

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER

Thames-Sydenham and Region *Source Protection Plan*

Volume 1 - Introduction and Background

March 5, 2015
Updated July 2023

Source Protection Plan for:
Lower Thames Valley Source Protection Area
St Clair Region Source Protection Area
Upper Thames River Source Protection Area

Prepared by the Thames-Sydenham and Region Source Protection Committee



This project has received funding support from the Government of Ontario. Such support does not indicate endorsement of the contents by the Government of Ontario. The views expressed in this publication are the views of the Thames-Sydenham and Region Source Protection Committee and do not necessarily reflect those of the Government of Ontario.

Thames-Sydenham and Region Source Protection Plan, Volume I

Updated July 2023

Source Protection Plans for Lower Thames Valley,
St. Clair Region, and Upper Thames River Source
Protection Areas

Thames-Sydenham and Region Source Protection Committee

June 9, 2022

Dear Reader,

Re: Proposed Amendments to the SPP and Assessment Reports

The Thames-Sydenham and Region Source Protection Committee revised the enclosed plan and reports based on updates to the 2017 Director Technical Rules and on comments received from stakeholders and the province. The revised updated reports are revised versions of the updated Assessment Reports for the Lower Thames Valley (LTVSPA), St. Clair Region (SCRSPA), and the Upper Thames River (UTRSPA) Source Protection Areas and Volumes I and III of the Source Protection Plans along with the Explanatory Document. These documents are being submitted to the Ministry of Environment, Conservation and Parks for approvals.

The general changes that have been made to the enclosed documents are listed below. Also included on the Source Protection website along with these documents are change logs for each document detailing the changes that have been made throughout the documents.

Source Protection Plan

- Various 2017 technical rule changes
- Addition of policy 2.21.1 -Application of Agricultural Source Material (ASM) to Land - Prohibition
- Addition of policy 2.51.1 -Agricultural Source Material (ASM) Generation Through Livestock Grazing or Pasturing Land, an Outdoor Confinement Area, or a Farm Animal Yard - Prohibition (St. Marys WHPA Only)
- Risk Management Plans will have a timeframe of eight years to establish risk management plans for all existing significant threats identified at the time of the initial approval of the SPP. This timeframe would be applied to all risk management plan policies in the Thames-Sydenham and Region except for those that apply to Oxford County.

Assessment Reports (SCRSPA, LTVSPA, UTRSPA)

- Various technical rule changes
- As part of the updates to the Table of Drinking Water Threats in 2017, "the establishment and operation of liquid hydrocarbon pipelines" has been identified as a new prescribed threat.
- Update references to nitrate issue in Wallaceburg since it is no longer an issue
- Update WHPA delineations for several Oxford County drinking water systems using Tier 3 Water Budget models
- Update Shakespeare WHPA delineation

We look forward to the successful implementation of this first round of a comprehensive review to the Source Protection Plan and Assessment Reports for the Thames- Sydenham and Region.

Sincerely,



Dean Edwardson, Chair
Source Protection Committee for the Thames-Sydenham Source Protection Region

Executive Summary

The protection and enhancement of drinking water sources is paramount in order for the successful growth of Ontario. The Clean Water Act, 2006, is the Ontario government's commitment to this as well as a way to implement many of the recommendations that resulted from the Walkerton Inquiry. The overarching purpose of the Walkerton Inquiry was to ensure the safety of the water supply in Ontario. Source protection is the initial barrier of a multi-barrier approach to protecting drinking water sources. The other barriers that help to protect drinking water include treatment; testing and distribution, which are governed by the Safe Drinking Water Act, 2002.

The Source Protection Plan is not only a compilation of policies, it is the culmination of a process that has used a science-based approach as its foundation for identifying vulnerable areas and the risks posed to municipal water systems. Justice O'Connor indicated that to be successful, the watershed-based Source Protection Plan must influence land use patterns (Doumani and Foran, 2009). As a result, a framework was developed that focused on the development of locally driven Source Protection Plans. This framework involved the development of a Terms of Reference, an Assessment Report, and policies.

The first stage of this framework was the development of a Terms of Reference, which would be the work plan for the development of the Source Protection Plan. Terms of Reference was developed for the Source Protection Areas within the Thames-Sydenham and Region and identified the drinking water systems to be included in the Source Protection Plan.

The second stage of this framework was the development of an Assessment Report. The Assessment Report contains the science behind the Source Protection Plan and forms the basis of the Plan. Assessment Reports were completed for each of the three Source Protection Areas within the Thames-Sydenham and Region. The Assessment Reports meet the requirements of the Clean Water Act, its regulations, and the technical rules.

The key objectives of the Source Protection Plan are outlined within the Clean Water Act and require existing and future drinking water sources within the source protection area be protected, as well as ensuring that, for areas identified within the Assessment Reports as areas where an activity is or would be a significant drinking water threat, the activity never becomes or ceases to be a significant drinking water threat. The Thames-Sydenham and Region Source Protection Plan has been developed as a three-volume document. Volume I provides the overall context for the Plan; explains how to interpret the Plan; explains the development process for the Plan; explains the types of policies; and addresses how the Plan will be implemented.

Policy development is a key building block of the Source Protection Plan. Source Protection Plan policies were developed in an open, transparent, collaborative manner. Two policy leads, the Source Protection Committee and Oxford County, were responsible for developing the policies contained within the Thames-Sydenham and Region Source Protection Plan. Oxford County, a leader in the protection of drinking water sources well before the implementation of the Clean Water Act, identified that they would be the lead policy developer for those areas of the County located within the Upper Thames River Source Protection Area. It is important to realize that absolute consistency

between municipalities is neither necessary nor a likely outcome; hence the development of two separate policy volumes (Volume II - policies addressing existing and future threats in Oxford County; Volume III - policies addressing existing and future threats in the remaining municipalities of the Thames-Sydenham and Region) for this Source Protection Plan.

The multi-step policy development framework used by the Thames-Sydenham and Region involved the following:

- Step 1: development of Threat Policy Discussion Papers;
- Step 2: development of draft policies;
- Step 3: policy pre-consultation;
- Step 4: development of the draft proposed Source Protection Plan; and
- Step 5: development of proposed Source Protection Plan.

The Source Protection Plan is comprised of three different types of policies: threat policies, other permitted policies, and monitoring policies. To maintain the integrity of the Source Protection Plan, the types of policies included have been prioritized.

The Province, through the Clean Water Act and its associated regulation, has set expectations of how drinking water sources should be protected. To achieve expectations, such as consistency, the focus on policy development throughout the Province has been on the harmonization of the intent of the policies (e.g., obtain the objective that a significant threat ceases to be or never becomes a significant threat) and not the requirement of a “cookie cutter” approach, where the Plans are exactly the same for each Region of the Province.

The implementation of the Source Protection Plan policies found within Volumes II and III requires cooperation of various stakeholders. The Clean Water Act and the source protection planning process were initiated by the Province and enabled through legislation. The Minister of the Environment is responsible for the review of and approval of this initial proposed Source Protection Plan as well as subsequent reviews and updates. The Province also plays a key role in the implementation of the Source Protection Plan through prescribed instruments administered by various ministries.

Implementation of the Source Protection Plan relies heavily on municipal participation. Municipalities need to protect vulnerable areas within their respective jurisdictions since activities within these areas can pose threats to the municipal drinking water systems. Municipalities have a responsibility of knowing where vulnerable areas are located and the obligations related to water and vulnerable areas set out in the Provincial Policy Statement, 2005. With the approval of the Source Protection Plan, municipalities will be responsible for implementing many of the requirements of the Clean Water Act and the approved Source Protection Plan. Municipalities, through the Risk Management Official and Risk Management Inspector, are responsible for implementing policies that use approaches identified in Part IV of the Clean Water Act (specifically Section 57 prohibition, Section 58 regulated activities, and Section 59 restricted land use). Municipalities will also be responsible for ensuring that their decisions under the Planning Act are consistent with significant threat policies and have regard for other policies in the Source Protection Plan.

The Conservation Authorities within the Thames-Sydenham and Region also have an important role in implementing the Source Protection Plan. Not only do policies identify the Conservation Authority as an implementer, but policies imply that Conservation Authorities would be responsible for providing assistance for other Source Protection Plan policies. The Upper Thames River Conservation Authority (UTRCA) plays a key role in the annual progress report. UTRCA will be responsible for summarizing implementer monitoring reports to provide the Source Protection Authority with information that can be used in the annual progress reports.

It is anticipated that new information will become available through the implementation of the Source Protection Plan. It will be important that this information be used to inform future updates to the Assessment Report and the Source Protection Plan.

The Source Protection Plan and supporting documents form a complete set of documents. Of primary importance is the inter-relationship between the Source Protection Plan and the Assessment Reports. The Assessment Reports provide the science behind the plan and define the vulnerable areas in which the Source Protection Plan Policies apply.

These documents are all available on a single DVD and on the Thames-Sydenham and Region web site at www.sourcewaterprotection.on.ca

<i>Source Protection Plan</i>	<i>Supporting Documents</i>
❖ Volume I - Introduction and Background	❖ Terms of Reference Guide
❖ Volume II - Policies affecting the areas of Oxford County within the Thames-Sydenham and Region Source Protection Region	❖ Lower Thames Valley Assessment Report
❖ Volume III - Policies affecting the Thames-Sydenham and Region Source Protection Region except Oxford County	❖ St Clair Region Assessment Report
	❖ Upper Thames River Assessment Report
	❖ Explanatory Document
	❖ Glossary of Terms
	❖ Threats Policy Discussion Papers Addendum
	❖ Consultation and Stakeholder Engagement Plan
	❖ Water Budget Documents
	❖ Watershed Characterization Report

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Volume II – Policies affecting the areas of Oxford County within the Thames-Sydenham and Region (Bound separately)

Volume III – Policies affecting the Thames-Sydenham and Region Source Protection Region except Oxford County (Bound separately)

1. Preface

The Thames-Sydenham and Region Source Protection Committee would like to acknowledge that this locally driven Source Protection Plan has been developed with the generous support of the Province of Ontario to meet the requirements of the Clean Water Act. The Source Protection Committee acknowledges the collaboration and consultation with provincial, municipal, and industry representatives, and local residents.

