

# **SOURCE PROTECTION PLAN**

## **for the Niagara Peninsula Source Protection Area**

*Under the Clean Water Act, 2006  
(Ontario Regulation 287/07)*

**The Minister has approved this plan. The effective date is October 1, 2014.**



**December 17, 2013**



Made possible through the support of the Government of Ontario

**Approved Source Protection Plan**  
**Niagara Peninsula Source Protection Area**

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## **Acknowledgments**

The Niagara Peninsula Source Protection Committee (SPC) wishes to acknowledge the collaborative effort of all our partners. The Niagara Peninsula Source Protection Plan is a watershed-wide initiative that has been a collaboration of municipal and federal representatives, and residents, working with the SPC, the Ministry of the Environment (MOE) and the Niagara Peninsula Source Protection Authority (SPA).

During the development of the Assessment Report (AR) and the Source Protection Plan (SPP), the Niagara Peninsula Conservation Authority (NPCA) provided administrative, scientific, and technical support to the SPC as the SPA. *This project received funding support from the Government of Ontario.*

The SPC was assembled to implement the requirements of the Clean Water Act, 2006 (CWA). The SPC worked to represent the broad interests of those that live and work within the Niagara Peninsula Source Protection Area (NPSPA) while preparing the Terms of Reference (TOR), the AR and the SPP. The MOE appointed the chair of the SPC, Mark Neufeld. The other nine (9) members of the SPC were appointed by the SPA and include representatives from municipal government, industry, commerce, agriculture and the general public.

<b>Chair:</b>	Mark Neufeld – 2007 to present
<b>Municipal Representatives:</b>	Councilor Tim Rigby (Niagara Region) – 2007 to present Don Ricker (Haldimand County) – 2007 to present Chris Shrive (City of Hamilton) – 2008 to present David Kerr (City of Hamilton) – 2007 to 2008
<b>Sector Representatives:</b>	Robert Bator (Agriculture) – 2007 to present Maria Bellantino-Perco (Industry) – 2007 to present Brian Antonsen (Commerce) – 2007 to present
<b>General Public Representatives:</b>	David Renshaw – 2007 to present Dean Ostryhon – 2007 to present Drew Semple – 2010 to present Erwin Schneider - 2007 to 2010
<b>SPC Liaisons</b>	Ministry of the Environment – Maeve McHugh, Wesley Wright, John Westlake, and Kate Turner Niagara Region Public Health – Glen Hudgin Niagara Peninsula Conservation Authority – Brian Baty.

Advisors to the program during development of the SPP also included staff from the MOE, Niagara Region, the NPCA staff and the St. Lawrence Seaway Management Corporation (SLSMC).

We would also like to thank municipal staff at the cities of Port Colborne, Niagara Falls, Welland and Thorold for their contributions to the process as well as the affected landowners and general public who have made the effort to become involved and provide their input.

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**Niagara Peninsula Source Protection Area**

The dedication of project partners enabled us to meet our goals. It is our belief that this document builds upon past efforts such as the Niagara Water Strategy, and we look forward to working with stakeholders to further protect the drinking water of our watershed.



*Little Bridge Study No. 1  
Sept. 7, 2013 KSmith*

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## **1.0 INTRODUCTION**

The purpose of the Clean Water Act (CWA) is to protect Ontario's existing and future drinking water sources, as part of an overall commitment to safeguard human health and the environment. A key focus of the legislation is the preparation of locally developed Source Protection Plans (SPPs). The SPPs contain a range of policies that together, will reduce the risks posed by water quantity and water quality threats. Under the CWA, a Source Protection Committee (SPC) is required to oversee the preparation of these documents. The Niagara Peninsula SPC is one of 19 such committees in Ontario, and it oversees the work in the Niagara Peninsula Source Protection Area.

The CWA and Ontario Regulation 287/07 (the legislation) divide the drinking water source protection process into four steps:

1. Plan the work: prepare terms of reference for the work to be done;
2. Assess the risks: prepare an Assessment Report that summarizes the results of the technical and scientific studies, identifies vulnerable areas and assesses the threats to drinking water sources;
3. Plan for source protection: prepare a source protection plan that addresses identified drinking water threats, particularly significant threats.
4. Take Action: implement the source protection plan, report on progress, and revise over time.

### **1.1 Niagara Peninsula Source Protection Area**

The Niagara Peninsula Source Protection Area (NPSPA) overlies the same jurisdiction as the Niagara Peninsula Conservation Authority (NPCA) (Ontario Regulation 284/07). It has an area of 2,430 square kilometers (km<sup>2</sup>) and over 450,000 residents (Schedule NP). It includes the Regional Municipality of Niagara (Niagara Region) as well as portions of the City of Hamilton and Haldimand County.

### **1.2 Assessment Report**

In July 2010 an AR was submitted to the Ministry of the Environment (MOE) that assessed the quality and quantity of municipal drinking water supplies across the source protection area. It also identified significant threats including potential future threats that could impact our drinking water sources. After being reviewed by the MOE, a number of amendments were made to the report between February and May 2011, and the Assessment Report was approved by the MOE in July 2011. In 2013 the AR was updated to include local 'non-prescribed' threats and threats identified through event-based contaminant modelling. A brief summary of the AR including the key results is provided below. To view the complete AR, please refer to Appendix A.

The AR was developed from a number of technical reports completed under the CWA and Source Protection program. The AR covers four main study areas:

- (i) Watershed Characterization, (which is a summary of information about the NPSPA)
- (ii) Water Budget and Water Quantity Threats Assessment,
- (iii) Groundwater Vulnerability and Threats Analysis, and
- (iv) Surface Water Vulnerability and Threats Analysis.

