ESSEX REGION SOURCE PROTECTION AREA

APPROVED SOURCE PROTECTION PLAN

Prepared on behalf of:

Essex Region Source Protection Committee

Under the Clean Water Act, 2006

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Executive Summary

A Plan to Protect Drinking Water within the Essex Region

Based on the recommendations from Justice O'Connor's inquiry into the Walkerton drinking water crisis, the Clean Water Act, 2006 was passed by the Provincial Government to protect water sources for drinking water systems. While local water treatment plants provide an abundance of clean, reliable, and safe drinking water, protecting source water is the first step in a multi-barrier approach to ensure the quality and sustainability of our municipal drinking water supply. The Act provides a framework for the development and implementation of watershed-based Source Protection Plans.

In accordance with Provincial Regulations under the Clean Water Act, the source protection planning process is being directed by a multi-stakeholder Source Protection Committee (SPC), with input from a Municipal Working Group and a Fuels Working Group and in consultation with various stakeholders, supported by the Essex Region Source Protection Authority (Essex Region Conservation Authority) and assisted by various specialized consultants. Similar work is being carried out in Conservation Authorities throughout Ontario, as required and funded by the Ministry of the Environment (MOE).

Source protection planning, under the Act, requires the development of three key deliverables: a Terms of Reference, Assessment Report, and Source Protection Plan. The Terms of Reference outlines the work plan, timeline, the drinking water systems that are within its scope, and responsibilities for the development of the Assessment Report and Source Protection Plan. A Terms of Reference has been completed, publicly reviewed, and approved by the Minister of the Environment. The Assessment Report is a technical document which identifies vulnerable areas around each municipal water intake and identifies threats to drinking water quality. This document was originally approved in 2011 and has been updated with new technical work and was resubmitted for approval in January 2015. This Source Protection Plan was approved April 15, 2015 and came into effect on October 1, 2015.

The Source Protection Plan builds on the findings of the Assessment Report by establishing policies to address significant threats to drinking water quality, identifying who is responsible to take action, and sets timelines for policy implementation and monitoring. Where possible, the Source Protection Plan builds on work currently underway and recognizes or reinforces existing management practices relevant to drinking water source protection.

The Clean Water Act requires that policies be developed to address existing or future significant threats, and specifies that policies are optional for moderate or low threats. The SPC determined early in the process that the focus would be on developing policies for significant threats. The SPC also determined that moderate and low threats

were of importance and additional policies were developed, including those related to Education and Outreach.

In determining the policy approaches for significant threats, the primary considerations were: whether to 'prohibit' or 'manage' the activity, the selection of the appropriate policy tool(s), and whether a different approach or tool should be used for existing threats as compared to those which could occur in the future. The Source Protection Committee considered various types of policies for all threats and recognised the importance of working with municipalities and other stakeholders to form local solutions to mitigate the risk caused by them. As a result, The Source Protection Plan policies use a range of programs and tools including outreach and education; incentive programs; land use planning (zoning by-laws, and Official Plans); or new or amended provincial instruments. In the case of some significant threats, special measures under the Clean Water Act may be specified such as 'risk management plans' or 'land use restrictions'.

The updated source protection policies for the Essex Region Source Protection Area are provided in Appendix A. The implementing bodies responsible for each policy are identified in the text of the policy. Requirements such as the legal effect, compliance dates, and monitoring are also identified in each policy. The rationale for each policy is contained in a separate Explanatory Document, in addition to being included with the policy details in Appendix A, for the convenience of the reader.

The SPC considered all comments received following the consultation on the Proposed Source Protection Plan and made further revisions in finalizing the Proposed Plan. The Source Protection Authority was required to submit the Proposed Source Protection Plan to the Ministry of the Environment (MOE) by August 20, 2012. Official comments on the Proposed Source Protection Plan were received from the MOE in July 2014 and the Updated Source Protection Plan was submitted in January 2015. Following approval by the Minister of the Environment on April 15, 2015, the decision notice was posted on the Environmental Bill of Rights (EBR) registry. The Source Protection Plan will took effect on October 1, 2015. The approved Plan wasthen made available to the public on the Internet by the Source Protection Authority.

The Assessment Report approved in 2011, and the Proposed Source Protection Plan submitted to the Ministry of the Environment (MOE) in 2012, were part of the first round of Source Protection Planning in Ontario. The MOE provided official comments on the Proposed Source Protection Plan in July 2014. Based upon these comments and additional technical work completed for the Essex Region Source Protection Region, the Assessment Report and Source Protection Plan were updated for final approval and resubmitted in January 2015. In addition to the ongoing and future responsibilities associated with implementation, monitoring, and annual reporting regarding the Source Protection Plan, it is anticipated that there will be opportunities to address the need to update the Assessment Report through further studies in the near future, and to update the Source Protection Plan from time to time.

Table of Contents

Appendices

List of Tables

List of Maps (Appendix G)

SECTION 1.0

INTRODUCTION

1.0 Introduction

1.1 Protecting Our Drinking Water Sources

In the Essex Region Source Protection Area (ERSPA), our municipal drinking water comes from lakes and rivers – Lake St. Clair, Lake Erie and the Detroit River. These sources, which are accessed through municipal drinking water intakes, are all connected in a watershed and through the water cycle. Drinking water sources can be easily contaminated from human activities and natural processes. Source water protection ensures these municipal supplies of drinking water are protected now and for the future.

In order to make sure we have enough clean water for drinking and other uses, we need to protect sources by managing our influences on them. The best way to protect sources of water is on a watershed basis, taking an ecosystem approach when considering management decisions.

The Clean Water Act (2006) was created by the Ontario government to ensure communities are able to protect their residential drinking water supplies. The Act requires the development and implementation of local Source Protection Plans.

The Essex Region Source Protection Plan is a management strategy that looks at the current and future sources of municipal residential drinking water within the Essex Region. The Plan identifies the potential threats to these sources and develops actions and programs to reduce or eliminate these risks. The Source Protection Plan will have the effect of reducing or mitigating human impacts on the quality of drinking water sources.

The Clean Water Act (2006)

Based on the recommendations from Justice O'Connor's inquiry into the Walkerton drinking water crisis, the Clean Water Act, 2006 was passed to protect the water sources of municipal drinking water systems. The Act provides a framework for the development and implementation of local, watershed-based Source Protection Plans. The intent of the Clean Water Act is to ensure communities are able to protect their municipal drinking water sources now and in the future from overuse and pollution. It sets out a risk-based process to identify vulnerable areas and associated source water threats and issues. It requires the development of policies and programs to reduce or eliminate the risk posed by significant threats to sources of municipal drinking water.

Source Protection Committees have worked in partnership with Conservation Authorities, Municipalities, property owners, the Ontario Ministry of the Environment (MOE), and other stakeholders to facilitate the development of local Source Protection Plans.

Source Protection Committee

As outlined in the Clean Water Act, 2006, under Ontario Regulation 288/07, the Essex Region Source Protection Committee was created to develop a Source Protection Plan to protect municipal sources of drinking water in the Essex Region Source Protection Area. The Source Protection Committee oversaw the preparation of the Terms of Reference, the technical Assessment Report, the Source Protection Plan and related public and stakeholder consultations.

Source protection planning builds on the work municipalities are already doing to protect drinking water. The Source Protection Committee represents the broad interests across our local watershed to create a locally developed and delivered Source Protection Plan. In the Essex Region, the committee consists of fifteen (15) members plus a Chair and is comprised of representatives from sectors that encompass the broad interests of our region. One third (five) of the members have been appointed to reflect the interest of municipalities that are located in the region. The other two sectors, Economic and Other Interests, are also each assigned five (5) seats.

The values of the Essex Region Source Protection Committee are as follows:

The Committee believes that a framework of common values is an essential foundation for the development and maintenance of a strong, teamwork environment and effective partnerships. These values will act as a foundation to all the processes used to communicate and make decisions and will be the guidelines by which representatives establish and work in our partnerships.

Approach to Source Protection Planning

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

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

Source protection planning in Ontario occurs on a watershed basis. As established by the Province through O. Reg. 284/07 under the Clean Water Act, the Essex Region Source Protection Area coincides with the watershed boundaries of the Essex Region Conservation Authority (ERCA). Given that each watershed has its own unique water features and concerns and that water itself does not respect municipal boundaries, this was deemed the most logical and effective approach to protecting our drinking water sources.

The Clean Water Act also requires that source protection planning pursues a locally-driven, multi-stakeholder approach. The Act calls for the formation of local source protection committees and a strong focus on public consultation. This is intended to foster shared responsibility for protecting drinking water among stakeholders, as well as to promote stewardship and increase local capacity.

Another key component of the Clean Water Act is sound science. Through the source protection process outlined in the legislation, conditions or activities that pose risks to drinking water undergo a technical assessment and are ranked based on the level of threat.

Source Protection Planning Process

Source protection planning, under the Clean Water Act, requires the development of three key deliverables: a Terms of Reference, Assessment Report, and Source Protection Plan. The Terms of Reference outlines the work plan, timeline, the drinking water systems that are within its scope, and responsibilities for the development of the Assessment Report and Source Protection Plan. A Terms of Reference and an Assessment Report for the Region have been completed, publicly reviewed, and approved by the Minister of the Environment. The Assessment Report is a technical document which identifies vulnerable areas around each municipal water intake and identifies threats to drinking water quality.

The Source Protection Plan builds on the findings of the Assessment Report by establishing policies to address significant threats to drinking water quality, identifies who is responsible to take action, and sets timelines for policy implementation and monitoring. Where possible, the Source Protection Plan builds on work currently underway and recognizes or reinforces existing management practices relevant to drinking water source protection.

The Terms of Reference, Assessment Report, and Updated Source Protection Plan are available on the Essex Region Source Protection Area website (https://essexregionconservation.ca/source-water-protection/ or in hardcopy at the ERCA office.

1.2 Source Protection Plan Objectives

The Essex Region Source Protection Plan is a document that sets out the policies to protect sources of municipal drinking water against drinking water threats. These threats were identified through the research and technical studies conducted by specialized consultants and conservation authority staff, to develop the Essex Region Source Protection Area Assessment Report. The Plan will set out how drinking water threats will be reduced, eliminated or monitored, who is responsible for taking action, the legal authority for doing so, timelines, and how progress will be measured.

The objectives of the Plan are detailed in the Clean Water Act (Ontario Regulation 287/07 Section 22) and described below:

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,

    a. The activity never becomes a significant drinking water threat, or
    b. If the activity is occurring when the source protection plan takes effect, the activity ceases to be a significant drinking water threat.

The Act also states that the objectives for polices within a Source Protection Plan relating to 'conditions resulting from past activities', are to ensure every area identified as having a Condition from a past activity is a significant drinking water threat and that the Condition ceases to be a significant drinking water threat. There are no identified Conditions within the Essex Region Source Protection Area.

1.3 Public Consultation Process

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

The Essex Region Source Protection Committee has consulted with municipalities, property owners, industry, businesses, and the general public numerous times throughout the source protection planning process. The input from these consultation activities has been considered by the SPC in developing the Proposed Plan, as described in the accompanying Explanatory Document, and helped to create reasonable and practical source protection policies.

Public and stakeholder consultation was conducted using the following methods:

- Distribution of factsheets, brochures, and pamphlets;
- Property specific mailings to landowners affected by the Source Protection Process;
- Stakeholder working group meetings on policy options; including extensive consultation with municipal staff;
- Public open houses on the technical work, policy development and the three major documents under the Source Protection Program: the Terms of Reference, Assessment Report (2010), Updated Assessment Report (2011) and Source Protection Plan;
- Early engagement of the public on draft and updated Assessment Reports technical work and Source Protection Plan policy options;

- Formal consultation on the Terms of Reference, Assessment Reports, and Source Protection Plan;
- Online consultation;
- Pre-consultation and formal consultation with Municipal Councils; and
- Availability of hard copies of Source Protection Plan materials and reports at the Conservation Authority and municipal administrative offices.

Public Consultation on the Terms of Reference

Formal consultation on the Draft Terms of Reference began on May 24, 2008 with a 35-day public comment period that ended June 30, 2008. A public meeting was held at the Essex Region Conservation Authority on June 18, 2008. The Source Protection Committee's responses to the comments received during the first public consultation period were reflected in the Proposed Terms of Reference. The Proposed Terms of Reference was then submitted to the Essex Region Source Protection Authority on October 17, 2008, followed by an additional 30-day public comment period which began on October 18, 2008 and ended November 17, 2008. The Essex Region Source Protection Area Terms of Reference was submitted to the Ministry on December 20, 2008 and received Ministerial approval on May 07, 2009.

Public Consultation on the Assessment Report

Similar to the Terms of Reference, two public comment periods were held for the Assessment Report, between February 2010 and March 2010. During the first comment period, the public was invited to review the draft online or in the Conservation Authority office. Two public meetings were held on March 3 and 4, 2010, which gave the public an opportunity to learn about the technical work summarized in the Assessment Report, ask questions, and provide comments. The input received was considered by the Source Protection Committee in preparing the Proposed Essex Region Source Protection Area Assessment Report, which underwent another public consultation period for 30 days beginning March 27, 2010, and running through April 27, 2010. This Assessment Report was submitted to the Ministry on May 25, 2010. An Updated Assessment Report was prepared in 2011, which underwent a public consultation period for 30 days beginning April 30, 2011, and running through May 30, 2011. The Updated Assessment Report was submitted to the Minister of the Environment on June 2, 2011 and was approved August 10, 2011.

Public Consultation on the Draft Source Protection Plan

On July 2011, letters advising of the commencement of the preparation of the Source Protection Plan were distributed to municipal clerks in the Essex Region and to landowners who were identified as potential significant threats. The letters advised of the commencement of source protection planning, and that the plans have the potential to impact the notified parties.

Consultation with the Municipal Working Group and Fuels Working Group was carried out in July, September, and October in 2011 to gather feedback and suggestions in preparation of developing the Source Protection Plan policies. Consultation and collaboration continued with municipal staff and others in the development of draft Policies. Municipalities have implementation responsibilities associated with some of the Policies; the SPC is particularly committed to early and continuing consultation with municipalities.

The Source Protection Committee held Pre-consultation on draft policies with those who would be responsible for implementing the policies, whether individuals or agencies. Notices of Pre-consultation were distributed to proposed implementing bodies in December 2011, with comments requested by January 31, 2012. The SPC made some revisions to the draft policies in response to the comments received.

The first round of public consultation involved a 35-day comment period from May 7 – June 11, 2012 and a public meeting. The Plan was posted online and was made available at a variety of locations in the region. This provided an opportunity for the public and stakeholders to comment on the draft policies. The feedback received during this time was reviewed by the Source Protection Committee and considered in the finalization of the Proposed Plan.

An additional 30-day comment period from June 29 – July 30, 2012 provided the public and stakeholders with an opportunity to review and comment on the Proposed Source Protection Plan and the potential changes made by the Source Protection Committee. Comments received during this period were submitted directly to the Ministry of the Environment with the submittal of the Proposed Essex Region Source Protection Plan.

Key materials relating to the public consultation process (including meeting notices, invitations, dates, etc.) are included in the supporting documentation submitted to the Minister of the Environment with the final Proposed Source Protection Plan.

Public Consultation on the Updated Source Protection Plan and Updated Assessment Report

Early consultation with affected landowners and stakeholders on the updated Assessment Report and Source Protection Plan began in September 2013 with Open Houses for the agricultural sector including Ontario Greenhouse Vegetable Growers, the Federation of Agriculture, and the Ontario Soil and Crop Improvement Association. Advertisements were also posted in local newspapers in November 2013 advising of the process of updating the Assessment Report and Source Protection Plan.

Early consultation was also conducted with affected landowners in August 2014 with a direct mail information piece explaining fuel threats and new mapping of Intake Protection Zone-3. Public meetings were held on September 3 and 24, 2014 to further provide information to affected landowners.

Pre-consultation with implementing bodies on the Updated Source Protection Plan began on November 3, 2014. Notice of the pre-consultation went out to all implementing bodies and municipalities via e-mail on November 3, 2014. The comments received during this pre-consultation period were brought forward to the source protection committee for consideration at their November 19, 2014 meeting.

Formal public consultation took place from November 24, 2014 to December 24, 2014. The following activities were undertaken during formal consultation:

- A letter was sent to all implementing bodies (municipalities, ministries, associations) and affected landowners to provide information on the formal public consultation and the opportunity to submit comments;
- An advertisement was posted in the local newspaper advising of the formal public consultation period and of the opportunities to meet with staff and source protection committee members at a public meeting held on December 11, 2014;
- Our website included information on the formal public consultation along with links to all the documents, how to submit comments, and how to access the documents in person; and
- A media release was distributed to local media on November 24, 2014 to support the formal public consultation period and public meeting.

How Public Comments Influenced the Plan

In preparing the Terms of Reference, the Assessment Report and Source Protection Plan, the Source Protection Committee considered all feedback received from the public and stakeholders. When submitting the proposed documents, the Source Protection Authority is also required to forward all comments received during the second 30-day public consultation to the Ministry of the Environment.

The accompanying support document titled Explanatory Document provides a summary of the comments received during consultation on the draft policies, and the Proposed and Updated Source Protection Plan. It describes how the comments affected the development of the policies or other aspects of the Plan. This is as required by Ontario Regulation 287/07 Section 40, under the Clean Water Act.

SECTION 2.0

ASSESSMENT REPORT SUMMARY

2.0 Assessment Report Summary

The Assessment Report is a technical document required by the Clean Water Act. It describes the local watershed, assesses the quantity and quality of the available water supply, maps out the vulnerable areas, and identifies any threats in these areas that may be a risk to drinking water sources.

The Assessment Report is a 'living document' that will be updated and amended in the future as new information becomes available. The Assessment Report is based on the completion of detailed technical studies, and underwent a peer review process that enabled professionals, in their respective fields, to evaluate the work for technical completeness and determine whether it met the provincial rules and guidelines.

The Essex Region Source Protection Area Amended/Updated Assessment Report was submitted to the Ministry of Environment for review on June 3, 2011 and approved under Section 17(3) of the Clean Water Act as of August 10, 2011.

The Assessment Report was updated based on new technical work completed since 2011 and submitted to the MOE for approval in January 2015 and was approved in March 2015. The results of the approved and updated Assessment Reports are summarized in this Section of the Source Protection Plan. The Updated Assessment Report is available on the Essex Region Source Protection Area website:https://essexregionconservation.ca/source-water-protection/

2.1 The Essex Region Source Protection Area

Overview of the Essex Region

The Essex Region Source Protection Area (ERSPA) coincides with the watershed boundaries of the Essex Region Conservation Authority (ERCA), or the 'Essex Region Watershed' (**Map 1**). The Essex Region Watershed consists of a peninsula in the extreme south-western corner of Ontario, bounded on three sides by the waters of the Great Lakes; as well as Pelee Island (Township of Pelee) in Lake Erie, and several smaller islands. The Essex Region Watershed is comprised of approximately 28 smaller sub-watersheds, flowing either generally northward into Lake St. Clair, westward into the Detroit River, or southward into Lake Erie (or entirely into Lake Erie in the case of Pelee Island). The Lower Thames Valley Conservation Authority (part of the Thames-Sydenham and Region Source Protection Region) shares the eastern boundary of the Essex Region Watershed.

The Essex Region Watershed is approximately 1,681 km^2 in size and predominantly consists of a relatively flat clay plain with the exception of some sandy areas, primarily in the southern portion of the Region. The predominant land use in the watershed is agriculture, due to the region's excellent farmland and growing conditions. Although

most of the urban land use is in the north-western area, in and around the City of Windsor, there are numerous smaller urban centers and settlement areas in other parts of the watershed.

The seven municipalities in Essex County occupy an area of 1,471 km^2. The City of Windsor is a separate municipality with a land area of 146 km^2, and the Township of Pelee, also a separate municipality, occupies about 42 km^2. In addition, Point Pelee National Park has a land area of roughly 15 km^2 and the surrounding islands in Lake Erie and the Detroit River total approximately 7 km^2.

Based on the 2011 Census of Canada, Essex County, including the City of Windsor and the Township of Pelee, has a population of 388,782. This population is for the entire area of respective municipalities, including small portions of Lakeshore and Leamington which lie outside the Essex Region Watershed. A very small portion of Chatham-Kent also extends into the Essex Region Watershed, and the residents living in this area are not included in the above population total.

Climate

The climate in the Essex Region Watershed may be characterized by warm, long summers and cool, short winters. The presence of Lake Erie affects the temperatures along the southern shore of Essex Region and Pelee Island. Temperatures range from less than -15°C in winter to higher than 30°C in summer. The mean annual temperature in the Essex Region is more than 9°C and is the highest in southern Ontario. The area receives less precipitation in the form of snow in comparison to cold climate regions of Canada. Most of the rainfall during the summers comes in the form of showers and thunderstorms. Annual precipitation over the period 1971-2000 has ranged from 522 mm-1189 mm.

Land Cover and Physical Characteristics

The Essex Region is predominately made up of flat, productive land. About three-quarters of the area are used for agriculture, with cash-crop farms, specialty crops, orchards and greenhouse farming being the most prevalent agricultural uses. The remainder of the area is roughly 18-19% urban land use and 8.5% natural cover. Surrounding the mainland portion of the region is Lake St. Clair to the north, Lake Erie to the south, and the Detroit River to the west. The shoreline surrounding the area is mostly privately owned and developed, primarily with residential uses, and with numerous marinas, beaches and other water-based recreational activities available. In the City of Windsor, the shoreline includes a mixture of residential, industrial/commercial uses, as well as an extensive waterfront park system.

The Essex Region Watershed generally varies in elevation from approximately 173 - 196 m above sea level, with the exception of the moraine in Leamington, near County Road 31, which climbs to 227 m above sea level. In addition to the moraine near

Leamington, there are a few other areas of concentrated relief. Near Harrow, there is a sandy extrusion which reaches 195 m above sea level, while a low gravel ridge through the centre of the region also rises to 195 m above sea level. Point Pelee, at the south-eastern tip of the mainland of the Essex Region Watershed, is a spit of land extending out into Lake Erie. Pelee Island is also part of the Essex Region Watershed, lying some 13 km south of Point Pelee. It covers around 42 km² and is about 8 km from north to south, and 5 km east to west. With a relief of 175 – 182 m above sea level, the island is only 10 m above Lake Erie's mean water level at its apex, and substantial portions of the island are below lake level and protected by dykes.

Surface Water Drainage

The Essex Region Watershed consists of three major sub-watershed areas consisting of the areas that drain to Lake St. Clair, Detroit River and Lake Erie. These major drainage areas may further be divided into approximately 28 sub-watersheds (**Map 2**). Most of the streams/rivers/creeks in this region flow through the flat terrains of the clay or sand plains of the watershed region. Surface drainage in much of the region is influenced by a ridge, extending roughly from the south part of Windsor, in a southeasterly direction through the central part of the Region. This ridge defines a drainage divide, north of which water flows mainly into Lake St. Clair, while south of the divide streams flow westward into the Detroit River or southward into Lake Erie. Surface drainage of the till plain is predominately northward to Lake St. Clair (Chapman and Putnam, 1984). Many of the streams have extensive marsh areas at the mouth which fluctuate in size with the lake levels. Many have headwaters periodically dry up in the summer due to extensive artificial drainage and historical clearing/removal of wetlands. Throughout most of the Essex Region, dredged ditches and tile drains were installed in order to improve the drainage and provide satisfactory conditions for crop growth and tillage (Chapman and Putnam, 1984). Several watersheds have been substantially altered by major diversions of parts of their watershed areas. In several parts of the region, lands have been artificially created and drained by a series of dykes and pumping schemes – this includes much of Pelee Island, the south-east part of Leamington, and in the east part of Windsor near Lake St. Clair.