Many years of dedicated, hard work has gone into collecting and reporting on the information behind this Plan. During the development of the Source Protection Plan and its supporting documents (including the Terms of Reference and Assessment Reports), a project team from the Upper Thames River Conservation Authority, Lower Thames Valley Conservation Authority, and St. Clair Region Conservation Authority provided technical and administrative support to the Source Protection Committee. This Source Protection Plan also includes policies developed by the County of Oxford. Oxford County's leadership in Source Water Protection has benefited not only the local Source Protection Plan but the Source Protection Planning Process across the Province.

1. Introduction

The protection and enhancement of drinking water sources is paramount for the successful growth of Ontario and for the health and safety of its residents. The Clean Water Act, 2006 (CWA), is the Ontario government's commitment to this as well to implement the recommendations from the Walkerton Inquiry. A multi-barrier approach was recommended as the way to ensure the safety of the water supply in Ontario. Source protection is the initial barrier as part of this approach. The other barriers that help to protect drinking water include treatment; testing and distribution which are governed by the Safe Drinking Water Act, 2002.

The CWA and its associated regulations directly address 12 and support the implementation of 22 of the recommendations from the Walkerton Inquiry (http://conservation-ontario.on.ca/source_protection/Clean_Water_Actindex.htm). As a result, a framework was developed that focused on the development of locally driven Source Protection Plans. Justice O'Connor indicated that to be successful, the watershed-based Source Protection Plan must influence land use patterns (Doumani and Foran, 2009). The Source Protection Plan is not only a compilation of policies, it is the culmination of a process that has used a science-based approach as its foundation for identifying vulnerable areas and the risks posed to municipal water systems.

The Thames-Sydenham and Region Source Protection Plan applies to the Lower Thames Valley (LTVSPA), St. Clair Region (SCRSPA), and Upper Thames River Source Protection Areas (UTRSPA). Section 1 of this Volume outlines the Thames-Sydenham and Region Source Protection Region (TSR), the Source Protection Committee (SPC), and the Source Protection Plan objectives.

The Source Protection Plan relies on supporting materials contained in other reports that are either contained within this Plan or have been prepared under separate cover. The Thames-Sydenham and Region Source Protection Committee has been responsible for guiding the development of the Source Protection Plan and its supplementary material.

1.1 *Thames-Sydenham and Region Source Protection Region*

As mentioned above, the TSR is comprised of LTVSPA, SCRSPA, and UTRSPA. These Source Protection Areas (SPA) are shown in Map 1-1 with the drinking water systems of the Thames-Sydenham and Region. The LTVSPA includes lands draining into the Thames River from the community of Delaware to Lake St. Clair and the area south of the Thames River which drains directly to Lake Erie. SCRSPA includes lands draining into southern Lake Huron, St. Clair River through the Sydenham River, and its immediate tributaries. UTRSPA includes areas draining into the Thames River above the community of Delaware and covers large portions of Oxford, Perth, and Middlesex Counties. The total area covered by TSR is approximately 10,826 km². Further information on the TSR can be found within Section 2 (Watershed Characterization Report) of the respective Assessment Reports for each area.

Thirty-one (31) municipal water supply systems were identified within the TSR. Vulnerable areas associated with each of these systems have been assessed. Six (6) have been identified as surface water intakes around which intake protection zones (IPZ) are delineated. An IPZ is an area of land and water upstream of a municipal intake where a spill or leak may threaten the water supply without providing enough time to warn a community to shut its water intake. Twenty-five (25) groundwater wells systems have been identified around which wellhead protection areas (WHPA) are delineated. A WHPA is the area surrounding the wellhead through which contaminants are likely to move toward or reach the well. Various zones that make up a WHPA are based on how long it would take a contaminant in the aquifer to get to the well. Further detail on these systems and the vulnerable areas associated with the systems can be found within the respective Assessment Reports.

REPLACE THIS BLANK PAGE WITH
MAP 1-1 (tabloid size)

1.2 Thames-Sydenham and Region Source Protection Committee

The development of the Source Protection Plan was under the direction of the SPC, whose composition included a wide cross section of stakeholders covering all three Source Protection Areas. As directed by the CWA, the 25-member Committee consisted of one-third municipal representation; one-third economic sector stakeholders (e.g., industrial, agricultural); and one-third representing the general public as well as three First Nation members representing the eight First Nations in the Region and a committee chair appointed by the province. Three liaison members representing the province, health units, and the Source Protection Authorities were also part of the SPC. After considerable consultation with stakeholders, First Nations, and the public and a thorough selection process, the Committee was formed in November 2007 (details on committee selection process are outlined in the Discussion Paper on Participation in the Source Protection Planning Process, March 13, 2007, and the three approved Assessment Reports).

The three key roles of the Source Protection Committee were to develop, consult on, and submit to the province:

- Terms of Reference for the development of a Source Protection Plan;
- Assessment Reports for each of three Source Protection Areas; and
- Source Protection Plan.

In February 2008, the Source Protection Committee established a Mission Statement: *To protect sources of drinking water by developing a Plan based on science and local cooperation*. The committee also established a set of guiding principles:

- to develop fair and reasonable solutions;
- to ensure consensus within the diverse group;
- to require clarity of information;
- to ensure open communication; and
- to ensure respect for diversity of opinion.

Details of the process to develop the Mission Statement and Guiding Principles can be found in *Mission Statement and Guiding Principles Summary Document, February 8, 2008*. A code of conduct and rules of order were also developed by the Committee and accepted by the Source Protection Authorities (*Thames-Sydenham and Region Source Protection Committee Code of Conduct, Rules of Order and Conflict of Interest Policies, December 2007*). The SPC developed a participatory process to engage stakeholders in the development of the Source Protection Plan. This process meets, and in many ways exceeds, the regulatory requirements of the CWA.

1.3 Source Protection Plan Objectives

Objectives, which form the foundation of the Source Protection Plan, have been outlined within Section 22 of Ontario Regulation 287/07. The desired result of these objectives is to protect sources of municipal drinking water against existing and potential threats. The policies that form the basis of the Source Protection Plan are intended to satisfy these objectives. These objectives are detailed below.

- 22(1) Every source protection plan shall set out the following as objectives of the plan:
 1. To protect existing and future drinking water sources in the source protection area.
 2. 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.
- 22(2) If a source protection plan sets out policies relating to conditions resulting from past activities, the plan shall set out that an objective of the plan is to ensure that for every area identified in the assessment report 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.
- 22(3) If, under Subsection 85 (6) of the Act, the Minister has directed that a report be prepared and submitted that recommends policies that should be set out in the source protection plan for the source protection area to assist in achieving a Great Lakes target, the plan shall set out that an objective of the plan is to achieve the target for the source protection area.
- 22(4) No objectives other than the objectives set out in Subsections (1) to (3) shall be contained in a source protection plan. (Government of Ontario, 2006).

As there have been no conditions identified in the Assessment Reports of the Region, the objectives identified in 22(2) do not apply to this Source Protection Plan. Similarly, the Minister has not directed that Great Lakes targets be established, thus the objective indicated in 22(3) does not apply to this Source Protection Plan.

Section 22(4) is explicit in restricting the objectives of the Source Protection Plan to those which are indicated in Sections (1) to (3). While protecting drinking water sources, the Plan will undoubtedly benefit the other uses of the water sources being protected as well as having other environmental benefits. Those additional or ancillary benefits shall not be construed as objectives of the Source Protection Plan nor shall they be considered in the interpretation of the Source Protection Plan.

2. Interpretation

2.1 How to Read the Plan

The Source Protection Plan is more than a set of individual policies. It is comprised of background context and components that assist in ensuring that this Plan uses both a collaborative and science-based approach to achieve its fundamental principle of protecting drinking water at the source.

The CWA and Ontario Regulation 287/07 (general regulation) provide the requirements of the contents of the Source Protection Plan. The contents of the Plan are defined into two categories, mandatory and optional, which are summarized in the table below.

Table 2-1. Source Protection Plan Content

Mandatory Content	Optional Content
<ul style="list-style-type: none">• Approved Assessment Report• Objectives• Significant threat policies - activities: For areas where an activity is or would be a significant drinking water threat, policies intended to ensure the activity ceases to be or never becomes significant• Monitoring policies:<ul style="list-style-type: none">○ monitoring activities/conditions in areas where they are / would be significant○ monitoring of moderate / low drinking water threats where advisable to prevent the threat (activity or condition) from becoming significant○ monitoring of a drinking water issue where advisable• Summary of consultation activities• Applicable legal provisions, person/body responsible and applicable area for each policy must be clearly identified• Dates by which official plans, zoning by-laws and prescribed instruments must conform with significant threat policies	<ul style="list-style-type: none">• Significant threat policies – conditions (contamination from previous activities): For areas where condition resulting from a past activity is a significant threat, policies intended to ensure condition ceases to be significant• Moderate and low threats policies – Policies to address activities and conditions identified as moderate and low threats• Policies governing:<ul style="list-style-type: none">○ Incentive programs and education & outreach programs, including for drinking water systems not in the terms of reference○ Spills prevention, contingency or response plans along highways, railways or shipping lanes in intake protection zones or wellhead protection areas○ Climate change data collection○ Transport pathways• Anything that will assist in understanding the source protection plan• Dates for policies to take effect

Note: Requirements related to Great Lakes targets are not listed, as Great Lakes targets have not been established for the first round of the Source Protection Plan.