There are six municipal water treatment plants (WTPs) with surface water intakes in the NPSPA which supply over 80% of the population. The remaining 20% of the population is supplied by private drinking water systems such as residential wells and cisterns. There are no municipal wells in the NPSPA and therefore no Wellhead Protection Area (WHPAs). The six Water Treatment Plants that supply municipal drinking water to residents in Niagara are:

- Welland Water Treatment Plant;
- DeCew Falls Water Treatment Plant;
- Port Colborne Water Treatment Plant;
- Niagara Falls Water Treatment Plant;
- Grimsby Water Treatment Plant; and
- Rosehill (Fort Erie) Water Treatment Plant.

### **1.2.1 Intake Protection Zones 1 and 2 (IPZ-1 & IPZ-2)**

Vulnerable areas known as Intake Protection Zones (IPZs) were delineated around each municipal Water Treatment Plant (WTP) intake. The source protection program under the CWA has focused on drinking water threats within these IPZs. The AR ranked all existing and potential future threats within the IPZ-1s and IPZ-2s as Low, Moderate or Significant Threats. The threat ranking depended on several factors including the type of threat activity and potential contaminants, as well as the vulnerability score assigned to that particular IPZ. Table 1.1 shows the IPZ-1s and IPZ-2s for each Water Treatment Plant and the associated vulnerability score for each.



Table 1.1 Water Treatment Plants and Intake Protection Zones in Niagara

<b>Water Treatment Plant</b>	<b>Intake Protection Zone (IPZ)</b>	<b>Vulnerability Score</b>
Grimsby	• Grimsby IPZ-1	5.0
	• Grimsby IPZ-2	4.0
DeCew Falls (which has 3 intakes: Main, Highway 406, and Lake Gibson Alternate)	• Main IPZ-1	8.0
	• Main IPZ-2	6.2
	• Highway 406 IPZ-1	8.0
	• Highway 406 IPZ-2	5.6
	• Alternate IPZ-1	8.0
	• Alternate IPZ-2	6.4
Welland *	• Welland IPZ-1	7.0
Port Colborne	• Port Colborne IPZ-1	9.0
	• Port Colborne IPZ-2	8.1
Rosehill (Fort Erie)	• Rosehill IPZ-1	7.0
	• Rosehill IPZ-2	5.6
Niagara Falls	• Niagara Falls IPZ-1	8.0
	• Niagara Falls IPZ-2	6.4

\*Table Note: There is no Welland IPZ-2 since it is located wholly within the IPZ-1.

Under the CWA, an IPZ-1 or IPZ-2 will contain significant drinking water threats if the vulnerability score assigned to it is 8.0 or greater. Table 1.2 shows the IPZs that have vulnerability scores of 8.0 or greater assigned to them.

Table 1.2 Intake Protection Zones with Vulnerability Scores of 8 or Greater

<b>Water Treatment Plant</b>	<b>Intake Protection Zone (IPZ)</b>	<b>Vulnerability Score</b>
DeCew Falls	Main IPZ-1	8.0
	Highway 406 IPZ-1	8.0
	Alternate IPZ-1	8.0
Port Colborne	Port Colborne IPZ-1	9.0
	Port Colborne IPZ-2	8.1
Niagara Falls	Niagara Falls IPZ-1	8.0

The IPZ-1s and IPZ-2s for Welland, Grimsby and Rosehill Water Treatment Plants, and the DeCew Falls and Niagara Falls IPZ-2s all have vulnerability scores less than 8.0, and therefore cannot contain significant drinking water threats (unless specific event-based contaminant modeling is performed). Of course, areas outside IPZs 1 and 2 also cannot contain significant threats unless specific event-based contaminant modeling is performed.

### **1.2.2 Prescribed Threats under the Act**

There are twenty-one threat categories that are prescribed in the CWA and Ontario Regulation 287/07. The 21 categories are listed below:

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

Nineteen of these 21 prescribed threat categories relate to water quality (1 through 18 and 21) and two relate to water quantity (19 and 20). The 21 threat categories are further divided into sub-categories and then into detailed prescribed threat circumstances, of which there are over 1900. Of the 21 prescribed threat categories, twelve are considered significant drinking water threats in one or more of the IPZs in the NPSPA. Table 1.3 identifies the threat categories prescribed by the CWA that are significant in each IPZ. The SPP must address all significant drinking water threats, whether they currently exist in the IPZ, or are a potential future threat.

The twelve prescribed significant threat activities that are, or could, impact the quality of Niagara's municipal drinking water sources are described in the AR (Appendix A) and discussed in detail in the Explanatory Document (ED). Two additional prescribed threats (No. 8: the application of fertilizer to land, and No. 12: the application of road salt) are not currently considered significant drinking threats because they are dependent upon land uses across the IPZ meeting certain criteria, and these criteria have not been satisfied.

Threats were identified in the AR as “existing” if there was infrastructure present to engage in the activity even though the activity may not actually be occurring. For the purpose of policies in this SPP, the term “existing” shall be taken to mean existing at the time the SPP takes effect. This ensures that policies will apply to threats that may have come into existence since the time of the AR enumeration.

The following “existing” significant threat activities may currently be occurring in the DeCew Falls IPZ-1s:

- the application of agricultural source material (ASM) to land (e.g. manure),
- the storage of agricultural source material, and
- the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard.

Three land parcels may contain these activities within the DeCew Falls Main Intake IPZ-1, and three land parcels may contain these activities within the DeCew Falls Lake Gibson Alternate Supply IPZ-1. Two land parcels may contain these activities within the DeCew Falls Highway 406 Intake IPZ-1.