2.2 Drinking Water Systems

Municipal drinking water supplies in the Essex Region Watershed are drawn from surface water sources in the Great Lakes system - Lake Erie, Lake St. Clair and the Detroit River. There are seven municipal Water Treatment Plants (WTPs) in the region and an additional plant in Wheatley, outside of the region, which serves part of the Municipality of Leamington in the Essex Region Watershed. Of the seven municipal drinking water systems in the region, two plants - the Stoney Point and Lakeshore (Belle River) WTPs, have their water intakes located in Lake St. Clair; the A. H. Weeks (Windsor) and Amherstburg WTPs have their intakes in the Detroit River; and the

Harrow-Colchester South, Union and Pelee Island West Shore WTPs have their intakes in Lake Erie (**Map 3**).

Over 95 percent of the population in the region is served by municipal water treatment plants. The remaining population, less than five percent, depends on groundwater or hauled water. Even though treated water from the WTPs caters to the needs of the vast majority of the population, groundwater is used occasionally for domestic consumption, mainly in the rural areas. Hence, both surface water and groundwater are important in this region.

2.3 Vulnerable Areas

Based on the requirements of the Ministry of the Environment, Vulnerable Areas in the Essex Region were identified and evaluated as part of a 'water quality risk assessment'. In these areas, special care may need to be taken in the use and handling of chemicals and other potential contaminants. Vulnerable areas identified are Intake Protection Zones (IPZs), Highly Vulnerable Aquifers (HVAs) and Significant Groundwater Recharge Areas (SGRAs). Wellhead Protection Areas are another type of vulnerable area; however, they are not applicable in the Essex Region, as no municipal drinking water systems are supplied by groundwater.

Highly Vulnerable Aquifers (HVAs)

Highly Vulnerable Aquifers (HVAs) are defined as aquifers on which external sources have or are likely to have a significant adverse impact, and include the land above the aquifer. A number of factors such as how close the aquifers are to the ground surface, what types of soil or rock are covering the aquifers and, the characteristics of the soil or rock surrounding them, determine the vulnerability of an aquifer to contamination.

In the ERSPA these HVAs are generally located in the sandy soil areas in the southern part of the region, including most of Pelee Island (**Map 4**). Based on the maximum vulnerability score of 6 that HVAs can be assigned, activities in HVAs can only be assessed to be moderate or low drinking water threats through the 'vulnerability scoring approach' at this time.

Significant Groundwater Recharge Areas (SGRAs)

Significant Groundwater Recharge Areas (SGRAs) are defined as per Regulation 287/07 as areas within which it is desirable to regulate or monitor drinking water threats that may affect the recharge of an aquifer. Groundwater recharge occurs where rain or snowmelt percolates into the ground and flows to an aquifer. The greatest recharge usually occurs in areas which have loose or permeable soil such as sand or gravel that allows the water to seep easily into the aquifer.

Most of the SGRAs in the ERSPA are located in the sandy soil areas of the southern part of the Essex Region, in the Harrow area, parts of Leamington and Kingsville, and limited parts of the Turkey Creek and Pelee Island subwatersheds (**Map 5**). Areas within SGRAs have vulnerability scores of 6, 4 or 2, and therefore can have only moderate, low or no drinking water threats through the 'vulnerability scoring approach' at this time.

Intake Protection Zones (IPZs)

Intake Protection Zones are areas of land and water, where run-off from streams or drainage systems, in conjunction with currents in lakes and rivers, could directly impact the source water at the municipal drinking water intakes. The IPZ-1 is the area immediately around the intake crib, defined for the Type A and D intakes by a 1 km radius centered on the crib of the intake, and for Type B intakes by a semi-circle with a 1 km radius upstream from the centre of the intake crib and 100 m downstream of the same point (Rule 61-1; MOE, 2008a). Where the IPZ-1 abuts land, it includes a setback of 120 m inland along the abutted land. It is measured from the high water mark of the surface water body that encompasses the area where overland flow drains into the surface water body and the area of the Regulated Limit along the abutted land (Rule 61-2a and 61-2b; MOE, 2008a).

Outside this area is the Intake Protection Zone Two (IPZ-2). This area accounts for the influence of nearby watersheds, where runoff may pick up pollutants and affect water quality in the near-shore waters at municipal intakes. The IPZ-2s, generally encompassing areas within a few kilometres of the intakes, are based on a 'two-hour time of travel', for the flow of water along the shores and in the tributary watersheds. IPZ-1s and IPZ-2s for all intakes in the ERSPA are delineated.

A third type of Intake Protection Zone (IPZ-3) extends outward from IPZ-2, and covers larger watershed areas generally within 24 hours time of travel. The IPZ-3 includes all rivers and tributaries where modeling demonstrates that contaminant spills may reach the intake during an extreme rainfall or wind storm event. In the ERSPA, IPZ-3s for the Lake St. Clair, Detroit River and Lake Erie intakes are delineated based on model simulations of tanker truck fuel spills in the headwaters of selected tributaries, and fuel storage facilities in various locations. In the threats analysis, tanker truck fuel spills were also considered representative of the activity of the transportation of fuels. These IPZ-3 delineations include all tributary waterways of Lake St.Clair, the Detroit River and Lake Erie in the ERSPA, as well as some lands along the Detroit River shorelines and floodplain areas. The various maps for the IPZs discussed above are listed in Table 2.1.

As per the MOE Technical Rules, Vulnerability Scores are assigned for IPZ-1 and IPZ-2 of all types of intakes in the ERSPA, and for the IPZ-3s of intakes in Lake St. Clair in the ERSPA. Vulnerability Scores range from 1 to 10, with 10 being the most vulnerable. A

variety of factors come into play when calculating the vulnerability score of an area, such as: intensity of land use; the depth of the water at the intake; and water quality issues. The IPZ-1 and IPZ-2 vulnerability scores are higher for intakes in the Detroit River (ranging from 7.2 to 9.0) largely due to the urban land use. The scores tend to be more moderate for intakes in Lake St. Clair (6.3 to 9.0), and lower for intakes in Lake Erie (4.0 to 7.0). The IPZ-3 vulnerability scores for intakes in Lake St. Clair are low to moderate (4.5 to 6.3).

The Technical Rules classify surface water intakes according to their location, with slightly different rules for delineating the Intake Protection Zone and Vulnerability Score. There are four different classifications with the ERSPA having three different categories:

- Type A: Intakes located in a Great Lake – in the case of the ERSPA there are four WTPs with six intakes which draw water from Lake Erie. These are the Harrow-Colchester South WTP, Union WTP (primary and emergency intake), Pelee Island West Shore WTP, and the Wheatley Water Treatment Plant (primary and emergency intake).
- Type B: Intake located in a connecting channel in the Great Lakes system – there are two WTPs with three intakes which take their water from the Detroit River. These are the A. H. Weeks (Windsor) WTP (east and west intakes) and the Amherstburg WTP.
- Type C: Intake located in a river which is not part of the Great Lakes system, and neither the direction nor velocity of the flow of the water at the intake is affected by a water impoundment structure – none of these types are found in the ERSPA.
- Type D: If the intake is not a Type A, B or C – this type is characteristic of Lake St. Clair in the ERSPA and includes 2 WTPs and intakes, the Lakeshore (Belle River) WTP and Stoney Point WTP.

Table 2.1: Vulnerability Scores Assigned to IPZ-1s, IPZ-2s, and IPZ-3s in the ERSPA

WTP	Intake Type	IPZ-1	IPZ-2	IPZ-3a	IPZ-3b	IPZ-3c
Stoney Point [**Map 6**]	D	9.0	6.3	6.3	5.4	4.5
Lakeshore (Belle River) [**Map 7**]	D	9.0	6.3	6.3	5.4	4.5
A H Weeks (Windsor) East Intake [**Map 8**]	B	9.0	8.1			
A H Weeks (Windsor) West Intake [**Map 9**]	B	9.0	8.1			
Amherstburg [**Map 10**]	B	9.0	7.2			
Harrow-Colchester South [**Map 11**]	A	6.0	4.8			
Union Primary Intake [**Map 12**]	A	5.0	4.0			
Union Emergency Intake [**Map 13**]	A	6.0	4.8			
Pelee Island West Shore [**Map 14**]	A	6.0	4.2			
Wheatley Primary Intake [**Map 15**]	A	6.0	4.8			
Wheatley Emergency Intake [**Map 16**]	A	7.0	5.6			

Note: only Type D intakes have vulnerability scoring for IPZ-3.

Event Based Areas

By definition the IPZ-1, IPZ-2, and IPZ-3 for each intake do not overlap. The Event Based Area (EBA) is an area where modeling has demonstrated that a spill from a specific activity can or could cause deterioration to the raw water quality at the drinking water system. If the modeling test is met, the activity is deemed a significant drinking water threat and becomes subject to Source Protection Plan policies. The EBAs in the Essex Region encompass the combination of these three zones for modeled activities (e.g. spill of 34,000 L of fuel containing benzene) to which associated significant drinking water threat policies apply. Some areas of very high uncertainty may be included in the IPZ-3, which are acceptable under Rule 68 (Part VI.5) (*Technical Rules: Assessment Report CWA, 2006*), but are excluded from the EBA (Rule 130 (Part VI.5) (*Technical Rules: Assessment Report CWA, 2006*). Future studies may improve the certainty of these areas, which could be added to the EBA in an updated Assessment Report. The Event Based Area has been determined for each drinking water intake in the Essex Region SPA (see **Maps 17-27**)

2.4 Drinking Water Threats and Issues

Identifying potential threats to source water, as required by the Ministry of the Environment (MOE), is an important aspect of source water protection. A drinking water quality threat is an existing or potential future land use activity that has the potential to affect the quality of water used as a source of drinking water. Threats to source water quality may be identified through the threats based and events based modeling approaches, and through the identification of issues and conditions. These approaches are briefly described below.

Through the threats based approach, threats are identified as Significant, Moderate or Low in vulnerable areas, based on the Source Water Protection Threats Tool, accessible via http://swpip.ca/. This tool lists the circumstances that determine the threat level, such as activity, contaminant type and concentration.

Through the threats based approach, threats can only be significant in areas with a vulnerability score of either 9.0 (Stoney Point, Lakeshore, A. H. Weeks, and Amherstburg IPZ-1), or 8.1 (A. H. Weeks IPZ-2). The following tables show the potential significant drinking water threats for these two areas:

Table 2.2 List of Prescribed Drinking Water Threats Based on Vulnerability Score of 9.0

No.	Prescribed Drinking Water Threat	SIG	MOD	LOW
1	Establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage	√	√	√
2	Establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act	√	√	√
3	Application of agricultural source material to land	√	√	
4	Storage of agricultural source material	√	√	√
5	Management of agricultural source material to land		√	
6	Application of non-agricultural source material to land	√	√	
7	Handling and storage of non-agricultural source material	√	√	√
8	Application of commercial fertilizer	√	√	
9	Handling and storage of commercial fertilizer		√	√
10	Application of pesticide	√	√	
11	Handling and storage of pesticide	√	√	√
12	Application of road salt	√	√	
13	Handling and storage of road salt	√	√	√
14	Storage of snow	√	√	√
15	Handling and storage of fuel		√	√
16	Handling and storage of non-aqueous dense phase liquids		√	
17	Handling and storage of organic solvents		√	√
18	Management of runoff that contains chemical used in the de-icing of aircraft	√	√	√
19	Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard	√	√	

Table 2.3 List of Prescribed Drinking Water Threats Based on Vulnerability Score of 8.1

No.	Prescribed Drinking Water Threat	SIG	MOD	LOW
1	Establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage	√	√	√
2	Establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act	√	√	√
3	Application of agricultural source material to land	√	√	√
4	Storage of agricultural source material	√	√	√
5	Management of agricultural source material to land			√
6	Application of non-agricultural source material to land	√	√	√
7	Handling and storage of non-agricultural source material	√	√	√
8	Application of commercial fertilizer		√	√
9	Handling and storage of commercial fertilizer		√	√
10	Application of pesticide	√	√	√
11	Handling and storage of pesticide		√	√
12	Application of road salt		√	√
13	Handling and storage of road salt		√	√
14	Storage of snow		√	√
15	Handling and storage of fuel		√	√
16	Handling and storage of non-aqueous dense phase liquids		√	√
17	Handling and storage of organic solvents		√	√
18	Management of runoff that contains chemical used in the de-icing of aircraft		√	√
19	Use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard	√	√	

Through the events based approach, an activity is a significant drinking water threat in an IPZ-1, IPZ-2 or IPZ-3 if modeling demonstrates that a release of a contaminant from the activity would result in a deterioration of the source of drinking water quality. The Essex Region SPC has accepted the Ontario drinking water quality standard (ODWQS) as the benchmark to indicate the deterioration of raw water quality at the intake. Modeling of hypothetical spills of large volumes of liquid fuel at various locations demonstrated exceedances of the ODWQS for benzene, at one or more of the intakes in Lake St. Clair, the Detroit River and Lake Erie. These results were used to identify existing significant threats and establish potential significant threats criteria for the handling and storage of liquid fuel.

In addition to identifying existing significant threats in the ERSPA, potential significant threats criteria were established through the events based approach using modeling of fuel spills. Through this approach, it was determined that above grade handling and storage of large volumes of liquid fuel are significant threats based on certain criteria. The significant risk circumstances identified through the events based approach are the following:

- The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000 L or greater in the Stoney Point IPZ-1, IPZ-2 and IPZ-3, Lakeshore IPZ-1, IPZ-2 and IPZ-3, Windsor IPZ-1, IPZ-2 and IPZ-3 (upstream of intakes), Amherstburg IPZ-1, IPZ-2 and IPZ-3 (upstream of the intake, from the intake to vicinity of Turkey Creek, including Turkey Creek watershed), Harrow-Colchester IPZ-1, IPZ-2 and IPZ-3, Union IPZ-1, IPZ-2 and IPZ-3 (Cedar/Wigle/Mill Creeks, Leamington Area Drainage), Pelee IPZ-1, IPZ-2 and IPZ-3, and Wheatley IPZ-1, IPZ-2 and IPZ-3 where the EBAs are applicable as shown in the assessment report.
- The above grade handling and storage of liquid fuels (containing benzene) in quantities of 34,000 L or greater in the Union IPZ-3 (Sturgeon Creek drainage), where the EBAs are applicable as shown in the assessment report.
- The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000,000 L or greater in the Amherstburg IPZ-1 and IPZ-2 (downstream of the intake) where the EBAs are applicable as shown in the assessment report.
- The above grade handling and storage of liquid fuels (containing benzene) in quantities of 3,000,000 L or greater in the Amherstburg IPZ-3 (upstream of the intake, from vicinity of Turkey Creek to Upper Detroit River), Windsor IPZ-1 and IPZ-2 (downstream of the intakes) where the EBAs are applicable as shown in the assessment report.

Local threats specific to a Source Protection Area, and not included in the MOE's drinking water threats tables, may also be considered with special permission from the Director of Source Water Protection. The Essex Region intake protection zones are very extensive, and include many transportation corridors such as highways, roads,

railways, and shipping channels where the transportation of various substances occurs daily. Spills of these substances could occur along transportation corridors and affect drinking water sources.

As per the letter dated August 9, 2011 from Ian Smith (Director, Source Protection Programs Branch, MOE) in Assessment Report Appendix XIII, the transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), fuels, pesticides/herbicides and fertilizers could be moderate and low threats in various intake protection zones (IPZs) in the Essex Region based on the vulnerability scoring. Also, through modeling studies of simulated spills, the transportation of large volumes of liquid fuels is shown to be a significant drinking water threat in all of the delineated Event Based Areas in the Essex Region SPA. Volume thresholds resulting in significant threats associated with the transportation of liquid fuels in various IPZs are the same as for the handling and storage of fuel, as shown above.

Issues identified in the Assessment Report are based on a comprehensive evaluation of the quality of source water at each water intake. As issues are likely to continue if nothing is done to address the activities that cause them, the Clean Water Act requires that they be addressed in the Source Protection Plan, if the issues are determined to be partially or wholly from anthropogenic sources within a given Source Protection Area. The identified source water quality issues for most of the intakes in the ERSPA include organic nitrogen, turbidity, and aluminum. Further investigation is needed as to the extent to which the identified issues result from anthropogenic sources. This may lead to identifying the activities and areas that contribute to issues known to be partially or wholly due to anthropogenic causes. Microcystin-LR (the toxin produced by blue-green algae), has also now been formally identified as a drinking water issue at all Lake Erie drinking water intakes. Further information is required to monitor this issue to determine whether it continues to be a drinking water issue as well as more investigation into the causes of blue-green algal blooms lake wide is needed. This may lead to the identification of activities and areas that contribute to this issue in a future update to the Assessment Report and SPP.

Conditions are areas or sites where there is an existing contamination as a result of past activities. Various environmental reports, studies, and other literature were reviewed to identify if any such conditions exist in the IPZ-1 and IPZ-2 of the ERSPA. Some conditions have been identified in the IPZ-2s of the Stoney Point, Amherstburg, Harrow-Colchester South, and Pelee Island West Shore Water Treatment Plants (WTPs). Some conditions have been identified in both IPZ-1s and IPZ-2s of the Lakeshore (Belle River), A. H. Weeks (Windsor), and Wheatley WTP. Based on assigned hazard scores, the conditions resulted in low or no drinking water threats. There was a lack of data to assess conditions for the Union WTP.

2.5 Water Quantity Risk Assessment

A Conceptual Water Budget and a Tier 1 Water Budget have been completed for the ERSPA. These studies, as described in Section 3 of the Assessment Report, involved an analysis of data obtained from various sources on climate, stream flow, water demand, and groundwater systems stations to estimate the water budget components and stress conditions for surface water and groundwater. Water budget and water use demand estimates were used to determine the water quantity stress levels in different sub-watersheds at various times during the year. Based on the available data and information generated, six out of 11 subwatersheds in the Essex Region were categorized as significantly stressed in terms of surface water quantity conditions. The remaining five subwatersheds were characterized as having low surface water quantity stress (**Map 28**). The low stress subwatershed characterization does not necessarily indicate surface water resources are sufficient and sustainable. Water demand, or use, is generally not felt to be a significant factor in producing a stressed condition on surface water. The greatest factors in terms of surface water stresses are historical clearing and drainage, which greatly reduce water retention.

In terms of groundwater quantity stress conditions, one subwatershed was characterized as having significant stress, while five subwatersheds were categorized as having moderate stress, and the remaining five subwatersheds were categorized as having low stress (**Map 29**). The low stress subwatershed characterization does not necessarily indicate groundwater resources are sufficient and sustainable. Further study is recommended in this regard, particularly in relation to potential increases of future water demand and climate change considerations.

Since the ERSPA relies on the Great Lakes System to supply all of its municipal drinking water, further levels of evaluation, such as Tier 2 or Tier 3 water budget, are not required under the Drinking Water Source Protection Program.

2.6 Great Lakes Targets

The Clean Water Act allows for the Minister of the Environment to establish targets relating to the use of the Great Lakes as a source of drinking water for any of the Source Protection Areas that contribute water to the Great Lakes. Targets and recommendations have not yet been developed in this regard; however, it is felt that there would be benefit in pursuing this, and further work may be carried out for this purpose in the near future.

Initial discussions among the Project Managers, Chairs and technical staff from various Source Protection Areas in the Lake Erie basin (including Lake St. Clair, the Detroit River and St. Clair River Corridor) resulted in a discussion on the formation of a collaborative group to assist in further developing some common targets across the western basin.

In the Fall of 2009, representatives of the Source Protection Regions and Areas draining into the Lake Erie Basin (including Lake St. Clair, the Detroit River and St. Clair River) held an initial meeting to discuss and address common issues, share knowledge and engage in broader discussion on Great Lakes issues from a drinking water source protection perspective. Common water quality concerns included turbidity, nutrients, and algae. These are also common water quality problems across the Lake Erie basin. It was agreed at the meeting that there is a value in this group continuing to discuss common issues, to share information, and possibly work towards Great Lakes water quality concerns and targets in terms of Source Water Protection.

In 2014, both the Essex Region SPC and Thames-Sydenham Region SPC identified microcystin-LR as a drinking water issue at Lake Erie intakes (Harrow-Colchester, Union, Pelee Island West Shore and Wheatley) because concentrations of microcystin-LR have exceeded half the maximum allowable concentration on multiple occasions in the raw water of these intakes. Microcystin-LR is a neurotoxin produced by cyanobacteria (blue-green algae) and is released when the cell walls of the algae break down. Each summer the western basin of Lake Erie experiences algal blooms that result in high levels of total microcystins and microcystin-LR. Drinking water plant operators are required to alter their operations during a bloom at a significantly increased cost over regular operations. There is evidence that microcystin producing algal blooms are also occurring with increasing frequency and severity in the central basin of Lake Erie as well as in Lake St.Clair. Given that this drinking water issue is so extensive, the Essex Region SPC suggests that the Minister of the Environment consider establishing a Great Lakes target for microcystin-LR.

2.7 Climate Change

With respect to water quantity, climate change will likely shift the timing of seasonal events, such as the spring freshet, and cause water levels in Lake Erie to fluctuate at varying temporal scales due to such factors as increased water surface temperatures. Increases in evaporation over ice-free lakes, together with more frequent droughts, may intensify seasonal water shortages during low flow periods. The potential for water use conflicts, due to growing water shortages in other areas of the continent, may also be a serious matter.

In terms of water quality, increases in air temperature and more extreme precipitation events may lead to degraded water quality, including lower dissolved oxygen rates and higher water temperatures. Higher sediment and nutrient loadings, due to more intense runoff events, with corresponding increases in water temperature are likely to affect water-borne organisms, favouring more toxic forms of water-borne algal blooms, such as cyanobacteria and dinoflagellates. These blooms may lead to more taste and odour problems in drinking water, a higher risk of water-borne diseases, and increased treatment costs to water treatment plants.

Although further research is needed before any definitive conclusions can be reached, there are some possible effects on some of the findings of the Assessment Report. Climate change may affect near-shore water quality and stream water quality, and possibly exacerbate 'issues' which have been identified for source water quality at the various water treatment plants in the region. In addition, if there are found to be more frequent periods of shallower waters in the Great Lakes System, this may affect near-shore water quality and vulnerability scores for some intakes, which may alter the 'scoring' of the types of potential drinking water threats that may occur as a result. Finally, increased drought conditions and higher evapotranspiration rates may result in increased stress levels to both surface water streams and groundwater, although this would not affect municipal water sources.

SECTION 3.0

SOURCE PROTECTION PLANNING PROCESS

3.0 Source Protection Planning Process

3.1 Terms of Reference

In 2008, the Source Protection Committee for the Essex Region Source Protection Area prepared a Terms of Reference (ToR) in accordance with the Clean Water Act. The ToR included a description of the source protection planning process; maps and description of the Source Protection Area; list of municipalities wholly or partially within the Source Protection Area; list of existing and planned municipal drinking water systems in the Source Protection Area; list of matters that affect other Source Protection Areas; and high level cost estimates, schedules and assignment of responsibility for tasks.

The Terms of Reference assigned the lead for undertaking the various tasks to the Essex Region Conservation Authority (ERCA) on behalf of the Source Protection Authority. This included the technical studies for the Assessment Report, and the development of policies for the Source Protection Plan. Although the work was to be led by ERCA, it was recognized that it would be very important that municipalities be involved throughout the process. Regardless of which party takes the lead for undertaking a particular task, the Source Protection Committee (SPC) has the decision-making authority regarding the acceptability of the work or findings to be included in the Assessment Report and Source Protection Plan to be submitted, through the Source Protection Authority, to the Minister of the Environment for final approval.

