazardous waste in the City of Greater Sudbury;
- Non-toxic (“green”) products that can replace DNAPLs and organic solvents; and
- The new Part IV program for DNAPLs and organic solvents (s.58 Risk Management Plans for existing threats, and s.57 Prohibition for potential future threats).

The City of Greater Sudbury will consider the use of door-to-door visits to deliver the program.

Monitoring policy M4 applies.

DOS4EF-SA The City of Greater Sudbury shall evaluate its household hazardous waste disposal program and improve it as necessary to ensure that threats to municipal drinking water cease to be or do not become significant. This policy applies to the vulnerable areas where the handling and storage of DNAPLs and organic solvents could be a significant threat.

The evaluation of the program and any resulting necessary improvements shall be completed within three years of the date the Source Protection Plan takes effect.

Monitoring policy M10 applies.

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## 10.0 SALT AND SNOW POLICIES

**Sa1EF-EO** The City of Greater Sudbury shall create and deliver an education and outreach program to those residents, businesses, institutions and contractors who could be applying, handling and storing road salt and/or storing snow in the vulnerable areas where the activities could be a significant threat.

The program will educate residents, businesses, institutions and contractors about:

- The impact of salt on drinking water and the environment;
- Standards for the application of road salt and salt alternatives; and
- Best management practices and recommendations to reduce the amount of salt used and to reduce the deleterious effects of snow storage runoff.

The program could also include:

- Educating suppliers;
- Educating school-aged children; and
- A “yellow fish” type program to mark storm sewer drains to remind people that water from storm sewers drains to bodies of water.

Monitoring policy M4 applies.

**Sa2EF-SA** To manage the existing and future application and the handling and storage of road salt, the City of Greater Sudbury shall identify in its Salt Management Plan the vulnerable areas where the activities could be a significant threat.

The City of Greater Sudbury shall optimize its use and management of salt and implement practices to minimize the loss of salt to the environment and the impact of salt on drinking water sources. Primary, arterial and collector roads in the vulnerable areas shall be prioritized for snow removal and street sweeping and cleaning during or soon after the spring snow melt.

The City of Greater Sudbury shall also include information about drinking water source protection (including the contents of the Source Protection Plan as it relates to the application and the handling and storage of road salt) in its annual training for employees who are responsible for the application and storage of road salt. The required updates to the Salt Management Plan and to city operations shall be completed within one year of the date the Source Protection Plan takes effect.

Monitoring policy M11 applies.

Sa3EF-RMP Where it could be a significant threat and where Policy Sa6F-SA does not apply, the application of road salt (existing and future) and storage of snow (existing) is designated for the purpose of Section 58 of the *Clean Water Act*, requiring risk management plans for those properties with exterior parking lots equal to or greater than one (1) hectare in area. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the application of road salt and the storage of snow could be a significant threat.

Monitoring policy M2 applies.

Sa4E-RMP The existing handling and storage of road salt is designated for the purpose of s. 58 requiring Risk Management Plans in the vulnerable areas where the activity is a significant threat. In the Ramsey Lake Issue Contributing Area, this policy applies to 0.5 tonnes of road salt and greater.

The risk management plan shall require at a minimum that a permanent structure be constructed to house the salt and/or sand/salt mixture. The structure will be constructed on an impermeable pad and drainage will either be treated (e.g. collected and transferred to an appropriate treatment facility) or directed to flow away from sources of municipal drinking water. If excess outdoor storage space is required, the sand/salt will be stored on an impermeable pad, covered by a tarp, and drainage will either be treated or redirected to flow away from sources of municipal drinking water. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the handling and storage of road salt could be a significant threat.

Monitoring policy M2 applies.

Sa5F-s57 The future handling and storage of road salt is prohibited and therefore designated for the purpose of Section 57 of the *Clean Water Act* in the vulnerable areas where the activity would be a significant threat. In the Ramsey Lake Issue Contributing Area, this policy applies to 0.5 tonnes of road salt and greater.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the future handling and storage of road salt would be a significant threat.

Monitoring policy M2 applies.

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Sa6F-SA The City of Greater Sudbury shall prohibit the future establishment of a municipal or commercial snow melt facility (snow dump) in the vulnerable areas where they would be a significant threat. The prohibition shall use a regulatory tool deemed appropriate and enforceable by the municipality.

This policy applies to large snow melt facilities / snow dumps where snow is transported from a variety of sites (roadside and parking lot clearing) and the accumulation of contaminants is greater.

Monitoring policy M12 applies.

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## 11.0 SEWAGE POLICIES

**S1EF-SA** The Principal Authority as defined in Section 1(1) of the *Building Code Act, 1992* (the Public Health Sudbury and Districts as of the writing of this Plan) shall continue to implement and administer the mandatory on-site sewage system maintenance inspection program that is required under the *Ontario Building Code* in the vulnerable areas where onsite sewage systems could be a significant threat.

The Principal Authority shall prioritize inspections based on proximity to the drinking water source, the age of the onsite sewage system if known, and/or whether there is a previous history of failing onsite sewage systems in the area in question.

Monitoring policy M6 applies.

**S2EF-EO** The City of Greater Sudbury shall create and deliver an education and outreach program to residents in the vulnerable areas where on-site onsite sewage systems could be significant threats. The program may include, but is not limited to, information regarding:

- The importance of properly maintaining their onsite sewage system;
- The potential impact of onsite sewage systems on drinking water and the natural environment; and
- How to reduce use of phosphorus and sodium-containing products.

The education and outreach program may include information about available incentive programs to help upgrade failing onsite sewage systems. The program may also include other components such as information about the maintenance and inspection program managed by the Public Health Sudbury and Districts. The City of Greater Sudbury shall also consider delivering the program in conjunction with the inspection program managed by the Public Health Sudbury and Districts.

Monitoring policy M4 applies.

**S3F-PI** For activities requiring approval under the *Environmental Protection Act* or the *Ontario Water Resources Act* no sewage works (future) shall be established where the establishment, operation and maintenance of sewage works is a significant drinking water threat, where sewage works include:

- combined sewers;
- wastewater treatment facilities that may discharge sewage to surface water by way of a designed bypass;
- wastewater treatment facilities that discharge directly to land or surface water through a means other than a designed bypass (including lagoons); and
- future industrial sewage systems.



This policy applies to all IPZ 1 and IPZ 2 areas with a vulnerability score of 9 or above for all four sewage threats. This policy also applies to WHPA A and B with a vulnerability score of 10 for the establishment of future wastewater treatment facilities that discharge directly to land or surface water through a means other than a designed bypass (including lagoons).

Monitoring policy M1 applies.

- S4EF-PI Where S3F-PI does not apply and where a sewage system (existing and/or future) is in an area where this activity could be a significant drinking water threat, the Ministry of the Environment, Conservation and Parks shall ensure that the Environmental Compliance Approval that governs the sewage system includes appropriate terms and conditions to ensure that:
- a. The sewage system (existing) ceases to be a significant drinking water threat; or
  - b. The sewage system (future) never becomes a significant drinking water threat.

This policy applies to all sewage threats, including stormwater infrastructure.

Monitoring policy M1 applies.

- S5F-LUP The City of Greater Sudbury shall prohibit the severance of lots that would require the construction of new onsite sewage systems within the WHPA A and B and the IPZ 1 areas with vulnerability scores of 10.

Despite this prohibition, existing registered lots may be developed with an onsite individual onsite sewage system and the expansion, maintenance or replacement of existing on-site individual onsite sewage systems is allowed.

Monitoring policy M3 applies.

- S6EF-SA The City of Greater Sudbury shall implement and enforce a sewer use by-law as amended from time to time in the area where the discharge from sanitary sewers and related pipes and stormwater management facilities could be a significant threat. The City of Greater Sudbury shall also prioritize inspections in such a way as to protect sources of municipal drinking water.

Monitoring policy M13 applies.

S7F-LUP The City of Greater Sudbury shall incorporate into its official plan policies related to reducing stormwater runoff volume and pollutant loadings from developments in the vulnerable areas where stormwater management facilities could be a significant threat.

These policies shall:

- a. Encourage implementation of a hierarchy of source, lot-level, conveyance and end-of-pipe controls;
- b. Encourage the implementation of innovative stormwater management measures;
- c. Consider flexibility in development standards to incorporate alternative community design and stormwater techniques, such as those related to site plan design, lot grading, ditches and curbing, drive way surfaces, and the use of open space as temporary detention ponds; and
- d. Support implementation of source control programs, which are targeted to existing areas that lack adequate stormwater controls.

Monitoring policy M3 applies.

S8EF-EO The City of Greater Sudbury shall create and deliver an education and outreach program regarding the importance of reducing detrimental stormwater runoff from private properties. The program will provide relevant information to homeowners, businesses, and other property owners in the vulnerable areas where stormwater could be a significant threat.

The program may include, but is not limited to, the following:

- Information about two approaches to pollution reduction: the proper use/storage of deleterious substances (including provision of information for water-friendly alternatives) and reducing stormwater runoff (e.g. rainwater harvesting, downspout disconnection, other Low Impact Development technologies);
- Information about the development setback from water bodies and the shoreline buffer by-law, as well as information about how to re-naturalize a shoreline;
- Information about the City of Greater Sudbury Lake Water Quality Program, which provides information and support to lakefront homeowners to improve the health of their properties;
- Information about the Sewer Use By-law and complementary information about how to properly dispose of hazardous household products; and
- Information about common individual behaviours that impact stormwater quality and quantity such as littering, the proper disposal of trash, cigarette butts, recyclables, pet-waste etc., applying lawn-chemicals and fertilizers, washing cars and changing motor-oil on driveways and water conservation.
- A “yellow fish” type program to mark storm drains to remind people that water from storm drains up in bodies of water.