Drinking water threat conditions are sites such as ‘brownfields sites’ that contain contaminated soils or sediments due to past activities. No significant threat conditions were identified in the NPSPA. Significant threat conditions were not even possible for the IPZs associated with the Welland, Rosehill (Fort Erie) and Grimsby WTPs because the vulnerability scores of the IPZ were less than 8.

Table 1.3 Summary of Significant Prescribed Drinking Water Threats per Intake Protection Zone

Threat		DeCew Falls			Port Colborne IPZ-1	Port Colborne IPZ-2	Niagara Falls IPZ-1
		Main IPZ-1	Hwy 406 IPZ-1	Alternate IPZ-1			
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act</i>						
	1A Application of untreated septage	√	√	√	√	√	√
	1B Storage of mine tailings				√		
	1C Waste Disposal Sites				√		
2	The establishment, operation or maintenance of a system that collects, stores, transmits or disposes of sewage						
	2A Stormwater	√	√	√	√	√	√
	2B Sewage treatment plants & by-passes	√	√	√	√	√	√
	2C Industrial discharges	√	√	√	√	√	√
3, 4 and 21	The application or storage of agricultural source material, the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard	√	√	√	√	√	√
6 and 7	The application or handling and storage of non-agricultural source material	√	√	√	√	√	√
10	The application of pesticide				√		
11	Pesticide storage and handling				√		
13 and 14	The handling and storage of road salt, and the storage of snow				√		
18	The management of runoff that contains chemicals used in the de-icing of aircraft				√		

### **1.2.3 Local Non-Prescribed Threats**

Under the CWA, Source Protection Committees may add locally identified threats to the list of provincially prescribed drinking water threats. These 'local' or 'non-prescribed' threats can either be a completely new threat or they can be a new subcategory of an already prescribed threat.

In 2010, the SPC applied to the MOE to have transportation (corridor) threats added as a local non-prescribed threat. The MOE completed the generic analysis for a list of bulk materials that could be transported along arterial routes within the IPZ-1s and IPZ-2s. The MOE letter dated May 16, 2011 ranks the transportation of a number of materials as significant, moderate, or low based on their hazard score and vulnerability score of the IPZ the materials would be transported through.

According to the MOE letter, the transportation of ASM or NASM would be significant threats within the Port Colborne IPZ-1 where the vulnerability score is 9. (see Table 1.4). All other transportation threats were ranked as moderate or lower for the Niagara Peninsula Source Protection Area. See Appendix E in the Assessment Report (Appendix A).

### **1.2.4 Threats Identified by Event-Based Modelling and Intake Protection Zone 3s (IPZ-3s)**

The Technical Rules and regulations also allow for additional activities to be included as significant threats if it can be shown, through specific event-based contaminant modelling that the activity would have an adverse effect on the water quality at the water treatment plant intake.

The Niagara Peninsula SPC chose to undertake event-based contaminant modelling to determine if a diesel fuel spill into the Welland Canal would adversely affect the water supply at the intakes of the DeCew Falls, Welland, and Port Colborne water treatment plants. This undertaking was precipitated partly by the Port Colborne diesel fuel spill that occurred in the Welland Canal in 2010. Several scenarios were modelled. They included three potential spill locations over the Welland Canal and a fourth over the Welland Recreational Canal:

- Clarence Street Bridge (and ship fueling station) in Port Colborne;
- Regional Road # 3 Bridge in Port Colborne;
- Highway 406 Bridge over the Welland Recreational Canal (Old Welland Canal) in Welland/Thorold; and
- Highway # 20 Bridge at Allanburg, Thorold.

The event-based contaminant modelling along the Welland Canal is described in detail in the Assessment Report and supporting technical documents.

Several of the spill scenarios that were modelled, showed an adverse affect at the water treatment plants and as a result they have been included as significant threats. Where

significant threats were identified from the modelling, Tertiary Intake Protection Zones (IPZ-3s) were delineated according to the Technical Rules. Since an IPZ-3 cannot overlap an IPZ-1 or IPZ-2, these modelled threats are significant in areas which include the IPZ-3s as well as portions of the IPZ-1s and IPZ-2s where it can be reasonably shown that the event-based modelling would apply. This Source Protection Plan contains significant threats policies that address these newly added threats in these new areas.

Event-based modelling was also completed by the Lake Ontario Collaborative (LOC) to determine if a spill or overflow from Grimsby Waste Water Treatment Plant (WWTP) could have an adverse effect on the water supply to the Grimsby Water Treatment Plant. Further details of the modelling are provided in the Assessment Report.

The local threats that have been added by the SPC are summarized in Table 1.4 below. These include non-prescribed threats and event-based modeling (i.e. IPZ-3) based threats. For details on the specific circumstances (e.g. volumes of fuel) please see Appendix A (Assessment Report).

Table 1.4 Summary of Local Significant Drinking Water Threats Added by the SPC

	<b>Local Threat Description</b>	<b>Water Treatment Plant Intakes Affected</b>	<b>Threat Areas</b>
	Transportation of NASM or ASM on arterial roads	Port Colborne	Port Colborne IPZ-1
	Transportation, storage or handling of diesel/gasoline (identified by event-based modelling of fuel spills containing benzene)	<ul style="list-style-type: none"><li>• DeCew Falls</li><li>• Welland</li><li>• Port Colborne</li></ul>	IPZ-3s: <ul style="list-style-type: none"><li>• DeCew Falls Hwy 406</li><li>• Welland</li><li>• Port Colborne</li></ul> Also portions of the associated WTP IPZ-1s and IPZ-2s as shown in Schedules W1, DC7, DC8, and PC3.