The Source Protection Committee placed the following priorities on policy development.

1. Significant threat and monitoring policies;

2. Optional policies related to spills, local threats and transport pathways;
3. Activities where the threat to drinking water would be a low or moderate threat as well as policies for HVAs; and
4. Policies for water quantity threats (Tier 3 Water Budget concluded that there are no significant threats to Water Quantity, therefore no policies are required for water quantity).

The Source Protection Plan is comprised of three (3) volumes and is supported by an accompanying Explanatory Document. The Volumes are structured in the following manner:

- Volume I: provides the context of the overall Plan
 - Section 1 provides the context of the Source Protection Plan
 - Section 2 explains the interpretation of the Source Protection Plan
 - Section 3 explains the development process for the Source Protection Plan
 - Section 4 explains the different types of policies that have been developed to address drinking water threats
 - Section 5 addresses the implementation of the Source Protection Plan
- Volume II: contains the policies addressing existing and future activities in Oxford County
- Volume III: contains the policies addressing existing and future activities in the remaining municipalities of the Thames-Sydenham and Region. Policies in Volume III are structured in such a way that general policies are presented first followed by significant threat policies, moderate and low policies, other policies (updates to spill prevention, contingency and emergency response plans and transport pathways), and monitoring policies. To assist the reader, each policy has been given a unique numbering scheme.

The Plan is intended to be read in its entirety and the relevant policies applied to each situation. There is no implied priority in the order in which policies appear within Section 3 of Volumes II and III.

2.2 General Authority

The CWA and Ontario Regulation 287/07 (general regulation) provide the legal framework for the Source Protection Plan. This Plan applies to all three Source Protection Areas (Lower Thames Valley, St. Clair Region, and Upper Thames River) within the Thames-Sydenham and Region Source Protection Region. The Source Protection Committee is of the opinion that the policies contained within the Source Protection Plan satisfy the legislative requirements.

This Plan should also be read in conjunction with all other applicable policy, regulations, or standards such as the Planning Act, Provincial Policy Statement, and municipal Official Plans and zoning by-laws. The Source Protection Plan prevails in the case of a conflict between a significant threat policy and an Official Plan or a zoning bylaw (CWA Section 39(2)). In the case of conflict between a significant threat policy and the Provincial Policy Statement, the provision that provides the greatest protection to the quality and quantity of any source of drinking water prevails (CWA Section 39(2)). Similar provisions are made for other Acts as listed in Section 39(5) of the CWA. Section 105 further strengthens the concept that the provisions which provide the greatest protection to water prevail with the exception of the Nutrient Management Act (NMA) (CWA Section 105(2)).

2.3 Source Protection Plan Timelines and Updates

The Source Protection Plan for the Thames-Sydenham and Region comes into effect on the date of the posting of the notice of approval on the environmental registry established under the Environmental Bill of Rights, 1993 by the Minister of Environment.

Source Protection Plans are viewed as ‘living’ documents and are subject to review and updates. Under the provisions of the CWA, a schedule of the timing and steps involved in the review of the Source Protection Plan will be provided when the Minister approves the Source Protection Plan. This review may include updates to work completed under the CWA such as Assessment Reports or revisions or additions of policies. Amendments to the Source Protection Plan may also be proposed by the Source Protection Authority. Annual reports, which are discussed further in Section 5.3, may provide the basis for these future amendments. If amendments are made to the Source Protection Plan, amendments are also required to the Explanatory Document.

2.4 Definitions

Many of the terms included within the Source Protection Plan have been defined in other provincial documents (i.e., Acts, regulations, and technical rules). The terms included in this Plan are not intended to alter or otherwise define the terms or concepts included in those provincial documents. Definitions and a list of acronyms are provided for the convenience of the reader within Appendix A of this Volume.

In some cases, terms or concepts in the provincial documents were vague or undefined, allowing for flexibility in interpretation. Where the committee determined that further clarity was required to aid in the implementation and understanding of policies, those definitions are included with the policies in Volume II and III of this Plan.

2.5 Supporting Documents

The Source Protection Plan is the culmination of many years of work assessing and considering threats to municipal drinking water sources in the Thames-Sydenham and Region. This Plan relies on many supporting documents to describe the science behind the Plan as well as the policy development process. The documents that support this Plan are:

- Terms of Reference for Lower Thames Valley, St. Clair Region, and Upper Thames River Source Protection Areas;
- Assessment Reports for Lower Thames Valley, St. Clair Region, and Upper Thames River Source Protection Areas;
- Assessment Report System Summaries;
- Threats Policy Discussion Papers;
- Consultation and Stakeholder Engagement Plan; and
- Explanatory Document.

Each supporting document is discussed further in the following sections. With the exception of the Assessment Report, these documents, although they aided in the development of the Source Protection Plan, are not included in the Source Protection Plan itself. These supporting documents

can be found on the DVD on which this Source Protection Plan is available or on the Thames-Sydenham and Region website www.sourcewaterprotection.on.ca. Every effort has been made to ensure the accuracy of the information in these supporting documents; however, they are not intended to be a substitute for legislation, Assessment Reports or the Source Protection Plan.

2.5.1 Terms of Reference

The Source Protection Committee developed a work plan, known as the Terms of Reference (TOR), to guide the local source protection planning process (completion of the Assessment Report and Source Protection Plan). The TOR was developed with input from municipalities and stakeholders and outlined the tasks to be completed, who would complete the tasks, and how much it would cost to undertake these tasks.

The Terms of Reference underwent considerable consultation as required by the Clean Water Act. This consultation included public consultation on the draft proposed Terms of Reference and the proposed Terms of Reference. A consultation summary is included in Appendix F of the Terms of Reference Guide, while comments are summarized in Appendix G. The Terms of Reference Guide, including the Terms of Reference for each of the Three Source Protection Areas, is included with the other supporting documents on the Source Protection Plan DVD and is available on the Thames-Sydenham and Region website (http://www.sourcewaterprotection.on.ca/sp_planning_tor.html).

The Minister of Environment approved the TOR on April 20, 2009.

Updates to the Terms of Reference are required to remove decommissioned municipal systems and add the Kettle & Stony Point First Nation intake.

2.5.2 Assessment Reports

The CWA requires that the Source Protection Plan include approved Assessment Reports. The Assessment Report, which is critical to the interpretation of the Plan, provides the science behind the Source Protection Plan. Detailed information on vulnerable areas (identification and assessment of level of vulnerability); activities within vulnerable areas that pose threats to drinking water systems; the assessment of risk due to these threats; and the identification of issues related to drinking water sources is contained within the Assessment Report.

The Assessment Reports underwent extensive public consultation. This consultation went far beyond the requirements of the Clean Water Act to engage stakeholders and the public at various stages of the technical work supporting the Assessment Reports. This consultation included a 4 phased approach to stakeholder engagement initiated at the delineation of draft vulnerable areas and culminating with the consultation on the draft proposed and proposed Assessment Reports.

Separate consultation was undertaken locally on each of the three Assessment Reports for the Thames-Sydenham and Region. The consultation on the Assessment Reports is documented in the Assessment Report Consultation Plan included as Appendix 4 of each of the Assessment Reports. Included with the consultation plan is a consultation schedule and summary of consultation and comments which is specific to the Assessment Report in which it is contained. All other aspects of the consultation plan are common to all Assessment Reports in the Thames-Sydenham and Region.

The Assessment Reports are contained on the Source Protection Plan DVD and on the Thames-Sydenham and Region website (http://www.sourcewaterprotection.on.ca/sp_planning_assessmentreport.html).

Within the Thames-Sydenham and Region, three (3) Assessment Reports (Lower Thames Valley, St. Clair Region, and Upper Thames River Source Protection Areas) were completed and approved. Refer to Table 2-2 for the dates of these reports. All 3 have been updated and submitted for approval with the Amended Proposed Source Protection Plan.

Table 2-2. Approved Assessment Reports in the Thames-Sydenham and Region

Source Protection Area (SPA)	Approved		Update Submitted	
	Version	Date	Version	Date
Lower Thames Valley SPA	Amended Proposed Assessment Report	Nov. 12, 2010	Updated Assessment Report	Nov 14, 2014
St. Clair Region SPA	Updated Assessment Report	Revised Nov. 18, 2011	Updated Assessment Report	Nov 14, 2014
Upper Thames River SPA	Amended Proposed Assessment Report	Revised Aug. 12, 2011	Updated Assessment Report	Nov 14, 2014

These Assessment Reports have been included on DVD on the back cover of this Source Protection Plan and are also available on the Thames-Sydenham and Region Source Protection website at the address noted above.

2.5.3 Assessment Report System Summaries

System summaries were developed as part of the Assessment Report to provide a quick summary of the information pertaining to the municipal systems in the Region. These summaries have been removed from the Appendices of the Assessment Reports so that they may be updated from time to time. They will be updated to include an overview of the policies which affect the vulnerable areas. The summaries are contained on the Source Protection Plan DVD and on the Thames-Sydenham and Region website. (http://www.sourcewaterprotection.on.ca/sp_planning_assessmentreport.html).

2.5.4 Threat Policy Discussion Papers

Threat Policy Discussion Papers (TPDP) were developed to assist with policy development. These discussion papers provided a common understanding of the threats to drinking water and the risk management considerations. The discussion papers do not form part of the Source Protection Plan; however, they provide valuable background context. A compilation of the TPDP can be found on the Thames-Sydenham and Region Source Protection website (www.sourcewaterprotection.on.ca) as well as in the supporting documents on the Source Protection Plan DVD. While every effort has been made to ensure the accuracy of the information in the discussion papers, it should not be construed as legal advice or relied on as a substitute for the legislation. The role of these documents in policy development will be further discussed in Section 3 (Development of the Source Protection Plan).