During the development of the program the CGS will consider community based social marketing techniques (e.g. as developed by Doug McKenzie-Mohr) and other such approaches that have been successful in changing people’s behaviour.

Monitoring policy M4 applies.

S9EF-SA The City of Greater Sudbury (CGS) will provide a Stormwater Management Strategy to the Source Protection Authority (SPA) for the Ramsey Lake Issue Contributing Area within five years of the Source Protection Plan taking effect. This strategy will outline the CGS's planned stormwater management approach for the area, explaining how the protection of Ramsey Lake as a primary drinking water source was considered.

The strategy will evaluate the range of stormwater management technologies and techniques (e.g. from conventional to 'green infrastructure'). The strategy should consider the appropriateness of technologies and techniques for Greater Sudbury (e.g. taking into account geology, current climate and projections of future climate due to climate change). The strategy will explain how the technologies chosen will best protect drinking water while meeting other stormwater management goals (e.g. flood control).

The CGS will also research and consider policy tools such as by-laws and reduced permitting fees to promote on-site Low Impact Development / Green Infrastructure by private developers and landowners.

Monitoring policy M14 applies.

## 12.0 WASTE POLICIES

**W1EF-RMP** Where the *Environmental Protection Act* does not require an approval, the establishment, operation or maintenance of a waste disposal site (existing and future) is designated for the purpose of Section 58 of the *Clean Water Act* requiring a risk management plan in the vulnerable areas where the activity is or would be a significant threat. Expansions to existing activities are permitted provided that the activity can be adequately managed.

All land uses except residential in the City of Greater Sudbury Zoning By-Law 2010-100Z are designated for the purpose of Section 59 of the *Clean Water Act* in the vulnerable areas where the establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act* could be a significant threat.

Monitoring policy M2 applies.

**W2E-PI** Where an existing waste disposal site is in an area where this activity is a significant drinking water threat, the Ministry of the Environment, Conservation and Parks shall ensure that the Environmental Compliance Approval that governs the waste disposal site includes appropriate terms and conditions to ensure that the waste disposal site (existing) ceases to be a significant drinking water threat. Expansions to existing activities are permitted provided that the activity can be adequately managed.

Monitoring policy M1 applies.

**W3F-PI** For activities requiring approval under the *Environmental Protection Act*:  
No waste disposal sites (future) shall be established where the establishment, operation and maintenance of a waste disposal site would be a significant drinking water threat.

Monitoring policy M1 applies.

## 13.0 WATER QUANTITY POLICIES

WQ1EF-SA The City of Greater Sudbury shall develop and implement an action plan, including actions to be taken and an implementation schedule, to ensure that water takings from the municipal wells and aquifer recharge reduction cease to be significant drinking water threats.

The action plan may include:

- Water conservation and water efficiency measures
- Developing operational optimization scenarios and procedures, such as that shown in the Risk Management Measures Evaluation Report; the scenario in this report shows that the significant risk identified at the Linden well in Local Area A during periods of higher demand and drought conditions can be reduced; the same methodology can be used to help determine how the water supply can be sustained under different stresses and constraints
- Establishing an aquifer level “trigger” to determine when to adjust pumping rates and use alternate operating strategies; this would include completing the instrumentation of all water supply wells and linking them to the operators information system (scada)
- Increasing storage to help maintain the sustainability of the system during periods of peak demand
- Reviewing the City’s annual water main leak detection program to determine if it would be beneficial to consider the water quantity risk in the Valley system as a criterion for selecting areas for leak detection and water main repair
- Reviewing options to maximize water conservation and maintenance of aquifer recharge
- Developing an education and outreach program to inform property owners about actions that can be taken to reduce water consumption and maintain aquifer recharge (e.g downspout disconnection, low flow toilets, xeriscaping). The Municipality could create an incentive program (such as rebates for example) to encourage these best management practices.
- Updating the Tier 3 water budget model to refine the water efficiency and/or conservation action plan as the City evaluates its effectiveness.

This policy will come into effect within three years of the source protection plan taking effect.

Monitoring policy M19 applies.

WQ2EF-  
LUP      The City of Greater Sudbury shall ensure that water takings and recharge reduction cease to be or do not become significant threats by only permitting Official Plan settlement boundary expansions where a detailed hydrogeological assessment of the aquifer, including but not limited to, an update of the current Tier Three Water Budget Model. The assessment must demonstrate that an increased taking or increased settlement areas will not adversely impact the aquifer’s ability to meet municipal and other water supply requirements. Any new information, such as updated population forecasts, results of the groundwater monitoring program or infrastructure upgrades shall be taken into consideration.

Monitoring policy M20 applies.

WQ3EF-  
PI      The Ministry of the Environment, Conservation and Parks shall ensure that groundwater Permit to Take Water Approvals that result in a net loss to the aquifer include appropriate terms and conditions to demonstrate that an increased taking will not adversely impact the aquifer’s ability to meet municipal and other water supply requirements and demonstrate that future water takings do not become significant threats.

This policy exempts temporary permits to take water. This policy does not apply to the renewal of municipal permits to take water.

Monitoring policy M1 applies.

## 14.0 TRANSPORTATION POLICIES

**T1EF-SA** To address the local threat: transportation of hazardous substances (liquid fuels, sulphuric acid and septage), the Ministry of the Environment, Conservation and Parks Spills Action Centre should review and update contact and procedure information based on the Intake Protection Zone and Wellhead Protection Area delineations to help ensure that drinking water sources will be protected in the event of a spill. This updated information will help ensure that the drinking water vulnerable areas are prioritized for clean-up and that water treatment plant operators are contacted as quickly as possible in the case of a spill.

This policy applies to the vulnerable areas for existing and future significant, moderate and low transportation of hazardous substances threats. This action should occur within one year of the source protection plan taking effect.

Monitoring policy M7 applies.

**T2EF-SA** In accordance with Section 22 (7) of the *Clean Water Act*, the Ministry of Transportation, in collaboration with the Ministry of the Environment, Conservation and Parks as well as in consultation with Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standards to identify the locations of Wellhead Protection Areas and Intake Protection Zones. The Ministry of Transportation should manufacture, install and maintain the signs along Provincial Highways within the Wellhead Protection Areas with a vulnerability score of 10, and/or within an Intake Protection Zone or Wellhead Protection Area E with a vulnerability score of 8 or higher.

Municipalities (the City of Greater Sudbury and the Municipality of Markstay-Warren) shall be responsible for the purchase, installation and maintenance of appropriate signs designed by the Province in collaboration with the SPAs. These signs shall be placed, at a minimum, where municipal arterial roads are located within a Wellhead Protection Area with a vulnerability score of 10, and/or an Intake Protection Zone or Wellhead Protection Area E with a vulnerability score of 8 or higher. Existing signs will be replaced by new MTO-designed signs as required.

The above policies will be implemented and delivered with an education and outreach plan within each Source Protection Area. These policies, in conjunction with additional education and outreach policies, should be implemented within 2 years after the effective date of the plan.

Monitoring policies M8 and M18 apply.

- T3EF-SA The City of Greater Sudbury and the Municipality of Markstay-Warren shall update their Emergency Management Plan to include the following:
- Maps to show the location of the vulnerable areas identified in the Greater Sudbury Source Protection Area Assessment Report; and
  - Response plans to spills from highway accidents and railway derailments in the vulnerable areas, including up-to-date information regarding the location of spill response equipment.

This policy applies to the vulnerable areas for existing and future significant, moderate and low transportation of hazardous substances threats.

This policy shall be implemented within one year of the source protection plan taking effect. The Emergency Management Plan will be updated within one year of any changes made to the delineation of the applicable vulnerable areas.

Monitoring policy M15 applies.

- T4EF-PI The Ministry of the Environment, Conservation and Parks shall ensure that Certificates of Approval / Environmental Compliance Approvals that govern businesses that haul septage include appropriate terms and conditions to ensure that the threat ceases to be a significant drinking water threat.

It is recommended that the Ministry of the Environment, Conservation and Parks should require businesses that haul septage to prepare or update their spill contingency plans as part of their Certificates of Approval / Environmental Compliance Approvals to include the locations of vulnerable areas. These spill contingency plans may require the businesses to immediately contact the MECSP Spills Action Centre and the municipality, as required in Part X of the *Environmental Protection Act*, in the case of a spill or accident.

This policy applies to the vulnerable areas for existing and future significant, moderate and low transportation of hazardous substances threats.

Monitoring policy M1 applies.



## 15.0 WATER QUALITY MONITORING POLICY FOR ISSUES

MI1EF-M The City of Greater Sudbury shall sample raw water to monitor and trend changes in sodium and phosphorus in the Ramsey Lake Issue Contributing Area (IPZ 1, 2 and 3).

The sampling will occur on a frequency adequate to monitor concentrations with the purpose of tracking changes over time in the water quality parameters (sodium and phosphorus) associated with the drinking water issues (sodium and microcystin LR).

Sodium samples will be collected in May and October of each calendar year. Phosphorus samples will be collected yearly as part of the Spring Phosphorus Sampling Program for Ramsey Lake.

The City of Greater Sudbury shall design and implement the required monitoring program within one year of the source protection plan taking effect.

Monitoring policy M5 applies.