The Terms of Reference was approved by the Ministry of the Environment on May 7, 2009.

3.2 Assessment Report

A very important and substantial component of the source protection planning process is the completion of Assessment Reports that identify the risks to municipal drinking water sources. Assessment Reports involve science-based studies to delineate areas around municipal drinking water sources ('Intake Protection Zones') that are potentially vulnerable to contamination. Within these vulnerable areas, the studies evaluate historical, existing and possible future land use activities that are or could be 'Threats' to municipal drinking water sources.

The Assessment Report (AR) for the Essex Region involved numerous comprehensive technical studies which began in 2006 and continued into 2014. Following extensive consultation with municipalities and other stakeholders, the proposed AR was submitted to the Ministry of Environment (MOE) in May 2010. An Updated/Amended AR, developed through further studies and consultation in 2011, was submitted in June 2011 and approved by the MOE in August 2011. The Assessment Report was updated and submitted to the MOE in January 2015, and was approved in March 2015. The key findings of the AR are described in **Section 2** of this Plan.

The Source Protection Plan builds on the results of the Assessment Report, in developing policies to reduce the risks in order to protect current and future sources of drinking water. The Assessment Report forms part of the Source Protection Plan and is available on the Essex Region Source Protection Area website: https://essexregionconservation.ca/source-water-protection/

3.3 Commencement of Source Protection Plan

As required by the Clean Water Act, a 'Notice of Commencement' of the Source Protection Planning process was sent in June 2011 to the following parties:

- the clerk of each municipality in which any part of the Source Protection Area is located;
- every person who the source protection committee believes could be engaging in one or more activities that are or would be significant drinking water threats in the Source Protection Area, according to the information contained in the Assessment Report

The Clean Water Act also requires that 'Notices of Commencement' be sent to the following parties, where applicable. However, these are not applicable in the Essex Region Source Protection Area.

- if any part of the reserve of a band is included in the Source Protection Area, the Chief of the band;
- if any part of the area of the Niagara Escarpment Plan is located in the source protection area, the chair of the Niagara Escarpment Commission;
- if a planning board has jurisdiction in any part of the Source Protection Area, the secretary-treasurer of the planning board

3.4 Development of Policies for Source Protection Plan

Support Documents

A very important and substantial component of the process of developing policies for the Source Protection Plan (SP Plan) involved the preparation of 'Support Documents.' These documents provide a detailed understanding of the various drinking water threats, and other important information, to assist the SPC in their consideration of policy approaches and tools that could be used to address each type of threat or sub-threat. The Support Documents contain detailed information regarding the specific 'circumstances' which would result in 'significant threats', as compared to 'moderate or low' threats. The Support Documents also describe 'Applicable Legislation' as it may or may not apply to the various threats. Terms and Definitions are also provided, to ensure a clear understanding of these matters. These documents, in support of the Essex Region SP Plan process, were developed through extensive research, as well as compilation and adaptation of other support material such as the 'Background

Documents' prepared by Conservation Ontario, and the 'Bulletins' provided by the Ministry of the Environment.

The information in the Support Documents was crucial in assisting the SPC in their evaluation and selection of policy approaches and tools, and in formulating the policies, as well as ensuring that there is a sound rationale for each of the policies. These documents were also most helpful with respect to the collaboration and consultation with municipal staff and others as a part of the policy development process.

Municipal Working Group

The Source Protection Committee and the Source Protection staff have been, and continue to be, particularly committed to consultation and collaboration with municipalities. Staff members of most municipalities in the Essex Region Source Protection Area have been involved throughout the Source Protection Planning process and have provided valuable input into the development of the Terms of Reference, technical studies/Assessment Reports, and policies for the Source Protection Plan. This has included representatives of various municipal Departments such as Engineering/Environmental, Planning/Building, and Water Treatment Plants. Material such as all SPC Agenda packages, draft consultants' reports, early concept policy approaches and draft policies was provided to staff of all municipalities throughout the entire process. Interaction and collaboration with municipal staff has been achieved through various means, such as participation in SPC meetings, special purpose meetings, email exchanges, consultants' presentations, training sessions, etc.

In the development of draft policies for the Source Protection Plan, several meetings were held throughout 2011, with Planning and Engineering/Environmental staff of the City of Windsor and Town of Amherstburg to assist in the development of policies to address the existing and potential future significant threats

Fuels Working Group

In the spring of 2011, the technical studies for the Updated Assessment Report identified the above grade storage and handling of large volumes of liquid fuel as a significant threat. This applies to existing and future facilities, as well as transportation. In June 2011, a Fuels Working Group (FWG) was established, and met several times during the summer and fall, to assist the SPC in addressing this threat. This significant threat applies to extensive IPZ-3 areas, including all tributaries of Lake St. Clair and Detroit River, which extend into all Essex Region municipalities except Pelee Island and Chatham-Kent. The FWG included SPC Members, staff members of most municipalities, the Facility Manager of Sterling Fuels (a major fuel storage and distribution facility), and the Emergency Management Coordinator for the County of Essex. The FWG gained an understanding of the requirements of the Technical

Standards and Safety Act, the associated Regulations which apply to the storage, handling, and transportation of fuel, and the standards and practices of the fuel industry. The Group provided valuable input and recommendations to the SPC regarding policy approaches and several draft policies for this significant threat.

Policy Approaches

In evaluating policy approaches, the SPC considered a variety of factors and information sources, such as:

- Requirements of the Clean Water Act and the associated Regulation.
- Information in the Support Documents as described above.
- Input from the Municipal Working Group, Fuels Working Group, and other stakeholders.
- Evaluation criteria adopted by the SPC – effectiveness, economic considerations, community acceptance, and consistency.
- Various 'tools' available, either through the Clean Water Act or others.
- Existing and permitted land uses and activities in the subject vulnerable areas.

The Clean Water Act requires that policies be developed to address existing or future significant threats, and specifies that policies are optional for moderate or low threats. The SPC determined early in the process that the focus would be on developing policies for significant threats. The SPC also determined that moderate and low threats were of importance and additional policies, including those related to Education and Outreach were developed.

In determining the policy approaches for significant threats, the primary considerations are whether to 'prohibit' or 'manage' the particular activity, the selection of the appropriate 'tool(s)', and whether a different approach or tool should be used for existing threats as compared to those which could occur in the future.

In developing policy approaches to either manage or prohibit each type of significant threat or sub-threat, the potential tools which may be considered by the SPC include 'Prescribed Instruments', Land Use Planning, Clean Water Act Part IV tools, or other tools specified in Section 22(7) of the Clean Water Act and Section 26 of Ontario Regulation 287/07. These various tools are described in more detail in **Section 4.1** of this Plan.

The rationale for the selection of the various policy approaches, tools, and the provisions specified in the policy text, was documented as a part of the development of each policy by the SPC. The rationale for each policy associated with the various types of significant threat or sub-threat is contained within each policy.

Pre-consultation with Implementing Bodies

The Clean Water Act requires that, before the Draft Plan is released to the public for review and comment, the Source Protection Committee (SPC) must conduct 'Pre-consultation' on draft policies with those who would be responsible for implementing the policies. Notices of Pre-consultation regarding the draft policies for the Essex Region Source Protection Plan were distributed to proposed implementing bodies in December, 2011. Pre-consultation of new and updated plans was conducted with implementing bodies in early November 2014.

Notices were sent to bodies responsible for implementing policies, and to government ministries that have obligations under the Clean Water Act. Comments on draft policies were considered by the policy developers. The following is a summary of the Pre-consultation requirements, as per various Sections of Ontario Regulation 287/07:

Section 35: Notice of Designation of any person or body responsible for implementation – Provide notice of the proposed policy to the implementing person or body.

Section 36: Notice of Policies affecting Prescribed Instruments – Provide notice of the proposed policy to the person or body responsible for issuing or otherwise creating the prescribed instrument.

Section 37: Notice of Policies affecting decisions under the Acts – Provide notice of the proposed policy to: the municipal council, municipal planning authority, planning board or other local board whose decision will be affected as well as the regional director of the Ministry of Municipal Affairs and Housing (MMAH) services office that is responsible for a region that includes any part of the source portion area.

Section 38: Notice of Significant Threat Policies – Provide notice of the proposed policy to the municipality, local board or Source Protection Authority (SPA) who will be affected.

Section 39: Notice of Designated activities, land uses and areas – Provide notice of the proposed designation to the municipality that would make a council of a municipality responsible for the enforcement of Part IV of the Act with respect to the activity or land use in a wellhead protection area (WHPA) or a surface water intake (IPZ).
For all Sections 35 to 39 above:

- Provide draft wording of the proposed policy.
- Provide a summary of reasons for the proposed policy.
- Request written comments on the proposed policy.
- The SPC must consider all comments received, if any, regarding the proposed policy.

In March 2012, the SPC considered all comments received during Pre-consultation, in the refinement of draft policies as a part of the Draft Proposed Source Protection Plan, for the purpose of further consultation as outlined below. Comments received, and

associated responses, are detailed in the Explanatory Document which accompanies the Plan.

3.5 Clean Water Act Requirements of the Source Protection Plan

The Clean Water Act and Ontario Regulation 287/07 specify the material that is required to be included in the Source Protection Plan, as listed below:

- **Objectives** (Clean Water Act Section 22(2)) – The Objectives of the Source Protection Plan are contained in **Section 1.2** of this Plan.
- **Summary of Consultations** on the ToR, AR, and Source Protection Plan (Ontario Regulation 287/07 S.28 (1), (2), (3)) – The various stages of consultation are summarized in **Section 1. 3** of this Plan.
- **Assessment Report** (Clean Water Act Section 22 (2)) – The approved Assessment Report which forms part of this Plan is referenced in **Section 3.2** above. The key findings are described in **Section 2** of this Plan.
- **Policies** (Clean Water Act, Ontario Regulation 287/07 various Sections) – The Policies which are part of this Plan are provided in **Table 5.2** and described in **Sections 5.1 and 5.2**. Additional details such as threat circumstances, etc. are provided in **Appendix A**.
- **Lists of Legal Provisions** (Ontario Regulation 287/07 Section 34) – These lists of Policies, grouped according to applicable legal provisions, are described in **Section 5.5** and are included in **Appendix B**.
- **Lists of Activities to Which CWA Sections 57 and 58 Apply** (Clean Water Act Section 22(3)) – These lists are described in **Section 5.5** and are included in **Appendix C**.
- **List of Land Uses to Which CWA Section 59 Applies** (Clean Water Act Section 22(3)) – This list is described in **Section 5.5** and is included in **Appendix C**.
- **Explanatory Document** (Ontario Regulation 287/07 Section 34) – This is a separate document which accompanies the Plan as required, and is described in **Section 4.4**.

3.6 Public Consultation

Consultation with the public and stakeholders is central in developing a locally derived Source Protection Plan. Consultation is also required under the Clean Water Act and its regulations, at each key point in the source protection process. As municipalities have implementation responsibilities, the Source Protection Committee is particularly committed to early and continuing consultation with municipalities. In preparing the Terms of Reference, the Assessment Report and Source Protection Plan, the SPC has consulted with municipalities, property owners, industry, businesses, and the general public numerous times throughout the source protection planning process. The input from these consultation activities has been integrated into the Plan and helped to

create reasonable and practical source protection policies. Further information on the Public Consultation Process is provided in Section 1 of this Plan.

Public Consultation on the Draft Source Protection Plan

The first round of public consultation involved a 35-day comment period, an information booth, and a public meeting. This was an opportunity for the public, municipalities, and other stakeholders to comment on the draft Source Protection Plan policies and the Draft Plan. The feedback received during this time was reviewed by the SPC and considered in the finalization of the Proposed Source Protection Plan.

Public Consultation on the Proposed Source Protection Plan

An additional 30-day comment period, following the consultation on the Draft Plan, provided the public and stakeholders with an opportunity to review and comment on the Proposed Source Protection Plan with any changes made by the Source Protection Committee. Comments received during this period were submitted to the Ministry of the Environment as a part of the submission of the Proposed Source Protection Plan for the Essex Region Source Protection Area in August 2012.

Public Consultation on the Updated Source Protection Plan

After receiving comments from the Ministry of the Environment in 2014, the proposed policies were reviewed by staff and the Source Protection Committee before revisions were prepared for public consultation. Municipalities and the public were invited to submit written comments regarding the revisions during a 30-day comment period. During this comment period, the SPP and AR were available for review online, at the Essex Region Conservation Authority office, and at a public meeting on December 11, 2014. This consultation period allowed the public to review updates and changes made to the SPP, policies, and new technical work in the Assessment Report. Comments received during this time were reviewed and considered by the Source Protection Committee prior to the submission of the Updated Source Protection Plan in January 2015.

3.7 Liaison with Neighbouring Source Protection Region

The Essex Region Source Protection Area (ERSPA) neighbours the Lower Thames Valley Source Protection Area (LTVSPA), which is part of the Thames, Sydenham and Region Source Protection Region (TSRPR). Communication and collaboration with the neighbouring Region throughout the source protection planning process has included sharing information electronically, in teleconferences, at workshops and meetings. In July 2014, a Joint Technical Advisory Committee was struck with SPC members from both ERSPA and TSRPR to discuss available microcystin data and phosphorus modelling

work to determine whether microcystin-LR should be included as a drinking water threat at Lake Erie drinking water intakes. Following this meeting, the TAC members from each SPC met to make a recommendation for their Region. Ultimately both the ERSPC and TSRSPC determined that microcystin-LR should be considered a drinking water issue at Lake Erie intakes and that the Minister of the Environment should be encouraged to establish 'targets' for microcystin-LR in the Great Lakes under the Clean Water Act.

The Town of Lakeshore, the Municipality of Leamington, and the Municipality of Chatham-Kent have lands and waters which extend into both the ERSPA and the LTVSPA. The vulnerable areas identified in the AR for the LTVSPA do not include areas in the Town of Lakeshore. The Intake Protection Zones (IPZ-1s, IPZ-2s and IPZ-3s) for the Wheatley Water Treatment Plant include lands and waters in Leamington and Chatham-Kent which extend into both the ERSPA and the LTVSPA. GIS staff from the ERSPA and LTVSPA have worked closely to ensure mapping is comprehensive.

SECTION 4.0

UNDERSTANDING THE SOURCE PROTECTION PLAN

4.0 Understanding the Source Protection Plan

The Essex Region Source Protection Plan policies were developed through a process described in **Section 3.0**. The current section describes further how the Plan fulfills the requirements of the Clean Water Act, and provides the reader with related terms, explanations and concepts of the Plan and its policies.

4.1 Policy Approaches and Policy Tools Used

The Clean Water Act requires that policies be developed to address existing or future significant threats, and specifies that policies are optional for moderate or low threats. The Source Protection Committee (SPC) determined early in the process that the focus would be on developing policies for significant threats. Later in the process, additional policies such as Education and Outreach were also developed for moderate and low threats.

In developing policies to address significant threats, the primary considerations are whether to 'prohibit' or 'manage' the particular activity, the selection of the appropriate 'policy tool(s)', and whether a different approach or tool should be used for existing threats as compared to those which could occur in the future. Existing significant threats, as identified in the approved Assessment Report, are associated with sewage discharge, and handling and storage of fuel. The SPC determined that it would be effective and appropriate to manage, rather than prohibit, the existing significant threats. For future threats, the SPC determined that different approaches could be applied to the various types of significant threat activities. In some cases, where the activity would be precluded by the existing and permitted uses in the subject areas, or where the activity would be extremely unlikely to be proposed or considered in the future, the SPC determined that it would be most appropriate and effective to prohibit the activity, recognizing that there would be no negative impact. In other cases, the SPC determined that it would be most appropriate and effective to manage the particular threat, if the activity were to be proposed in the future.

The policy tools which may be considered by the SPC include:

- Prescribed Instruments
- Land Use Planning
- Clean Water Act Part IV tools
- Monitoring tools specified in Section 22(2)–7 of the Clean Water Act
- Other tools specified in Section 22(7) of the Clean Water Act and Section 26 of Ontario Regulation 287/07

Wherever possible, the policy tools used are Prescribed Instruments which utilize existing regulations implemented by the Province. In cases where Prescribed Instruments do not apply, existing land use planning measures are utilized where

possible. The SPC utilized the Clean Water Act or the Ontario Regulation 287/07 tools only when other approaches were not available. In most cases, several complementary policy types are used to help address the particular threat, including some 'soft' policies such as education and outreach or stewardship incentives. The policy tools used are described below.

Prescribed Instruments

Under the Clean Water Act an 'instrument' is defined as any document of legal effect, including a permit, license, approval, authorization, direction or order issued or otherwise created under Ontario legislation. The Clean Water Act states that instruments may be prescribed for the purposes of the Act, which means that they can be used to implement policies in a Source Protection Plan and manage threats to source water. Also, the Clean Water Act requires that any future decision to issue, create or amend a prescribed instrument must conform with (e.g. comply with) any applicable significant threat policies that are set out in a Source Protection Plan. Instruments prescribed under Section 1.0.1(1) of Ontario Regulation 287/07 can be implemented by the MOE, the Ministry of Agriculture and Rural Affairs (OMAFRA), or the Ministry of Natural Resources (MNR) and include permits, licenses, approvals and authorizations issued under the following legislation:

- Environmental Protection Act
- Pesticides Act
- Nutrient Management Act
- Aggregate Resources Act
- Ontario Water Resources Act
- Safe Drinking Water Act

Clean Water Act Part IV

The Clean Water Act Part IV tools can only be used in areas where the Assessment Report indicates that the activity is, or would be, a significant drinking water threat and the area is located within an intake protection zone or wellhead protection area. These tools cannot be used for moderate or low threats. These tools also cannot be applied to an activity that requires a waste disposal site certificate of approval under the Environmental Protection Act, and an activity that requires a sewage system certificate of approval under the Ontario Water Resources Act or if the Building Code Act applies to the sewage system.

The Clean Water Act Part IV policy tools are: Section 57 (Prohibition), Section 58 (Risk Management Plans) and Section 59 (Restricted Land Uses).

Clean Water Act Part IV Section 57 (Prohibition)

Prohibiting existing threats to reduce risks to source water can be challenging. Stopping activities that are already taking place can be very costly and can have a serious impact on the business and/or property owner(s) affected. Whenever possible, it is preferable to use other available tools to adequately reduce the risk created by an existing threat. Choosing to manage rather than prohibit a threat can help ensure that existing activities and businesses are not penalized unfairly, simply due to the historic circumstances of their existence. On the other hand, where existing threats are not known to occur and are highly unlikely to occur prior to and after the approval of the Source Protection Plan, prohibition using Section 57 would be a suitable option.

Clean Water Act Part IV Section 58 (Risk Management Plans)

The Clean Water Act Section 58 risk management plans are site-specific documents, negotiated after the approval of the Source Protection Plan. A risk management plan will outline the actions required to address an identified significant drinking water threat, and should include and account for risk management measures that are already in place. A risk management plan can be thought of as a means of applying regulatory controls to an activity; it is a plan that regulates how a significant drinking water threat activity is undertaken – and offers the opportunity for local agreement and negotiation.

Clean Water Act Part IV Section 59 (Restricted Land Use)

Section 59 (Restricted Land Use) enables a process to be established that links the threats activities affected by Section 57 and Section 58 with building permits and planning applications. This would help 'flag' proposals at the planning approval application or building permit application stage, as the Section 59 notice is required up front. Without policies that designate land uses for the purpose of Section 59, the municipality would not have the benefit of this process. Section 59 is used to flag a land use type. In the areas where the Section 59 policies are put into effect, building permit applications and planning applications would be screened and referred to the Risk Management Official (RMO). Section 59 policies would apply only to specific vulnerable areas and activities as mentioned in the policy.

Land Use Planning

The Clean Water Act recognizes the authority of the Planning Act to regulate land uses and provides for the implementation of certain Source Protection Plan policies through Ontario's existing land use planning framework. The Planning Act in Ontario provides tools with which municipalities can regulate development as they plan their communities, such as allocating land for agricultural, residential, commercial or mixed uses. The individual planning authorities will reflect the implementation of policies in

their respective Official Plans. In a specific case where the implementation of a policy is not appropriate given the specific circumstances in an Official Plan, the planning authority will make the final decision on inclusion subject to review by the SPC. For example, there is no benefit in Lakeshore providing land use planning measures to complement a Prescribed Instrument policy for waste disposal sites, given the unique nature of this particular IPZ-1 in the Town of Lakeshore. The land based portion of the IPZ-1 affects only a very narrow protrusion into Lake St. Clair, including marina and small portion of a municipal park.

Monitoring tool specified in Section 22(2)-7 of the Clean Water Act

Section 22(2)-7 of the Clean Water Act allows for policies which govern environmental monitoring of drinking water issues identified in the Assessment Report (e.g. microcystin-LR), if such monitoring is advisable. Monitoring may be advisable if more data are needed to determine the extent of the issue, whether trends exist in the data and/or what the sources of the issue may be.

Other Tools

Section 22 (7) of the Clean Water Act and Section 26 of the Ontario Regulation 287/07 identify additional tools that can be used to address significant, moderate or low drinking water threats. These tools may be applied alone or in combination with other tools to deal with a particular drinking water threat. Where measures are already in place to address a significant, moderate or low threat, these tools provide for actions that could address the threat, while acknowledging existing measures.

The legal effect of these tools varies, depending on the threat risk level being addressed (significant, moderate or low), and the body responsible for implementing the policy. When a municipality, local board, or Source Protection Authority are identified in a Source Protection Plan as the implementing body for a significant threat policy, those bodies must comply with the obligations of the policy.

The Clean Water Act Section 22 (7) tools (Education and Outreach and Incentives) and Ontario Regulation 287/07 Section 26 tools (Specify Actions, Govern Research, Stewardship Programs, Best Management Practices, and Pilot Programs) are described below.

Specify Actions to be taken to implement the Plan or to achieve the Plan's Objectives

The SPC may 'specify actions' to be taken to implement a Plan or achieve the Plan's objectives, including addressing drinking water threats when the SPC's desired action is not achieved through other tools. This policy approach may rely on other regulatory measures to implement the Plan or achieve the Plan's objectives. Where a policy

specifies actions to be taken by a public or other body, the SPC should ensure that there are no legal constraints that would prevent the implementing body from taking the specified actions. The SPC, through discussions with the identified implementing body, must determine whether implementation of the policy is within the jurisdiction of that body, and discuss the policy's feasibility, including any financial implications.

Govern Research

Research may be needed to determine new, innovative methods, or technologies for addressing certain threats, or to better understand where targeted actions to address threats would have the most benefit to source water. The source protection policy using this tool would specify what the research program would be, the implementing body, duration of the program, and expected outcomes.

Education and Outreach

Education and outreach is intended to increase awareness of the benefits of drinking water source protection, improve landowner acceptance of policies, and encourage positive changes in behaviour. An education and outreach program could include written materials (such as brochures, fact sheets, and websites), community outreach (such as presentations to community groups or schools), special activities (such as workshops, demonstrations, tours, videos, and school or community programs), media liaison (such as press releases).

Establish Stewardship Programs

These programs provide assistance for the development of educational materials, incentives for infrastructure upgrades, or to maintain a monitoring and information network. Stewardship programs often include financial and hands on technical assistance to the community, landowners, or businesses to complete a variety of environmental projects. Note that before a body can be designated in a Source Protection Plan as being responsible to administer a stewardship program, the SPC must consult with the body and provide a draft of the stewardship policy they intend to include in the Plan. This consultation must be completed before the SPC publicly consults on the draft Plan. The SPC should also consult with the body to ensure it has access to the financial resources necessary to carry out the program before the body is designated to carry out a stewardship program.