2.5.5 Consultation and Stakeholder Engagement Plan

Transparency, a process open to stakeholder and public scrutiny, is an important principle of the Source Protection Plan process. Input throughout the planning process from stakeholders and public was critical to the Plan's success. The Discussion Paper on the Source Protection Planning Process, March 2007 outlined the proposed approach to consultation that included the process for selection of the Source Protection Committee, the establishment of working groups, stakeholder forums, public open houses, and information dissemination. This discussion paper was widely circulated and formed the basis of early consultation in the community.

Consultation, in accordance with the CWA and supplemented from the *Source Protection Planning Process, March 2007*, was undertaken for:

- Nominations for the Source Protection Chair;
- Source Protection Committee selection;
- Terms of Reference (details in Terms of Reference Appendix F, Summary of Consultation, September 2008); and
- Assessment Reports (details in Assessment Report Consultation Plan, June 7, 2009).

While certain aspects of public and stakeholder participation were prescribed in the legislation, there was a considerable effort to expand upon the required minimum standards. For example, legislation required a total of three (3) open houses to be held approaching the completion of the three (3) Assessment Reports. In order to ensure transparency, the Source Protection Committee chose to hold 42 local public meetings at various stages in the completion of technical studies and Assessment Reports. A general mailing to all landowners living within an IPZ or WHPA was completed, providing information on the development of the Assessment Reports and an invitation to a public meeting. Notices were distributed for the posting of the draft proposed and proposed Assessment Reports as required by the CWA. The required notices included distribution to those landowners who were believed to be engaged in an activity which would be a significant drinking water threat. Comments received from this public consultation, along with comments from municipalities and other stakeholders, were considered by the Source Protection Committee prior to finalizing the Assessment Reports.

Early engagement was a crucial step in ensuring transparency. Early engagement included the development of a First Nations Liaison Committee to engage First Nations in the policy development process; the establishment of municipal forums (including providing presentations to councils to keep municipalities engaged in policy development); and the development of the Conservation Authority disclosure service. This service was incorporated into the CA planning advisory and permitting process. This service was intended to raise awareness of the vulnerable areas as well as inform proponents of projects that the activities that they were planning to engage in were in vulnerable areas which may be affected by Source Protection Plans. This service augments the required notification of the property owners who are believed to be engaged in activities which may be significant threats to include those who may be planning for such activities in the future.

A Consultation and Stakeholder Engagement Plan (CSEP) for the Source Protection Plan has been prepared under separate cover and is available on the Source Protection Plan DVD and on the

Thames-Sydenham and Region website (www.sourcewaterprotection.on.ca). The CSEP describes the different types of engagement (early engagement, Plan notification, pre-consultation, and public consultation) that has been undertaken by the Thames-Sydenham and Region Source Protection staff to facilitate the Source Protection Plan development process.

2.5.6 Explanatory Document

The Explanatory Document, a companion document to this Source Protection Plan, provides the general public, stakeholders, Source Protection Authority, and the Ministry of Environment, Conservation and Parks with the rationale used in policy development. This rationale also includes a description of how the costs of implementation were considered in the development of policies for the Source Protection Plan. The specific regulatory requirements for the Explanatory Document are outlined in Section 40 of Ontario Regulation 287/07. The Explanatory Document is a separate document which can be found on the Thames-Sydenham and Region website (www.sourcewaterprotection.on.ca) as well as in the supporting documents on the Source Protection Plan DVD.

3. Development of the Source Protection Plan

To ensure transparency of the preparation of the Source Protection Plan and the success of its implementation, collaboration with stakeholders is required. This collaboration has been seen in the development of a Terms of Reference, Assessment Report, and the Source Protection Plan itself. The TOR and AR have been discussed in Section 2. The steps taken in developing the Source Protection Plan are discussed in further detail in the following sections.

3.1 Key Steps in Policy Development

Policy development is a key building block of the Source Protection Plan. Source Protection Plan policies were developed in an open, transparent, collaborative manner. Two policy leads, the Source Protection Committee and Oxford County, were responsible for developing the policies contained within the Thames-Sydenham and Region Source Protection Plan. Oxford County, a leader in the protection of drinking water sources well before the implementation of the CWA, identified that they would be the lead policy developer for those areas of the County located within the Upper Thames River Source Protection Area. The County was also the lead for policy development for the parts of the County in the Lake Erie Source Protection Region. One of the benefits from developing the policy within the entire County is consistency. It is important to realize that absolute consistency within and between municipalities is neither necessary nor a likely outcome. The policy developer in the Thames-Sydenham and Region has strived for harmony (or consistency in policy intent on primary significant threat policies). Due to the two policy leads within the Region, it became evident that it was necessary to develop two separate policy volumes (Volume II - policies addressing existing and future threats in Oxford County; Volume III - policies addressing existing and future threats in the remaining municipalities of the Thames-Sydenham and Region) for this Source Protection Plan.

The goal was to develop policies that were not only effective at protecting drinking water sources but were practical and cost-effective to implement. The multi-step policy development framework used by the Thames-Sydenham and Region involved the following:

- Step 1: development of Threat Policy Discussion Papers;
- Step 2: development of draft policies;
- Step 3: policy pre-consultation;
- Step 4: development of the draft proposed Source Protection Plan; and
- Step 5: development of proposed Source Protection Plan.

The specific rationale of the policy development process can be found within Section 4 of the Explanatory Document.

3.1.1 Step 1: Development of Threat Policy Discussion Papers

A series of Threat Policy Discussion Papers (TPDP) for the Thames-Sydenham and Region has been developed as the first step in the Source Protection Plan policy development process. Each discussion paper was developed to provide a high-level understanding of the threat by addressing the nature of the drinking water threat (as prescribed in Ontario Regulation 287/07); local occurrences of the threat; applicable legislation, policies and programs; policy considerations;

proposed policy concepts; policy examples; and draft policies. These TPDP were based on papers developed collaboratively with staff from other Source Protection Regions. They were refined and combined through a local process involving the Source Protection Committee and working groups. The TPDP within the Thames-Sydenham and Region were organized by grouping similar threats. Table 3 provides this organization.

Table 3-1. Thames-Sydenham and Region Source Protection Committee Threat Discussion Paper Organization

Threat Type	Associated Threats
Waste Disposal and Sewage Threats	The establishment, operation, or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act <ul style="list-style-type: none"> • Application of untreated septage to the land • Other waste disposal sites (e.g., land farming of petroleum refining waste, landfilling of hazardous waste, landfilling of municipal waste, landfilling of solid non-hazardous industrial or commercial waste, storage of hazardous waste, injection of liquid industrial waste, PCB storage)
	The establishment, operation or maintenance of a system that collects, stores, transmits, treats, or disposes of sewage <ul style="list-style-type: none"> • Stormwater management facilities designed to discharge stormwater to land or surface water • Sewage treatment plant effluent, storage of sewage and sanitary sewers and related pipes • Septic systems and holding tanks • Industrial effluent
Agricultural Threats	Application and storage of agricultural source material (ASM)
	Application, handling and storage of non-agricultural source material (NASM)
	Application, handling and storage of commercial fertilizer
	Application, handling and storage of pesticides
	The use of land as livestock, grazing or pasturing land, an outdoor confinement area or farm animal yard
Chemical Threats	Handling and storage of fuel
	Handling and storage of dense non-aqueous phase liquids (DNAPL)
	Handling and storage of organic solvent
	Transportation of petroleum through pipelines
Transportation	Application, handling, and storage of road salt
	Storage of snow
	Spills prevention, spills contingency and emergency response plans
Water Quantity	Tier 3 Water Budget concluded that there are no Water Quantity SDWT
Transport Pathways	Transport pathways (wells and other transport pathways)
Local Threat	Transportation of fuel and fertilizer along transportation

Threat Type	Associated Threats
Threats not in SPR	The establishment, operation, or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act <ul style="list-style-type: none"> Storage, treatment, and discharge of tailings from mines
	The management of runoff that contains chemicals used in the de-icing of aircraft
	The management of agricultural source material-aquaculture

For the development of some of the TPDP (fuels, sewage treatment plants, waste disposal sites, and stormwater management), the Source Protection Committee established working groups to assist with the compiling of background material, assessment of current risk management practices, and development of policies. These working groups formed part of the early engagement phase of the development of the Plan. The working groups were comprised of municipal, regulatory, and industry participants based on the expertise required for the threats that were discussed.

3.1.2 Step 2: Development of Draft Policies

Besides providing background on the prescribed threat, the TPDP were intended to stimulate and facilitate the development of draft policies. This step involved the development of policy ideas, policy examples, the consolidation of policy examples, and the development of draft policies. The first rung, the development of policy ideas, was a brain storming exercise that focused on how the available policy approaches (tools) could be used appropriately to satisfy the objective of the activity not resulting in a significant risk to drinking water. The available approaches used will be discussed in further detail in this section. As a result of these ideas, specific policy examples were developed. These policy examples evaluated the merits of the policy ideas (refer to Section 3 of the Explanatory Document for the specific methods used). This process resulted in an extensive suite of policy examples to be considered by the Source Protection Committee. In an effort to simplify the policies and reduce redundancy, the policy examples were consolidated and further refined to form the basis of the draft policies. Draft policies were further refined prior to pre-consultation based on the development of the policy approach matrix, which is discussed in Section 3.1.3.