## 16.0 MONITORING POLICIES

Monitoring policies are intended to track and measure whether or not the Source Protection Plan policies are being implemented.

**Table 2. Monitoring Policies**

| IDENTIFIER | ASSOCIATED MONITORING POLICY   |
|------------|--|
| <b>M1</b>  | By February 1 of each year, the Ministry of the Environment, Conservation and Parks shall prepare a summary of the actions it has taken to achieve the outcome of these policies and make that report available to the Source Protection Authority.  |
| <b>M2</b>  | By February 1 of each year, risk management officials shall report annually to the Source Protection Authority with the information required in section 65 of Regulation 287/07 related to the previous calendar year.   |
| <b>M3</b>  | By February 1 of each year, the local planning authority (the City of Greater Sudbury) shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the policies set out in the Source Protection Plan and its decisions under the <i>Planning Act</i> and the <i>Condominium Act</i> .  |
| <b>M4</b>  | By February 1 of each year, the City of Greater Sudbury and the Municipality of Markstay-Warren (if applicable) shall report to the Source Protection Authority with a description of the measures taken to implement the education and outreach program in the Source Protection Plan in the previous calendar year. The report could also include a description of the steps taken to determine the extent to which the program has achieved its objectives, any information on the results of those steps, and any suggestions for improvement. The municipalities could also provide a copy of any materials produced and the number of participants reached by the program. |
| <b>M5</b>  | By February 1 of each year, the City of Greater Sudbury shall report the sampling results for the previous calendar year to the Source Protection Authority.   |
| <b>M6</b>  | By February 1 of each year, the Public Health Sudbury and Districts shall submit a report to the Source Protection Authority detailing the inspections undertaken in the previous calendar year and the results of those inspections.  |
| <b>M7</b>  | The Ministry of the Environment, Conservation and Parks should notify the Source Protection Authority when the review and update of the contact and procedure information has been completed.  |
| <b>M8</b>  | By February 1 of each year, the City of Greater Sudbury and the Municipality of Markstay-Warren shall and the Ministry of Transportation should provide annual records of the locations and number of signs installed in the vulnerable areas to the Source Protection Authority.  |

|            |  |
|------------|--|
| <b>M9</b>  | By February 1 of each year, the City of Greater Sudbury shall report to the Source Protection Authority on the status of development and implementation of the pesticide management plan.  |
| <b>M10</b> | The City of Greater Sudbury shall report to the Source Protection Authority detailing the results of the review of the hazardous waste disposal operations and any actions undertaken to implement the policy within three years of the source protection plan taking effect.  |
| <b>M11</b> | By February 1 of each year, the City of Greater Sudbury shall report to the Source Protection Authority on the status and implementation of the Salt Management Plan including a description of the actions and measures taken to implement the policy. The report may also provide the annual usage amounts by the City of salt, sand/salt mixture and brine applied in the vulnerable areas. |
| <b>M12</b> | By February 1 of each year, the City of Greater Sudbury shall report to the Source Protection Authority on the status and implementation of the policy including a description of the actions and measures taken to implement the policy.  |
| <b>M13</b> | By February 1 of each year, the City of Greater Sudbury shall file a report with the Source Protection Authority detailing the implementation and enforcement of the Sewer Use By-law in terms of the significant threat activity.   |
| <b>M14</b> | The City of Greater Sudbury will provide a Stormwater Management Strategy to the Source Protection Authority for the vulnerable areas within five years of the Source Protection Plan taking effect. By February 1 of each year, the CGS will provide annual progress reports to the SPA each year until the strategy is submitted.  |
| <b>M15</b> | By February 1 of each year, the City of Greater Sudbury and the Municipality of Markstay-Warren shall report to the Source Protection Authority on the status and implementation of the policy including a description of the actions and measures taken to implement the policy.  |
| <b>M16</b> | The City of Greater Sudbury shall provide a copy of the required communications to the Source Protection Authority.  |
| <b>M17</b> | By February 1 of each year, the Ministry of the Environment, Conservation and Parks should report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the policies that are set out in the Source Protection Plan.   |
| <b>M18</b> | By February 1, the Ministry of the Environment, Conservation and Parks shall provide a copy of the required communications to the Source Protection Authority.   |
| <b>M19</b> | The City of Greater Sudbury will provide the Source Protection Authority a water efficiency plan/water conservation plan within the required timeline. The CGS will provide an annual progress report to the SPA by February 1 until the plan is submitted.  |
| <b>M20</b> | In the calendar year when an Official Plan renewal is due, the CGS shall report to the SPA by February 1 on steps it has taken to implement the policy and on the results from the Tier 3 water budget model update.   |

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**M21** By February 1, the owner of a pipeline that has been identified as a significant threat shall report to the Source Protection Authority on actions taken to implement this policy in the previous calendar year.

**M22** By February 1, the National Energy Board shall report to the Source Protection Authority on any activities undertaken to implement this policy in the previous calendar year.

## 17.0 TRANSITION PROVISIONS POLICY (TP1)

### PREAMBLE

In this source protection plan, some drinking water threat activities are addressed by prohibiting “future” threats and managing “existing” threats. This includes:

- **Part IV** - a “future” occurrence of a threat activity designated for the purpose of section 57 of the *Clean Water Act* and therefore prohibited while its “existing” occurrence is designated for the purpose of section 58 of the *Clean Water Act* and requires a risk management plan.
- **Prescribed Instruments** - a “future” occurrence of a drinking water threat is prohibited while “existing” occurrences are managed.
- **Land use planning** – “future” drinking water threats are prohibited through decisions on planning matters, while other policy approaches, such as a specify action or an education and outreach policy, are used to manage the same “existing” drinking water threats.

### POLICY TEXT

Where a policy in this plan refers to an “existing” threat, it is generally understood to mean an activity that commenced or has been engaged in at some time within the last 10 years or up until the day before the source protection plan comes into effect. A “future” threat activity is generally understood to mean an activity that commences on a day on or after the day the source protection plan comes into effect.

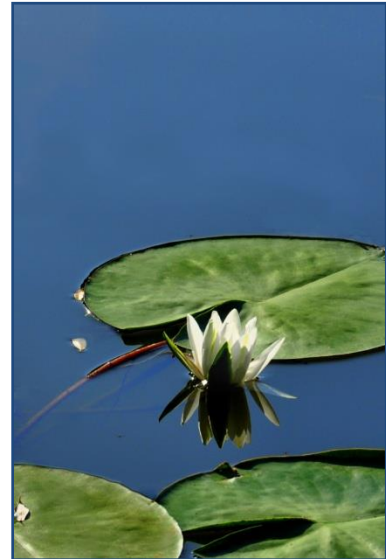
However, despite these definitions, in order to be fair to bona fide applications in process and to recognize approvals obtained, it is important to allow certain “future” prohibited activities to be treated as “existing” activities and therefore subject to the policies that apply to “existing” activities.

Where a policy in this Plan prohibits a “future” threat activity, the policy for managing “existing” drinking water threat activities applies in the following cases even though those activities will commence after the source protection plan comes into effect:

- A drinking water threat activity that is related to a development proposal where an application was made or an approval was obtained under the *Planning Act* or *Condominium Act* on a day before the source protection plan comes into effect. The policy for “existing” drinking water threats also applies to any further applications required under the *Planning Act*, *Condominium Act*, or prescribed instruments, to implement the development proposal.
- A drinking water threat activity that is related to an application made under the *Building Code Act* on a day before the source protection plan comes into effect. A drinking water threat activity that is related to an application made for the issuance or amendment of a prescribed instrument on a day before the source protection plan comes into effect.

# PART THREE

## PLAN ADMINISTRATION



Part three provides details on the legal effects and effective dates of policies, implementation and annual review, and financing.

## PART III - PLAN ADMINISTRATION

### 18.0 LEGAL EFFECT OF POLICIES AND EFFECTIVE DATES

#### 18.1 LEGAL EFFECT OF POLICIES

The policies in the Source Protection Plan have one of three types of legal effect – “must conform/comply with” policies, “have regard to” policies, and “non-binding” policies. The following is an explanation of which policies fall under each legal effect provision. Appendix D of the Source Protection Plan contains lists of policies ensuring Source Protection Plan policies are designated under the appropriate legal effect provision as outlined in the *Clean Water Act*.

Specific reference to these lists is included in the definitions below, where applicable. Persons or bodies with obligations to ensure their decisions conform with policies in the plan or who are required to satisfy obligations in the plan should refer to these lists to determine the specific policies that apply to their respective decision-making responsibilities.

##### Must Conform With

- The *Clean Water Act* requires municipalities, local boards and source protection authorities to comply with any obligations imposed on them to address a significant drinking water threat/condition, regardless of the particular tool or approach used in the policy (see List E).
- The Act requires decisions under the *Planning Act and Condominium Act, 1998* to conform with significant threat/condition policies (see List A).
- The Act requires decisions related to prescribed instruments to conform with significant threat/condition policies (see List C).
- Persons carrying out significant threat activities must conform with policies that use Part IV powers under the *Clean Water Act* (see Lists G, H and I).
- The source protection plan must designate a **public body** to carry out monitoring required by the *Clean Water Act* and these public bodies must conform with the obligations set out in the monitoring policies (see List F).

##### Have Regard To

- The Act requires decisions under the *Planning Act and Condominium Act, 1998* to have regard to moderate and low threat/condition policies (see List B).
- The Act requires decisions related to prescribed instruments to have regard to moderate and low threat/condition policies (see List D).