Incentives

Incentives are intended to promote or encourage specific actions or behaviours and are complementary to the 'Specify Actions' and 'Education and Outreach' tools, and may overlap with the 'Stewardship Program' tool. These often include financial incentives or cost share programs but could also include community recognition programs or

awards. There is often opportunity for landowners or businesses to combine incentive programs to receive full project funding.

Establish Pilot Programs

Pilot programs can test the feasibility of an existing or new technology in addressing significant threats. The SPC must discuss the program feasibility, including costs involved, with the suggested implementing body prior to draft policy consultation.

Specify and Promote Best Management Practices

Best management practices promote the safest or most efficient way of doing something and take measures to mitigate or prevent impacts to water quality or quantity. While best management practices are generally voluntary in nature, Source Protection Plan policies could support the continuation of these practices and encourage their use at sites where significant threat activities occur. To achieve this, the SPC would be required to designate the body responsible for the establishment or continuance of a program that is aimed at encouraging the adoption of best management practices. In addition to the discussions with the body about financial capacity prior to designation of responsibility, the SPC would discuss how implementation of such a program could be monitored and reported on.

4.2 Legal Effect of the Plan

Part III of the Clean Water Act gives Source Protection Plans their legal effect. Where a SPC intends for a policy to be given legal effect, the SPC must do so in a manner that complies with Section 34 of the Ontario Regulation 287/07. Therefore, the applicable legal provisions of the policies must be identified in the Source Protection Plan.

Legal Effect Definitions

The policies in the Source Protection Plan have one of three types of legal effect – ‘must conform/comply with’ policies, ‘have regard to’ policies, and ‘non-legally binding/strategic action’ policies. The legal effect indicates the responsibility or obligation of the body implementing the policy. It is influenced by the threat level (significant, moderate or low), the policy tool type and who the implementing body is. This information is described in detail below:

Must Conform With

- The Clean Water Act requires municipalities, local boards or Source Protection Authorities to comply with any obligations imposed on it to address a significant drinking water threat or condition, regardless of the particular tool or approach used in the policy.
- The Act requires decisions under the Planning Act and Condominium Act, 1998 to conform with significant threat/condition policies.
- The Act requires decisions related to prescribed instruments to conform with significant threat/condition policies.
- Persons carrying out significant threat activities must conform with policies that use Part IV powers under the Clean Water Act.
- The Source Protection Plan must designate a public body[1] to carry out monitoring required by the Clean Water Act and these public bodies must conform with the obligations set out in the monitoring policies.

Have Regard To

- The Act requires decisions under the Planning Act and Condominium Act, 1998 to have regard to moderate and low threat/condition policies.
- The Act required decisions related to prescribed instruments to have regard to moderate and low threat/condition policies.

Non-legally Binding

The Source Protection Plan includes other types of policies that, while the Source Protection Committee may determine are important to achieving the Plan's objectives, are not given legal effect by the Act. These include:

- Significant, moderate and low threat/condition policies to be implemented by bodies other than municipalities, local boards or source protection authorities and which do not rely on Part IV, Prescribed Instrument or Planning Act tools.
- Other permitted policies governing:
    - Moderate and low threats including stewardship and incentive programs and education and outreach programs that are not aimed towards a specific threat activity or Condition.
    - The update of spills prevention, contingency or response plans along highways, railways or shipping lanes.
    - Climate conditions data collection.

[1] Public body is defined in Section 2 of the Clean Water Act and means "a municipality, local board or conservation authority, a ministry, board, commission, agency or official of the Government of Ontario, or a body prescribed by the regulations". Based on this definition, a federal government department or agency and the TSSA are not public bodies.

    - Transport pathways in Intake Protection Zones (IPZs).
- Optional monitoring policies governing:
    - Moderate and low threats in areas where the threat could never become significant.
    - Monitoring of other permissible Plan policies (e.g. updates to spills prevention plans).

Legal Provisions Lists and Other Information

The Plan must contain lists of policies for each legal effect provision of Part III. The purpose of each list is to ensure that the appropriate provisions of Part III of the CWA are applied to a policy, as set out in Section 34 of the Ontario Regulation 287/07. In addition to the required lists, it is recommended to also include lists of the Clean Water Act Part IV policies and a list of strategic action policies (non-legally binding, for moderate and low threats only). According to Section 34 (4) of the Ontario Regulation 287/07, the Plan must identify the type of prescribed instrument that the policy affects. These lists are further described in **Section 5.5** and are contained in **Appendices B, C and D**.

4.3 Monitoring Policies

Monitoring policies are required in order to monitor the effectiveness of the implementation measure taken to reduce the risk level through the policy tool. They are required for all existing/future threat activities that have been identified as significant, as well as moderate and low threats where policies are deemed to be needed to prevent these from becoming significant threats. The intent of monitoring policies is to ensure that the implementing body has fulfilled the requirements of the threat policy in the Source Protection Plan and to ensure that there is a continuous tracking of actions and that the policies meet the desired objective for each threat activity. As per Section 45 of the Clean Water Act, the body responsible for monitoring a significant threat policy must conduct a monitoring program. As per Section 46 (1) of the Clean Water Act, a report documenting the measures taken to implement the policies must be submitted annually by the Source Protection Authority (SPA) to the Director (MOE). This helps to monitor the effectiveness of the implementation of the related significant threat policy.

4.4 Explanatory Document

The Ontario Regulation 287/07 Section 40 requires that an Explanatory Document be prepared and submitted with each Source Protection Plan. The purpose of the Explanatory Document is to provide stakeholders, the general public, other interested parties, as well as the Source Protection Authority and the Minister of the Environment with an understanding of the rationale for the policies included in the Plan by providing

information that may have influenced policy decisions. The Explanatory Document must include:

- Source Protection Committee's reasons for each policy;
- Reasons to designate an activity under Clean Water Act Section 57 (prohibition);
- Summary of comments received during pre-consultation and how it affected the development of policies;
- Explanation of how the Assessment Report climate change summary affected the development of policies;
- Summary of how the consideration of the financial implications (for implementing bodies and those affected by the Source Protection Plan) affected the development of policies;
- A statement from the SPC that a policy using only a Clean Water Act Section 22 (7) or Ontario Regulation 287/07 Section 26 tool will address a significant drinking water threat, and also, that a policy to regulate or prohibit the significant threat is not necessary. Clean Water Act Section 22 (7) tools are: Education and Outreach, and Incentives. Ontario Regulation 287/07 Section 26 tools are: Specify Actions, Govern Research, Stewardship Programs, Best Management Practices, and Pilot Programs.

The Explanatory Document must be completed by the SPC and accompany the Source Protection Plan for public consultation purposes. It must be published on the Internet and made available for viewing by the public at one or more locations. While the Explanatory Document itself is not subject to comments by the public or other stakeholders, it will help provide clarity on the reasons for the policy decisions in the Plan.

SECTION 5.0

SOURCE PROTECTION POLICIES

5.0 Source Protection Policies

Section 4.0 provided terms, explanations and concepts of the Source Protection Plan and its policies. **Section 5.0** describes the Essex Region Source Protection Plan policies in detail.

5.1 Essex Region Source Protection Policies

The Essex Region Source Protection Plan policies were developed through a process described in **Section 3.4**. An overview list of the policies is provided in **Table 5.1**, located at the end of this Section of the Plan. The Essex Region Source Protection Plan policies are provided in **Table 5.2**, along with accompanying monitoring policies, located at the end of this section. **Appendix A** provides additional policy background details such as the threat circumstances, rationale, implementing body, etc., for each policy.

The next section describes the organization and format of the policies.

5.2 How to Read the Policies

Most of the policies developed apply to Intake Protection Zones (IPZs) of the Windsor, Amherstburg and Lakeshore (Belle River) intakes, where the vulnerability scores result in various types of activities being classified as significant threats. Several policies also apply to all EBAs within IPZs of the intakes in Lake St. Clair, Detroit River and Lake Erie, where the above grade storage, handling, or transportation of large volumes of liquid fuel has been identified as a significant threat. There are also some additional policies which apply to moderate or low threats in all IPZs and all Highly Vulnerable Aquifers (HVAs). The policies are mainly organized based on the policy tool used.

The Essex Region Source Protection Plan policies, provided in **Table 5.2**, are numbered 1 through 50. Each policy is also assigned a unique identifier, called the 'Policy Reference Number', which indicates the vulnerable area (e.g. W1A1L1 indicates the IPZ-1s of Windsor, Amherstburg and Lakeshore), the threat (e.g. the storage of snow), and the policy tool used (e.g. land use planning). The 'Policy Text' column provides the actual policy in **Table 5.2**. It contains that information and provides direction to an implementing body in order to address a drinking water threat.

Policies have related monitoring policies, which are numbered 1M through 50M, and assigned reference numbers as well. The related monitoring policy texts are also in the **Table 5.2**.

The additional policy background details in **Appendix A** appear as a table of several rows, the most important of which are the 'Policy Text' (same as that in **Table 5.2**), the drinking water threat circumstance (described in **Section 5.3**) and the 'Rationale' sections. The 'Rationale' describes how the policy addresses a threat and the reasons for the policy tool and approach chosen. The other information provided in each table

includes the threat and sub-threat (if any), the vulnerable areas (IPZs or HVAs) to which the policy applies, the risk level of the threat (significant, moderate or low), threat status (e.g. existing, future or both, described in **Section 5.4**), current land use information, approach (prohibit or manage), policy tool (described in **Section 4.1**), implementing body and legal effect (described in **Sections 4.2 and 5.5**) and date of compliance. Also in **Appendix A** are monitoring policy texts and additional details in table format, similar to the policy tables.

The date of compliance depends on the policy tool used; it could be:

- the date the Plan takes effect (for future threats, when Clean Water Act Section 57, 58, 59 or Prescribed Instrument is used; or for significant threat policies that affect decisions under the Planning Act and Condominium Act)
- between 1 to 5 years of the date the Plan takes effect (for existing threats, when Clean Water Act Section 57, 58 or Prescribed Instrument, or Clean Water Act Section 22 (7) or Ontario Regulation Section 26 tool is used)
- by the time of the next Official Plan (OP) 5 year review under Section 26 of the Planning Act and within 3 years of OP conformity for zoning by-laws (when Land Use Planning tool is used)
- By February 1st of each year, for monitoring policies associated with significant threat policies

Each policy for a significant drinking water threat must also have a monitoring policy to monitor the effectiveness of the significant threat policy. The monitoring policies are structured in a similar format to the drinking water threat policies described above.

5.3 Drinking Water Threat Circumstances

Drinking water threats are identified in the Assessment Report, as described in **Section 2.4**. The circumstances that make a threat a significant, moderate or low risk to a source of drinking water are identified using the Source Water Protection Threats Tool, accessible via http://swpip.ca/. The tool contains information from the Tables of Drinking Water Threats, accessible via the source protection homepage of Ontario.ca. The circumstances for significant threats in the Essex Region Source Protection Area are described in detail in the Essex Region Significant Drinking Water Threat Support Documents which were made available during consultation as resource material. The circumstances typically refer to threat (such as handling and storage of road salt), sub-threat (such as storage of road salt), parameters of concern (chemicals such as chloride, or pathogens), and the quantities of parameters (e.g. 5000 tonnes). The threat circumstances vary depending on the vulnerable areas and vulnerability scores as specified in the MOE Table of Drinking Water Threats.

Significant threat circumstances may also be defined through events-based modeling. In general, a third Intake Protection Zone, or IPZ-3, is to be delineated if modeling demonstrates that contaminants released during an extreme run-off and/or wind

event may be transported to an intake. In addition, that activity is or would be a significant threat if the modeling demonstrates that a contaminant can reach an intake at a concentration that deteriorates the water as a drinking water source, e.g. makes the water unusable (even temporarily) as a drinking water source. The circumstances or criteria established through events-based modeling includes the parameter (such as fuel containing benzene), the quantity (such as 15,000 L), and the vulnerable area.

The circumstances associated with each type of significant threat or sub-threat is described in each policy table as provided in **Appendix A**.

5.4 Existing and Future Threats

Definitions

General definitions are provided in **Appendix E** of the Plan or in the Clean Water Act, 2006. The following definitions shall also apply. Defined terms are intended to capture both the singular and plural of forms of these terms.

Existing Threat: for the purpose of the policies in this Plan, an *existing* threat is defined as: a threat activity that has commenced, or is established, as of the date the Source Protection Plan takes effect.

Future Threat: for the purpose of the policies in this Plan, a *future* threat is defined as: a threat activity that is not an *existing* threat, as defined in this Source Protection Plan, on the date that the Plan takes effect.

Policies for Confirmed (Known) Existing Threats

There are only two types of confirmed (known) existing threats identified in the approved Assessment Report for the Essex Region Source Protection Area. One of these involves municipal sewage discharges in the Windsor IPZ-1s and IPZ-2s.The other type of existing significant threat is the above grade storage, handling, or transportation of large volumes of liquid fuels, in the IPZs of all of the water treatment plant intakes in Lake St. Clair, Detroit River, and Lake Erie.

In determining policy approaches for these confirmed existing significant threats, the SPC decided that it would be effective and appropriate to manage, rather than prohibit, these existing significant threats. For example, the policies which manage existing grade fuel storage facilities require the Risk Management Official, or other implementing body (e.g. Provincial Ministries are responsible for some policies), to obtain documentation from the owner to demonstrate compliance with the existing requirements of the Technical Standards and Safety Act. The existing sewage threats are managed by several policies to be implemented by the City of Windsor, one Prescribed Instrument policy to be implemented by the MOE, and one Stewardship policy.

Policies for Future Threats

For future threats, the SPC determined that different approaches could be applied to the various types of significant threat activities. In some cases, where the activity would be precluded by the current and permitted/zoned land uses in the subject areas, or where the activity would be extremely unlikely to be proposed or considered in the future, the SPC determined that it would be most appropriate and effective to prohibit the activity, recognizing that there would be no negative impact. In other cases, the SPC determined that it would be most appropriate and effective to manage a particular type of future threat, if the activity were likely to be proposed in the future.

Policies for other 'Existing' Threats

Existing threats are activities that are already confirmed (known) to *exist* or that would potentially *exist* between now and the date that the Source Protection Plan takes effect, based on the vulnerable area (such as an Intake Protection Zone) and vulnerability score. The Clean Water Act requires that policies are required to address all types of '*existing*' significant threats, even where there is little or no possibility that they actually could exist.

As described above, in some cases policies prohibit future occurrences of significant threat activities which are not known to exist now or are highly unlikely to exist in the future, mainly due to current and zoned land uses in the subject vulnerable areas. Therefore, some of the policies which prohibit future threats were extended to prohibit those threats which could exist between now and the date the Plan takes effect based only on vulnerable area and score, but which are highly unlikely to occur based on current and zoned land uses. In those cases, the prohibition of the particular type of would-be 'existing' threat activity was deemed to be a reasonable approach. The SPC determined that the implementation of these policies would have no negative effect, while ensuring that there is no future occurrence of the subject activity. However, where there was considered to be a possibility that a particular threat activity could actually exist, policies were developed to manage those types of 'existing' threats, even if they are not known to currently occur, as they could occur between now and the date the Plan takes effect.

5.5 Legal Provisions Lists and Clean Water Act Part IV Lists

As described in **Section 4.2**, the policies in the Source Protection Plan have one of three types of legal effect – 'must conform/comply with' policies, 'have regard to' policies, and 'non-legally binding/strategic action' policies. The legal effects of the policies are summarized in the Legal Effect Matrix, shown in **Table 5.3**.

Table 5.3: Legal Effect Matrix

Implementing Body	Provincial	Municipality, Local Board or SPA	Other Bodies
SIGNIFICANT THREAT POLICIES–ACTIVITIES			
Part IV Tools [1]	Must Conform/ Comply With	Must Conform/ Comply With	Must Conform/ Comply With
Prescribed Instruments	Must Conform/ Comply With	N/A	N/A
Land Use Planning Approaches		Must Conform/ Comply With	Must Conform/ Comply With
Education and Outreach/ Incentive Programs	Non-Legally Binding (Strategic Action)	Must Conform/ Comply With	Non-Legally Binding (Strategic Action)
Other[2]			
SIGNIFICANT THREAT POLICIES–CONDITIONS			
Part IV Tools[1]	N/A	N/A	N/A
Prescribed Instruments	Must Conform/ Comply With		
Land Use Planning Approaches		Must Conform/ Comply With	Must Conform/ Comply With
Education and Outreach/ Incentive Programs	Non-Legally Binding (Strategic Action)	Must Conform/ Comply With	Non-Legally Binding (Strategic Action)
Other[2]			
MONITORING POLICIES			
All Policy Tools	Must Conform/ Comply With	Must Conform/ Comply With	Non-Legally Binding (Strategic Action)
MODERATE AND LOW THREAT POLICIES–ACTIVITIES AND CONDITIONS			
Part IV Tools[1]	N/A	N/A	N/A
Prescribed Instruments	Have Regard		
Land Use Planning Approaches		Have Regard	Have Regard

Implementing Body	Provincial	Municipality, Local Board or SPA	Other Bodies
Education and Outreach/ Incentive Programs	Non-Legally Binding (Strategic Action)	Non-Legally Binding (Strategic Action)	Non-Legally Binding (Strategic Action)
Other [2]			
OTHER POLICIES			
Transport Pathways	Non-Legally Binding (Strategic Action)	Non-Legally Binding (Strategic Action)	Non-Legally Binding (Strategic Action)
Climate change data collection			
Spill prevention, contingency or response plans along highways, railways or shipping lanes			

Notes: N/A: Not Applicable

[1] Part IV Tools include Section 57 (Prohibition), Section 58 (Risk Management Plan), and Section 59 (Restricted Land Use)

[2] Other approaches authorized by the Clean Water Act and its Regulation include:

- Specify the action to be taken to implement the Source Protection Plan or to achieve the Plan's objectives
- Establish stewardship programs
- Specify and promote Best Management Practices
- Establish pilot programs; and govern research

(Source: Adapted from Conservation Ontario, 2011, Legal Effect of Source Protection Plan Policies)

As outlined in **Section 4.2**, the Plan must contain lists of policies for each legal effect provision of Part III. The purpose of each list is to ensure that the appropriate provisions of Part III of the CWA are applied to a policy, as set out in Section 34 of Ontario Regulation 287/07. These lists are further described below:

- **List A:** Significant threat policies that affect decisions under the Planning Act and Condominium Act, 1998
- **List B:** Moderate and low threat policies that affect decisions under the Planning Act and Condominium Act, 1998
- **List C:** Significant threat policies that affect prescribed instrument decisions
- **List D:** Moderate and low threat policies that affect prescribed instrument decisions

- **List E:** Significant threat policies that impose obligations on municipalities, source protection authorities and local boards
- **List F:** Monitoring policies referred to in subsection 22 (2) of the CWA

In addition to the above required lists, it is recommended to also include lists of the Clean Water Act Part IV policies and a list of strategic action policies (non-legally binding, for moderate and low threats only). Other policies that do not belong in any other list may include significant threat policies directed at bodies such as the federal or provincial government, and other significant threat policies which have a non-legally binding commitment. These other policies may also be listed at the end.

- **List G:** Policies related to Section 57 of the Clean Water Act, 2006
- **List H:** Policies related to Section 58 of the Clean Water Act, 2006
- **List I:** Policies related to Section 59 of the Clean Water Act, 2006
- **List J:** Strategic Action policies
- **List K:** Significant threat policies that represent a non-legally binding commitment

According to Section 34 (4) of the Ontario Regulation 287/07, the Plan must identify the type of prescribed instrument that the policy affects in relation to Lists C and D.

According to Section 22 (3) of the Clean Water Act, the following information must also be provided in the Plan:

- A list of activities to which Clean Water Act Section 57 should apply and, for each designated activity, the areas within which Section 57 should apply to the activity
- A list of activities to which Clean Water Act Section 58 should apply and, for each designated activity, the areas within which Section 58 should apply to the activity
- A list of land uses to which Clean Water Act Section 59 should apply and, for each designated land use, the areas within which Section 59 should apply to the land use

Appendix B of the Source Protection Plan contains policy lists A to K, ensuring Source Protection Plan policies are designated the appropriate legal effect provision as outlined in the Clean Water Act.

Appendix C contains the list of activities to which Clean Water Act Sections 57 and 58 should apply, as well as those land uses which Clean Water Act Section 59 should apply.

Appendix D identifies the type of Prescribed Instruments that the policies affect in relation to Lists C and D.