To enhance the participatory process, the Source Protection Committee established a Source Protection Municipal Policy Advisory Committee (SPMPAC). The purpose of this working group was to engage municipalities, who would be key implementers of Source Protection plan policies, in the policy development process. This committee, which was comprised of municipal representatives (planners, chief building officials, storm and sewer managers, and water system operators), was asked to review the TPDP and provide feedback on policy examples which were being considered by the committee. The comments provided by the SPMPAC were distributed to the Source Protection Committee and integrated into the development of draft policies.

3.1.2.1 Policy Approaches

The CWA provides a variety of approaches to be taken to address prescribed drinking water threats. These approaches or tools are in addition to the legislation, guidelines, and protocols that are already in place and can be arranged into six (6) different groupings that are part of a continuum of most prescriptive to least prescriptive. The implementers of these approaches have been provided in parenthesis:

- CWA Part IV Tools (municipalities, Risk Management Officials)
 - Section 57 Prohibition
 - Section 58 Regulated Activities
 - Section 59 Restricted Land Uses
- Prescribed Instruments (province)
- Land Use Planning (Planning Approval Authorities)
- Education and Outreach (province, municipalities, Conservation Authorities, health units and other public bodies)
- Incentives (province, municipalities, Conservation Authorities, health units and other public bodies)
- Other Policy Tools (province, municipalities, Conservation Authorities, health units and other public bodies)

Each of these approaches will be discussed in further detail in the following sections.

Part IV of the CWA

The CWA introduced new policy approaches or tools that could be used to implement significant threat policies. The purpose for introducing these new approaches was to give municipalities additional approaches/tools to deal with significant threats where existing local regulatory tools were inadequate to deal with these threats. This is done through Section 57 (prohibition) or Section 58 (regulated activities). Section 57 and Section 58 are generally complemented by Section 59 (restricted land uses). Municipal councils, whether single tier, upper tier, or lower tier, depending on which has the authority to pass by-laws with respect to water production and treatment and storage under the Municipal Act 2001, are responsible for enforcing Part IV of the CWA. The key component of implementing these approaches is the Risk Management Official. This individual is appointed by municipal councils under the CWA (S.47(6)) to administer the policies associated with Part IV. There are provisions within the CWA (S.48(1)) that allow this service to be secured from another municipality, Source Protection Authority or Health Unit. Part IV tools, however, have limitations such as being limited to significant threats in WHPA and IPZ as well as the inability to use Section 57 and Section 58 for the same activity on a single parcel of land.

Section 57 Prohibition

Section 57 (prohibition) is the most restrictive approach and is a tool of last resort, especially for existing activities. This approach is used when other options are, in the opinion of the SPC, not able to adequately reduce the risks to drinking water. Section 57 (prohibition) is more precise than land use planning since this approach can prohibit activities under specific circumstances instead of broader land use classifications. This approach assumes that activities will be shifted to areas where the risk to source water is lower.

In the Thames-Sydenham and Region Source Protection Region, Section 57 (prohibition) was used in two different ways. Where threats were unlikely to occur (i.e., storage of mine tailings or the storage of road salt) based on investigations through the Assessment Report, the approach was to prohibit these activities outright where they would be significant. In other cases, activities were prohibited only within certain vulnerable areas (i.e., WHPA-A or WHPA-B with a vulnerability score of 10) rather than in all areas where the activity would be a significant drinking water threat.

This approach was applied to only the most vulnerable of the areas in order to not unnecessarily hinder economic development where risk management was a viable alternative in the less vulnerable areas.

Section 58 Regulated Activities

The Planning Act was not designed to regulate ongoing activities on a specific parcel of land. Section 58 (regulated activities) has been provided under the CWA as a way to address this “gap.” This approach introduces the idea of Risk Management Plans (RMPs), which set out the safety or protective measures that a property owner will take to ensure that a significant threat is sufficiently managed such that it ceases to be (or never becomes) a significant drinking water threat. RMPs are intended to be site-specific using principles from Best Management Practices to form the foundation of these plans.

The RMP may be used to address existing or future threats and may be flexible or very prescriptive in nature. An RMP is intended to be negotiated between the Risk Management Official (RMO) and the person or company engaged in or proposing to engage in the activity. The Risk Management Official has the authority to impose an RMP if a negotiated plan is not possible. Risk Management Inspectors may be used to complete inspections ensuring compliance.

The Thames-Sydenham and Region Source Protection Region developed policies using Section 58 in a general manner in order to allow flexibility to the RMO. If a more restrictive approach were taken, it may not allow the RMO with the latitude to satisfy the regulatory requirements that the risk be managed to the point of no longer being significant. Section 58 policies were also developed where it was deemed that the Prescribed Instruments available were not adequate to fulfil the objectives set out in the Source Protection Plan.

Section 59 Restricted Land Use

Under Part IV of the CWA, Section 59 (restricted land uses) has been provided as an approach that provides a process for implementing policies associated with Section 57 (prohibition) and Section 58 (regulated activities) and, as such, cannot be used by itself. This approach provides an additional safety barrier by flagging new Planning Act and Condominium Act applications and Building Permits where significant drinking water threat activities are associated with specifically named land uses. This flagging process ensures that applicants are following the applicable Source Protection Plan policies before Planning Act, Condominium Act or Building Permit approvals are issued. In areas where Section 59 apply, an individual or business proposing to construct or change the use of a building for a land use named in the policy is required to apply to the Risk Management Official for a notice before proceeding to receive a Building Permit, Planning Act or Condominium Act approval. The Risk Management Official reviews applications and assesses them in accordance with the Source Protection Policies. If the activity is prohibited through Section 57 of the CWA, the application would not proceed. If the activity has been identified as a regulated activity under Section 58 of the CWA, the application can proceed once a notice has been provided by the RMO, which will occur after an RMP has been completed. This notice will be recognized as applicable law under in next amendment of the Building Code Act. As such, this approach provides a link between Part IV of the CWA and municipal planning and makes a proponent aware of restrictions that may be associated with a specific activity and land use.

Within the Thames-Sydenham and Region Source Protection Region, Section 59 policies are general and are directed to all land uses within Official Plans and zoning by-laws except for residential. It is unlikely that residential land use would have significant threats which are prohibited or managed by Part IV tools. A separate policy has been developed for restricted land use in areas in the SCRSPA where event-based modelling has determined that storage, handling or transportation of fuel or fertilizer is a significant threat. In these areas, only those land uses which are likely to involve the larger quantities identified in the policies have been included in the restricted land use designation.

Prescribed Instruments

Prescribed Instruments are provincially issued documents such as permits, licenses, and approvals that set out terms and conditions that are designed to protect the environment or human health. Prescribed instruments can be used to reduce the risks associated with an activity that has been identified as a drinking water threat in the associated Assessment Reports. The prescribed instrument would be used by including conditions in the instrument which prohibit or impose risk management measures for activities where they would be significant threats. For existing activities, this would require the review and possible amendment of the prescribed instrument to ensure that conditions are contained which either prohibit or manage (dependent on the policy) the activity where it would be a significant threat to drinking water.

Prescribed Instruments can be relied upon to achieve the desired objectives of the Source Protection Plan because the CWA mandates that these instruments, when associated with significant drinking water threats, conform to the policies set out in the Source Protection Plan; however, a policy that relies on prescribed instruments can only direct the actions that these instruments can legally control.

Under Ontario Regulation 287/07, sixteen (16) instruments have been prescribed to accomplish the objectives of the Source Protection Plan. These instruments include:

- Aggregate Resources Act
 - Section 8 site plans included in the application for licenses
 - Section 11 and 13 licenses to remove aggregate from pits or quarries
 - Section 25 site plans accompanying applications for wayside permits
 - Section 30 wayside permits to operate pits or quarries
 - Section 36 site plans included in applications for aggregate permits
 - Section 37 aggregate permits to excavate aggregate or topsoil
- Environmental Protection Act
 - Section 39 Certificates of Approval (Environmental Compliance Approvals) for use, operation, establishment, alteration, enlargement or extension of waste disposal sites or waste management systems
 - Section 47.5 renewable energy approvals
- Ontario Regulation 267/03 (general) under Nutrient Management Act 2002
 - Section 10 Nutrient Management Strategies
 - Section 14 Nutrient Management Plans
 - Section 28 Approvals of Nutrient Management Strategies and Plans
- Ontario Water Resources Act

- Section 34 permit to take water
- Section 53 Certificates of Approval (Environmental Compliance Approval) to establish, alter, extend, or replace new or existing sewage works
- Pesticide Act
 - Section 7 and 11 permits for land extermination, structural extermination and water extermination
- Safe Drinking Water Act 2002
 - Section 40 drinking water works permits
 - Section 44 municipal drinking water licenses

Within the Thames-Sydenham and Region, this approach was generally used to manage existing threats and prohibit future ones. It has been complemented with land use planning approaches since municipal or provincial planning approvals are often the first step in establishing a land use that may require provincial approvals. Land use planning also provides an opportunity to help inform proponents at the beginning of the development process whether certain uses or activities would be prohibited by Source Protection policies.

Land Use Planning

The Planning Act provides the legislative framework for land use planning in Ontario and describes how land uses may be controlled. This Act requires that municipal decisions be consistent with the Provincial Policy Statement (PPS) (2014). Within Section 2.2.1 of the PPS, there is a directive for planning authorities to protect, improve or restore the quality and quantity of water by implementing necessary restrictions on development and site alteration to protect all municipal drinking water supplies and designated vulnerable areas. Wellhead Protection Areas (WHPA) and Intake Protection Zones (IPZ), which are identified within the Assessment Reports, satisfy the definition of a designated vulnerable area.

Municipalities can direct or limit the location of land uses within their boundaries through various tools set out in the Planning Act. The first tool, the Official Plan (OP), is a municipality's strategic vision for future community development and land use and provides a broad view of land use planning policy. The inclusion of source water protection in OPs will help support the development of by-laws to protect municipal drinking water. Zoning by-laws, a second tool, which controls uses, location and intensity of use, are used to implement local OP policies. OP and zoning by-laws are the primary communication/reference tools for land use planning decisions and, from time to time, need to be amended due to changing circumstances within a community or due to requests made by property owners.