##### Non-binding

The source protection plan includes other types of policies that, while the committee may determine are important to achieving the Plan’s objectives, are not given legal effect by the Act. These include:

- Significant, moderate and low threat/condition policies to be implemented by bodies other than municipalities, local boards or source protection authorities and which do not rely on Part IV, prescribed instrument or *Planning Act* tools (List K).

- Other permitted policies governing:
  - Incentive programs and education & outreach programs, including for systems not in terms of reference (no policies);
  - The update of spills prevention, contingency or response plans along highways, railways or shipping lanes (List J);
  - Climate conditions data collection (no policies); and
  - Transport pathways in WHPA or IPZ (no policies).
  
- Optional monitoring policies governing: moderate/low threats in areas where the threat could never become significant and other permissible plan policies (e.g. updates to spills prevention plans) (see List J for both).

## 18.2 EFFECTIVE DATES

If no time period is set out below or no time period is specified within a policy, the policy takes effect on the same date that the plan takes effect, which is April 1, 2015, as stated in the Minister's approval letter for this plan.

1. For the purposes of section 57(1) of the *Clean Water Act, 2006*, the date for the policies regarding prohibition to take effect is the same date that the Source Protection Plan takes effect.
2. For the purpose of section 58(3) of the *Clean Water Act, 2006*, the date for the policies regarding regulated activities to take effect is 3 years from the date the Source Protection Plan takes effect.
3. For the purpose of section 59(1) of the *Clean Water Act, 2006*, the date for the policies regarding restricted land uses to take effect is the same date that the Source Protection Plan takes effect.
4. Any existing prescribed instruments issued before the plan takes effect and which are affected by the significant threat policies in the approved plan must be amended to conform with the significant threat policies in the plan within 3 years of the plan taking effect or at such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
5. All education and outreach programs shall be delivered within one year of the date the Source Protection Plan comes into effect and shall be made available and updated as necessary on an ongoing basis.
6. For the purpose of section 40 and 42 of the *Clean Water Act, 2006*, from the date the Source Protection Plan takes effect:

The City of Greater Sudbury and Municipality of Markstay-Warren official plans shall be brought into conformity no later than the date the council is required to revise an official plan in accordance with subsection 26(1) of the *Planning Act*, and

The City of Greater Sudbury and Municipality of Markstay-Warren shall amend its zoning by-laws no later than the date the council is required to amend its zoning by-laws to bring them into conformity with their official plan, in accordance with subsection 26(9) of the *Planning Act*.



## 19.0 IMPLEMENTATION

The implementation of the Source Protection Plan policies requires the cooperation of the various source protection partners. In most cases, implementation will be led by the City of Greater Sudbury or the Ministry of the Environment, Conservation and Parks. Public Health Sudbury and Districts will be responsible for implementing one policy and the conservation authority or other organizations may be involved in implementing other policies. The involvement and cooperation of individuals and landowners affected by the SPP will also be a key component of implementation. The key roles and responsibilities of various bodies in the implementation of the SPP are outlined below.

### **Source Protection Committee**

The SPC will continue to have input on additional studies to be included in future ARs. The SPC will also continue to be consulted by the SPA in regards to proposed amendments to the SPP.

### **Source Protection Authority**

The SPA will continue to support the SPC, particularly when making revisions to the SPP at the time of review. The SPA, along with the City of Greater Sudbury and other partners, will have an important role in monitoring and reporting on the progress of the SPP's implementation. They will continue their role as liaison with the MECP and the municipality. The SPA may also assume other responsibilities subject to negotiations with the City of Greater Sudbury.

### **Province**

The Province will be required to carry out the policies associated with provincial instruments as prescribed in O.Reg.287/07 s. 1.0.1. The Minister of the Environment, Conservation and Parks is responsible for approving the Source Protection Plan.

### **Municipalities**

Municipalities have a strong role in implementing SPPs. Currently municipalities are responsible for the delivery of municipal drinking water and land use planning. Many of the SPP policies will build on these roles, meaning implementation of the SPP policies will for the most part be incorporated into existing municipal planning processes and/or water and wastewater operations.

Municipalities will be responsible for bringing their Official Plans and Zoning By-laws into conformity with the significant threat policies contained in the SPP. They will be required to ensure that any future undertaking does not conflict with the SPP.

As mandated by the CWA, municipalities will be required to take on new roles and responsibilities, including:

1. Municipalities with the authority for supplying municipal residential drinking water will have the responsibility for administering Part IV which will include appointing the Risk Management Official (RMO). The RMO will ensure site-specific Risk Management Plans (RMPs) are established with landowners where they are necessary.
2. Inspection and enforcement authority under Part IV tools – prohibition, risk management plans.
3. Municipalities may be given some responsibility for monitoring threats and reporting on progress of implementing the source protection plan.

The City of Great Sudbury is responsible for administering and updating its Official Plan, Zoning By-laws, subdivision plans and condominium plans.

For the implementation of policies that utilize Part IV Tools, two new roles would be required within municipalities – an RMO and a Risk Management Inspector (RMI). The municipality may use existing staff to fill these roles. The RMO is responsible for negotiating or establishing RMPs. In addition, the RMO will have the responsibility/authority to establish enforcement orders (s. 63), orders to cause things to be done (s. 64), orders to pay (s. 67), and annual reports (s. 81). The RMI is responsible for enforcing Part IV and ensuring compliance. The RMO and RMI can be the same person.

The RMO/RMI will be required to meet specific requirements and hold specific qualifications and receive proper training, as outlined in the regulation. The CWA contains provisions whereby a municipality can enter into an agreement with other entities to share or delegate Part IV, including board of health, planning board, or SPA, in which case that entity would be responsible for Part IV enforcement. In this case, some or all of the costs may be transferred back to the municipality.

#### **Landowners and Business Owners**

Individual property owners and local businesses must take action on the policies for significant drinking water threats located within their wellhead and intake protection areas. Voluntary co-operation is promoted and expected but mandatory action will be enforced when needed.

#### **Conservation Authorities**

The main role of Conservation Sudbury() in the implementation of the SPP is to provide technical and planning advice to their municipal partners. As they do now, Conservation Sudbury will also protect environmental areas and promote stewardship and best management practices.

### **19.1 ANNUAL REVIEW PROCESS**

The *Clean Water Act* requires that the Source Protection Authority prepare an annual progress report describing the measures taken to address existing and future significant drinking water threats, the results of monitoring and the progress that has been achieved in meeting the Source Protection Plan's objectives, and other information prescribed in the regulations. The information required in the annual report can be found in Ontario Regulation 287/07 Section 52.

The annual reports will rely on several sources for information:

- Monitoring results of implementation of the policies;
- Annual reports prepared by the RMO;
- Information collected from certain public bodies (e.g. technical studies, records related to a drinking water threat); and
- Information gathered from property inspection (Section 88 of the *Clean Water Act* also provides the SPA the power to enter property for the purpose of gathering information to prepare an annual progress report).

The annual report will be provided by the Source Protection Authority to the Source Protection Committee. Before the SPA submits the report, the Source Protection Committee has the opportunity to provide comments. The report, along with the comments from the SPC, will then be submitted to the Director of the MECP's Source Protection Programs Branch and posted publicly.

The annual reports will provide the basis to evaluate the effectiveness of the plan and whether additional policies or approaches are necessary. It will therefore serve to inform future SPP amendments and will serve as important information in the ongoing assessment of progress towards source water protection. The first annual report is due at the end of the second calendar year following the year the Source Protection Plan takes effect.

## 19.2 AMENDMENT TO THIS PLAN

A Notice of Approval of the Source Protection Plan will be posted on the Environmental Bill of Rights Registry and will provide a date on which the Plan takes effect. Amendments are permitted in accordance with the circumstances prescribed by the *Clean Water Act, 2006* and the General Regulation 287/07. These circumstances are as follows:

1. A source protection authority, after consulting with the Source Protection Committee, may propose amendments to this Source Protection Plan.
2. The Minister of the Environment, Conservation and Parks may order an amendment of this Source Protection Plan.
3. When issuing the approval for this source protection plan, the Minister of the Environment can specify the date by which this plan and its corresponding Assessment Report should be updated.

The initial Source Protection Plan was submitted in August, 2012 and was amended in 2014. This document is an update required under Section 36 of the *Clean Water Act*. It was completed in consultation with the Source Protection Committee, the MECP, and implementing bodies.

## 19.3 FINANCING AND COSTS

The *Clean Water Act* (CWA) and the source protection planning process were introduced by the Province in response to a province-wide concern about the safety of municipal drinking water. The Province of Ontario has fully funded the source protection planning process, including capacity building, at each conservation authority, and the writing of various reports and completion of the technical documents required for the Assessment Reports and Source Protection Plans (SPPs).

The implementing bodies identified in the source protection plan are responsible for the costs associated with the implementation of the policies.

Financial assistance has been made available to those landowners whose activities and properties may be affected by the implementation of the SPP through Section 97 of the CWA which established the Ontario Drinking Water Stewardship Program. The program also provides for outreach and education programs to raise awareness of the importance and opportunities for individuals to take actions to protect sources of drinking water.

Within the CWA some provisions are set out for financing various aspects of Source Protection including stewardship programs and application of fees for Part IV policies. As stated in the CWA, fees can be applied for applications received under section 58, 59 or 60, for agreeing to or establishing a Risk Management Plan under section 56 or 58, for issuing a notice under section 59, for accepting a risk assessment under section 60, or for entering property or exercising any other powers under section 62.