Table 5.1: List of Essex Region Updated Source Protection Plan Policies

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
1	Prescribed Instrument (Environmental Compliance Approval)	Combined sewer discharge from a stormwater outlet to surface water	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1W2L1A1-combinedsewer-1 (Prescribed Instrument)
2	Prescribed Instrument (Environmental Compliance Approval)	Sewage treatment plant bypass discharge to surface water, Sewage treatment plant effluent discharges (includes lagoons), Storage of sewage	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-bypass/effluent/storage-1 (Prescribed Instrument)
3	Prescribed Instrument (Environmental Compliance Approval)	Storage of sewage	Windsor IPZ-1	W1-storage-1 (Prescribed Instrument)
4	Prescribed Instrument (Environmental Compliance Approval)	Stormwater management	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1W2L1A1-stormwater-1 (Prescribed Instrument)
5	Prescribed Instrument (Environmental Compliance Approval)	Industrial effluent discharges	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1W2L1A1-industrialeff-1 (Prescribed Instrument)
6	Prescribed Instrument (Environmental Compliance Approval)	Industrial effluent discharges	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle	W1W2L1A1-industrialeff-2

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
			River) IPZ-1 and Amherstburg IPZ-1	(Prescribed Instrument)
7	Prescribed Instrument (Environmental Compliance Approval)	Sewage treatment plant bypass discharge to surface water, Sewage treatment plant effluent discharges (includes lagoons)	Windsor IPZ-2	W2-bypass/effluent-1 (Prescribed Instrument)
8	Prescribed Instrument (Environmental Compliance Approval)	Application of Non-Agricultural Source Material (NASM)	Windsor IPZ-2	W2applNASM-1 (Prescribed Instrument)
9	Prescribed Instrument (Environmental Compliance Approval)	Storage of Non Agricultural Source Material (NASM)	Windsor IPZ-2	W2storageNASM-1 (Prescribed Instrument)
10	Prescribed Instrument (Environmental Compliance Approval)	Application of Non Agricultural Source Material (NASM)	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-applicationNASM-1 (Prescribed Instrument)
11	Prescribed Instrument (Environmental Compliance Approval)	Storage of Non Agricultural Source Material (NASM)	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-storageNASM-1 (Prescribed Instrument)
12	Prescribed Instrument (Environmental Compliance Approval)	Application of untreated septage to land	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and	W1W2L1A1-hauledsewage-1 (Prescribed Instrument)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
			Amherstburg IPZ-1	
13	Prescribed Instrument (Environmental Compliance Approval)	Storage, treatment and discharge of tailings from mines	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-minetail-1 (Prescribed Instrument)
14	Prescribed Instrument (Environmental Compliance Approval)	Land disposal of petroleum refining waste, Land disposal of hazardous waste, Land disposal of municipal waste, Land disposal of industrial or	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-waste-1 (Prescribed Instrument)
15	Prescribed Instrument (Pesticides Permits)	Application of pesticide	Windsor IPZ-1, Windsor IPZ-2, Lakeshore IPZ-1 and Amherstburg IPZ-1	W1W2L1A1applPesticide-1 (Prescribed Instrument)
16	Prescribed Instrument (Municipal Drinking Water License and Permit)	Handling and storage of fuel – IPZ-1,2,3	All EBAs within IPZs in the Essex Region SPA	SLWA123-handlestorefuel-1 (Prescribed Instrument)
17	Prescribed Instrument (Aggregate Licenses, Wayside Permits, and Aggregate Permits and Site Plans)	Handling and storage of fuel – IPZ-1,2,3	All EBAs within IPZs in the Essex Region SPA	SLWA123-handlestorefuel-5 (Prescribed Instrument)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
18	O. Reg 287/07 Section 26 (Specify Action)	The transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), fuels, pesticides/herbicides, fertilizers	All IPZ-1s, IPZ-2s and IPZ-3s	All123-transportcorridor-1 (Specify Action)
19	O. Reg 287/07 Section 26 (Specify Action)	The transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), fuels, pesticides/herbicides, fertilizers	i) All Events Based Areas (EBAs) for the transportation of fuel within the IPZs in the Essex Region Source Protection Area. ii) IPZ-1s and IPZ-2s for the transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), pesticides/herbicides, fertilizers	All123-transportcorridor-3(Specify Action)
20	Clean Water Act Part IV Section 57 (prohibit)	The application of Agricultural Source Material (ASM)	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1W2L1A1-applASM-1 (Clean Water Act)
21	Clean Water Act Part IV Section 57 (prohibit)	The storage of Agricultural Source Material (ASM)	Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and	W1W2L1A1-storageASM-1 (Clean Water Act)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
			Amherstburg IPZ-1	
22	Clean Water Act Part IV Section 57 (prohibit)	The application of Non Agricultural Source Material (NASM)	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-applNASM-1 (Clean Water Act)
23	Clean Water Act Part IV Section 57 (prohibit)	The storage of Non Agricultural Source Material (NASM)	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-storageNASM-1 (Clean Water Act)
24	Clean Water Act Part IV Section 57 (prohibit)	The storage of Road Salt	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-storageroadsalt-1 (Clean Water Act)
25	Clean Water Act Part IV Section 57 (prohibit)	The storage of Snow	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-storagesnow-1 (Clean Water Act)
26	Clean Water Act Part IV Section 58 (risk management plan)	Storage of Hazardous or Liquid Industrial Waste	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1-hazardouswaste (Clean Water Act)
27	Clean Water Act Part IV Section 58 (risk management plan)	The application of Non Agricultural Source Material (NASM)	Windsor IPZ-2	W2-applNASM-1 (Clean Water Act)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
28	Clean Water Act Part IV Section 58 (risk management plan)	The storage of Non Agricultural Source Material (NASM)	Windsor IPZ-2	W2-storageNASM-1 (Clean Water Act)
29	Clean Water Act Part IV Section 58 (risk management plan)	The application of Pesticide	Windsor IPZ-1, Windsor IPZ-2, Amherstburg IPZ-1 and Lakeshore IPZ-1	W1W2A1L1appIPesticide-1 (Clean Water Act)
30	Clean Water Act Part IV Section 58 (risk management plan)	Storage of Pesticide	Windsor IPZ-1, Amherstburg IPZ-1, and Lakeshore (Belle River) IPZ-1	W1A1L1-storagepesticide-1 (Clean Water Act)
31	Clean Water Act Part IV Section 58 (risk management plan)	The handling and storage of Fuel	All EBAs within IPZs in the Essex Region SPA	SLWA123-handlestorefuel-1 (Clean Water Act)
32	Clean Water Act Part IV Section 59 (restricted land use)	The handling and storage of Fuel	All EBAs within IPZs in the Essex Region SPA	All123-handlestorefuel-1 (Clean Water Act)
33	Clean Water Act Part IV Section 59 (restricted land use)	All activities that are subject to Sections 57 (Prohibition) or 58 (Risk Management Plan) policies	Windsor IPZ-1, Windsor IPZ-2, Amherstburg IPZ-1 and Lakeshore (Belle River) IPZ-1	W1W2A1L1-allactivities-1 (Clean Water Act)
34	O. Reg 287/07 Section 26 (Specify Action)	Sewage treatment plant bypass discharge to surface water	Windsor IPZ-2	W2bypass-1 (Specify Action)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
35	O. Reg 287/07 Section 26 (Specify Action)	Sewage treatment plant effluent discharges (includes lagoons)	Windsor IPZ-2	W2effluent-1 (Specify Action)
36	O. Reg 287/07 Section 26 (Specify Action)	Combined Sewer Overflows (CSOs), bypass, effluent discharge	Windsor IPZ-1 and Windsor IPZ-2	W1W2-combinedsewerbypasseffluent-1 (Specify Action)
37	O. Reg 287/07 Section 26 (Govern Research)	Combined Sewer Overflows (CSOs)	Windsor IPZ-1 and Windsor IPZ-2	W1W2-combinedsewer-2 (Govern Research)
38	Clean Water Act Section 22(7) (Education and Outreach)	Combined Sewer Overflows (CSOs), Stormwater management	Windsor IPZ-1 and Windsor IPZ-2	W1W2-combinedsewerstorm-3 (E&O)
39	O. Reg 287/07 Section 26 (Stewardship)/ Clean Water Act Section 22(7) (Incentive)	Combined Sewer Overflows (CSOs), bypass, effluent discharge	Windsor IPZ-1 and Windsor IPZ-2	W1W2-combinedsewerbypasseffluent-4 (Stewardship/Incentive)
40	O. Reg 287/07 Section 26 (Specify Action)	Storage of sewage (e.g.: treatment plant tanks)	Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1	W1L1A1storage-1 (Specify Action)
41	O. Reg 287/07 Section 26 (Specify Action)	The handling and storage of fuel	All EBAs within IPZs in the Essex Region SPA	SLWA123-handlestorefuel-1 (Specify Action)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
42	Land Use Planning	Use of Land as Livestock Grazing or Pasturing Land, an Outdoor Containment Area or Farm Animal Yard	Windsor IPZ-1, Windsor IPZ-2 and Amherstburg IPZ-1	W1W2A1-livgraz-1 (Planning)
43	Clean Water Act Section 22(7) (Education and Outreach)	Various	All IPZs	All IPZs (E&O)
44	Clean Water Act Section 22(7) (Education and Outreach)	Various	HVAs and SGRAs and rural areas with private wells	HVAs, SGRAs, Wells -1(E&O)
45	O. Reg 287/07 Section 26 (Stewardship)/ Clean Water Act Section 22(7) (Incentive)	The handling and storage of fuel	All EBAs within IPZs in the Essex Region SPA	SLWA123-handlestorefuel-1 (Stewardship/Incentive)
46	O. Reg 287/07 Section 26 (Stewardship)/ Clean Water Act Section 22(7) (Incentive)	Various	All IPZs, HVAs and SGRAs and rural areas with private wells	All IPZs, HVAs, SGRAs, Wells -1 (Stewardship/Incentive)
47	O. Reg 287/07 Section 26 (Specify Action)	Management of runoff that contains chemicals used in the de-icing of aircraft	Windsor IPZ-1, Amherstburg IPZ-1 and Lakeshore (Belle River) IPZ-1	W1A1L1-deicair (Specify Action)
48	Clean Water Act Section 22(7) (Education and Outreach)	Use of land as livestock grazing or pasturing land, an outdoor containment	Lakeshore (Belle River) IPZ-1	L1-livgraz-1 (E&O)

Policy No.	TOOL	Sub-threat/Threat	Vulnerable Area	Policy Reference No.
		area or farm animal yard		
49	Clean Water Act Section 22(7) (Education and Outreach)	Issue: Microcystin-LR	Target Area: Essex Region Source Protection Area	ERSPA-microcystinLR-1 (E&O)
50	Clean Water Act Section 22(2)-7	Issue: Microcystin-LR	Target Area: Lake Erie drinking water intakes and tributaries	LE-microcystinLR-1 (Clean Water Act)

Table 5.2: Essex Region Updated Source Protection Plan Policies

Policy No.	Policy Reference No.	Policy Text
1	W1W2L1A1-combinedsewer-1 (Prescribed Instrument)	No new combined sewers shall be permitted in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1. The above applies to the future significant threat of combined sewer discharge from a stormwater outlet to surface water, in the vulnerable areas mentioned above. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. The date of compliance is when the Source Protection Plan takes effect.
1M	W1W2L1A1-combinedsewer-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-combinedsewer-1 (Prescribed Instrument). The above applies to the future significant threat of combined sewer discharge from a stormwater outlet to surface water, in the vulnerable areas: Windsor IPZ-1 and IPZ-2 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
2	W1L1A1-bypass/effluent/storage-1 (Prescribed Instrument)	No wastewater treatment facilities that discharge to surface water by means of designed bypass or other than designed bypass in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1 shall be permitted. No sewage treatment tanks in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1 shall be permitted, with the exception of storage, in the Windsor IPZ-1, of future stormwater and sewage from combined sewers, for the purpose of reducing combined sewer overflows (CSOs). The above applies to existing (none known to exist) and future significant threats of sewage treatment plant bypass to discharge to surface water, sewage treatment plant

Policy No.	Policy Reference No.	Policy Text
		effluent discharges and the storage of sewage, in the vulnerable areas mentioned above. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for these activities. The date of compliance is when the Source Protection Plan takes effect.
2M	W1L1A1-bypass/effluent/storage-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1- bypass/effluent/storage-1 (Prescribed Instrument) and W1-storage-1 (Prescribed Instrument). The above applies to the existing (none known to exist) and future significant threats of sewage treatment plant bypass discharge to surface water, sewage treatment plant effluent discharges and the storage of sewage, in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
3	W1-storage-1 (Prescribed Instrument)	In reviewing applications for Environmental Compliance Approvals (Certificates of Approval) under the legislation governing this activity, for in the Windsor IPZ-1, the Ministry of Environment shall allow the establishment of systems that store combined storm water and sewage, where such systems are specifically for the purpose of reducing combined sewer overflow. The Environmental Compliance Approval (Certificate of Approval) shall require that, through terms and conditions specified in the Environmental Compliance Approval (Certificate of Approval), the future storage of stormwater and sewage is managed in order to protect sources of drinking water. The above applies to the future significant threat of the storage of sewage, in the vulnerable areas mentioned above.

Policy No.	Policy Reference No.	Policy Text
		The date of compliance for future threats is when the Source Protection Plan takes effect.
3M	W1-storage-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1-storage-1 (Prescribed Instrument). The above applies to the future significant threat of the storage of sewage, in the vulnerable areas: Windsor IPZ-1. The date of compliance is by February 1 of each year.
4	W1W2L1A1-stormwater-1 (Prescribed Instrument)	In reviewing Environmental Compliance Approvals (Certificates of Approval) for storm water management facilities which discharge to surface water bodies in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1, the Ministry of Environment shall ensure that the terms and conditions of the Environmental Compliance Approvals (Certificates of Approval) adequately manage existing and future storage of stormwater management facilities in order to protect sources of drinking water. The MOE shall give due consideration to its document, 'Stormwater Management, Planning and Design Manual' (March 2003) in the review of stormwater management applications for the subject areas. The above applies to the existing and future significant threat of stormwater management, in the vulnerable areas mentioned above. For existing threats, the Ministry of the Environment shall comply with the policy within five years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities. The date of compliance for future threats is when the Source Protection Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
4M	W1W2L1A1-stormwater-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-stormwater-1 (Prescribed Instrument). The above apples to the future significant threat of stormwater management in the vulnerable areas: Windsor IPZ-1and IPZ-2 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1. The date of compliance is by February 1 of each year.
5	W1W2L1A1-industrialeff-1 (Prescribed Instrument)	No existing (none known to exist) and future systems that collect, transmit or treat industrial sewage and discharge industrial effluent to surface water in the Windsor IPZ-1, Windsor IPZ-2 or Lakeshore (Belle River) IPZ-1 shall be permitted, *with one exception. That exception is non-contact cooling water, which should be allowed to be discharged*. No future systems that collect, transmit or treat industrial sewage and discharge industrial effluent to surface water in the Amherstburg IPZ-1 shall be permitted, *with one exception. That exception is non-contact cooling water, which should be allowed to be discharged*. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for these activities. In the Amherstburg IPZ-1, the Ministry of Environment shall ensure that the existing and amended or updated Environmental Compliance Approvals (Certificates of Approval) include terms and conditions that manage the significant threat activity in order to protect sources of drinking water. For the purpose of this policy, in the Amherstburg IPZ-1, existing threat activities shall include activities related to a complete application made under the Planning Act or Condominium Act or the Building Code or for an Environmental Compliance Approval, if the application is made before the Source Protection Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
		The date of compliance for prohibiting existing and future threats is when the Source Protection Plan takes effect. For managing existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
6	W1W2L1A1-industrialeff-2 (Prescribed Instrument)	In reviewing Environmental Compliance Approval (Certificate of Approval) applications for future systems and those for any existing systems that discharge non-contact cooling water to surface water in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and the Amherstburg IPZ-1, the Ministry of Environment shall ensure that the Environmental Compliance Approvals (Certificates of Approval) include terms and conditions that manage the significant threat activity in order to protect sources of drinking water. The above applies to the existing and future significant threat of industrial effluent discharges in the vulnerable areas mentioned above. The date of compliance for managing future threats is when the Source Protection Plan takes effect. For managing existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
5/6M	W1W2L1A1-industrialeff-3 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-industrialeff-1 (Prescribed Instrument) and policy W1W2L1A1-industrialeff-2 (Prescribed Instrument). The above applies to the existing and future significant threats of industrial effluent discharges in the vulnerable areas: Windsor IPZ-1and IPZ-2

Policy No.	Policy Reference No.	Policy Text
		Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
7	W2-bypass/effluent-1 (Prescribed Instrument)	In reviewing Environmental Compliance Approvals (Certificates of Approval) for expanded or new wastewater treatment facilities that discharge to surface water by means of designed bypass or other than designed bypass in the Windsor IPZ-2, the Ministry of Environment shall ensure that the Environmental Compliance Approvals (Certificates of Approval) adequately manage these activities in order to adequately protect future sources of drinking water. The above applies to the future significant threat of sewage treatment plant bypass discharge to surface water and sewage treatment plant effluent discharges, in the vulnerable area mentioned above. The date of compliance for future threats is when Source Protection Plan takes effect.
7M	W2-bypass/effluent-3 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W2-bypass/effluent-1 (Prescribed Instrument). The above applies to the future significant threat of sewage treatment plant bypass discharge to surface water and sewage treatment plant effluent discharges, in the vulnerable area: Windsor IPZ-2. The date of compliance is by February 1 of each year.
8	W2applNASM-1 (Prescribed Instrument)	In reviewing Environmental Compliance Approvals (Certificates of Approval) applications under the Environmental Protection Act for the application of non-agricultural source material (NASM) in the Windsor IPZ-2, the Ministry of Environment shall ensure that the terms and conditions in the Environmental Compliance Approvals (Certificates of Approval) adequately protect the sources of drinking water.

Policy No.	Policy Reference No.	Policy Text
		The Source Protection Committee recommends that the terms and conditions include setbacks to watercourses, timing restrictions (including consideration of weather events), spills/runoff management and other measures necessary to manage the significant threat activity in order to protect sources of drinking water. The above applies to the existing and future significant threat of the application of Non Agricultural Source Material (NASM) in the vulnerable areas mentioned above. The date of compliance for future threats is when the Source Protection Plan takes effect. For existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
8M	W2applNASM-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W2applNASM-1 (Prescribed Instrument). The above applies to the existing and future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable areas: Windsor IPZ-2. The date of compliance is by February 1 of each year.
9	W2storageNASM-1 (Prescribed Instrument)	In reviewing Environmental Compliance Approvals (Certificates of Approval) applications under the Environmental Protection Act for the storage of non-agricultural source material (NASM) in the Windsor IPZ-2, the Ministry of Environment shall ensure that the terms and conditions in the Environmental Compliance Approvals (Certificates of Approval) adequately protect the sources of drinking water. The Source Protection Committee recommends that the terms and conditions in the Environmental Compliance Approvals (Certificates of Approval) include design and

Policy No.	Policy Reference No.	Policy Text
		construction requirements, setbacks to watercourses, spills/runoff management and other measures necessary to manage the significant threat activity in order to protect sources of drinking water. The above applies to the existing and future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable areas mentioned above. The date of compliance for future threats is when the Source Protection Plan takes effect. For existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
9M	W2storageNASM-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W2storageNASM-1 (Prescribed Instrument). The above applies to the existing and future significant threat of the storage of Non Agricultural Source Material (NASM) in the vulnerable area: Windsor IPZ-2. The date of compliance is by February 1 of each year.
10	W1L1A1-applicationNASM-1 (Prescribed Instrument)	No applications of non-agricultural source material (NASM) shall be permitted in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. The above applies to the existing (none known to exist) and future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
10M	W1L1A1-applicationNASM-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-applicationNASM-1 (Prescribed Instrument). The above applies to the existing (none known to exist) and future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
11	W1L1A1-storageNASM-1 (Prescribed Instrument)	No storages of non-agricultural source material (NASM) shall be permitted in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. The above applies to the existing (none known to exist) and future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.
11M	W1L1A1-storageNASM-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-applicationNASM-1 (Prescribed Instrument). The above applies to the existing (none known to exist) and future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ - 1 The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
12	W1W2L1A1-hauledsewage-1 (Prescribed Instrument)	No application of hauled sewage shall be permitted in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. The above applies to the existing (none known to exist) and future significant threat of land disposal of hauled sewage, in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.
12M	W1W2L1A1-hauledsewage-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-hauledsewage-1 (Prescribed Instrument). The above applies to the existing (none known to exist) and future significant threat of land disposal of petroleum refining waste, land disposal of hazardous waste, land disposal of municipal waste, land disposal of industrial or commercial waste and the storage of hazardous waste at disposal sites, in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
13	W1L1A1-minetail-1 (Prescribed Instrument)	No storage, treatment or discharge of mine tailings shall be permitted to be established in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 or the Amherstburg IPZ-1. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. The above applies to the existing (none known to exist) and future significant threat of the storage, treatment and discharge of tailings from mines, in the vulnerable areas mentioned above.

Policy No.	Policy Reference No.	Policy Text
		The date of compliance is when the Source Protection Plan takes effect.
13M	W1L1A1-minetail-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-minetail-1 (Prescribed Instrument). The above applies to the existing (none known to exist) and future significant threat of the storage, treatment and discharge of tailings from mines, in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
14	W1L1A1-waste-1 (Prescribed Instrument)	No existing (none known to exist) and future waste disposal sites shall be permitted to be established in the Windsor IPZ-1 or Lakeshore (Belle River) IPZ-1, at which the land filling of petroleum refinery waste, hazardous, liquid industrial or processed liquid industrial waste or municipal waste, or the storage of hazardous waste or liquid industrial waste could take place. No future waste disposal sites at which the land filling of petroleum refinery waste, hazardous, liquid industrial or processed liquid industrial waste or municipal waste, or the storage of hazardous waste or liquid industrial waste could take place in the Amherstburg IPZ-1 shall be permitted. This policy applies to Environmental Compliance Approvals (Certificates of Approval) administered by the Ministry of Environment for this activity. In the Amherstburg IPZ-1, the Ministry of Environment shall ensure that the existing and amended or updated Environmental Compliance Approvals (Certificates of Approval) include terms and conditions that manage the significant threat activity in order to protect sources of drinking water. For the purpose of this policy, in the Amherstburg IPZ-1, existing threat activities shall include

Policy No.	Policy Reference No.	Policy Text
		activities related to a complete application made under the Planning Act or Condominium Act or the Building Code or for an Environmental Compliance Approval, if the application is made before the Source Protection Plan takes effect. This policy will be reflected in the Official Plans for the City of Windsor and Town of Amherstburg at the time of the next Official Plan five year review exercise as per Section 26(1) of the Planning Act, and in Zoning By-laws within 3 years following the Official Plan update. The date of compliance for prohibiting existing and future threats is when the Source Protection Plan takes effect. For managing existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
14M	W1L1A1-waste-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-waste-1 (Prescribed Instrument). The City of Windsor and the Town of Amherstburg shall document the actions taken to reflect policy W1L1A1-waste-1 (Prescribed Instrument) in Official Plans and Zoning By-laws. The above applies to the existing and future significant threat of the landfilling of petroleum refinery waste, hazardous, liquid industrial or processed liquid industrial waste or municipal waste, or the storage of hazardous waste or liquid industrial waste, in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
15	W1W2L1A1applPesticide-1 (Prescribed Instrument)	In reviewing applications for Pesticides Permits under the Pesticides Act for the application of pesticides in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and the Amherstburg IPZ-1, the Ministry of Environment shall ensure that conditions in the Permit adequately protect the sources of drinking water. The Source Protection Committee recommends that the terms and conditions include setbacks to watercourses, timing restrictions (including consideration of weather events), spills/runoff management and other measures necessary to manage the significant threat activity in order to protect sources of drinking water. The above applies to the existing and future significant threat of the application of pesticide, in the vulnerable areas mentioned above. The date of compliance for future threats is when the Source Protection Plan takes effect. For existing threats, the Ministry of the Environment shall comply with the policy within 5 years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
15M	W1W2L1A1applPesticide-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1applPesticide-1 (Prescribed Instrument). The above applies to the existing and future significant threat of the application of pesticide in the vulnerable areas: Windsor IPZ - 1 and IPZ-2 Lakeshore IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
16	SLWA123-handlestorefuel-1	The Ontario Ministry of Environment (MOE) shall review Municipal Drinking Water Licenses and Permits issued under the Safe Drinking Water Act, in the vulnerable areas listed

Policy No.	Policy Reference No.	Policy Text
	(Prescribed Instrument)	below where there is an existing or future significant drinking water threat of handling and storage of liquid fuels. The MOE shall ensure that the permits refer to the requirements of the Technical Standards and Safety Act (TSSA), liquid fuel handling code. This may include, but is not limited to, details concerning installation, operation and regular inspection of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored. This applies to the existing and future significant threat of the above grade handling and storage of liquid fuels, in quantities listed below in the IPZ areas where modeling reported in the Assessment Report has demonstrated that this activity is a significant threat. Therefore this policy applies to: the above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000 L or greater in the Stoney Point IPZ-1, IPZ-2 and IPZ-3, Lakeshore IPZ-1, IPZ-2 and IPZ-3, Windsor IPZ-1, IPZ-2 and IPZ-3 (upstream of intakes), Amherstburg IPZ-1, IPZ-2 and IPZ-3 (upstream of the intake, from the intake to vicinity of Turkey Creek, including Turkey Creek watershed). This policy applies to situations where one or more tanks on the same property have a total (combined) capacity of 15,000 L or greater, Harrow-Colchester IPZ-1, IPZ-2 andIPZ-3, Union IPZ-1, IPZ-2, IPZ-3, Pelee IPZ-1, IPZ-2 and IPZ-3 (Cedar/Wigle/Mill Creeks, Leamington Area Drainage), and Wheatley IPZ-1, IPZ-2 and IPZ-3 where the EBAs are applicable as shown in the assessment report. • The above grade handling and storage of liquid fuels (containing benzene) in quantities of 34,000 L or greater in the Union IPZ-3 (Sturgeon Creek drainage), where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000,000 L or greater in the Amherstburg IPZ-1 and IPZ-2 (downstream of the intake). This policy applies to situations where one or