### **1.3 Explanatory Document**

This SPP should be read in concert with the ED. Ontario Regulation 298/07 Section 40 requires an ED be prepared and submitted with each SPP.

The purpose of the ED is to provide the Source Protection Authority (SPA), stakeholders, the MOE and the general public with background information that the SPC used to prepare the SPP. In summary, explanation for SPC policy decisions is provided in the ED thereby supporting a transparent decision-making process.

## **1.4 Niagara Peninsula Source Protection Committee**

As mentioned earlier, the Niagara Peninsula Source Protection Committee (SPC) was responsible for overseeing the development of the Terms of Reference, Assessment Report (AR) and Source Protection Plan (SPP). This included reviewing and assessing many technical reports and other documents that were completed in the development of the AR and SPP.

The Source Protection Committee consists of ten members, including the Chair who is appointed by the province, and nine members representing the following stakeholders:

- Regional Municipality of Niagara and 12 local municipalities (one representative)
- City of Hamilton (one representative)
- Haldimand County (one representative)
- Industry (one representative)
- Agricultural (one representative)
- Commercial/business/golf industry (one representative)
- General public (three representatives)



## **2.0 SOURCE PROTECTION PLAN OVERVIEW**

The Clean Water Act (CWA), and Ontario Regulation 287/07, the General Regulation, establish the legal framework for drinking water source protection.

The CWA requires that Source Protection Committees (SPCs) prepare Source Protection Plans (SPPs) for each Source Protection Area. The CWA also establishes the requirement for compliance.

As legislated under the CWA, this SPP prevails when there is conflict between a significant threat policy and a municipal Official Plan or Zoning By-law, unless the municipality has written policies that are more restrictive and would better protect drinking water sources. All planning decisions must conform with the significant threat policies of the SPP.

In the case of conflict with the *Provincial Policy Statement*, the *Greenbelt Plan*, the *Niagara Escarpment Plan*, or the *Growth Plan for the Greater Golden Horseshoe*, the provision that provides the greatest protection to the quality and quantity of any water that is or may be used as a source of drinking water prevails.

### **2.1 Objectives of the Source Protection Plan**

The Regulation (Section 22) states the objectives for the SPP as:

- Protecting existing and future drinking water sources in the Niagara Peninsula Source Protection Area (NPSPA); and
- Ensuring through management or prohibition, that activities identified as drinking water threats either never become a significant threat or, if the activity is already taking place, the activity ceases to be a significant threat.

Two other objectives are possible for the SPP that concern conditions (contamination from past activities) and Great Lakes targets. However these objectives do not apply at this time as there are no identified significant threat conditions, and the Minister of the Environment has not yet provided Great Lakes targets.

### **2.2 Priorities of the Source Protection Plan**

The policies contained within this SPP are focused primarily on ensuring that activities that are or would be a significant threat to municipal drinking water sources cease to exist or never become significant. Identified moderate and low drinking water threats to drinking water sources may be considered by the SPC and municipalities in the future.

## 2.3 Regulatory Requirements and Constraints

The legislation establishes the requirements governing the contents of the SPP. Some content is mandatory, while other content is optional as summarized in Table 2.1.

Table 2.1 Source Protection Plan Mandatory and Optional Components

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

## 2.4 Policy Tools

The desired outcome for every drinking water threat policy is management or prohibition of the drinking water threat. The legislation provides SPCs with a wide range of approaches or “tools” to rely upon as a means of achieving their desired outcomes (Table 2.2). More than one tool may be associated with a particular policy outcome.

The CWA states that policies in a SPP may be either general or particular in application. A policy may apply to several categories of drinking water threats, or to one particular category of threat within one or more vulnerable areas.

Table 2.2 Clean Water Act Significant Threat Policy Tools

POLICY TOOLS
<p><b>Part IV Tools of the CWA:</b></p> <ul style="list-style-type: none"> <li>• <b>Prohibition</b> of the activity using section 57 of the CWA</li> <li>• <b>Regulation</b> of the activity using a <i>risk management plan</i> under Section 58 of the CWA (i.e. the activity can only occur if an approved risk management plan is in place to manage the risk to the raw water supply from that activity)</li> <li>• <b>Restricted Land Uses</b> under section 59 of the CWA (some development applications under the <i>Planning Act</i> or the <i>Building Code Act, 1992</i> related to activities that would be a <i>significant drinking water threat</i> would be subject to certain conditions)</li> </ul>
<p><b>Prescribed Instruments</b> – policies that affect decisions to issue or otherwise create, amend or revoke a <i>prescribed instrument</i>. For example, a policy stating that specified provincial permits issued for an activity in a <i>vulnerable area</i> should contain requirements to help manage associated risks to the raw water supply, or a policy that prohibits the activity, and requires decisions related to this instrument to conform, thus the instrument would be revoked or not issued.</p>
<p><b>Land Use Planning Approaches</b> - policies that affect land use planning decisions under the <i>Planning Act</i> and <i>Condominium Act, 1998</i>. In some instances it may be appropriate to manage or eliminate (through prohibiting it from being established) a threat activity through a land use policy that is implemented through land use planning decisions (such as Official Plans, Zoning By-laws and Site Plan Controls).</p>
<p><b>Incentive Programs</b> – policies that encourage resident/owner action to mitigate or manage threats by means of support, usually financial.</p>
<p><b>Education and Outreach Programs</b> – inform the public and stakeholders about the importance of drinking water source protection. These programs help raise awareness about why and how source waters should be protected.</p>
<p><b>“Other”</b> approaches including policies that:</p> <ul style="list-style-type: none"> <li>• <b>Specify actions</b> be taken by a particular person or body to implement the source protection plan or to achieve the plan’s objectives</li> <li>• Establish stewardship programs</li> <li>• Specify and promote best management practices</li> <li>• Establish pilot programs</li> <li>• Govern research</li> </ul>