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## APPENDICES

### APPENDIX A – THREAT DEFINITIONS

The *Clean Water Act* designated 22 Prescribed Drinking Water Threats for the purposes of Source Protection Planning. These threats fall into five categories: waste and sewage disposal, agriculture, salt and snow, industrial, and water quantity.

The following activities are prescribed in O. Regulation 287/07 as drinking water threats for the purpose of the definition of “drinking water threat”:

1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act*.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.
11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid.
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
22. The establishment and operation of a liquid hydrocarbon pipeline

Threat 5 (management of agricultural source material – aquaculture) cannot ever be a significant drinking water threat as currently defined in the Ministry of the Environment, Conservation and Parks Table of Drinking Water Threats (written under the *Clean Water Act*).

**Waste Disposal Sites (Threat 1)**

The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act includes the following threats:

- The application of hauled sewage to land
- Storage treatment and discharge of tailings from mines
- Landfilling (hazardous waste)
- Landfilling (municipal waste)
- Landfilling (solid non hazardous industrial or commercial waste)
- Liquid industrial waste injection into a well
- PCB waste storage
- Storage of hazardous waste at disposal sites
- Storage of wastes described in clauses (p), (q), (r), (s), (t), or (u) of the definition of hazardous waste

The Environmental Protection Act (EPA) provides a definition for a “waste disposal site” (R.S.O. 1990, c. E.19, Part V). In general terms, a waste disposal site is any land, building, structure in connection with the depositing, disposal, handling, storage, transfer, treatment or processing of waste. Operational activities associated with these sites are also included in the definition.

**Sewage Systems (Threat 2)**

The establishment, operation or maintenance of a sewage system that collects, stores, transmits, treats or disposes of sewage is prescribed as a drinking water threat. The main consideration for reducing or eliminating drinking water threats related to sewage systems is to prevent harm to the water resource from chemicals and pathogens. There are two categories of sewage system – large and small. The large systems include the following threats:

- Combined sewer discharge to surface water;
- Sewage treatment plant bypass discharge to surface water;
- Discharge of stormwater from stormwater management facilities;
- Industrial effluent discharges;
- Sanitary sewers and related pipes;
- Sewage treatment plant effluent discharges (includes lagoons); and
- Sewage system or sewage works – treatment or holding tanks

Large systems (those with a design flow greater than 10,000 L/day) are subject to approval by the MECP under the *Ontario Water Resources Act*. Schools, campgrounds, larger businesses and municipal systems are examples of facilities that may require a large system.

Small systems (those with a design flow less than or equal to 10,000 L/day) are subject to approval under the *Ontario Building Code Act* and are administered by Public Health Sudbury and Districts in the GSSPA. These systems come in a variety of forms including earth pit privies, privy vaults, greywater systems, cesspools, leaching bed systems and associated treatment units and holding tanks. Leaching bed systems with septic tanks or holding tanks are the systems most commonly used.

### **The Application, Storage and Management of Agricultural Source Material (Threats 3, 4, 5)**

According to Ontario Regulation 267/03 (General) under the *Nutrient Management Act*, agricultural source materials (ASM) include the following materials that may be produced on a farm:

- manure produced by farm animals, including bedding materials;
- runoff from farm-animal yards and manure storages;
- wash water that has not been mixed with human body waste (e.g. from the milking centre);
- organic materials produced by intermediate operations that process the above materials (e.g. mushroom compost);
- anaerobic digestion output that does not include sewage biosolids or human body waste (anaerobic digestion is a process used to decompose organic matter by bacteria in an oxygen-limited environment); and
- regulated compost (which contains dead farm animals).

ASM can be stored in a permanent nutrient storage facility or on a temporary field nutrient storage site. The primary consideration for reducing or eliminating the threat to drinking water in the application and storage of ASM is to ensure nitrogen, phosphorus and pathogens do not enter the drinking water supply.

### **The Application, Handling and Storage of Non-Agricultural Source Material (Threats 6 and 7)**

According to Ontario Regulation 267/03 (General) under the *Nutrient Management Act*, non-agricultural source materials (NASM) include the following materials that are intended to be applied to land as nutrients, but that are not produced on a farm:

- pulp and paper biosolids;
- sewage biosolids;
- anaerobic digestion output where less than 50% of the total material is on-farm anaerobic digestion materials (anaerobic digestion is a process used to decompose organic matter by bacteria in an oxygen-limited environment); and
- any other material that is not from an agricultural source and that is capable of being applied to land as a nutrient (such as materials from dairy product or animal food manufacturing).

NASM that will be applied to fields on a farm can be stored in a permanent nutrient storage facility, or on a temporary field nutrient storage site.

### **The Application, Handling and Storage of Commercial Fertilizer (Threats 8 and 9)**

The main consideration for reducing or eliminating drinking water threats related to the storage and land application of commercial fertilizer is to make sure it does not enter surface water and/or groundwater sources. Nitrogen and total phosphorus are substances that could make their way into drinking water sources as a result of the application of commercial fertilizer to land. These nutrients could threaten the safety of drinking water sources in certain situations due to runoff or spills.

### **The Application, Handling, and Storage of Pesticides (Threats 10 and 11)**

Pesticides are typically chemicals, but could be organisms that are used to control undesirable pests, such as weeds, insects and fungi. All of the pesticides considered through the drinking water source protection initiative are chemicals. The application of pesticides to land, as well as the handling and storage of pesticides, is most commonly associated with agricultural, recreational, public works and retail land uses.

Pesticides are regulated at the federal and provincial levels. Those who store or apply pesticides receive appropriate training. Manufacturing, processing and wholesale activities of pesticides are generally permitted on lands that are zoned for industrial uses. Storage of pesticides for retail sale or for use in extermination could exist on many properties since this activity is generally associated with agricultural, recreational, institutional, commercial, industrial land uses, and public works (use along side roads and utility corridors).

Various forms of legislation, guidelines and protocols already exist for pesticide manufacturing and use, such as:

- Agrichemical Warehousing Standards Association requirements are comprehensive and effectively address all aspects of safely siting a new storage.
- Golf courses and certain public works must become accredited for Integrated Pest Management and report annually to the public about how they have minimized their pesticide use.
- Pesticide manufacturers, operators and vendors must be licensed and report their pesticide storage to local fire departments.
- Farmers and licensed exterminators must also have completed the Pesticide Safety Course which addresses all aspects of the threat.
- A pesticide permit issued by the MECP under the Pesticides Act is required for aerial spraying.
- Ontario's 2009 Cosmetic Pesticide Ban prohibits the use of pesticides for cosmetic use with some exceptions for protecting the health and safety of people (e.g., controlling mosquitoes that can transmit West Nile Virus, plants that are poisonous to the touch, fleas on pets, indoor pests or pests that can cause structural damage to a home).

### **The Application, Handling and Storage of Road Salt (Threats 12 and 13)**

Road salt is a drinking water threat when any product used to maintain roads and pedestrian areas contains sodium and/or chloride. The most commonly used products are sodium chloride and calcium chloride because they are effective and inexpensive.

Winter road salt application works by breaking the bond formed between the pavement and the ice/compacted snow. As snow accumulates on the road and is compacted by traffic, it forms a bond with the pavement, making it difficult to remove with plows. In these situations, salt is advantageous to break through the snow to prevent this bond from forming. The salt reacts with moisture to create a layer of salty water called brine between the snow or ice layer and the road. This brine layer has a freezing point below zero degrees Celsius and breaks the bond, thereby permitting the snow and ice to be plowed from the road.

In the past 25 years, there has been a three-fold increase in the application of road salt in Canada with the prime users being Ontario, Quebec, and the Atlantic provinces. Many regions are implementing salt management plans and education programs to address this issue due to the adverse effects and cumulative environmental impacts to ground and surface water.

**The Storage of Snow (Threat 14)**

Snow removed from roads and parking lots can be contaminated with salt, oil, grease and heavy metals from vehicles, litter and airborne pollutants. The disposal of snow in one location concentrates the potential **contaminants**. Since the snow is contaminated, it must be handled and stored in ways that protect water sources. This drinking water threat includes:

- snow that is pushed into large piles on a property (e.g. stored in parking lots);
- snow transported to a central site from other locations (e.g. snow disposal sites); and
- large snow banks along roads that are close to municipal wellheads or surface water intakes.

The snow storage drinking water threat is closely linked to the application of road salt. Reducing the amount of salt applied would reduce the amount of road salt in stockpiled snow.

**The Handling and Storage of Fuel (Threat 15)**

The main consideration relating to the handling and storage of fuel is to prevent fuel spills that could enter surface water or groundwater. This category of drinking water threats includes the handling of liquid fuel in relation to its storage and the storage of liquid fuel. The types of storage facilities to be considered are defined in Ontario Regulation 213/01 (Fuel Oil) and Ontario Regulation 217/01 (Liquid Fuels). Both regulations are made under the *Technical Standards and Safety Act, 2000*. Although not part of the Technical Standards and Safety Authority (TSSA) Regulations, facilities where fuel is manufactured or refined are also to be considered. The types of fuel storage facilities include:

- bulk plants or facilities where it is manufactured or refined;
- permanent or mobile retail outlets;
- marinas;
- cardlocks/keylocks;
- private outlets (e.g. public works yard, contractor yard);
- farms; and
- furnace oil tanks for home and business heating purposes.

The types of fuels considered include diesel, used oil when used as a fuel, kerosene and hydrocarbon fuel (e.g. gasoline).