Policy No.	Policy Reference No.	Policy Text
		more tanks on the same property have a total (combined) capacity of 15,000,000 L or greater where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 3,000,000 L or greater in the Amherstburg IPZ-3 (upstream of the intake, from vicinity of Turkey Creek to Upper Detroit River), Windsor IPZ-1 and IPZ-2 (downstream of the intakes). This policy applies to situations where one or more tanks on the same property have a total (combined) capacity of 3,000,000 L or greater where the EBAs are applicable as shown in the assessment report. The date of compliance for future threats is when the Source Protection Plan takes effect. For existing threats, the Ministry of the Environment shall comply with the policy within five years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
16M	SLWA123-handlestorefuel-2 (Monitoring Policy)	The MOE shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy SLWA123-handlestorefuel-1. The above applies to the existing and future significant threat of the handling and storage of liquid fuels, in the vulnerable areas of: All EBAs within IPZs the Essex Region Source Protection Area The date of compliance is by February 1 of each year.
17	SLWA123-handlestorefuel-5 (Prescribed Instrument)	The Ministry of Natural Resources (MNR) shall review instruments under the Aggregate Resources Act (including Aggregate Licenses, Wayside Permits, and Aggregate Permits and Site Plans) with respect to the handling and storage of liquid fuel at aggregate operation sites. The MNR shall ensure that the permits refer to the requirements of the Technical Standards and Safety Act (TSSA), liquid fuel handling code. This may include, but is not limited to,

Policy No.	Policy Reference No.	Policy Text
		details concerning installation and operation of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored. This applies to the existing and future significant threat of the above grade handling and storage of liquid fuels, in quantities listed below in the IPZ areas where modeling reported in the Assessment Report has demonstrated that this activity is a significant threat. Therefore this policy applies to: the above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000 L or greater in the Stoney Point IPZ-1, IPZ-2 and IPZ-3, Lakeshore IPZ-1, IPZ-2 and IPZ-3, Windsor IPZ-1, IPZ-2 and IPZ-3 (upstream of intakes), Amherstburg IPZ-1, IPZ-2 and IPZ-3 (upstream of the intake, from the intake to vicinity of Turkey Creek, including Turkey Creek watershed, Harrow-Colchester IPZ-1, IPZ-2 andIPZ-3, Union IPZ-1, IPZ-2, IPZ-3 and Pelee IPZ-1, IPZ-2 and IPZ-3. This policy applies to situations where one or more tanks on the same property have a total (combined) capacity of 15,000 L or greater where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 34,000 L or greater in the Union IPZ-3 (Sturgeon Creek drainage), where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000,000 L or greater in the Amherstburg IPZ-1 and IPZ-2 (downstream of the intake). This policy applies to situations where one or more tanks on the same property have a total (combined) capacity of 15,000,000 L or greater where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 3,000,000 L or greater in the Amherstburg IPZ-3 (upstream of the intake, from vicinity of Turkey Creek to Upper Detroit River), Windsor IPZ-1 and IPZ-2 (downstream of the intakes). This policy applies to situations where one or more tanks on the same property have a total (combined) capacity of 3,000,000 L or greater

Policy No.	Policy Reference No.	Policy Text
		where the EBAs are applicable as shown in the assessment report. The date of compliance for future threats is when the Source Protection Plan takes effect. For existing threats, the Ministry of Natural Resources shall comply with the policy within five years from the date the plan takes effect, or such other date as the Director determines based on a prioritized review of Environmental Compliance Approvals that govern significant drinking water threat activities.
17M	SLWA123-handlestorefuel-6 (Monitoring Policy)	The MNR shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy SLWA123-handlestorefuel-5 (Prescribed Instruments). The above applies to the existing and future significant threats of the handling and storage of fuel in the vulnerable areas of: All EBAs within IPZs in the Essex Region Source Protection Area The date of compliance is by February 1 of each year.
18	All123-transportcorridor-1 (Specify Action)	The Essex Region Conservation Authority (ERCA) will provide information on drinking water threats (the transportation of various quantities of organic solvents, dense non-aqueous phase liquids, fuels, pesticides/herbicides and fertilizers) and vulnerable areas (through maps) to various parties and organizations, and encourage them to include this information in their spills response, prevention and/or emergency plans. The various parties and organizations include municipalities (various departments), Ministry of Transportation Ontario (MTO), Ministry of Environment (MOE), Hazmat, Environment Canada, railways, Transport Canada, Chemistry Industry Association of Canada, Regional Environmental Emergencies Team (REET), Canadian Coast Guard, Port Authorities, harbours/marinas, ferry operators, Ambassador Bridge authority, local distributors and dispatchers, Ontario Provincial Police (OPP) and other emergency responders.

Policy No.	Policy Reference No.	Policy Text
		Information on the drinking water threats and vulnerable areas may also be sent to other relevant parties and organizations that the ERCA may become aware of. The information will assist in responding to spills (such as reporting and containment), and preventing spills on transportation corridors within the Intake Protection Zones in the Essex Region watershed. The information will be sent by the ERCA to the various parties and organizations within 1(one) year of the date of the approval of the Source Protection Plan. Further, the ERCA will encourage marinas within or near the Intake Protection Zones to refer to best management practices in the Clean Marine Program related to fuel and other relevant substances, and will encourage marinas to participate in the Clean Marine Program. These specified actions apply to the existing and future, moderate and low threats of the transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), fuels, pesticides/herbicides and fertilizers in the vulnerable areas of: All IPZ-1s, IPZ-2s and IPZ-3s. The date of compliance is within 1 (one) year of the Source Protection Plan taking effect.
18M	All123-transportcorridor-2 (Monitoring Policy)	The Essex Region Conservation Authority will prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy All123-transportcorridor-1 (Specify Action). The above applies to the existing and future, moderate and low threats of the transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), fuels, pesticides/herbicides and fertilizers in the vulnerable areas of: All IPZ-1s, IPZ-2s and IPZ-3s. The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
19	All123-transportcorridor-3(Specify Action)	The Ministry of Transportation (MTO), in collaboration with the Ministry of the Environment and Climate Change (MOECC) as well as in consultation with Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standard, to identify the locations of Wellhead Protection Areas and Intake Protection Zones. The Ministry of Transportation should manufacture, install and maintain the signs along Provincial Highways within the Wellhead Protection Areas with a vulnerability score of 10, and/or within an Intake Protection Zones or Wellhead Protection Area E with a vulnerability score of 8 or higher. Municipalities will be responsible for the purchase, installation and maintenance of appropriate signs designed by the Province in collaboration with the SPAs. These signs should be placed, at a minimum, where municipal arterial roads are located within a Wellhead Protection Areas with a vulnerability score of 10, and/or an Intake Protection Zone or Wellhead Protection Area E with a vulnerability score of 8 or higher. The above policy will be implemented as part of an overall education and outreach plan within each Source Protection Area. This policy, in conjunction with additional education and outreach policies, should be implemented within 2 years after the effective date of the plan. The implementing bodies are MTO, MOE and the municipalities.
19M	All 123-transportcorridor-4(Monitoring Policy)	The Ministry of Transportation Ontario will prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy All3-transportcorridor-1(Specify Action). The above applies to the existing and future significant threats of the transportation of fuels in the EBAs within IPZs and moderate and low threats of the transportation of organic solvents, dense non-aqueous phase liquids (DNAPLs), pesticides/ herbicides and fertilizers, in IPZ-1s and IPZ-2s in the Essex Region Source Protection Area. The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
20	W1W2L1A1-applASM-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1: the existing (none known to exist) and future application of agricultural source material (ASM). The date of compliance is when the Source Protection Plan takes effect.
20M	W1W2L1A1-applASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-applASM-1 (Clean Water Act). The above applies to the existing (none known to exist) and future significant threat of the application of Agricultural Source Material (ASM) in the vulnerable areas: Windsor IPZ-1 and IPZ-2 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
21	W1W2L1A1-storageASM-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Windsor IPZ-2, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1: the existing (none known to exist) and future storage of agricultural source material (ASM). The date of compliance is when the Source Protection Plan takes effect.
21M	W1W2L1A1-storageASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2L1A1-storageASM-1 (Clean Water Act). The above applies to the existing (none known to exist) and future significant threat of the storage of Agricultural Source Material (ASM), in the vulnerable areas:

Policy No.	Policy Reference No.	Policy Text
		Windsor IPZ-1 and IPZ-2 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
22	W1L1A1-applNASM-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1: the existing (none known to exist) and future application of non agricultural source material (NASM). The date of compliance is when the Source Protection Plan takes effect.
22M	W1L1A1-applNASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-applNASM-1 (Clean Water Act). The above applies to the existing (none known to exist) and future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
23	W1L1A1-storageNASM-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and Amherstburg IPZ-1: the existing (none known to exist) and future storage of non agricultural source material (NASM). The above applies to the existing (none known to exist) and future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
23M	W1L1A1-storageNASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-storageNASM-1 (Clean Water Act. The above applies to the existing (none known to exist) and future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
24	W1L1A1-storageroadsalt-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and the Amherstburg IPZ-1: the existing (none known to exist) and future storage of road salt in quantities greater than 5000 tonnes. The above applies to the existing and future significant threat of the storage of road salt in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.
24M	W1L1A1-storageroadsalt-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-storageroadsalt-1 (Clean Water Act). The above applies to the existing (none known to exist) and future significant threat of the storage of road salt in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
25	W1L1A1-storagesnow-1 (Clean Water Act)	The following activity is designated for the purposes of Section 57 ('Prohibited Activities') of the Clean Water Act in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and the Amherstburg IPZ-1: the existing (none known to exist) and future storage of snow over areas of 1 ha or more. The above applies to the existing and future significant threat of the storage of snow in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.
25M	W1L1A1-storagesnow-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-storagesnow-1 (Clean Water Act). The above applies to the existing (none known to exist) and future significant threat of the storage of snow in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
26	W1L1A1-hazardouswaste-1 (Clean Water Act)	For any existing or future waste disposal site, or aspect thereof, within the meaning of Part V of the Environmental Protection Act, that is not subject to an Environmental Compliance Approval, where this activity is a significant drinking water threat, it shall be designated for the purpose of Section 58 of the Clean Water Act, 2006 and a Risk Management Plan shall be required to ensure the activity ceases to be or never becomes a significant drinking water threat. The Risk Management Plan may require that the wastes produced on the property be properly managed and stored in accordance to applicable legislation, standards, industry guidelines and industry best practices, but may also include any modifications or additional requirements that are

Policy No.	Policy Reference No.	Policy Text
		deemed necessary or appropriate by the Risk Management Official. Despite the above policy, a Risk Management Official may issue written direction specifying the circumstances under which a RMP is not required for site specific land uses, types of waste and/or volume thresholds provided that the RMO is satisfied that the activity will not result in a significant drinking water threat. Such direction shall be made in consultation with the Ministry of the Environment and/or building officials. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within five years from the date the Plan takes effect.
26M	W1L1A1-hazardouswaste-2 (Clean Water Act)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1L1A1-hazardouswaste-1. (Clean Water Act). The above applies to the existing and future significant threat of the storage of hazardous or liquid industrial waste at waste disposal sites that are not subject to an Environmental Compliance Approval under Part V of the Environmental Protection Act, in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
27	W2-applNASM-1 (Clean Water Act)	The following activities are designated for the purpose of Section 58 'Risk Management Plans' of the Clean Water Act in the Windsor IPZ-2, in those cases in which the activity is not subject to Provincial Instrument: the future application of non agricultural source material (NASM) such that:

Policy No.	Policy Reference No.	Policy Text
		The application of NASM (no volume threshold) that contains material generated by a meat plant or sewage works and the application could result in pathogen(s) in the surface water. The Risk Management Plan will include the requirements of a NASM plan as per the Nutrient Management Act, for the application of NASM. Therefore, the Risk Management Official (RMO) will obtain documentation from the owner of the facility that demonstrates that the requirements of a NASM plan are met. The RMO will ensure that the owner of the facility has the Risk Management Plan prepared by someone certified to develop a NASM plan that meets the requirements of Reg. 267/03. The Risk Management Official may require additional conditions in the Risk Management Plan to be met, such that water bodies are protected adequately from the application of NASM. The Risk Management Official will have discretion as to what constitutes a satisfactory Risk Management Plan. The above applies to the future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable area: Windsor IPZ-2. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within 5 years from the date the Plan takes effect.
27M	W2-applNASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W2-applASM-1 (Clean Water Act). The above applies to the future significant threat of the application of Non Agricultural Source Material (NASM), in the vulnerable area: Windsor IPZ-2. The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
28	W2-storageNASM-1 (Clean Water Act)	The following activities are designated for the purpose of Section 58 'Risk Management Plans' of the Clean Water Act in the Windsor IPZ-2, in those cases in which the activity is not subject to Provincial Instrument: the future storage of non agricultural source material (NASM) such that: the NASM (no volume threshold) contains material generated by a meat plant (e.g. slaughter plant, meat packaging, defined as per O. Reg. 31/05 under the Food Safety and Quality Act) when any portion of NASM is stored at or above grade, and a spill or runoff could result in pathogen/s in the surface water. The Risk Management Plan will include the requirements of a NASM plan as per the Nutrient Management Act, for the storage of NASM. Therefore, the Risk Management Official (RMO) will obtain documentation from the owner of the facility that demonstrates that the requirements of a NASM plan are met. The RMO will ensure that the owner has the risk management plan prepared by someone certified to develop a NASM plan that meets the requirements of Reg. 267/03. The Risk Management Official may require additional conditions in the Risk Management Plan to be met, such that water bodies are protected adequately from the storage of NASM. The Risk Management Official will have discretion as to what constitutes a satisfactory Risk Management Plan. The above applies to the future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable area: Windsor IPZ-2. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within 5 years from the date the Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
28M	W2-storageNASM-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W2-storageNASM-1 (Clean Water Act). The above applies to the future significant threat of the storage of Non Agricultural Source Material (NASM), in the vulnerable area: Windsor IPZ-2. The date of compliance is by February 1 of each year.
29	W1W2A1L1 applPesticide-1 (Clean Water Act)	The following activities are designated for the purpose of Section 58 'Risk Management Plans' of the Clean Water Act in the Windsor IPZ-1, Windsor IPZ-2, Amherstburg IPZ-1 and Lakeshore (Belle River) IPZ-1: the existing and future application of pesticides such that: the total pesticide application area is >1ha, chemicals of concern being MCPA and mecoprop, in an IPZ-1 of vulnerability score 9. the total pesticide application area is >10 ha, chemicals of concern being atrazine, dicamba, 2,4-D, dichloropropene-1, 3, MCPB and metalaxyl, in an IPZ-1 of vulnerability score 9. the total pesticide application area is >10 ha, chemical of concern being MCPA, in an IPZ-2 of vulnerability score 8.1. The above circumstances apply to both land and structural extermination as defined under the Pesticides Act. The Risk Management Plan (RMP) shall require that the Pesticides Act requirements be fulfilled, and include measures necessary to protect the water such as setbacks from watercourses or drainage systems, timing restrictions (including consideration of weather events) and spills/runoff management. The RMP will also require that the Pesticide Label be followed. The Risk Management Official will obtain documentation from the property owner to indicate that the Pesticides Act requirements and any other conditions in the RMP are followed. A form may be prescribed for this purpose. The

Policy No.	Policy Reference No.	Policy Text
		Risk Management Official will have discretion as to what constitutes a satisfactory Risk Management Plan. The above applies to the existing and future significant threat of the application of pesticides in the above mentioned vulnerable areas. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within 5 years from the date the Plan takes effect.
29M	W1W2A1L1 applPesticide-2 (CWA Monitoring Policy)	The Risk Management Official shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1W2A1L1applPesticide-1 (Clean Water Act). The above applies to the existing and future significant threat of the application of pesticides in the vulnerable areas: Windsor IPZ-1 and IPZ-2 Amherstburg IPZ-1 Lakeshore IPZ-1 The date of compliance is by February 1 of each year.
30	W1A1L1-storagepesticide-1 (Clean Water Act)	The following activities are designated for the purpose of Section 58 'Risk Management Plans' of the Clean Water Act in the Windsor IPZ-1, Amherstburg IPZ-1 and Lakeshore (Belle River) IPZ-1: the existing and future storage of pesticides such that the quantity stored is > 2500 kg (for retail sale or for use in extermination). The Risk Management Plan (RMP) shall require that the Pesticides Act requirements for storage of pesticides be fulfilled, and include measures necessary to protect water, such as spills/runoff management and setbacks from watercourses or drainage systems. The RMP will also require that the Pesticide Label be followed. The Risk Management Official will obtain documentation from the property owner to indicate that the requirements of the RMP are followed. A form may be prescribed for this

Policy No.	Policy Reference No.	Policy Text
		purpose. The Risk Management Official will have discretion as to what constitutes a satisfactory Risk Management Plan. The above applies to the existing and future significant threat of the storage of pesticide in the vulnerable areas mentioned above. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within 5 years from the date the Plan takes effect.
30M	W1A1L1-storagepesticide-2 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy W1A1L1-storagepesticide-3 (Clean Water Act). The above applies to the future significant threat of the storage of pesticide in the vulnerable areas: Windsor IPZ-1 Amherstburg IPZ-1 Lakeshore(Belle River) IPZ-1 The date of compliance is by February 1 of each year
31	SLWA123-handlestorefuel-1 (Clean Water Act)	The following activities are designated for the purpose of Section 58 'Risk Management Plans' of the Clean Water Act in the subject vulnerable areas where modeling reported in the Assessment Report has demonstrated that this activity is a significant threat. Therefore this policy applies to: The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000 L or greater in the Stoney Point IPZ-1, IPZ-2 and IPZ-3, Lakeshore IPZ-1, IPZ-2 and IPZ-3, Windsor IPZ-1, IPZ-2 and IPZ-3 (upstream of intakes), Amherstburg IPZ-1, IPZ-2 and IPZ-3 (upstream of the intake, from the intake to vicinity of Turkey Creek, including Turkey Creek watershed), Harrow-Colchester IPZ-1, IPZ-2 and IPZ-3, Union IPZ-1, IPZ-2 and IPZ-3 (Cedar/Wigle/Mill Creeks, Leamington Area Drainage), Pelee IPZ-1, IPZ-2 and IPZ-3, and Wheatley IPZ-1, IPZ-2 and IPZ-3

Policy No.	Policy Reference No.	Policy Text
		where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 34,000 L or greater in the Union IPZ-3 (Sturgeon Creek drainage), where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 15,000,000 L or greater in the Amherstburg IPZ-1 and IPZ-2 (downstream of the intake) where the EBAs are applicable as shown in the assessment report. The above grade handling and storage of liquid fuels (containing benzene) in quantities of 3,000,000 L or greater in the Amherstburg IPZ-3 (upstream of the intake, from vicinity of Turkey Creek to Upper Detroit River), Windsor IPZ-1 and IPZ-2 (downstream of the intakes) where the EBAs are applicable as shown in the assessment report. The Risk Management Plan may include, but is not limited to, details concerning installation, operation and regular inspection of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored. The Risk Management Official will have discretion as to what constitutes a satisfactory Risk Management Plan. The above applies to the existing and future significant threat of the handling and storage of fuel in all EBAs within IPZs in the Essex Region Source Protection Area related to the handling and storage of fuel. For future threats, the date of compliance is when the Source Protection Plan takes effect. For existing threats, the Risk Management Official shall comply with the policy within 5 years from the date the Plan takes effect.

Policy No.	Policy Reference No.	Policy Text
31M	SLWA123-handlestorefuel-3 (CWA Monitoring Policy)	In accordance with Section 81 of the Clean Water Act, the Risk Management Official (RMO) shall prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy SLWA123-handlestorefuel-1 (Clean Water Act). The above applies to the existing and future significant threat of the handling and storage of fuel in the vulnerable areas: All EBAs within IPZs in the Essex Region Source Protection Area The date of compliance is by February 1 of each year.
32	All123-handlestorefuel-1 (Clean Water Act)	Commercial, Agricultural and Industrial land uses identified within the Official Plan and/or Zoning By-Laws where the policies of the Source Protection Plan indicate the handling and storage of fuel in quantities described above are subject to Section 57 or Section 58 of the *Clean Water Act*, are hereby designated as Restricted Land Uses, with the exception of residential uses. Within these designated land uses and areas, a written notice from the Risk Management Official in accordance with Section 59(2) of the *Clean Water Act* shall be required prior to approval of any Building Permit or *Planning Act* application. Despite the above policy, a Risk Management Official may issue written direction specifying the circumstances under which a *Planning Act* Approval Authority or building official may be permitted to make the determination that a site specific land use is not designated for the purposes of Section 59. Where such direction has been issued, a site specific land use that is the subject of an application for approval under the *Planning Act* or for a permit under the *Building Code Act* is not designated for the purposes of Section 59, provided that the *Planning Act* Approval Authority or building official, as the case may be, is satisfied that: The application complies with the circumstances specified in the written direction from the Risk Management Official; and The applicant has demonstrated that a significant drinking water threat activity designated for the purposes of Section

Policy No.	Policy Reference No.	Policy Text
		57 or 58 will not be engaged in, or will not be affected by the application The date of compliance is when Source Protection Plan takes effect.
32M	All123-handlestorefuel-2 (Monitoring Policy)	The Municipalities will each prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with this policy. The above applies to the existing and future significant threats related to the Section 59 restricted land use policies in the following areas: All EBAs within IPZs in the Essex Region Source Protection Area The date of compliance is by February 1 of each year.
33	W1W2A1L1-allactivities-1 (Clean Water Act)	All land uses identified within the Official Plan and/or Zoning By-Laws where significant drinking water threat activities have been designated for the purpose of Sections 57 or 58 of the *Clean Water Act*, are hereby designated as Restricted Land Uses, with the exception of residential uses. Within these designated land uses and areas, a written notice from the Risk Management Official in accordance with Section 59(2) of the *Clean Water Act* shall be required prior to approval of any Building Permit, *Planning Act* or *Condominium Act* application. Despite the above policy, a Risk Management Official may issue written direction specifying the circumstances under which a *Planning Act* Approval Authority or building official may be permitted to make the determination that a site specific land use is not designated for the purposes of Section 59. Where such direction has been issued, a site specific land use that is the subject of an application for approval under the *Planning Act, Condominium Act,* or for a permit under the *Building Code Act* is not designated for the purposes of Section 59, provided that the *Planning Act* Approval Authority or building official, as the case may be, is satisfied that: The application complies with the circumstances specified in the written direction from the Risk Management Official; and

Policy No.	Policy Reference No.	Policy Text
		The applicant has demonstrated that a significant drinking water threat activity designated for the purposes of Section 57 or 58 will not be engaged in, or will not be affected by the application The date of compliance is when Source Protection Plan takes effect.
33M	W1W2A1L1-allactivities-2 (Monitoring Policy)	The Municipalities will each prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with this policy. The above applies to the existing and future significant threats related to the Section 59 restricted land use policies in the following areas: Windsor IPZ-1 Windsor IPZ-2 Amherstburg IPZ-1 Lakeshore (Belle River) IPZ-1 The date of compliance is by February 1 of each year.
34	W2bypass-1 (Specify Action)	The City of Windsor will continue to meet the requirements of the Environmental Compliance Approval (Certificate of Approval) (or any updates or replacements to it) under the Ontario Water Resources Act for the Little River Pollution Control Plant (LRPCP) and continue its current monitoring scheme which includes the testing of mercury and PCBs in the raw wastewater and E. coli in the bypass. The City of Windsor will also give due consideration to the reduction of the frequency and volumes of bypasses through sewer separation and downspout disconnection programs, and other such measures while developing plans or strategies to manage storm water and sewers. The City of Windsor will initiate the development of plans or strategies, to manage storm water and sewers, when the Source Protection Plan takes effect. The above applies to the existing and future significant threat of sewage treatment plant bypass discharge to surface water, in the vulnerable area: Windsor IPZ-2

Policy No.	Policy Reference No.	Policy Text
35	W2effluent-1 (Specify Action)	The City of Windsor will continue to meet the requirements of the Environmental Compliance Approval (Certificate of Approval), and will add to its current monitoring scheme the testing of 2-methyl-4-chlorophenoxyacetic acid (MCPA) in the effluent discharge, such that MCPA is tested at least once a year at the same sampling point and in the same manner as is done for other pesticides. The City of Windsor will set up a testing schedule when the Source Protection Plan takes effect. The above applies to the existing and future significant threat of sewage treatment plant effluent discharges in the vulnerable area: Windsor IPZ-2.
34/35M	W2-bypass/effluent-2 (Monitoring Policy)	The Municipality will document the actions taken to comply with policies W2bypass-1 (Specify Action) and W2effluent-1 (Specify Action). The above applies to the existing and future significant threat of sewage treatment plant bypass discharge to surface water and sewage treatment plan effluent discharges, in the vulnerable area: Windsor IPZ-2. The date of compliance is by February 1 of each year.
36	W1W2-combinedsewerbypasseffluent-1 (Specify Action)	The City of Windsor will initiate the development of a sewer and storm management plan when the Source Protection Plan takes effect. The sewer and storm management plan will include plans for further sewer separation in the sewersheds of the combined sewer overflows and the Little River Pollution Control Plant. The management plan will also consider stormwater retention structures such as deep tunnel storage to reduce combined sewer overflow. The development of the management plan will be targeted for completion in 2016. The City of Windsor will also continue its current sewer separation program. The above applies to the existing significant threat of Combined Sewer Overflows (CSOs), bypass and effluent discharges in the vulnerable areas:

Policy No.	Policy Reference No.	Policy Text
		Windsor IPZ-1 and IPZ-2.
37	W1W2-combinedsewer-2 (Govern Research)	The City of Windsor will initiate a research program when the Source Protection Plan takes effect. The research program will characterize combined sewer overflows in the Windsor Intake Protection Zones (IPZs) 1s and 2s such that the program will provide input to a sewer and storm management plan. The research program will include the estimation of combined sewer overflow discharge volumes, frequencies of discharge and pollutant loading (conventional parameters including pH, biochemical oxygen demand-5 day, and suspended solids, and possibly other parameters as needed). The research program will be targeted for completion in 2014. The above applies to the existing significant threat of Combined Sewer Overflows (CSOs) in the vulnerable areas: Windsor IPZ-1 and IPZ-2.
38	W1W2-combinedsewerstorm-3 (E&O)	The City of Windsor will initiate and lead Education and Outreach when the Source Protection Plan takes effect. The Education and Outreach will educate property owners within the sewershed areas of the subject vulnerable areas where existing CSOs are significant threats, and where future stormwater management could be significant threats. The Education and Outreach will promote downspout disconnection, use of rain barrels, and will provide information on what not to dispose of down the drain and the spills action centre in case of spills, and other such initiatives that assist in educating the property owners about combined sewer overflow, as well as stormwater management. The delivery of the Education and Outreach will be targeted for completion in 2014, and will be continued as needed based on review at that time. The above applies to the future significant threat of Combined Sewer Overflows (CSOs) and stormwater management in the vulnerable areas: Windsor IPZ-1 and IPZ-2.