Land use planning policies are only applicable for future activities and may themselves manage risks or may complement other tools such as CWA Part IV tools. Under Section 32 of Ontario Regulation 287/07, land use planning and other approaches cannot be used by the Source Protection Plan to prohibit or have the effect of preventing a person from engaging in an activity where low or moderate threats have been identified.

With a few exceptions, the prescribed and local drinking water threats have been managed or prohibited through other tools/approaches and land use planning has been used as a complementary tool in the Thames-Sydenham and Region.

Education and Outreach

Education and Outreach is an approach that is rarely used in isolation for managing significant drinking water threats in the Thames-Sydenham and Region Source Protection Plan. This approach is a way to create awareness and promote Source Protection policies not only to the implementers of policy but to those impacted by policies. Education and Outreach facilitates compliance with regulatory approaches and encourages the adoption of non-regulatory approaches to manage present and future threats. This approach requires the collaboration of many partners (Conservation Authorities, municipalities, and the province) to ensure that messages of source protection are delivered in a consistent, efficient, and effective manner.

The Thames-Sydenham and Region Source Protection Committee developed general Education and Outreach policies that would address all prescribed drinking water threats through existing programs or the development of new programs where programs do not already exist. Priority is to be given to policies that address significant threats and to threats where communication can have a meaningful impact (i.e., maintenance of septic systems).

Incentives

People who voluntarily adopt changes are more committed than those forced to change. Incentives may be used to provide landowners with encouragement to make changes to their properties and practices so that they are less likely to impact drinking water sources. Incentives are intended to offset expenses that are above and beyond normal costs and can be monetary (i.e., cost-sharing agreements, grants or loans) or in-kind (i.e., partnerships, technical assistance, and recognition programs). As with Education and Outreach, this approach is generally used as a complementary tool.

Within the Thames-Sydenham and Region Source Protection Region, policies using this approach were developed to be general in nature to increase flexibility and focus on existing programs (i.e., the Ontario Drinking Water Stewardship Program) and the development of new incentive programs (where programs do not already exist) for existing threats only. Incentive policies have been developed as general “shall consider” policies and involve municipalities, Conservation Authorities, and the province as implementers of this approach.

Other Policy Tools

The CWA allows for non-regulatory approaches to be used to manage existing and future drinking water threats. These approaches include Stewardship Programs, Best Management Practices, Research, and Specify Action. It should be noted that the Thames-Sydenham and Region only used the Specify Action approach.

Specify Action

Various actions, which are not within the spectrum of other tools, can be specified within the Source Protection Plan through a Specify Action policy. Specify Action policies need to be considered individually and are usually the most appropriate way to fill “gaps” that exist as a result of other approaches. These actions may include the use of regulatory approaches, such as the Municipal Act, which gives municipalities the authority to enact by-laws related to the economic, social, or environmental wellbeing of its people. These policies may also be related to actions that cannot be prescribed in other approaches (i.e., inspections).

3.1.2.2 Development of a Policy Approach Matrix

The SPC has considered which approaches or combinations of approaches would work best in local circumstances to achieve the objectives set out in the Source Protection Plan. With few exceptions, the overall approach taken by the SPC to achieve this was to manage existing threats and prohibit future threats where possible and reasonable. Where it was not possible or reasonable to prohibit future threats, the practice was to adequately manage the threat.

As part of the refinement of draft policies, which stemmed from the TPDP process, as explained above, a policy approach matrix was developed. This matrix aided in the identification of policy approaches used for a particular threat. Appendix D of Volume II and III provide the policy matrix used in the development of Source Protection Plan policies. The policy approach matrix was also provided to policy implementers during the pre-consultation stage.

3.1.3 Step 3: Policy Pre-Consultation

Consultation on the development of policies for the Source Protection Plan is outlined in the report Thames-Sydenham Source Protection Plan Consultation and Stakeholder Engagement Plan, October 11, 2011, Updated November 2, 2012, that is referred to in Section 2.5.5 in Volume I.

The CWA requires that policy developers pre-consult with proposed implementers on the draft policies that they are proposed to implement. As a result of two policy development leads in the Thames-Sydenham and Region, the Source Protection Committee and the County of Oxford, the policies were pre-consulted in parallel. Oxford County discussed their policies as well as those developed by the Thames-Sydenham and Region with those Oxford area municipalities wholly or partially within the Thames-Sydenham and Region. The Thames-Sydenham and Region also included Oxford County in the pre-consultation process on the policies which they developed.

Pre-consultation, which occurred between early April and June 1, 2012, for areas outside of Oxford County, was a critical step in the Source Protection Planning process since it allowed policy implementers to provide valuable input on policies prior to their inclusion into the Source Protection Plan. As such, implementers were provided with draft policy wording as well as a summary of reasons for the proposed policy and asked to consider the following questions:

- Is the policy implementable?
 - What is the capacity required to implement the policy (technical, administrative, and financial)?
 - What is the impact on business and administrative processes?
 - Is the implementation timing appropriate?
- Is the policy effective?
 - Does the policy adequately manage the risks?
 - Are the monitoring requirements reasonable?
- Is the policy fair and reasonable?
 - For implementers
 - For landowners
 - For the public who rely on safe drinking water

The comments were considered by the Source Protection Committee and revisions were made prior

to posting the draft proposed Source Protection Plan. A summary of implementer comments provided during this step was included within Appendix A of the Explanatory Document.

3.1.4 Step 4: Development of the Draft Proposed Source Protection Plan

As with the Assessment Reports, consultation on the Source Protection Plan required two sets of consultation, one on the draft proposed Source Protection Plan and another on the proposed Source Protection Plan. The draft proposed Source Protection Plan was posted in August 2012 for a 40-day comment period. Notices were issued to those who were believed to be engaged in activities which would be significant drinking water threats as well as to the implementers of the policies. Public open houses were held in addition to the distribution of these notices.

The comments received during this period will be considered by the Source Protection Committee and the Source Protection Plan may be revised to reflect those comments. A summary of these comments and how they were addressed will be included in an update to the Explanatory Document prior to the posting of the proposed Source Protection Plan.

3.1.5 Step 5: Development of the Proposed Source Protection Plan

A revised version of the Source Protection Plan, the amended proposed Source Protection Plan, will be posted in December 2014. All comments received at this stage will be forwarded to the Ministry of Environment, Conservation and Parks for consideration during their review of the Plan for approval.

3.2 *Legislative Authority*

Part III of the CWA provides legal effect, which is the obligation of a responsible party to implement policies, to the policies outlined within the Source Protection Plan. To ensure that the objectives of the Source Protection Plan are being met, the legal effect provides a legislative test. A full explanation of legal effect can be found within Section 2.1 of Volumes II and III.

4. Policies

Volumes II and III contain the Source Protection Plan policies. These policies protect sources of drinking water against existing and future prescribed drinking water threats. These volumes also contain the required policy lists, applicable mapping, and a policy matrix.

4.1 *Types of Policies*

The Source Protection Plan is comprised of four different types of policies: general policies, threat policies, monitoring policies, and other permitted policies. Policies in Volume II (those affecting Oxford County) focus on significant threat, other permitted and monitoring policies) while those in Volume III (those affecting the remaining Thames-Sydenham and Region) have focused on significant, moderate and low, other permitted and monitoring policies.

4.1.1 Threat Policies

4.1.1.1 Significant Threat Policies

Under the CWA, significant drinking water threats are those that pose or have the potential to pose a significant threat. The objective of the Source Protection Plan is to develop policies to ensure that the activity ceases to be or never becomes significant. The policy approaches outlined in Section 3.1.2 of Volume I would apply to significant threats. Section 3.2 of Volume II and III contain significant threat policies.

4.1.1.2 Moderate and Low Threat Policies

Moderate and low threats have been defined in Ontario Regulation 287/07 as threats that pose or have the potential to pose a low or moderate risk. Policies address these threats through the use of a very limited number of approaches including Education and Outreach and Specify Actions. Section 3.3 in Volume III contains Moderate and Low Threat policies.

4.1.1.3 Local Threat Policies

Transportation of substances along corridors is not currently a prescribed drinking water threat; however, many Source Protection Committees requested that this activity be included as a local drinking water threat. The transportation of fuel along provincial highways, county and local roads, railways, and waterways, has been identified as a local threat in Event Based Areas (EBA) in the St. Clair Region and Lower Thames Valley Source Protection Areas. The Transportation of fertilizer along provincial highways, county and local roads, railways have also been identified as a local threat in the SCRSPA as it could pose a risk to the quality of drinking water. These local threats were identified within the SCRSPA and LTVSPA through event-based modelling. Event-based modelling was used to determine where spills from either these local threats or related prescribed drinking water threats may be considered a SDWT. The event-based modelling has established these local threats as significant drinking water threats in the Event Based Areas (EBA) of:

- LAWSS, Petrolia, and Wallaceburg intakes in the St Clair Region Source Protection Area,
- Wheatley intake in the Lower Thames Valley Source Protection Area, and
- Stoney Point intake in the Essex Region Source Protection Area.

The modelling determined that these activities under the circumstances modelled constitute a significant threat to drinking water as the contaminants were found to be delivered to the intakes under an extreme event at a concentration which would exceed the drinking water quality standards for that parameter. Local threat policies related to these significant threats can be found in Section 3.2 of Volume III.

4.1.2 Other Permitted Policies

The CWA allows a Source Protection Plan to contain other permitted policies. Within this Source Protection Plan, the focus of these other permitted policies was on two policy groups – Spills Prevention Plans, Spills Contingency Plans, Emergency Response Plans, and Transport Pathways.