**The Handling and Storage of Dense Non-Aqueous Phase Liquids (DNAPLs) (Threat 16)**

A DNAPL is a highly toxic liquid that is denser than water and does not dissolve in water. This means that it will sink to the bottom of groundwater aquifers and surface water bodies and is extremely difficult to remove; complete clean-up is considered unattainable. DNAPLs pose a threat at greater distances from wells than other chemical threats. DNAPLs, particularly those listed in the MECP Tables of Drinking Water Threats, have been readily used in large quantities for decades in industrial and commercial applications such as dry cleaning, cleaning/degreasing solvents, electronics, aerosols, plastics, pesticides, pharmaceuticals, wood preservation, asphalt operations, varnishes and the repair of motor vehicles and equipment. These chemicals can also be found in small quantities in common household products (e.g. adhesives and cleaners).

**The Handling and Storage of Organic Solvents (Threat 17)**

Organic solvents are a chemical class of compounds that are used routinely in commercial industries and industrial sites and are toxic to humans. These chemicals could threaten the safety of drinking water sources in certain situations. The primary consideration for reducing or eliminating drinking water threats related to the handling and storage of an organic solvent is to make sure it does not enter surface water and/or groundwater.



**The Management of Runoff that Contains Chemicals Used in the De-icing of Aircrafts (Threat 18)**

Aircrafts that have frost, ice or snow on any critical structures (e.g. wings) are not permitted to attempt take-off under the Canadian Aviation Regulations. During weather conditions that would result in frost, ice or snow, aircraft may be sprayed with de-icing and/or anti-icing fluids prior to take-off.

Ethylene glycol or propylene glycol are the active ingredient in aircraft de-icing fluids. While other formulations have been considered, glycol continues to be the major chemical used in this application. The runoff of large volumes of de-icing fluids into surface waterbodies over a short period of time can lead to oxygen depletion which results in poor water quality and toxicity to aquatic life and mammals. The toxicity associated with the de-icing chemical can originate from both the glycol formulations, as well as the additives mixed into these formulations.

**An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body (Threat 19)**

Threat 19 and 20 represent the two water quantity threats. These can only be identified in the Assessment Report if a significant risk is identified in the Tier 3 Water Budget technical studies. This threat to water quantity includes water-taking activities that consume water. That includes any activity that takes water from but does not return it back into the local water source, such as residential or commercial water usage.

**An activity that reduces the recharge of an aquifer (Threat 20)**

Threat 19 and 20 represent the two water quantity threats. These can only be identified in the Assessment Report if a significant risk is identified in the Tier 3 Water Budget technical studies. An activity that reduces the recharge of an aquifer refers to activities that change the amount of water available in the aquifer, such as impervious surfaces that do not allow rainwater to enter the ground.

**The Use of Land as Livestock Grazing or Pasturing Land, an Outdoor Confinement Area or a Farm-Animal Yard (Threat 21)**

An outdoor confinement area is a yard, facility or enclosure with a very high animal concentration, typically in excess of 15 animals per acre, often for extended periods of time. Ontario Regulation 267/03 made pursuant to the *Nutrient Management Act* defines outdoor confinement areas as follows:

- It is composed of fences, pens, corrals or similar structures;
- It may contain a shelter to protect the animals from the wind or another shelter with a roof of an area of less than 20 square metres;
- It has permanent or portable feeding or watering equipment;
- The animals are fed or watered at the enclosure;
- The animals may or may not have access to other buildings or structures for shelter, feeding or watering; and
- Grazing and foraging provides less than 50 per cent of dry matter intake.

Farm animal yards are outdoor livestock areas lined with concrete other than those meeting the definition of an outdoor confinement area. Food and water are not provided in farm-animal yards. They are generally used as outdoor exercise areas or holding areas for when barns are being cleaned out, usually in association with a barn/covered structure.

**The Establishment and Operation of a Liquid Hydrocarbon Pipeline (Threat 22)**

On July 1, 2018 amendments to Ontario Regulation 287/07 added liquid hydrocarbon pipelines as a prescribed drinking water threat activity. The prescribed threat captures pipelines designated for transmitting or distributing liquid hydrocarbons to terminals and distribution centers; as defined in Ontario Regulation 210/01 under the Technical Standards and Safety Act. It does not capture pipelines that move liquefied gas or liquid petroleum gas. It does not capture pipelines operated by the Ministry of Natural Resources and Forestry (MNRF) as defined in the *Oil, Gas and Salt Resources Act*.

## APPENDIX B – ASSESSMENT REPORT

The Greater Sudbury Source Protection Area Assessment Report is available on Conservation Sudbury website: <http://www.sourcewatersudbury.ca>

Digital copies via compact disc or flash drive (USB key) are also available upon request. Please contact the Nickel District Conservation Authority:

Drinking Water Source Protection Program  
Conservation Sudbury()  
199 Larch St., Suite 401, 4<sup>th</sup> floor  
Sudbury, Ontario P3E 5P9  
Telephone: (705) 674-5249  
Fax: (705) 674-7939  
Email: [sourcewater@sudbury.ca](mailto:sourcewater@sudbury.ca)

## APPENDIX C – CONSULTATION RECORD

The source protection planning process is open and transparent and offers many opportunities for government, private sector, and community participants to provide input. The Committee took the source protection message to the public and invited residents to get involved in protecting their drinking water sources and to share their local knowledge and drinking water concerns.

The *Clean Water Act* and the General Regulation 287/07 set out the requirements for consultation on the three required documents – Terms of Reference, Assessment Report, and Source Protection Plan. Each consultation process required notification to stakeholders, the public, and the municipalities, and consultation for a minimum length of time.

### TERMS OF REFERENCE

There were two public consultation periods for the Terms of Reference. The Draft Terms of Reference was posted for public review from May 22 to June 26, 2008 for a 35 day period. More than 80 people attended two public meetings that were hosted in an open house format on June 12 and June 17, 2008. The comments received were generally positive, but concern was expressed about motorized vehicles and onsite sewage systems on Ramsey Lake. The Proposed Terms of Reference were posted for public review from August 20 to September 19, 2008. Six written comments were received. The Source Protection Authority submitted the Proposed Terms of Reference to the Ministry of the Environment, Conservation and Parks on October 16, 2008; they were approved by the Minister on June 8, 2009.

### ASSESSMENT REPORT

There were four consultation periods for the Assessment Report: one for the Draft Assessment Report, one for the Proposed Assessment Report, and a third for the Amended Assessment Report, which was approved in October 2011. A fourth consultation period was held in 2013/14 for updates to the assessment report. A summary of all comments received is provided in the Assessment Report.

The Draft Assessment Report was available for public review from March 16 to April 20, 2010. Notification of the review period was sent to the owners or residents of the 45 properties identified as being in vulnerable areas where activities are significant drinking water threats. Two public meetings in the form of open houses were held on April 6 and April 8, 2010. Approximately 45 people attended the public meetings.

The 30 day public review period for the Proposed Assessment Report was from May 7 to June 7, 2010. The Proposed Assessment Report was submitted to the Greater Sudbury Source Protection Authority on May 7, 2010 and to the Minister of the Environment on June 8, 2010.

The Proposed Assessment Report was updated in 2010 and 2011 to reflect updates in the Ministry of the Environment, Conservation and Parks Technical Rules. This document was referred to as the Amended Assessment Report. The major updates included: adding a local threat for the transportation of certain hazardous substances on railway and highway corridors; identifying Microcystin LR (blue-

green algae) as an issue in Ramsey Lake; and delineating the issue contributing area for Microcystin LR, as well as for sodium, which had been identified as an issue in the Draft Assessment Report. The Amended Assessment Report was made available for public review for 30 days from April 18 to May 17, 2011. In addition to notifying the property owners who had been sent a notice for the Draft Assessment Report, approximately 4,550 property owners in the Ramsey Lake Issue Contributing Area were notified about the Amended Assessment Report. Three public meetings in the style of open houses were hosted on May 3, 4, and 5, 2011; about 52 members of the public attended.

The Amended Assessment Report was submitted to the Ministry of the Environment, Conservation and Parks on June 1, 2011. The Ministry provided review comments on August 4, 2011 and directed that the report be re-submitted by August 31, 2011. The revisions based on the Ministry's comments were made and the report was re-submitted August 31, 2011. The Ministry of the Environment, Conservation and Parks approved the Assessment Report on October 13, 2011 and posted it on the Environmental Bill of Rights Registry on January 13, 2012.

The Assessment Report was updated again in 2013/14, and underwent a public consultation period from December 16, 2013 to February 7, 2014; information from the Tier 3 Water Budget and Risk Assessment analyses was added as the basis for water quantity policies in the source protection plan.

The Assessment Report underwent revisions in 2020 under Section 36 of the *Clean Water Act, 2006* to ensure the document aligned with the amendments to the Director's Technical Rules (March 2017) and was posted on the internet for a period of 35 days in June.

## SOURCE PROTECTION PLAN

Before the plan was released to the public for review and comment, the Source Protection Committee was required to hold pre-consultation on draft policies with those who would be responsible for implementing the policies, whether individuals or agencies (Ontario Regulation 287/07). Customized notices were distributed to implementing bodies in December 2011 and January 2012 and all bodies had at least 30 days to provide comments.

The policies in this plan were modified based on those comments received during pre-consultation with the implementing bodies. Comments received were generally supportive of the intent behind the draft policies. Details about the comments received can be found in the Explanatory Document.