## 2.5 Monitoring and Reporting Policies

Monitoring policies (Section 4.6) are intended to track or measure whether or not policies are being implemented. They do not specifically address policy effectiveness in that the policies are designed to prevent threat activities from occurring. Reporting on implementation is therefore appropriate because one cannot report on the spills that didn’t occur but can report on the implementation to prevent the activity from occurring at all.

Monitoring policies are also intended to identify moderate threats that are at risk of becoming significant (i.e. monitor for changes in activities where the change would result in it becoming

significant, e.g., circumstance change). Any public body identified in monitoring policies in an approved SPP must satisfy their obligations under these policies.

## **2.6 Legal Effect**

The SPP has a legal effect as it directs different bodies to comply, conform and/or undertake strategic actions to implement outlined policies. The SPP must identify who will be responsible for implementation of each policy and the specific legal effect. The legal effect describes the level of obligation for the responsible party to implement the SPP policy (Part III of the CWA).

Three factors determine the legal effect of a policy:

1. The policy tool;
2. The threat ranking (significant/moderate/low); and
3. The implementing body.

All decisions made under the *Planning Act* or *Condominium Act 1998*, or decisions to issue, otherwise create or amend *prescribed instruments*, are to:

- “conform with” meaning comply with, *significant* threat policies; and
- “have regard to”, meaning to seriously consider, the policies in the SPP that relate to *moderate* and *low drinking water threats*.

In addition, local municipalities or SPAs are required to satisfy any obligations imposed on it by *significant* threat policies in the SPP, regardless of the particular tool or approach used in the policy.

Appendix B lists the policies according to their legal effect provisions under the CWA.

Appendix C identifies the types of significant threat policies that affect prescribed instrument decisions. Appendix D is a summary of the policies with respect to their legal effect and policy affect. Persons or bodies with obligations to ensure their decisions conform with policies in the SPP or which are required to satisfy obligations in the SPP should refer to these appendices to see which specific policies apply to their respective decision making responsibilities.

### **2.6.1 Strategic Action Policies**

Any policy that does not fall under one of the categories listed below is a “strategic action policy” (*section 33, Regulation 287/07*):

- a *significant threat policy*
- a designated Great Lakes policy
- any type of monitoring policy that is to be carried out by a specified public body
- a *low or moderate threat policy* that affects decisions made under the *Planning Act* or *Condominium Act, 1998*
- a *low or moderate threat policy* that affects *prescribed instruments* (see description of this tool below)

Strategic action policies do not have legal implementation requirements and therefore cannot legally be enforced. However, strategic action policies are still an important part of a SPP, and their implementation can be monitored publicly through required progress reports (for example policy DC-8, Section 4.3.2).

### **2.6.2 Federal Lands**

The SPP has no jurisdiction or authority to impose its policies on federal lands or agencies. Consequently it should be understood that SPP policies are not enforceable on federal lands, even though the policies are shown to be applicable to an entire intake protection zone (IPZ) that contains federal lands. For example, the policies that apply to the Port Colborne IPZ-1 are not considered to be binding on the St. Lawrence Seaway Management Corporation (SLSMC), which is a federal agency that manages land within the IPZ-1.

Since significant threat activities may occur on the federal lands, several policies have been included in the SPP which are directed towards the SLSMC. The SLSMC is under no legal obligation to adhere to these policies which would be considered non-legally binding commitments. That said, the SLSMC is encouraged to implement the policies directed at it.

## **2.7 Effective Date and Source Protection Plan Amendments**

The SPP takes effect on the date established by the Minister of the Environment. The effective date may occur several months after the notice of approval is posted on the Environmental Registry. The effective date of this SPP is October 1, 2014.

This SPP may be amended from time to time in accordance with the circumstances prescribed by the Act and Regulation:

1. The SPA, after consulting with the SPC, may propose amendments to this SPP;
2. The Minister of the Environment may order an amendment of the SPP; and
3. As part of the approval of the SPP by the Minister of the Environment, an order will be issued setting out the date of the periodic review and updating of the AR and this SPP.

### **2.7.1 Effective Date – Land Use Planning**

All municipal decisions under the Planning Act and Condominium Act must 'conform with' significant threat policies in the SPP once the SPP takes effect. All municipal decisions under the Planning Act and Condominium Act must 'have regard to' moderate and low threat policies once the SPP takes effect.

As prescribed in the general policies G-1 through G-7, Niagara Region's Regional Policy Plan must be amended to conform with the SPP policies within two years of the SPP taking effect (Section 4.1) and the local municipalities of Thorold, Port Colborne and Niagara Falls must

amend their Official Plans and Zoning By-laws to comply with SPP policies within three years of the SPP taking effect (Section 4.1).

### **2.7.2 Effective Date – Prescribed Instruments**

Once the SPP takes effect, all decisions made under instruments prescribed by regulation (O. Reg. 287/07) must conform with significant drinking water threat policies and have regard to moderate and low threat policies. Any prescribed instruments issued before the SPP takes effect and which are affected by the significant threat policies in the approved SPP must conform with the significant threat policies in the SPP within three years of the SPP taking effect or at such date as the Director determines based on a prioritization that is protective of source water (Section 4.1).