Spills, although not prescribed as a threat to drinking water, under the authority of Section 26(6) O. Reg. 287/07, policies can be developed addressing spills through Spills Prevention Plans, Spills Contingency Plans and Emergency Response Plans without having specific local threats identified within the Assessment Report. Outdated plans not considering the extent or vulnerability of designated areas may not sufficiently deal with the risk posed to drinking water sources because they may not contain the most appropriate response to an emergency or a spill or consider the extent to which a spill could reach the municipal water intake or well. The updates to these plans would act as a communication tool for both the municipality and general public. These policies can be found within Section 3.4 of Volumes II and III.

The vulnerability of an aquifer may be increased by any land use activity or feature that disturbs the surface above the aquifer or which artificially enhances the flow from the surface to the aquifer. Transport pathways are a land condition resulting from human activity that may increase the vulnerability of a municipal drinking water systems' raw water supply. Even though transport pathways are not themselves a threat to drinking water, increases in vulnerability scoring raise the risk of a prescribed drinking water threat and could change some moderate or low threats to be significant. Policies addressing transport pathways can be found within Section 3.4 of Volumes II and III.

4.1.3 Monitoring Policies

In order for the Source Protection Plan to be effective in reducing threats to drinking water sources, it is important that its implementation be monitored. This monitoring will allow the implementers, the Source Protection Committee, Source Protection Authorities, and the Ministry of the Environment to assess the effectiveness of the Source Protection Plan and ensure that it is achieving its legislated objectives. This information will be utilized to fulfill annual reporting requirements, which are described in Section 5.3 of Volume I, as well as inform future updates of the Source Protection Plan. Within this Source Protection Plan, monitoring policies have been developed for both Oxford County and the remaining Thames-Sydenham and Region. These policies can be found within Section 3.5 of Volumes II and III. The approach taken for policies in Volume III was one of keeping monitoring and reporting requirements general in nature. Monitoring policies within the Thames-Sydenham and Region, except for those pertaining to Oxford County, have been developed for all threat levels (significant, moderate, and low). Due to prioritization of significant threats, Oxford County has focused on these areas in the development of monitoring policies.

5. Implementation and Integration

Ontario has vast and varied landscapes, which lends itself to unique, locally-driven Source Protection Plans to be developed. What adequately protects the drinking water source in an area supplied by deep, well-protected bedrock aquifers or the Great Lakes may not be sufficient in areas where aquifers are shallow and more vulnerable or where water comes from inland rivers or lakes. The Province, through the CWA and its associated regulations, has set expectations of how drinking water sources should be protected. Implementers and stakeholders also have expectations as to how drinking water sources should be protected. To achieve expectations related to consistency, the focus on policy development with neighbouring Source Protection Regions has been on the harmonization of the intent of policies and not the requirement of a “cookie cutter” approach, where the Plans are exactly the same for each Region of the Province. This has been facilitated through the collaborative forum of the Source Protection Planning Advisory Committee (SPPAC) facilitated by Conservation Ontario. To understand the development process and policy outcomes of the surrounding jurisdictions, Thames-Sydenham and Region also collaborated with Ausable Bayfield Maitland Valley (ABMV), Saugeen Grey Sauble Northern Bruce Peninsula, Essex and Lake Erie Source Protection Regions.

The Source Protection Plan development process is dynamic and ever-changing. As a result, it will take a collaborative effort to implement and integrate the policies identified in the Plan. Change will not be seen overnight, which is a key strength of this process because it eliminates the use of short-sighted solutions to obtain the long-term goal of protecting drinking water sources. As such, it is the intent of the Source Protection Committee to develop clear, reasonable, and attainable policies.

As previously stated, the Source Protection Plan comes into effect once the approval has been posted on the environmental registry. Implementation of the Source Protection Plan policies is discussed in Section 2.4 of Volumes II and III. To aid in the implementation of these policies, transition provisions, which establish what activities may continue to proceed and not be subject to rules affecting existing activities rather than those which might affect future activities, have been developed. Details on transition provisions are also found in Section 2.4 of Volumes II and III.

5.1 *Responsibilities of Implementers*

The implementation of the Source Protection Plan policies found within Volumes II and III requires cooperation of various stakeholders. The specific legal effect of the policies has been identified within Section 2.1 of Volumes II and III.

5.1.1 Province

The CWA and the source protection planning process were initiated by the Province and, as such, the Province has a certain level of responsibility for the implementation of the Source Protection Plan.

The Minister of the Environment is responsible for the review of and approval of this initial proposed Source Protection Plan as well as subsequent reviews and updates.

The CWA also includes provisions for the Ontario Drinking Water Stewardship Program (ODWSP). This program is to provide financial assistance to those whose activities or properties are affected by the CWA; those who administer incentive programs and education and outreach programs related to Source Protection Plans; and others, in circumstances specified in the regulations that are related to the protection of existing and future sources of drinking water. By establishing this program in legislation, the Province has made a commitment to provide assistance for this program.

Different ministries of the government (i.e., MECP, OMAFRA, MNR, and MTO) have also been identified as implementers of policies (e.g., significant threat policies that use prescribed instruments as policy approach). As a result, various processes may need to be changed to align with the requirements of the Source Protection Plan. Monitoring and reporting policies also affect the provincial ministries who are implementers of policies in this Source Protection Plan.

5.1.2 Conservation Authorities

The CWA specifies a continued role for Conservation Authorities (CA or Source Protection Authorities (SPA)). The Conservation Authorities have also been identified as implementers of specific policies. Other policies imply that the CAs would be responsible for providing assistance for other Source Protection Plan policies. It is anticipated that Conservation Authorities will be a resource for municipalities and other implementers based on their specific knowledge of source protection (including the Assessment Reports and Source Protection Plan). Conservation Authorities within the Thames-Sydenham and Region Source Protection Region will be responsible for leading a collaborative partnership with municipalities and the Province to support policies, which use Education and Outreach. This leadership will ensure that these policies are implemented in a consistent, effective, and efficient manner. The Conservation Authorities could also be potentially responsible for the continuation of existing programs as well as providing assistance for the development of new programs for policies that use Education and Outreach and Incentives.

The Upper Thames River Conservation Authority (UTRCA) plays a key role in the annual progress report. Since monitoring the effectiveness of the implementation of the Source Protection Plan is a crucial component of this report, the UTRCA will be responsible for developing a guidance document, which will provide implementers with specific content and format. This guidance is required in order to provide a certain level of consistency and will be developed in collaboration with the other Conservation Authorities, the Province, and policy implementers. UTRCA will be responsible for summarizing the implementer monitoring report to provide the Source Protection Authority and Source Protection Committee with information that can be used in the annual progress reports.

Conservation Authorities may provide services for the implementation of policies that use the CWA Part IV tools if contracted by the municipality. These services may include the establishment of a Risk Management Official and Risk Management Inspector. Conservation Authorities would need to develop agreements with municipalities who wish to have them undertake aspects of these services on behalf of or in conjunction with the municipality.

Municipalities will be responsible for bringing their planning documents (i.e., Official Plans and

zoning by-laws) into conformity with the Source Protection Plan. These documents are important communication tools between municipalities and developers/landowners. Since many municipalities will be faced with undertaking similar updates at the same time, the Conservation Authority will be responsible for facilitating a collaborative working group to develop common language and concepts that will assist in creating efficiencies in these necessary updates. Conservation Authorities are intended to be a resource to municipalities and planning advisory service agreements may need to be amended to include policy advice or technical review.

5.1.3 Municipalities

Implementation of the Source Protection Plan relies heavily on municipal participation. Municipalities need to protect vulnerable areas within their respective jurisdictions since activities within these areas can pose threats to the municipal drinking water systems. Municipalities have a responsibility of knowing where vulnerable areas are located to fulfil their obligations related to water and vulnerable areas set out in the Provincial Policy Statement, 2005. With the Source Protection Plan coming into effect, municipalities will have an additional responsibility to implement the requirements of the CWA and the approved Source Protection Plan.

Municipalities, through the Risk Management Official and Risk Management Inspector, are responsible for implementing policies that use approaches identified in Part IV of the CWA (specifically Section 57 prohibition, Section 58 regulated activities, and Section 59 restricted land use). Municipalities would be responsible for establishing a Risk Management Office and providing support to the Risk Management Official and Risk Management Inspector. As part of this role, the Risk Management Official is required by legislation to provide a report as part of the monitoring process. Changes to established processes (i.e., Planning Act applications) may be needed to reflect the Source Protection Plan policies and new processes may need to be established to facilitate Part IV approaches. To assist in the implementation of policies associated with Part IV approaches, the CWA provides provisions for the financing in the form of establishing fees. Decisions for the potential establishment of a fee schedule are up to the discretion of the municipality. Municipalities may develop agreements with other municipalities, the Health Unit or the Conservation Authority to implement policies under Part IV of the CWA.

Municipalities are also responsible to bring their Official Plan and zoning by-laws into conformity with the significant threat policies of the Source Protection Plan. For the implementation of the Source Protection Plan to be successful, municipalities need to develop a process that facilitates the awareness of Source Protection Plan policies. This may require establishing a collaborative working group with the Conservation Authority. Even before the OP and by-laws are updated to come into conformity with the Source Protection Plan, municipal (Planning Authority) decisions under the Planning Act must conform with significant threat policies in an approved Source Protection Plan.

Municipalities may also be required to develop and deliver programs for approaches such as Education and Outreach and Incentives. This would be undertaken through collaborative partnerships with the Conservation Authorities and/or Province.

5.1.4 Persons Engaging in Significant Threat Activities

Persons engaging in significant threat activities in vulnerable areas must conform to the policies

within the Source Protection Plan that use tools associated with Part IV of the CWA which contains provisions for the enforcement of Part IV tools.