Policy No.	Policy Reference No.	Policy Text
39	W1W2-combinedsewerbypasseffluent-4 (Stewardship/Incentive)	The City of Windsor and Town of Tecumseh in conjunction with the Essex Region Conservation Authority, will seek funding assistance from the Ministry of the Environment, in order to undertake a stewardship/incentive program for downspout disconnections and similar measures that will assist in addressing the threats associated with combined sewer overflows, bypass and effluent discharges in the Windsor IPZ-1 and Windsor IPZ-2. The Town of Tecumseh, in conjunction with the Essex Region Conservation Authority, will seek funding assistance from the Ministry of the Environment, in order to undertake a stewardship/incentive program for downspout disconnections and similar measures that will assist in addressing the threats associated with sewage treatment plant bypass and effluent discharge in the Windsor IPZ-2. The above applies to the existing significant threat of Combined Sewer Overflows (CSOs), bypass and effluent discharges, in the vulnerable areas: Windsor IPZ-1 and IPZ-2. The funding assistance will be requested, as described above, when the Source Protection Plan takes effect.
36/37/38/39M	W1W2-combinedsewerbypasseffluent-5 (Monitoring Policy)	The Municipality and the Essex Region Conservation Authority will document the actions taken to comply with policy W1W2-combinedsewerbypasseffluent-1 (Specify Action), W1W2-combinedsewer-2 (Govern Research), W1W2-combinedsewerstorm-3 (E&O), and W1W2-combinedsewerbypasseffluent-4 (Stewardship/Incentive). The above applies to the existing and future significant threats of Combined Sewer Overflows (CSOs), sewage treatment plant bypass discharge to surface water, stormwater management and sewage treatment plant effluent discharges, in the vulnerable areas: Windsor IPZ-1 and IPZ-2. The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
40	W1L1A1storage-1 (Specify Action)	The Municipality will prohibit sewage treatment tanks in the Windsor IPZ-1, Lakeshore (Belle River) IPZ-1 and the Amherstburg IPZ-1, with the exception of storage of stormwater and sewage (from combined sewers) in the Windsor IPZ-1, through a means that the Municipality finds appropriate such as Municipal Act By-law. The above applies to existing (none known to exist) and future significant threats of the storage of sewage in the vulnerable areas mentioned above. The date of compliance is when the Source Protection Plan takes effect.
40M	W1L1A1-storage-2 (Monitoring Policy)	The Municipality shall document the actions taken to comply with policy W1L1A1storage-1 (Specify Action). The above applies to the existing and future significant threats of the storage of sewage in the vulnerable areas: Windsor IPZ-1 Lakeshore (Belle River) IPZ-1 Amherstburg IPZ-1 The date of compliance is by February 1 of each year.
41	SLWA123-handlestorefuel-1 (Specify Action)	The Essex Region Conservation Authority (ERCA) will initiate the development of an inventory of fuel storage sites in order to identify significant threats, when the Source Protection Plan takes effect. ERCA will also encourage municipalities to update their Emergency Plans to include a response to fuel spills. The inventory of sites and updating of emergency plans will be targeted for completion by the end of 2014, and will continue to be updated as needed based on review at that time. The above applies to the existing and future significant threat of the handling and storage of fuel in the vulnerable areas: All EBAs within IPZs in the Essex Region Source Protection Area

Policy No.	Policy Reference No.	Policy Text
41M	SLWA123-handlestorefuel-2 (SpecActMonitoring Policy)	The Essex Region Conservation Authority will prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy SLWA123-handlestorefuel-7(Specify Action). The above applies to the existing and future significant threat of the handling and storage of fuel in the vulnerable areas: All EBAs within IPZs in the Essex Region Source Protection Area The date of compliance is by February 1 of each year.
42	W1W2A1-livgraz-1 (Planning)	Changes in use to permit use of the land for agricultural livestock operations (which would be a significant threat within the subject IPZs) will not be permitted. Agricultural livestock operation will not be included as a permitted use in the Official Plan designations and zoning By-law zones which apply to the vulnerable areas. Changes in use to permit use of the land agricultural livestock operation (which would be a significant threat within the subject IPZs) will not be permitted This policy will be reflected in the Official Plans at the time of the next Official Plan five year review exercise as per Section 26(1) of the Planning Act, and in Zoning By-laws within 3 years following the Official Plan update. The above applies to the existing (none known to exist) and future significant threat of the use of land as livestock grazing or pasturing land, an outdoor containment area or farm animal yard, in the vulnerable areas: Windsor IPZ-1 and IPZ-2 Amherstburg IPZ -1 The date of compliance is when Source Protection Plan takes effect..

Policy No.	Policy Reference No.	Policy Text
42M	W1W2A1-livgraz-2 (Monitoring Policy)	The Municipality will report to the Source Protection Authority before February 1 of each calendar year on the steps it has taken to ensure that they are in compliance with policy W1W2A1-livgrz-1 which requires that changes in use to permit use of the land for agricultural livestock operations (which would be a significant threat within the subject IPZs) will not be permitted; and that the policy be reflected in the Official Plans at the next 5 year review, and in Zoning By-laws within 3 years following the Official Plan update. The above applies to the existing (none known to exist) and future significant threat of the use of land as livestock grazing or pasturing land, an outdoor containment area or farm animal yard, in the vulnerable areas: Windsor IPZ-1 and IPZ-2 Amherstburg IPZ -1 The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
43	All IPZ s (E&O)	The Essex Region Conservation Authority will initiate and lead Education and Outreach when the Source Protection Plan takes effect, by building on existing Education and Outreach programs to promote best management practices to protect drinking water sources for moderate and low drinking water threats. Implementation will be conditional on availability of funding. The E & O will be targeted for implementation within three to five years after the Plan takes effect, and will continue as needed based on a review at that time. The above applies to the existing and future, moderate and low, various threats (listed below) in all IPZs within the Essex Region Source Protection Area: The handling and storage of road salt The storage of snow The handling and storage of fuel Waste disposal sites The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage The handling and storage of a dense non-aqueous phase liquid The handling and storage of an organic solvent The application of pesticide to land The handling and storage of pesticide The application of commercial fertilizer to land The handling and storage of commercial fertilizer The application of agricultural source material to land The storage of agricultural source material The management of agricultural source material The application of non-agricultural source material to land The handling and storage of non-agricultural source material
43M	All IPZs E&O (Monitoring)	The Essex Region Conservation Authority will prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy 'All IPZs

Policy No.	Policy Reference No.	Policy Text
		(E&O). The above applies to the existing and future moderate and low, various threats in the vulnerable areas: All IPZs within the Essex Region Source Protection Area. The date of compliance is by February 1 of each year.
44	HVAs, SGRAs, Wells -1(E&O)	The Essex Region Conservation Authority will initiate and lead Education and Outreach, when the Source Protection Plan takes effect, directed to all landowners and residents with private wells in HVAs, SGRAs and other rural areas, to promote best management practices to help address various potential threats to groundwater sources of drinking water, raise awareness of drinking water threats, and provide education on the vulnerability of HVAs, SGRAs and abandoned or poorly maintained wells as transport pathways of contamination to sources of groundwater. Implementation will be conditional on availability of funding. The E & O will be targeted for implementation within three to five years of the Plan taking effect, and will continue as needed based on a review at that time. The above applies to the existing and future, moderate and low, various threats (listed below) in all HVAs and SGRAs and rural areas with private wells in the Essex Region Source Protection Area: The handling and storage of road salt The storage of snow The handling and storage of fuel Waste disposal sites The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage The handling and storage of a dense non-aqueous phase liquid The handling and storage of an organic solvent The application of pesticide to land The handling and storage of pesticide The application of commercial fertilizer to land The handling and storage of commercial fertilizer The application of agricultural source material to land

Policy No.	Policy Reference No.	Policy Text
		The storage of agricultural source material The management of agricultural source material The application of non-agricultural source material to land The handling and storage of non-agricultural source material
44M	HVAs, SGRAs, Wells(E&O-Monitor)	The Essex Region Conservation Authority will prepare and submit a report to the Source Protection Authority which summarizes the actions taken to comply with policy 'HVAs, SGRAs, Wells-1(E&O)'. The above applies to the existing and future, moderate and low, various threats in the vulnerable areas: All HVAs and SGRAs and rural areas with private wells

Policy No.	Policy Reference No.	Policy Text
		in the Essex Region Source Protection Area. The date of compliance is by February 1 of each year.
45	SLWA123-handlestorefuel-1 (Stewardship/Incentive)	The Essex Region Conservation Authority (ERCA) will apply for funding assistance from the Ministry of the Environment, when the Source Protection Plan takes effect, in order to undertake a stewardship and incentive program, funded by the Province, to encourage and assist the owners of above grade liquid fuel storage facilities, in replacing single walled tanks with double walled tanks, where not required by TSSA standards. The above applies to the existing and future significant threat of the handling and storage of fuel, in the vulnerable areas: Stoney Point EBA Lakeshore EBA Windsor EBA, 15,000L Amherstburg EBA, 15,000L Harrow-Colchester EBA Union EBA, 15,000L; Union EBA, 34,000L Pelee EBA Wheatley EBA
45M	SLWA123-handlestorefuel-2 (Monitoring Policy)	The Essex Region Conservation Authority will document the actions taken to comply with policy SLWA123-handlestorefuel-1 and submit an annual report. The above applies to the existing and future significant threat of the handling and storage of fuel in the vulnerable areas: Stoney Point EBA Lakeshore EBA Windsor EBA, 15,000L Amherstburg EBA, 15,000L Harrow-Colchester EBA Union EBA, 15,000L; Union EBA, 34,000L Pelee EBA Wheatley EBA The date of compliance is by February 1 of each year.

Policy No.	Policy Reference No.	Policy Text
46	All IPZs, HVAs, SGRAs, Wells -1 (Stewardship/Incentive)	The Essex Region Conservation Authority (ERCA) will apply for funding assistance from the Ministry of the Environment, when the Source Protection Plan takes effect, in order to undertake a stewardship and incentive program, funded by the Province, to encourage the use of risk mitigation practices and assist with the implementation costs of these practices for moderate and low threats to drinking water sources. Implementation will be conditional on availability of funding. The above applies to the existing and future, moderate and low, various threats (listed below) in all IPZs, HVAs and SGRAs and rural areas with private wells in the Essex Region Source Protection Area: The handling and storage of road salt The storage of snow The handling and storage of fuel Waste disposal sites The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage The handling and storage of a dense non-aqueous phase liquid The handling and storage of an organic solvent The application of pesticide to land The handling and storage of pesticide The application of commercial fertilizer to land The handling and storage of commercial fertilizer The application of agricultural source material to land The storage of agricultural source material The management of agricultural source material The application of non-agricultural source material to land The handling and storage of non-agricultural source material.
46M	All IPZs, HVAs, SGRAs, Wells -2 (Monitoring Policy)	The Essex Region Conservation Authority will prepare and submit a report to the Source Protection Authority which the

Policy No.	Policy Reference No.	Policy Text
		actions taken to comply with policy all IPZs, HVAs, SGRAs, Wells-1. The above applies to the existing and future, moderate and low, various threats in the vulnerable areas: All IPZs, HVAs and SGRAs and rural areas with private wells in the Essex Region Source Protection Area. The date of compliance is by February 1 of each year.
47	W1A1L1-deicair (Specify Action)	The Essex Region Conservation Authority will request Airport Authority, in their consideration of any new airport facilities, to include appropriate design standards and management practices to manage the significant drinking water threat activity of run-off generated from airport de-icing facilities. This request will be made when the Source Protection Plan takes effect (this is the date of compliance). The above applies to the future significant threat of the management of chemicals used in the de-icing of aircraft, in the vulnerable areas: Windsor IPZ-1 Amherstburg IPZ-1 Lakeshore (Belle River) IPZ-1
47M	W1A1-deicair -2 (Monitoring Policy)	The Essex Region Conservation Authority (ERCA) will report annually on requests ERCA has made to Airport Authority, and any response(s) received, regarding Airport Authority's intent to locate a national airport, or run-off from such an airport, within the IPZ-1s of Windsor, Amherstburg or Lakeshore (Belle River). The above applies to the future significant threat of the management of chemicals used in the de-icing of aircraft. The date of compliance is by February 1 of each year.
48	L1-livgraz-1 (E&O)	The Essex Region Conservation Authority will initiate and lead Education and Outreach when the Source Protection Plan takes effect. The Conservation Authority will inform the Town of Lakeshore, and any subsequent owners of the subject property, that agricultural livestock operations would be a significant threat to sources of drinking water in this IPZ-1, and will contact the Town, and any subsequent

Policy No.	Policy Reference No.	Policy Text
		owners, on an annual basis to determine if there are any proposed changes to the land use and/or ownership. The above applies to the future significant threat of the use of land as livestock grazing or pasturing land, an outdoor containment area or farm animal yard, in the vulnerable areas: Lakeshore IPZ-1. The date of compliance is when the Source Protection Plan takes effect.
48M	L1-livgraz-2 (Monitoring Policy)	Essex Region Conservation Authority will report annually to the Source Protection Authority on the steps it has taken to ensure that they are in compliance with policy L1-livgraz-1 (E&O). The above applies to the vulnerable area of Lakeshore IPZ-1.
49	All123-microcystinLR-1 (Clean Water Act)	The Essex Region Conservation Authority will initiate and lead Education and Outreach by building on existing Education and Outreach programs to promote best management practices targeted at phosphorus reduction from a variety of sources. The entire Essex Region Source Protection Area will be included in the E&O program. Targeted programs may include: Education and outreach programs on the importance of commercial fertilizer-free buffers around wells and surface water, targeted at commercial fertilizer application technicians and/or homeowners. Promoting voluntary nutrient management plans for farms that do not qualify under O. Reg. 267/03 and who land apply commercial fertilizers. Promoting and encouraging use of a nutrient calculator to determine the proper amount of nutrients to be applied in each situation and for each crop. Promoting BMPs for the application, storage and handling of commercial fertilizer in areas where it is or would be a significant drinking water threat. Implementation will be conditional on availability of funding. The E & O will be targeted for full implementation within two years after the Plan takes effect, and will continue as needed

Policy No.	Policy Reference No.	Policy Text
		based on reviews. The above applies to drinking water threats that may release phosphorus, which contributes to algal growth and the production of microcystins-LR: The establishment, operation or maintenance of a waste disposal site; The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage; The application of agricultural source material to land; The storage of agricultural source material; The management of agricultural source material; The application of non-agricultural source material to land; The handling and storage of non-agricultural source material; The handling and storage of commercial fertilizer; The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard
49M	All123-microcystinLR-2 (Monitoring Policy)	The Essex Region Conservation Authority will document the actions taken to comply with policy All123-microcystinLR-2 (Monitoring Policy) and submit an annual report. The date of compliance is by February 1 of each year.
50	LE-microcystinLR-1 (Clean Water Act)	In accordance with Section 22(2)-[7] of the Clean Water Act, further monitoring and research of microcystin-LR and phosphorus is required for the Lake Erie drinking water intakes (Wheatley, Union, Harrow-Colchester and Pelee Island) and tributaries. The Harrow-Colchester South Water Treatment Plant, Union Water Supply System, Pelee Island West Shore Water Treatment Plant and Wheatley Water Treatment Plant shall continue to conduct existing water quality sampling (both raw and treated water) and to share information and data with other interested parties. Essex Region Conservation Authority, in collaboration with the Province (Ministry of Environment), and other bodies (e.g. Lower Thames Valley Conservation Authority, Environment Canada, research institutions) where possible, should continue the support of existing water quality monitoring programs (e.g. DWSP, PWQMN and research

Policy No.	Policy Reference No.	Policy Text
		projects) where they relate to the assessment and understanding of microcystin-LR as a drinking water issue and/or phosphorus as a contributor to algal growth. Where it is appropriate, additional water quality monitoring should be incorporated into existing programs or developed as new programs. These monitoring efforts should be directed at such things as, but not limited to: event based water quality monitoring (both blooms and runoff events), correlation between the various monitoring programs (locally and within Lake Erie) contributions through transport pathways, including but not limited to agricultural non-point sources, septic systems, water treatment plants, combined sewer overflows and residential sources such as lawns Participation in these monitoring programs is dependent on adequate resources (including funding and staff capacity) being available.
50M	LE-microcystinLR-2 (Monitoring Policy)	The Town of Essex, Joint Board of Management of the Union Water Supply System, Township of Pelee, Essex Region Conservation Authority and the Ministry of the Environment will prepare and submit reports to the Source Protection Authority which summarizes the actions taken to comply with policy LE-microcystinLR-1 (Clean Water Act). The above applies to the monitoring of microcystins at Lake Erie intakes and phosphorus in Lake Erie and its tributaries The date of compliance is by February 1 of each year.

SECTION 6.0

IMPLEMENTATION OF SOURCE PROTECTION PLAN

6.0 Implementation of Source Protection Plan

6.1 Status and Effect

The Source Protection Authority was responsible for submitting the Proposed Source Protection Plan to the Ministry of the Environment (MOE) in August 2012. The Updated Source Protection Plan was submitted in January 2015. It is anticipated that the review and approval process will take several months. Following the approval by the Minister of the Environment, the decision notice will be posted on the Environmental Bill of Rights (EBR) registry. The Source Protection Plan will take effect on the date of the EBR registry posting or on a date specified by the Minister. The approved Plan will then be made available to the public online by the Source Protection Authority.

6.2 Roles and Responsibilities of Source Protection Partners

In addition to the implementing bodies associated with the various Policies, the implementation of this Plan will involve various source protection partners. The following outlines the key roles and responsibilities of these parties.

Source Protection Committee

In the Essex Region, the Source Protection Committee (SPC) consists of fifteen (15) members plus a Chair and is comprised of representatives from sectors that encompass the broad interests of our region, including municipal, business, and public representatives.

The SPC is responsible for overseeing and directing development of the Terms of Reference, technical Assessment Report (AR), and the Source Protection Plan. Following submission of the Plan, the SPC will be involved in addressing the needs of the MOE with respect to the approval process. Following the approval of the Plan, the SPC will have important involvement, in conjunction with the Source Protection Authority and implementing bodies, in the monitoring of implementation of policies. It is anticipated that the SPC will also provide important input and guidance, regarding various activities to be carried out by the Source Protection Authority in support of implementation, as outlined below.

Source Protection Authority

Following their submission of the Source Protection Plan, the Source Protection Authority (SPA) will have various continuing responsibilities in support of implementation of the Source Protection Plan. The SPA, with input from the SPC, municipalities and other partners, will have an important role in the required annual monitoring and reporting on the effectiveness and progress of the implementation of source protection policies.

It is also anticipated that the SPA, through staff of the Essex Region Conservation Authority (ERCA), will continue to provide various other important roles, such as:

- Continuing support to the SPC
- Liaison with the Ministry of the Environment, municipalities and other stakeholders.
- Information/data transfer and technical advice/interpretation of the approved AR and associated technical studies to various stakeholders, including implementing bodies
- Advice and support to implementing bodies on various matters such as clarification of significant threat circumstances, policy interpretation, monitoring requirements, etc.
- Education and outreach to the public and various stakeholders regarding the approved AR, Source Protection Plan, and related matters in support of implementation

It is also anticipated that the SPA, through the staff of the ERCA, will be responsible for completing an updated Assessment Report and Source Protection Plan as required, as described in **Section 7**.

Province of Ontario

The Ministry of the Environment is responsible for reviewing and approving the Source Protection Plan, as well as future updates of the AR and Plan. It is anticipated that the Ministry of the Environment, through the Source Protection Branch, will also continue to provide crucial guidance and advice to the SPA and SPC in support of their ongoing and future responsibilities. It will also be essential that the Province will continue to provide the funding for these various responsibilities in support of implementation, and for the important updates to the AR and Source Protection Plan as referenced above.

The Ministry of the Environment, Ministry of Natural Resources, and Ministry of Transportation are responsible for implementation of a substantial number of source protection policies, as further described in the next section.

Municipalities

Municipalities have an important role in the implementation of source protection policies, as described in the next section.