### **2.7.3 Effective Date – Clean Water Act Part IV – Risk Management Plans**

Part IV policies concerning Risk Management Plans (RMPs) take effect when the SPP takes effect, since no date is otherwise specified in the SPP. For future activities, the Risk Management Official (RMO) will negotiate and establish a RMP prior to commencement of the significant threat activity. For existing significant threats, the RMO will determine when the RMP policy should apply, since no date is specified in SPP. Persons engaged in existing significant threat activities would normally be given at least 120 days to comply, after notice is given by the RMO that a RMP is required.



Yellow Fish Road Education and Outreach Program

## **3.0 NOTIFICATION REQUIREMENTS AND PUBLIC CONSULTATIONS**

The Source Protection Committee (SPC) and the Source Protection Authority (SPA) have carried out consultations, in accordance with the legislation, at several points during preparation of the Source Protection Plan (SPP). This has included consultation on the Terms of Reference (TOR), the Assessment Report (AR), and the SPP. Summaries of the processes to develop the TOR, AR and SPP are presented in Appendix E.

The SPC has pursued an open and transparent process to offer many opportunities for government, private sector, and community participants to provide input. Each consultation process included notification to stakeholders, the public, and the municipalities.

### **3.1 Notice of Plan Preparation Commencement**

The SPC was required (under Section 19 of General Regulation 287/07) to formally give notice in their Source Protection Area when they began preparing their SPPs. The Niagara Peninsula SPC did this by notifying the clerks of each municipality within the Niagara Peninsula Source Protection Area (NPSPA) and the Chair of the Niagara Escarpment Commission as well as those persons “who could be engaging in one or more activities that are or would be significant drinking water threats,” according to the information contained in the AR. In addition, letters of SPP Commencement were also sent to the St. Lawrence Seaway Management Corporation (SLSMC) and Ontario Power Generation (OPG). The notification letters were sent between late April and early May 2011.

### **3.2 Pre-consultation**

Initial Niagara Peninsula SPP “pre-consultation” in 2011 included required components as well as voluntary early engagement with stakeholders. “Pre-consultation” activities are called as such because they occur before the Draft SPP is released to the public for review and comment.

#### **3.2.1 Early Engagement**

Early engagement activities were voluntary efforts to engage local stakeholders, municipalities and government agencies prior to the legislated pre-consultation phase. Six early engagement meetings were held to allow stakeholders additional time to comment on the draft policies, and the SPC an opportunity to consider policy refinements ahead of the formal pre-consultation stage. These meetings were held with affected DeCew Falls Intake Protection Zone 1 landowners, municipal staff and the SLSMC.



### **3.2.2 Pre-Consultation (O. Reg.287/07 Sections 35, 36, 37, 38 and 39)**

Pre-consultation was completed with affected parties during the policy development process, before the draft SPP was published for initial public comment in February 2012. Under Ontario Regulation 287/07 (Sections 35 to 39) the term “pre-consultation” refers to a legislated requirement to send notices to persons or bodies responsible for implementing policies, and to government ministries that have obligations under the Clean Water Act (CWA).

Pre-consultation correspondence was sent to the required implementing bodies as listed in Table 3.1 between October and December 2011. Presentations were also given to the notified municipal councils and committees in October and November 2011. The deadlines for pre-consultation responses ranged from October 28 to December 12, 2011.

The SPC notified the bodies and organizations responsible for implementation (Table 3.1).

Table 3.1 Pre-consultation Notifications

<b>Section 35 – Responsible for monitoring policies, and/or threat policies using education and outreach, and specified actions</b>
City of Port Colborne, City of Niagara Falls, City of Thorold, Niagara Region, St. Lawrence Seaway Management Corporation, Ministry of the Environment, Ministry of Agriculture Food and Rural Affairs, Niagara Peninsula Conservation Authority
<b>Section 36 – Responsible for prescribed instrument policies</b>
Ministry of the Environment, Ministry of Agriculture Food and Rural Affairs
<b>Section 37 – Responsible for policies affecting land use planning decisions</b>
City of Port Colborne, City of Niagara Falls, City of Thorold, Niagara Region, Ministry of Municipal Affairs and Housing
<b>Section 38 - Responsible for other significant threat policies</b>
City of Port Colborne, Niagara Region, Niagara Peninsula Conservation Authority
<b>Section 39 – Responsible for Part IV Clean Water Act tools of restricted land use and/or risk management plans</b>
City of Port Colborne, City of Thorold, Niagara Region

The pre-consultation notifications informed the parties of their obligations to implement the SPP. The notices included draft policy wordings along with a summary of the reasons for the policy (“rationale”) and an invitation to provide written comments on the draft policy. The SPC then considered all comments received and made changes to the policies as it believed appropriate. A summary of the comments received from the affected parties, and an explanation of how the comments affected the development of the plan policies, is included in the Explanatory Document (ED).

### **3.3 Consultation**

Once the pre-consultation phase was completed, a *draft* proposed Source Protection Plan (SPP) was prepared by the SPC, along with a draft of the Explanatory Document. The draft SPP was endorsed by the SPC on February 21, 2012. The SPP and Explanatory Document were posted on the internet for public review and inspection. As part of this first public consultation period, notices were placed in local newspapers, and notification letters were sent to all municipalities in the Source Protection Area, as well as all implementing bodies identified during pre-consultation. Letters were also sent to landowners who may be engaged in a significant threat activity and other key stakeholders such as local Chambers of Commerce. Four open house information sessions were held during this consultation period in Niagara Falls, Thorold, Port Colborne, and Grimsby. The first public consultation period extended from March 2 to April 10, 2012.