5.2 Responsibilities of the Source Protection Authority and Source Protection Committee

The Source Protection Authority and the Source Protection Committee play a different role in the implementation of the Source Protection Plan. Although these bodies do not directly implement policies of the Source Protection Plan, the CWA provides specific provisions for the review and update of the Source Protection Plan.

5.3.1 Source Protection Authority

The Source Protection Authority provides administrative and technical support to the Source Protection Committee and the Source Protection Planning process. The Source Protection Authority's role is to prepare and submit the annual progress report to the Source Protection Committee and the Director. This report, which is further detailed in Section 5.3 of Volume I, describes the measures taken to implement the Source Protection Plan, the results of the monitoring program, and the extent to which the objectives have been achieved. The Source Protection Authority is also responsible for ensuring that updated Source Protection Plans are provided to the Minister of Environment. Continued support of the Source Protection Committee will also be a key responsibility of the Source Protection Authority.

5.3.1 Source Protection Committee

The Source Protection Committee is a multi-stakeholder group comprised of representatives from the municipal, economic and public sectors. The CWA provides the regulatory authority that the Source Protection Committee has an ongoing role in the Source Protection Plan. This role will be to review and update future Source Protection Plans.

5.3 Annual Review Process

As required by Section 46(1) of the CWA, the Source Protection Authority must prepare and submit an annual progress report to the Source Protection Committee and Director. Comments from the Source Protection Committee are to be included within the annual report that is sent to the Director. This report, describing the measures that have been taken to implement the Source Protection Plan, the results of the monitoring program, and the extent to which the objectives have been achieved, is to be submitted to the Source Protection Committee no later than April 1 and to the Director by May 1 in the year following the year to which the report applies. Each annual report applies to a calendar year except for the first report, which applies to the period beginning on the day the Plan takes effect and ending on December 31 of the second calendar year following the year in which the Plan takes effect.

To allow for the timely submission of the annual progress report, monitoring reports must be submitted to the UTRCA before February 1. Monitoring policies that inform this annual progress report can be found within Section 3.5 of Volume II and Volume III of this Plan.

5.4 Proposed Next Steps

It is anticipated that new information will become available through the implementation of the Source Protection Plan. It will be important that this information be used to inform future updates to the Assessment Report and the Source Protection Plan. The following sections provide possible next steps that would contribute to future Assessment Reports and Source Protection Plans.

5.4.1 Inventories of Significant Threats

As part of the work to complete the Assessment Reports for the Region, inventories of threats were undertaken. It is important to understand that those inventories were high-level assessments of the potential activities on a site. In most cases, they were completed without a visit to the site or discussions with the property owner or those believed to be engaged in the activities which were identified as significant threats. The inventories were based on visual observations (e.g., windshield surveys or aerial photography). General assumptions of the type of land use observed informed the inventory. Examples of these assumptions include that:

- a gas station undertook automotive repair where degreasers, which may contain DNAPL or organic solvents, were used;
- a property was serviced by sanitary sewers if a sanitary sewer runs by the property while there may be properties in those areas which are still serviced by private on-site sewage treatment (septic system or holding tank);
- if natural gas was known to be available in the area, assumptions may have been made that properties in a serviced area do not have fuel tanks while it is possible that fuel tanks may be in use in those areas; and
- in areas where natural gas was not available, assumptions that fuel tanks were likely; however, other sources of home heating energy are also available.

As a result of these types of assumptions and the fact that many of the inventories were initiated more than five (5) years ago, it will be important that site-specific investigations be undertaken to determine whether a Risk Management Plan is required for any particular site. It would be imprudent to assume that the inventories are completely reliable. These inventories were adequate for providing the Source Protection Committee with an indication of the policy implications; however, they are not, by themselves, adequate for the implementation of the Source Protection Plan. The inventories undertaken through the Assessment Report will however provide a tool for the Risk Management Official/Inspector to prioritize areas for Risk Management Plans.

Future updates of Assessment Reports and Source Protection Plan will be better informed by the number and types of Risk Management Plans in an area. This will require updates to subsequent Assessment Reports to refine the estimates which resulted from the early inventories described above.

5.4.2 IPZ-3 Local Threats

Local threats have been approved by the MECP for the St. Clair Region Source Protection Area. These are described in the Assessment Report. Event-based modelling focused on fuel and fertilizer; however, it is anticipated that there are other chemicals in these areas in quantities sufficient to cause a deterioration of the drinking water should they be released. It is important that

additional modelling be undertaken to determine if other chemicals should be considered significant threats.

Further, the delineation of IPZ-3 was based on a finite number of modelling locations and scenarios. While the modelling is considered to be conservative and precautionary in nature, it is anticipated that areas immediately adjacent to the IPZ-3, but directly connected, may result in a similar deterioration of the source water for the purposes of drinking. As these areas were not assessed through the event-modelling the activities cannot currently be considered significant threats to drinking water. Additional modelling needs to be undertaken to determine if these IPZ-3 should be modified.

As a result, additional event-based modelling and identification of local threats should be undertaken to assess potential existing threats. This type of assessment could be considered for future activities proposed in the vicinity of these areas as part of the Environmental Assessment process or other land use planning processes.

5.4.3 Issues Contributing Areas

Where issues have been identified in Section 5 of the Assessment Reports as potentially anthropogenic, further work may be required to determine if human activity may be contributing to the issue. If these issues are found to be wholly or partially anthropogenic, then Issues Contributing Areas (ICA) must be determined. Once this determination has been completed, the policies of the Source Protection Plan will need to be assessed to determine if they adequately deal with the significant threats which contribute to the Issues. It is possible that other policies may need to be developed once ICAs have been developed.

An ICA is included in the UTRSPA Assessment Report for the Tabor wellfield which is part of the Woodstock system. More work is required to determine if an ICA is needed for the nearby Thorton wellfield. The policies in volume 2 have been updated to include policies to address significant threats contributing to the issue in the ICA.

Nitrate monitoring has been included in policies to support the work required to determine an ICA for Wallaceburg. This will require further assessment at future updates to the SPP and AR.

Microcystin LR has been identified as an issue for intakes in western Lake Erie. It has been identified as an issue under the Act and as such does not have an ICA associated with this issue. Additional monitoring and study is required to determine whether Microcystin LR should be considered as an issue under the technical rules and an ICA delineated. The need for this additional work has been recognized in the policies of this SPP, however it will require re-assessment when the SPP and AR are next updated.

5.4.4 Water Quantity

A Tier 3 water budget was conducted for some systems in the Upper Thames River Source Protection Area. It was determined that a Tier 3 water budget was not required for the Lower Thames Valley and St. Clair Region Source Protection Areas. This Source Protection Plan does not contain policies which address water quantity threats. This is since the Tier 3 Water Budget

concluded that there are no Water Quantity SDWTs.

5.4.5 Climate Change

As discussed in the respective Assessment Reports, the impact of climate change on drinking water sources and the policies of the Source Protection Plan are not known. Additional work is required to determine the impacts of climate change on water quantity and quality within the Thames-Sydenham and Region.

5.4.6 Great Lakes Targets

Great Lakes targets have not been established by the Minister of Environment, although the CWA allows targets to be established. It was suggested that work to identify targets be deferred until the Assessment Reports were completed and Issues for the Great Lakes water sources had been evaluated. Now that the Issues have been assessed, it will be important to compare the issues amongst systems in the Great Lakes and determine if the contributions to the issues are broader than can be dealt with individually in Source Protection Regions. If they cannot be dealt with effectively within a Source Protection Region, then Great Lakes targets could be established by the Minister so that they can be dealt with on a larger drainage basin basis. If Great Lakes targets are established by the Minister of Environment, the Source Protection Plan will need to be updated to include policies intended to meet the Great Lakes targets.

5.4.7 Kettle and Stony Point IPZ Work

Kettle and Stony Point First Nation requested to include their intake in the Source Protection Planning process. They identified this request through band council resolution which was reflected in regulation under the Clean Water Act. Although the technical work was initiated, it was not able to be completed in time to be included in the most recent approved Assessment Report for the St. Clair Region Source Protection Area.

The delineation and vulnerability assessment, issues evaluation and threats assessment for the Kettle and Stony Point IPZ-1 and 2 has been completed and incorporated into the Assessment Report for the St. Clair Region Source Protection Area. While the work did not identify any significant threats the First Nation may wish to develop policies related to moderate and low drinking water threats to be included in the Thames-Sydenham and Region Source Protection Plan. The Terms of Reference should also be amended to include this intake.

No work has been initiated related to IPZ-3 for this intake; however, there is an opportunity to include event-based modelling with future work planned for the other intakes in the St. Clair Region Source Protection Area. Extension of the existing model domain would be required to include this intake; however, this would allow the assessment of areas east of the currently delineated IPZ-3 for the Petrolia intake. IPZ-3 delineation would be advisable if existing activities in the area are thought to pose a significant risk to the drinking water system whether inside or outside the currently delineated IPZ-1 and 2.

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Appendix A – Glossary of Terms

The Glossary of Terms has been compiled from various sources and is bound separately.

Appendix B – Source Protection Plan Consultation

The Consultation and Stakeholder Engagement Plan is included in the supporting documents for this Source Protection Plan. It may be found on the Source Protection Plan DVD or on the Thames-Sydenham and Region website (www.sourcewaterprotection.on.ca). This document contains a summary of the consultation on the Source Protection Plan. This document will be updated following the completion of consultation.

Comments resulting from consultation are compiled and included as appendices to the Explanatory Document. This document can be found on the Source Protection Plan DVD or website. The compilation of the comments also includes how they were considered in developing this Source Protection Plan.