The first round of public consultation involved a 49-day comment period from April 16 until June 4, 2012 and two public meetings (open house format). This was an opportunity for the public and stakeholders to comment on the draft policies. The feedback received during this time was reviewed by the Source Protection Committee and considered in the finalization of the Proposed Plan.

A second 33-day comment period on the Proposed Plan provided the public and stakeholders with an opportunity to review and comment on the Proposed Source Protection Plan from July 9 to August 10, 2012. Any comments made during this period were submitted directly to the Ministry of the Environment, Conservation and Parks with the submittal of the Proposed Greater Sudbury Source Protection Plan on August 20, 2012.

A summary of the comments received during the three consultation periods for the Source Protection Plan can be found in Section 3 of the Explanatory Document, Summary of Consultation Comments.

The Source Protection Plan was revised in 2013/14 based on the completed Tier 3 Water Budget technical studies. Pre-consultation with the implementing bodies occurred from April to November 2013, and policy changes as a result of comments received is discussed in the Explanatory Document. The December 16, 2013 to February 7, 2014 public consultation period provided stakeholders with an opportunity to comment on the new policies, but the updates had minimal effect on the public, and no comments were received.

The Source Protection Plan was also revised in 2020 through Section 36 of the *Clean Water Act, 2006*, *pre-consultation occurred in March and April and public consultation occurred for 35 days in June.*

## APPENDIX D – LIST OF POLICIES AS PER SECTION 34 OF REGULATION 287/07 (LEGAL EFFECT)

### LIST A: Significant threat policies that affect decisions under the *Planning Act* and *Condominium Act, 1998*

Clause 39 (1) (a), subsections 39 (2), (4) and (6), and sections 40 and 42 of the *Clean Water Act, 2006* apply to the following policies:

|           |           |          |           |         |           |
|-----------|-----------|----------|-----------|---------|-----------|
| Ag2F-s57  | DOS1E-RMP | P4EF-RMP | Sa3EF-RMP | S5F-LUP | TP1       |
| Ag3EF-RMP | DOS2F-s57 | P5E-RMP  | Sa4E-RMP  | S7F-LUP | W1EF-RMP  |
| Ag4EF-RMP | F1E-RMP   | P6F-s57  | Sa5F-s57  |         | WQ2EF-LUP |
|           | F3F-s57   |          |           |         |           |

Timing provisions in Section 18.2.6 apply to these policies.

### LIST B: Moderate and low threat policies that affect decisions under the *Planning Act* and *Condominium Act, 1998*

Subsection 39 (1) (b) of the *Clean Water Act, 2006* applies to the following policies:

No Applicable Policies

### LIST C: Significant threat policies that affect prescribed instrument decisions

Subsection 39 (6), clause 39 (7) (a), section 43 and subsection 44 (1) of the *Clean Water Act, 2006* apply to the following policies:

|         |         |         |         |        |          |
|---------|---------|---------|---------|--------|----------|
| F2EF-PI | P2EF-PI | S3F-PI  | T4EF-PI | W2E-PI | WQ3EF-PI |
|         |         | S4EF-PI | TP1     | W3F-PI |          |

Timing provisions in Section 18.2.4 apply to these policies.

### LIST D: Moderate and low threat policies that affect prescribed instrument decisions

Clause 39 (7) (b) of the *Clean Water Act, 2006* applies to the following policies:

|         |         |
|---------|---------|
| F4EF-PI | T4EF-PI |
|---------|---------|

### LIST E: Significant threat policies that impose obligations on municipalities, source protection authorities and local boards

Section 38 and subsection 39 (6) of the *Clean Water Act, 2006* applies to the following policies:

|            |           |          |         |         |         |
|------------|-----------|----------|---------|---------|---------|
| Ag1EF-EO   | DOS3EF-EO | Sa1EF-EO | S1EF-SA | T3EF-SA | P1EF-EO |
| AirD1EF-EO | DOS4EF-SA | Sa2EF-SA | S2EF-EO | T2EF-SA | P3EF-SA |
| TP1        | WQ1EF-SA  | Sa6F-SA  | S6EF-SA | S8EF-EO | S9EF-SA |

Timing provisions in Section 18.2.5 apply to these policies.

**LIST F: Monitoring policies referred to in subsection 22 (2) of the *Clean Water Act*, 2006**

Section 45 of the *Clean Water Act*, 2006 applies to the following policies:

M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15, M16, M19, M20, M21, M22, M11EF-M

**LIST G: Policies related to section 57 of the *Clean Water Act*, 2006**

The following policies relate to section 57 (prohibition) of the *Clean Water Act*, 2006:

Ag2F-s57      DOS2F-s57      F3F-s57      P5F-s57      Sa5F-s57      TP1

**LIST H: Policies related to section 58 of the *Clean Water Act*, 2006**

The following policies relate to section 58 (risk management plans) of the *Clean Water Act*, 2006:

Ag3EF-RMP      DOS1E-RMP      P4EF-RMP      Sa3EF-RMP      W1EF-RMP  
Ag4EF-RMP      F1E-RMP      P5E-RMP      Sa4E-RMP

**LIST I: Policies related to section 59 of the *Clean Water Act*, 2006**

The following policies relate to section 59 (restricted land use) of the *Clean Water Act*, 2006:

Ag2F-s57      DOS1E-RMP      F1E-RMP      P5E-RMP      Sa3EF-RMP      W1EF-RMP  
Ag3EF-RMP      DOS2F-s57      F3F-s57      P6F-s57      Sa4E-RMP  
Ag4EF-RMP      Sa5F-s57

**LIST J: Strategic Action policies**

For the purposes of section 33 of Ontario Regulation 287/07, the following policies are identified as strategic action policies:

T1EF-SA      T2EF-SA      T3EF-SA      M7      M8      M17      M18

**LIST K: Policies that address significant threats that represent a non-binding commitment and which apply to bodies other than a municipality, local board or source protection authority.**

T1EF-SA      T2EF-SA



Table 3. Prescribed Instruments that apply to SPP policies in Lists C and D (O. Reg. 287/07, s.34)

| POLICY IDENTIFIER | LEGAL EFFECT                                  | ENVIRONMENTAL PROTECTION ACT – SEWAGE SYSTEMS | ENVIRONMENTAL PROTECTION ACT – WASTE SITES AND SYSTEMS | ONTARIO WATER RESOURCES ACT – SEWAGE SYSTEMS | PESTICIDES ACT-PERMITS | SAFE DRINKING WATER ACT-PERMITS, LICENSES |
|-------------------|---|---|--|--|------------------------|---|
| S3F-PI            | Conform with                                  | ✓   |  | ✓  |                        |   |
| S4EF-PI           | Conform with                                  | ✓   |  | ✓  |                        |   |
| W2E-PI            | Conform with                                  |   | ✓  |  |                        |   |
| W3F-PI            | Conform with                                  |   | ✓  |  |                        |   |
| P2EF-PI           | Conform with                                  |   |  |  | ✓                      |   |
| F2EF-PI           | Conform with                                  |   |  |  |                        | ✓   |
| F4EF-PI           | Have regard to                                |   |  |  |                        | ✓   |
| T4EF-PI           | Conform with and Have regard to <sup>12</sup> | ✓   |  |  |                        |   |
| WQ3EF-PI          | Conform with                                  |   |  |  |                        | ✓   |

<sup>12</sup> T4EF-PI addresses significant, moderate and low threats. The legal effect for the significant threats is conform with, and the legal effect for the moderate and low threats is have regard to.

## **APPENDIX E – RISK MANAGEMENT MEASURES EVALUATION REPORT**

### **Greater Sudbury Source Protection Area Water Quantity Risk Management Measures Evaluation for the Valley System Draft Report, September 19, 2013**

Full report is available on attached CD or online in a separate file that can be accessed on the same page as the Source Protection Plan.

## APPENDIX F – ACRONYMS

|        |   |
|--------|---|
| AR     | Assessment Report                                     |
| ASM    | Agricultural Source Material                          |
| BMP    | Best Management Practice                              |
| CWA    | Clean Water Act                                       |
| DNAPL  | Dense Non-Aqueous Phase Liquid                        |
| E&O    | Education and Outreach                                |
| EPA    | Environmental Protection Act                          |
| GSSPA  | Greater Sudbury Source Protection Area                |
| IPZ    | Intake Protection Zone                                |
| MECP   | Ministry of the Environment, Conservation and Parks   |
| MMAH   | Ontario Ministry of Municipal Affairs and Housing     |
| NASM   | Non-Agricultural Source Material                      |
| OMAFRA | Ontario Ministry of Agriculture, Food & Rural Affairs |
| OP     | Official Plan   |
| OWRA   | Ontario Water Resources Act                           |
| RMI    | Risk Management Inspector                             |
| RMO    | Risk Management Official                              |
| RMP    | Risk Management Plan                                  |
| SPA    | Source Protection Authority                           |
| SPC    | Source Protection Committee                           |
| SPP    | Source Protection Plan                                |
| WHPA   | Wellhead Protection Area                              |

## APPENDIX G – GLOSSARY OF TERMS

Where there is a need for further clarity concerning these definitions, the definitions from the Technical Rules, Regulation 287/07, and the *Clean Water Act, 2006*, shall prevail.

**“Act”** means the *Clean Water Act, 2006*.

**“Activity”** is an action that has the potential to contaminate or deplete a source of drinking water. Activities are prescribed in the *Table of Drinking Water Threats: Clean Water Act, 2006* dated December 12, 2008 and in the *Technical Rules: Assessment Report*. Generally they include actions such as storage, handling and application of some material.