Comments received during the first public consultation period were reviewed by the SPC and changes were made to the SPP where the SPC felt it was appropriate. Comments were received from the public, key stakeholders, implementing bodies and the Ministry of the Environment (MOE). Some changes were also made to the Explanatory Document at this time to ensure consistency with the SPP.

The SPP was next submitted to the SPA on May 16, 2012 for their comments and endorsement, and then posted on the internet for at least 30 days to allow the public and key stakeholders time to review and comment on the changes made by the SPC after the first public consultation period. On July 25, 2012, the SPP was then submitted to the MOE along with the additional comments that were received.

### **3.4 2013 Plan Revisions, Consultations, and Submission to MOE**

In February of 2013, the MOE provided their formal comments on the proposed SPP that was submitted in July 2012. As requested by MOE, the proposed SPP was amended to address the MOE's February 2013 comments, and also updated to include threats and policies that were associated with the event-based contaminant modelling and IPZ-3s, and transportation threats. The Assessment Report was also updated in 2013 to include the event-based modelling and IPZ-3s and transportation threats.

#### Pre-Consultation

The implementing bodies and agencies for the new and revised policies were notified about the new policies added to the SPP, and their comments were requested. These included municipalities (Niagara Region and the cities of Port Colborne, Welland and Thorold), provincial ministries (Ministry of the Environment and Ministry of Transportation), and federal bodies (St. Lawrence Seaway Management Corporation and Transport Canada).

SPC Review and Public Consultation

The updated Assessment Report and SPP were approved with comments by the SPC on July 30, 2013. They were then submitted to the SPA for their comments, and posted on the internet in August-September 2013 for at least 30 days so the public and stakeholders could provide comments.

The SPC reviewed the comments that were received during the 30-day public consultation period, and then made further changes to the AR and SPP updates as it deemed appropriate on October 8, 2013. The updated SPP was then submitted to the SPA and MOE along with the comments received and supporting documents.

## **4.0 SOURCE PROTECTION PLAN POLICIES**

This chapter presents the Source Protection Plan (SPP) policies. The SPP policies are organized by Niagara Region Water Treatment Plants (WTPs) as follows:

- Section 4.1 – Timing Policies, including specific timelines for required Official Plans and Zoning By-Law amendments
- Section 4.2 – Welland Water Treatment Plant (WTP) threat policies
- Section 4.3 – DeCew Falls WTP threat policies
- Section 4.4 – Port Colborne WTP threat policies
- Section 4.5 – Niagara Falls WTP threat policies Falls
- Section 4.6 – Monitoring Policies for each threat policy.

The threat policies are organized by WTP and associated intake protection zones. The intake protection zones where Niagara Peninsula Source Protection Plan policies apply are shown on Schedule PA. Policies were not developed for IPZs associated with the Rosehill and Grimsby WTPs because they had vulnerability scores under 8.0, and therefore did not contain significant drinking water threats (Section 1.2). Diesel fuel (or in some cases gasoline) spills of 1,000 litres or 10,000 litres were identified as significant threats in the Welland IPZ-1 and IPZ-3 through event-based modelling. Consequently policies are included for these threats associated with the Welland Water Treatment Plant, even though the IPZ-1 has a vulnerability score under 8.0.

The general policies identify such things as timelines for the municipalities to amend Official Plans and Zoning By-laws to comply with the SPP policies. The threat policies are presented in Sections 4.2 through 4.5. The monitoring policies associated with each of the threat policies are provided in Section 4.6.

Each policy has been assigned a unique identification, where the first two letters refer to the WTP that the policy is associated with. (For example, DC-5 refers to DeCew Falls threat policy number 5, NF-2 would refer to Niagara Falls threat policy number 2, and PC-12 would refer to Port Colborne threat policy number 12.)

Table 4.1 references the prescribed threat(s) and the tool(s) that apply to each SPP policy. For example, Policy DC-1 applies a prescribed instrument and a land use planning tool to address Threat 1A concerning the application of untreated septage to land.

Land use planning and prescribed instrument policies that do not specify whether they apply to future or existing significant threats, are assumed to apply only to future significant threats. The Explanatory Document provides additional information regarding why some policies apply to both existing and future significant threats and some only address future significant threats.

Table 4.2 lists the eight implementing bodies and the SPP policies for which they are responsible. In some cases the policies are directed to more than one stakeholder. For example, Policy DC-1 is directed to Niagara Region, the City of Thorold and the MOE.

Table 4.1 – Significant Threat Policy Reference Table

Threat		Education and Outreach	Other (Specified Actions)	Prescribed Instruments	Land Use Planning	Clean Water Act, 2006 Part IV Tools		
						Risk Management Plans	Prohibition	Restricted Land Uses
1	The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the <i>Environmental Protection Act</i>							
	1A Application of untreated septage		PC-2	DC-1, PC-1, PC-15, NF-1				
	1B Storage of mine tailings			PC-1				
	1C Waste Disposal Sites							
2	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage							
	2A Stormwater	PC-19, NF-4	PC-18	DC-2, PC-16, NF-2	DC-2, DC-3, PC-17, NF-2, NF-3			
	2B Sewage plants/by-passes/storage		PC-21	DC-2, PC-20, NF-2				
	2C Industrial discharges							
3, 4, 21	The application or storage of agricultural source material, The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard	DC-6	PC-23		PC-22, NF-5	DC-4		DC-5
6, 7	The application, or handling and storage of non-agricultural source material		PC-23	DC-7, PC-24, NF-6	PC-22			
10	The application of pesticide		PC-27			PC-25		PC-26
11	Pesticide storage and handling		PC-7			PC-5		PC-6
13	The handling and storage of road salt.	PC-10	PC-11		PC-8			
14	The storage of snow.				PC-9			
18	Management of runoff containing chemicals used in aircraft de-icing		PC-14	PC-12			PC-13	