Municipalities have had, and should continue to have, other important and substantial roles. Municipal staff members from affected municipalities have participated in the development of the Terms of Reference (ToR), the AR, and the source protection policies, and have provided valuable input throughout. The SPC and the SPA will

continue to encourage participation and input from municipalities with respect to the various activities in support of implementation as described earlier in this section. In addition, it will be important for municipalities to be involved in future updates of the AR and Source Protection Plan.

6.3 Responsibilities of Implementing Bodies

The source protection policies for the Essex Region Source Protection Area are provided in **Table 5.2** in **Section 5**, with additional details in **Appendix A**. The implementing bodies responsible for each policy are identified in the text of the policy. Requirements such as the legal effect, compliance dates, and monitoring are also identified in each policy. The responsibilities of these various parties are outlined below.

Provincial Ministries

The Province will be required to carry out the policies associated with Provincial Instruments (PIs) as prescribed in Ontario Regulation 287/07. This includes several policies which prohibit or manage significant threats in the IPZ-1s of Windsor, Amherstburg, and Lakeshore, and the Windsor IPZ-2, through the PIs under the Ontario Water Resources Act (OWRA) or the Environmental Protection Act (EPA) or other applicable legislation administered by the Ministry of the Environment. In addition, there are several policies which manage the significant fuel threats in the substantial IPZ-3s areas, through PIs under the EPA or under the Aggregate Resources Act administered by the Ministry of Natural Resources.

All of the policies outlined above are significant threat policies. As a result, for those PI policies which manage or prohibit future significant threats, all decisions associated with the subject Prescribed Instruments must 'conform/comply with' the policies immediately upon the Source Protection Plan taking effect. For those PI policies implemented by the MOE which manage existing significant threats, the date of compliance is five years from the date the Source Protection Plan takes effect, or such date as the Director determines based on a prioritized review of Environmental Compliance Approvals.

There is one transportation corridor threat policy to be implemented by the Ministry of Transportation. This is a 'non-legally binding' policy which is targeted for implementation within two years of the Plan taking effect.

As is the case with all implementing bodies for significant threat policies, the Ministries will be required to provide reports to the SPA by February 1st of each year regarding actions taken in implementing the policies. These requirements are specified in the 'Monitoring Policies' associated with each significant threat policy.

Municipalities

Municipalities have an important role in the implementation of source protection policies. Municipalities are currently responsible for land use planning including issuing building permits, emergency management programs, and the delivery of municipal drinking water. Many of the source protection policies in this Plan will build on these roles.

Land Use Planning

There are significant threat policies affecting certain future activities in some of the IPZs of Windsor and Amherstburg which must be reflected in the Official Plans at the time of the next five year review exercise, and in the Zoning By-laws within three years of that time. These policies will also require that all decisions under the Planning Act or Condominium Act 'conform with' the policies, once the Source Protection Plan takes effect. The City of Windsor and Town of Amherstburg have also indicated that they intend to include information regarding some Prescribed Instrument policies and Clean Water Act Part IV policies in their Official Plans and Zoning By-laws, in order to assist in informing property owners and others.

Although these policies do not apply to the other municipalities in the Essex Region, it would also be beneficial for them to provide information and mapping in their Official Plans regarding the Source Protection Plan and its policies, including the Part IV policies outlined below. In addition, it is understood that each individual municipality will consider the applicability of reflecting individual policies in the Official Plan. For example, there is no land use planning rationale for reflecting a Prescribed Instrument policy for the Town of Lakeshore IPZ-1 given the unique nature of the area to which it would apply. This IPZ-1 affects only a very narrow protrusion into Lake St. Clair, including only an existing marina and a small portion of a municipal park.

Part IV Policies – Risk Management Officials

Municipalities will also be responsible for policies that utilize the Clean Water Act - Part IV Tools. These policy tools are described in **Section 4**, and the subject policies are provided in **Section 5**. This includes several Section 57 policies which prohibit certain significant threats in the IPZ-1s in Windsor, Amherstburg and Lakeshore, and the IPZ-2s in Windsor; and several policies under Section 58 which manage certain other types of threats in these same IPZ areas. There is also a Section 59 policy for the IPZ-1s in Windsor, Amherstburg and Lakeshore, which would require certain limited types of Building Applications or Planning Applications to be referred to Risk Management Officials. There is also a Section 59 for all Event Based Areas, which includes all municipalities in the Essex Region SPA, which would require Building Applications or Planning Applications involving the Handling and Storage of Fuel in volumes determined to be a significant drinking water threat to be referred to Risk Management Officials. In addition, there is a Section 58 policy which manages existing and future

significant fuel threats in the EBAs of all of the water treatment plant intakes in the Essex Region SPA The implementation of this policy will involve all municipalities in the Essex Region Source Protection Area

For all of the policies that utilize the Part IV Tools, the Clean Water Act requires municipalities to designate a Risk Management Official (RMO) and a Risk Management Inspector (RMI). The RMO is responsible for negotiating or establishing Risk Management Plans. As specified in various sections of the Clean Water Act, the RMO will have the responsibility/authority to establish enforcement orders (Section 63), orders to cause things to be done (Section 64), order to pay (Section 67), and annual reports (Section 81). The Risk Management Inspector is responsible for enforcing the Risk Management Plans to ensure compliance.

Risk Management Officials and Risk Management Inspectors are required to hold specific qualifications and receive specialized training and certification, as outlined in the Regulation. The Clean Water Act contains provisions whereby a municipality can enter into an agreement with other entities for the provision of these RMO/RMI services. The ERCA has offered to provide these services for Essex Region municipalities, and most municipalities have expressed an interest in this approach, due to cost-efficiencies and other advantages.

The Clean Water Act (CWA) specifies that Section 57 and 58 policies which prohibit or manage future significant threat activities will be applicable as of the date that the Source Protection takes effect. For the Section 58 policies which manage existing significant threats, such as the policy for fuels, the date of compliance specified in the policies is 5 years from the date the Source Protection Plan takes effect.

Sewage Threats

There are policies which will be implemented by the City of Windsor to address the existing significant threats associated with municipal sewage discharges in the Windsor IPZ-1s and IPZ-2s. Implementation will include initiation of studies as a part of the City's Sewer Management Plan, additional monitoring, and continuation of the City's sewer separation and downspout disconnection programs, along with some additional monitoring. These actions are complemented by education/outreach and stewardship/incentive policies. An incentive program for downspout disconnections was in place through the end of 2012, as a City/ERCA partnership, with Provincial funding assistance through the Ontario Drinking Water Stewardship Program (ODWSP). The City of Windsor has continued this program. One of the policies for existing sewage threats will involve the City of Windsor and Town of Tecumseh, in collaboration with the ERCA, seeking further ODWSP funding toward a continuing downspout disconnection program.

Although not related to any existing threats, there is also a 'specify action' policy requiring Windsor, Amherstburg, and Lakeshore to address one type of potential future

sewage threat in the IPZ-1s, through mechanisms such as by-laws under the Municipal Act.

The policies for existing sewage threats are required to be initiated upon the Source Protection Plan taking effect. Various target dates for completion are mentioned in the policies.

Although not implemented by municipalities, there are a number of source protection policies in the Plan that either manage or prohibit various types of potential future sewage related threats in the IPZ-1s of Windsor, Amherstburg, and Lakeshore, and the IPZ-2 in Windsor, through Prescribed Instruments administered by the MOE.

Emergency Plans/Spills Response Plans and Inventory of Fuel Sites

Although not identified as implementing bodies for these particular policies, all municipalities will be involved with the policies implemented by the ERCA pertaining to updating of emergency plans and spills response plans. Municipalities will also be requested to assist with the inventory of fuel storage facilities. Municipalities are also named as implementing bodies for the installation and maintenance of spills awareness road signage.

Monitoring Policies

As is the case with all implementing bodies for significant threat policies, Municipalities and RMOs will be required to provide reports to the SPA by February 1st of each year regarding actions taken in implementing the policies. These requirements are specified in the 'Monitoring Policies' associated with each significant threat policy.

Essex Region Conservation Authority

The Essex Region Conservation Authority (ERCA) will be responsible for implementing several policies, including significant threat policies which are legally binding. These policies include the compilation of an inventory of large above grade fuel facilities, assisting municipalities in updating their emergency plans and seeking funding for incentive programs. These policies must be initiated upon the Source Protection Plan taking effect. ERCA is also an implementing body (to assist in an advisory capacity) on a 'transportation' corridor threat policy which involves providing information on threats and vulnerable areas to a wide variety of parties such as transportation authorities, emergency responders, haulers/distributors, etc., and encouraging the updating of spills response plans.

ERCA is also identified as the implementing body for some moderate and low threat policies, which are non-legally binding and will be implemented based on available funding. ERCA is to implement broad education and outreach activities to promote measures to help address various threats in all IPZs and vulnerable aquifers including

phosphorus reduction as well as an environmental monitoring policy aimed at better understanding of microcystins in Lake Erie.

There are also several 'Stewardship/Incentive' type policies which will involve ERCA collaborating with municipalities and others in seeking funding to assist landowners with 'Best Management Practices' and other actions which would help address significant threats. These programs would be an extension of existing programs delivered by ERCA, including those funded by the MOE through the Ontario Drinking Water Stewardship Program.

As is the case with all implementing bodies for significant threat policies, ERCA will be required to provide Reports to the SPA by February 1st of each year regarding actions taken in implementing policies. These requirements are specified in the 'Monitoring Policies' associated with each significant threat policy.

6.4 Landowners, Businesses and Other Potentially Affected Parties

Although these parties are not the designated implementing bodies responsible for the significant threat policies, property owners, local businesses and others may be affected by the policies and may be required to take action to address existing or potential significant threats in Intake Protection Zones (IPZs). The affected activities are outlined in the policies provided in **Table 5.2** in **Section 5**, with additional details in **Appendix A**, including the specific 'circumstances' or criteria which determine each type of significant threat activity.

There are only two types of known existing threats identified in the approved Assessment Report for the Essex Region Source Protection Area. One of these involves municipal sewage discharges in the Windsor IPZ-1s and IPZ-2s, which are addressed by several policies to be implemented by the City of Windsor as outlined above. The other type of existing significant threat is the above grade storage, handling, or transportation of large volumes of liquid fuels, in the EBAs of all of the water treatment plant intakes in the Essex Region SPA. Further details regarding the criteria or 'circumstances', including the volume thresholds which constitute significant threats, are described in **Section 2.5**. The policies affecting existing or future above grade fuel storage facilities require the Risk Management Official, or other implementing body (e.g. Provincial Ministries are responsible for some specific policies), to ensure that permits and/or Risk Management Plans refer to the requirements of the Technical Standards and Safety Act (TSSA), liquid fuel handling code. This may include, but is not limited to, details concerning installation, operation and regular inspection of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored.

There are also policies for the transportation of large volumes of liquid fuel or other substances, through which information will be directed to parties such as emergency responders, highway/road authorities, railways, shipping authorities, and haulers/distributors, etc., encouraging the updating of spills response plans in recognition of potential 'transportation corridor' threats in various IPZ areas.

There are a substantial number of other policies which either manage or prohibit certain activities which would be significant threats if they were to occur in the IPZ-1s of the Windsor, Amherstburg or Lakeshore WTPs, or in Windsor IPZ-2. The significant threat policies do not affect activities typically associated with the residential land use which dominates most of these IPZs, and there are no agricultural lands in these areas. There are some industrial, commercial, institutional and parkland/open space land uses in these IPZs, where certain limited types of activities or types of operations might be considered or proposed in the future, which would be affected by the significant threat policies. None of these activities are known to occur, other than the sewage and fuel threats as mentioned above, and most of the affected activities are unlikely to be proposed in the future, given the existing and permitted uses in the subject areas. The affected activities are outlined in the policies provided in **Table 5.2** in **Section 5**, with additional details in **Appendix A**, including the specific 'circumstances' or criteria which determine each type of significant threat activity.

6.5 Annual Review Process

The Clean Water Act requires that the SPA prepare annual progress reports, to be submitted to the MOE in May of each year, describing the measures taken to address existing and future significant drinking water threats and the progress that has been achieved in implementation of source protection policies.

The Annual Reports will rely primarily on information from implementing bodies, which is to be submitted to the SPA by February 1st of each year, as specified by the monitoring policies associated with significant threat policies. The reports from implementing bodies regarding actions taken to implement significant threat policies will be provided to the SPC for comment and input as part of the preparation of the Annual Reports. Further requirements for Annual Reports are provided in the Clean Water Act Section 46.

The Annual Reports may provide the basis for future Source Protection Plan updates, and will serve as important information in the ongoing evaluation of progress in protecting sources of drinking water.

6.6 Financial Considerations

Financial considerations are also addressed in the **Explanatory Document** which accompanies this Plan.

Provincial Funding

The Province of Ontario has fully funded the source protection planning process to date, including capacity building at each Conservation Authority, support for SPCs, comprehensive technical studies, and the writing of various reports and documents required for the completion of Assessment Reports and Source Protection Plans. The

Province of Ontario has also provided some financial assistance to small municipalities to aid with the costs of implementation; however the level of financial commitment from the Province of Ontario going forward is unknown.

The Clean Water Act and the source protection planning process was a program introduced by the Province in response to a province-wide concern about the safety of municipal drinking water. The Essex Region Source Protection Committee strongly believes that the Province should continue to fund the implementation of Source Protection Plans and has formally requested that this be done. Resolutions to this effect have also been passed by several Essex Region Municipal Councils, the Union Water Board (with representation from five Councils), the Source Protection Committee, and the ERCA Board.

Aside from the implementation of policies, as described in Section 6.2, the Source Protection Committee and Source Protection Authority will have various responsibilities in support of implementation. It is essential that the Province continue to provide the funding for these various responsibilities, and for the important future updates of the AR and Source Protection Plan.

Several municipalities have also expressed support for Risk Management Official services to be provided by the ERCA, and have passed Council Resolutions with respect to the need for provincial funding for this purpose, as well as for other activities in support of implementation.

Section 97 of the Clean Water Act establishes the Ontario Drinking Water Stewardship Program. The purpose of the program is to provide financial assistance to those whose activities and properties may be affected by the implementation of the Source Protection Plan. Under the stewardship program, funding from the Ministry of the Environment provides grants to undertake early actions that protect municipal sources of drinking water. The grants are directed to landowners within vulnerable areas associated with municipal surface water intakes or wells to undertake projects that reduce existing potential contamination sources. The program also provides for outreach and education programs to raise awareness of the importance and opportunities for individuals to take actions to protect sources of drinking water. Ontario Regulation 287/07 (General) further clarifies the details of the Ontario Drinking Water Stewardship Program. The program was funded through 2012 to provide grants to undertake Early Response Programs to address significant drinking water in advance of approved source protection plans.

Financial Implications – Source Protection Plan Policies

In the development of policies for the Source Protection Plan, the SPC considered financial implications for implementing bodies and other affected parties. The responsibilities of implementing bodies, including Provincial Ministries, municipalities, and the ERCA, are described in Section 6.3 of the Source Protection Plan. Implications

for landowners, businesses, and other potentially affected parties are outlined in Section 6.4 of the Plan.

A key consideration for the SPC in the development of policies for the Source Protection Plan was to ensure that costs associated with policy implementation are reasonable. In selecting the most appropriate policy tools to address each type of significant threat or sub-threat, and in developing the details of the policies, some of the important considerations in this regard were as follows:

- Wherever possible, the policy approaches rely on 'Prescribed Instruments' which utilize existing regulations implemented by the Province. This avoids duplication and unnecessary local implementation costs.
- In cases where Prescribed Instruments do not apply, existing land use planning measures are utilized where possible. This approach was used in situations where it was considered to have no negative impact, and implementation was not considered onerous.
- The SPC utilized the new policy tools provided through the Clean Water Act only when other tools were not available. This avoids duplication and unnecessary local implementation costs.
- The SPC consulted very extensively with affected municipalities in order to select policy approaches and tools that would be most practical and effective, while ensuring implementation costs should be reasonable, and also obtained valuable input from the Fuels industry in developing reasonable policy approaches for that particular type of significant threat.
- In determining policy approaches for confirmed existing significant threats, the SPC determined that it would be effective and appropriate to manage, rather than prohibit, these threats. Where the type of threat activity would be precluded by the current and permitted land uses in the subject areas, or where the activity would be extremely unlikely to be proposed or considered in the future, the SPC determined that it would be most appropriate and effective to prohibit the activity, recognizing that there would be no negative impact.
- If the type of threat activity were likely to be proposed in the future, or if there was considered to be a remote possibility the significant threat activity might be initiated before the Plan takes effect, the SPC determined that it would be most appropriate and effective to manage those particular types of future significant threats.
- For those policies which manage threats through Section 58 of the Clean Water Act, or through Prescribed Instruments, wherever possible, the requirements as specified in the policies are based on the requirements of existing Legislation such as the Technical Standards and Safety Act or Pesticides Act. This was intended to minimize new or additional requirements for property owners, and avoid duplication and unnecessary effort on the part of implementing bodies.

Fees – Clean Water Act Part IV

Source water protection is a responsibility that crosses municipal and watershed boundaries; therefore, arriving at a fair and equitable manner to share the financial responsibilities of implementation of the Source Protection Plan is complicated. Within the Clean Water Act, some provisions are set out for financing various aspects of source protection including stewardship programs and application fees for Part IV policies. As stated in the Clean Water Act, fees can be applied for applications received under Section 58, 59 or 60, for agreeing to or establishing a risk management plan under Section 56 or 58, for issuing a notice under Section 59, for accepting a risk assessment under Section 60, or for entering property or exercising any other powers under Section 62. Municipalities will be responsible for implementing these Sections of the Act, through the appointment of Risk Management Officials and Risk Management Inspectors. The decisions regarding the potential charging of fees will be a matter for municipalities to address in preparing for implementation.

SECTION 7.0

LOOKING AHEAD

7.0 Looking Ahead

7.1 Future Policy Needs

This Updated Source Protection Plan and the Updated Assessment Report will be submitted in January 2015 for approval by the Minister of the Environment. In addition to the ongoing and future responsibilities associated with implementation, monitoring, and annual reporting regarding the Source Protection Plan, it is anticipated that there will be opportunities to address the need for further policies to address additional drinking water threats through updates to the Source Protection Plan and Assessment Report.

The Updated Assessment Report (AR) identifies the need for considerable further work, for the purpose of future updated AR(s). The technical work which may be undertaken in the future, leading to potential further policy development, includes:

- Additional significant threat evaluation through event based modeling simulation of spills of other substances, building on the work to date for the significant threat associated with fuel.
- Further evaluation of the recent identification of microcystin-LR as a drinking water 'issue' at Lake Erie drinking water intakes in the Essex Region SPA. Further monitoring of microcystin-LR and phosphorus sources is required. In addition, microcystin-LR should be evaluated as a drinking water issue at Lake St.Clair and Detroit River drinking water intakes.
- Evaluation of the extent to which the other drinking water issues, identified in the AR, are due to anthropogenic sources, and the areas and activities that may be contributing to such issues. Contributing anthropogenic activities would be considered to be significant threats in the IPZs.
- Consideration may also be given to the inclusion of additional drinking water systems, other than the municipal systems addressed to date. On Pelee Island, for example, there are a substantial number of non-municipal systems which supply drinking water to public facilities such as hotels, restaurants, and a school.

7.2 Other Considerations for the Future

Great Lakes Targets and Great Lakes Agreements

The Clean Water Act requires that Great Lakes Agreements such as the Canada-United States Great Lakes Water Quality Agreement (GLWQA) and the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA) be considered in the work undertaken in ARs. Further clarification from the Province of Ontario is required in this regard. Given the uncertainty as to the impact of these Agreements on drinking water source protection, the approved AR did not identify any matters which require Great Lakes Policies in the Source Protection Plan at this time.

The Clean Water Act allows for the Minister of the Environment to establish 'targets' relating to the use of the Great Lakes as a source of drinking water for any of the Source Protection Areas that contribute water to the Great Lakes. Targets and recommendations have not yet been developed in this regard. However, it is felt that there would be benefit in pursuing this, and further work may be carried out for this purpose in the future. This matter should be revisited within about two to three years, or as more information becomes available.

Information sharing to date among representatives of the Source Protection Regions and Areas draining into the Lake Erie Basin (including Lake St. Clair, the Detroit River and St. Clair River) have indicated common water quality concerns such as nutrients, algae, and turbidity. There is a value in these parties continuing to discuss common issues, to share information, and possibly work towards Great Lakes water quality concerns and targets in relation to drinking water source protection.

In 2014, both the Essex Region SPC and Thames-Sydenham Region SPC identified microcystin-LR as a drinking water issue at Lake Erie intakes (Harrow-Colchester, Union, Pelee Island West Shore and Wheatley) because concentrations of microcystin-LR have exceeded half the maximum allowable concentration on multiple occasions in the raw water of these intakes. Microcystin-LR is a neurotoxin produced by cyanobacteria (blue-green algae) and is released when the cell walls of the algae break down. Each summer the western basin of Lake Erie experiences algal blooms that result in high levels of total microcystins and microcystin-LR. Drinking water plant operators are required to alter their operations during a bloom at a significantly increased cost over regular operations. There is evidence that microcystin producing algal blooms are also occurring with increasing frequency and severity in the central basin of Lake Erie as well as in Lake St.Clair. Given that this drinking water issue is so extensive and likely to continue in the future, the Essex Region SPC suggests that the Minister of the Environment consider establishing a Great Lakes target under the Clean Water Act for microcystin-LR.

Climate Change

As outlined in the AR, subject to further study, climate changes such as more intense storms have the potential to affect water quality, and possibly exacerbate source water quality 'issues' for the various water treatment plants in the Region. Also, if there are more frequent periods of lower water levels in the Great Lakes in the future, this may increase the vulnerability of some water intakes. It would be advantageous to do a more in-depth analysis of climate change in the future, since our water intakes are located in some of the shallowest waters of the Great Lakes system and may be adversely affected by potential climate change effects such as reduced water levels and more intense storms. This is considered to be a longer term consideration which should be revisited in about 5 years, or as more information becomes available.

Consultation with the State of Michigan

The technical studies which were carried out as part of the approved AR showed that some of the vulnerable areas associated with the intakes in the Detroit River would extend to lands and waters in the United States. However, the Intake Protection Zones were required to be truncated at the international boundary for the purpose of the AR and the resulting policies in the Source Protection Plan.

It is intended that discussions and information sharing with the Michigan Department of Environmental Quality (MDEQ) and others, be initiated in the near future regarding cross-jurisdictional matters related to drinking water source protection. The MDEQ has source water protection programs established through which Critical Assessment Zones have been delineated for each intake (http://mi.water.usgs.gov/pubs/MISC/RTSMI-0121/pdf/WTO222b.pdf), and contaminants to sources of drinking water are identified (http://www.michigan.gov/deq/1,1607,7-135-3313_3675_3693---CI,00.html).

Continued Technical Work

As outlined in the AR, there are continued needs for technical studies. Further work is needed to refine and verify significant threats in the Windsor and Amherstburg IPZ-1 and IPZ-2. Modeling of spill scenarios for additional contaminants beyond fuel is needed to identify whether there are any other significant threats in the extensive IPZ-3s in Essex Region. As well, several issues have been identified for many of the drinking water intakes, including aluminum, turbidity and E. coli. However, data were not sufficient to determine the sources of these issues and therefore no policies have been developed. In particular, microcystin-LR was identified as an issue at Lake Erie drinking water intakes. Continued and improved monitoring are necessary to fully understand this issue and determine appropriate policies to mitigate it. There is also a continued need to better understand groundwater quality, in particular as it relates to private wells.