**“Chemical”** means a substance of distinct molecular composition which has been deemed to be of concern to drinking water due to its toxicity, environmental fate, quantity in a specific circumstance (see the Ministry of the Environment, Conservation and Parks publication *Table of Drinking Water Threats: Clean Water Act, 2006* dated December 12, 2008), method of release into the environment and type of vulnerable area into which it might be released.

**“Commercial”** means all forms of business/commercial uses as defined in the City of Greater Sudbury Zoning By-Law 2010-100Z.

**“Conform with”** means that decisions made by these bodies must be in compliance with the policies of the Source Protection Plan.

**“Contaminant”** means chemicals and pathogens.

**“Contamination”** means the mixing of harmful elements, compounds, or microorganisms with surface or groundwater.

**“Drinking water”** has the same meaning as in the *Safe Drinking Water Act, 2002*.

**“Drinking Water Threat”** means an activity or condition that adversely affects or has the potential to adversely affect the quality (chemical or pathogen) or quantity of any water that is or may be used as a source of drinking water, and includes an activity or condition that is prescribed by the regulations as a drinking water threat. Regulation 287/07 sets out in Section 1.1 a prescribed list of drinking water threats.

**“Existing threat”** means an activity that commences or has been engaged in at some time within the last 10 years in a vulnerable area before the plan takes effect.

**“Future threat”** means an activity that commences at a location in a vulnerable area after the plan takes effect, where that activity has never been engaged in, in the past, or is not an *existing* activity (i.e. engaged in more than 10 years ago).

**“Groundwater”** means water that collects or flows beneath the Earths’ surface, filling the porous spaces in soil, sediment, and rocks. It is stored as aquifers and is accessed through wells or springs.

**“Implementing Body”** can be a public body (a) a municipality, local board or conservation authority, (b) a ministry, board, commission, agency or official of the Government of Ontario, or (c) a body prescribed by the regulations or an official of a body prescribed by the regulations or another person or group.

**“Industrial”** means all forms of industrial uses as defined in the City of Greater Sudbury Zoning By-Law 2010-100Z.

**“Institutional”** means all forms of institutional uses as defined in the City of Greater Sudbury Zoning By-Law 2010-100Z.

**“Intake Protection Zone” (IPZ)** is the contiguous area of land and water immediately surrounding a surface water intake, which includes:

- the distance from the intake;
- a minimum travel time of the water associated with the intake of a municipal residential system or other designated system, based on the minimum response time for the water treatment plant operator to respond to adverse conditions or an emergency;
- the remaining watershed area upstream of the minimum travel time area (also referred to as the Total Water Contributing Area) – applicable to inland water courses and inland lakes only.

**“Issue Contributing Area” (ICA)** means the vulnerable areas that have been delineated as contributing to the “issues” identified in the Assessment Report. In the Greater Sudbury Source Protection Area, the occurrence of Microcystin LR<sup>13</sup> and the increasing amount of sodium resulted in these two issues being identified for Ramsey Lake. The Ramsey Lake ICA is comprised of all of the Intake Protection Zone (IPZ) areas (1, 2 and 3).

**“Legal Effect”** means the requirements of the implementing body to fulfill the policy. As discussed in detail in Section 16.1 (Legal Effect of Policies), the policies in the Source Protection Plan have one of three types of legal effect – “must conform/comply with” policies, “have regard to policies”, and “non-legally binding” policies.

**“Local Area”** in Tier Three Water Budget and Risk Assessment, refers to a **“wellhead protection area – quantity”**; local areas are defined for the water supply system. Local areas were developed using the MECP Technical Rules and considered the area of land that would be required to provide the wells with the water removed at specified pumping rates; the drawdown created by the assigned pumping rates; and recharge area as represented by the drawdown contour (zone of influence) that most closely matched the area of recharge under existing development conditions and also under planned development conditions as scheduled in the Official Plan.

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<sup>13</sup> Microcystin LR is a toxin sometimes produced by cyanobacteria (also known as blue-green algae) and is listed as a parameter in the Ontario Drinking Water Quality Standards. Phosphorus contributes to cyanobacterial growth, therefore its presence is associated with this issue.

**“Low Impact Development”** is defined as a stormwater management strategy that seeks to mitigate the impacts of increased urban runoff and stormwater pollution by managing it as close to its source as possible. It comprises a set of site design approaches and small scale stormwater management practices that promote the use of natural systems for infiltration and evapotranspiration, and rainwater.

**“Pathogen”** means any disease-producing agent, especially a virus, bacterium, or other microorganism.

**“Public body”** is defined in section 2 of the *Clean Water Act* and means “a municipality, local board or conservation authority, a ministry, board, commission, agency or official of the Government of Ontario, or a body prescribed by the regulations”.

**“Prescribed Instrument”** is any document of legal effect, including a permit, license, approval, authorization, direction or order that is issued or otherwise created under an Act and listed in Section 1.0.1 of Ontario Regulation 287/07.

**“Residential”** means all forms of residential as defined in the City of Greater Sudbury Zoning By-Law 2010-100Z.

**“Risk management plan”** means a plan for managing a threat activity prepared in accordance with the regulations and the rules of Section 58 of the *Clean Water Act*.

**“Specify action”** policy: compels a body to take a specific action to address a threat. An example of an action that is specified is a policy that requires a municipality to pass a by-law under the *Municipal Act* to ensure that private companies applying obtain a business license and as part of that business license must have training on salt application. The legal effect of that policy depends on who the implementing body is, and whether the policy addresses a significant threat. Specify action policies directed to the Crown are not legally binding, but specify action policies that are directed to municipalities, for example, are legally binding when addressing a significant threat (see s. 38 of the *Clean Water Act*).

**“Significant drinking water threat”** means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk. The *Provincial Table of Drinking Water Threats: Clean Water Act, 2006* dated December 12, 2008 along with the vulnerability score in the Assessment report provides the basis for the risk assessment.

**“Significant Threat”** in this document shall mean the same as Significant Drinking Water Threat;

**“Source Protection Area”** means a drinking water source protection area established by subsection 4 (1) or by the regulations of the *Clean Water Act*.

**“Source Protection Authority”** means a conservation authority or other person or body that, under subsection 4 (2) or section 5, is required to exercise and perform the powers and duties of a drinking water source protection authority under of the *Clean Water Act*.

**“Source Protection Committee”** means a drinking water source protection committee established under section 7 of the *Clean Water Act*.

**“Source Protection Plan”** means a drinking water source protection plan prepared under part II of the *Clean Water Act*.

**“Source Water”** means water in its natural or raw state, prior to being withdrawn into the drinking water system.

**“Surface Water”** means water collecting in a stream, river, lake, or wetland.

**“Tables of Drinking Water Threats”** are those tables prepared by the Ministry of the Environment, Conservation and Parks that list the prescribed threats to drinking water sources and the circumstances correlated with their level of risk to drinking water sources when occurring within vulnerable areas.

**“Vulnerable Area”** means

1. A significant groundwater recharge area,
2. A highly vulnerable aquifer,
3. A surface water intake protection zone, or
4. A wellhead protection area.

**“Vulnerability Score”** is a score representing the susceptibility of an area to contamination. These scores are based on *Technical Rules: Clean Water Act, 2006*, where 10 is the most vulnerable and 2 is the least vulnerable. In a wellhead protection area, significant threats are possible where the score is greater than 8 (dense non-aqueous phase liquids can be significant elsewhere).

**“Water Budget”** focuses on water quantity, or how much water there is available. A *Water Budget* looks at how much water enters a watershed, how much water is stored and how much water leaves. This information helps determine how much water is available for human uses, while ensuring there is still enough left for natural processes. The Source Protection Water Budget process can include up to three levels or tiers, which start simple and get more complex if there are concerns about how much water is available at any level. The higher the level or tier, the more complex the science involved and the narrower the geographic focus. The purpose of moving from one tier to another is so those involved in source protection planning can understand where sources of water are located, how much water is being used and to ensure the more complex work is focused where it is needed.

**“Wellhead Protection Area (WHPA)”** is the zone around a drinking water well. The WHPA-A is the 100 metre circle centred on the wellhead. The WHPA-B is the two year time of travel (for groundwater to reach the wellhead). WHPA-C is the five year time of travel. WHPA-D is the 25 year time of travel. WHPA-E is associated with a GUDI well (Groundwater Under Direct Influence of surface water well) and represents a two hour time of travel up the influencing surface water body.

## APPENDIX H – MAPS

These maps are included:

Map 1.1 - Ramsey Lake Intake Protection Zones 1 and 2

Map 1.2 - Ramsey Lake Intake Protection Zones 1, 2 and 3

Map 1.3 - Ramsey Lake Issue Contributing Area

Map 2.1 - Wanapitei River Intake Protection Zones 1 and 2

Map 2.2 - Wanapitei River Intake Protection Zones 1, 2 and 3 with a vulnerability score of 6 or higher

Map 3.1 - Vermilion River Intake Protection Zones 1 and 2

Map 3.2 - Vermilion River Intake Protection Zones 1, 2 and 3 with a vulnerability score of 6 or higher

Map 4.1 - Valley and Capreol Wellhead Protection Areas

Map 5.1 - Garson and Falconbridge Wellhead Protection Areas

Map 6.1 - Dowling and Onaping Wellhead Protection Areas

Map 7.1 – Valley Wellhead Protection Areas - Quantity

Map 7.2 – Valley Distribution System