**Approved Source Protection Plan – Chapter 4: Source Protection Plan Policies**  
**Niagara Peninsula Source Protection Area**

Threat		Education and Outreach	Other (Specified Actions)	Prescribed Instruments	Land Use Planning	Clean Water Act, 2006 Part IV Tools		
						Risk Management Plans	Prohibition	Restricted Land Uses
See Note	Local Threat: Transportation of Agricultural Source Material or Non- Agricultural Source Material		PC-30, PC-31					
See Note	Local Threat (identified by Event Based Modelling): Transportation, Handling and Storage of Diesel/Gasoline Fuel		WL-2, WL-3, WL-4, DC-9, DC-10, DC-11, PC-30, PC-31, PC-32					

Table Note: Local Threats are not prescribed by the province and thus do not have a Prescribed Threat category number.  
Strategic Action policies are not shown since they do not address a specific significant threat.

**Table 4.2 Implementing Body Policy Responsibilities**

<b>Agency / Municipality</b>	<b>Policies to be Implemented</b>
Niagara Region	G-1, WL-1, WL-2, DC-1, DC-2, DC-3, DC-4*, DC-5*, DC-6, DC-8, DC-9, PC-1, PC-5*, PC-6*, PC-8, PC-9, PC-10, PC-13*, PC-15, PC-17, PC-20, PC-22, PC-25*, PC-26*, PC-28, PC-29, PC-30, NF-1, NF-2, NF-3, NF-5, NF-7, and M-3
City of Thorold	G-2, WL-2, DC-1, DC-2, DC-3, DC-5*, DC-8, DC-9, and M-4
City of Port Colborne	G-3, WL-2, DC-9, PC-1, PC-6*, PC-8, PC-9, PC-13*, PC-15, PC-17, PC-18, PC-20, PC-22, PC-26*, PC-28, PC-30, and M-6
City of Niagara Falls	G-4, NF-1, NF-2, NF-3, NF-5, NF-7 and M-5
City of Welland	WL-1, WL-2, DC-9
OMAFRA	G-5, DC-7, PC-24, NF-6 and M-2
MOE	G-5, WL-1, WL-3, DC-1, DC-2, DC-7, DC-8, DC-10, PC-1, PC-12, PC-15, PC-16, PC-20, PC-24, PC-28, PC-31, NF-1, NF-2, NF-6, NF-7 and M-1
SLSMC	G-6, WL-3, WL-4, DC-10, DC-11, PC-2, PC-7, PC-11, PC-14, PC-21, PC-23, and PC-27, PC-31, and PC-32
NPCA	G-7, PC-19, NF-4, M-8 and M-9.
MTO	WL-1, WL-3, DC-8, DC-10, PC-28, NF-7
Transport Canada	WL-3, DC-10, PC-31
Niagara Parks Commission	NF-7

Note: \*CWA Part IV Risk Management Plan or Prohibition powers

## **4.1 Timing Policies**

The land use planning decisions and prescribed instrument decisions must conform with significant threat policies starting the date the SPP comes into effect. However, the timing policies (G-1 through G-5 in Table 4.3) specify the timing when the Official Plans, Zoning By-Laws and existing Prescribed Instruments must be amended by to conform with SPP policies. Policies G-6 to G-7 provide timelines for implementation where none are provided in the Clean Water Act (CWA) or the particular threat policy.



Table 4.3 General Timing Policies

<b>Policy Number</b>	<b>General Significant Threat Policy</b>
G-1	Niagara Region Policy Plan shall be amended to conform with policies DC-1, DC-2, DC-3, DC-5, PC-1, PC-6, PC-8, PC-9, PC-13, PC-15, PC-17, PC-20, PC-22, NF-1, NF-2, NF-3, NF-5, within two years from the date the Source Protection Plan comes into effect.
G-2	The City of Thorold Official Plan and Zoning By-laws shall be amended to conform with policies DC-1, DC-2, DC-3, DC-5 within three years from the date the Source Protection Plan comes into effect.
G-3	The City of Port Colborne Official Plan and Zoning By-laws shall be amended to conform with policies PC-1, PC-6, PC-8, PC-9, PC-13, PC-15, PC-17, PC-20, PC-22, within three years from the date the Source Protection Plan comes into effect.
G-4	The City of Niagara Falls Official Plan and Zoning By-laws shall be amended to conform with policies NF-1, NF-2, NF-3, NF-5, within three years from the date the Source Protection Plan comes into effect.
G-5	Provincially prescribed instruments that were issued before the Source Protection Plan (SPP) takes effect, which are affected by the significant threat policies, shall be amended to conform with the significant threat policies in the SPP within three years from the date the SPP comes into effect, or such other date as the Director determines based on a prioritized review of instruments that govern significant drinking water threat activities.
G-6	The St. Lawrence Seaway Management Corporation is requested to conform with policies PC-2, PC-7, PC-11, PC-14, PC-21, PC-23, and PC-27 within one year from the date the Source Protection Plan comes into effect.
G-7	The Niagara Peninsula Conservation Authority shall conform with policies PC-19 and NF-4, within one year from the date the Source Protection Plan comes into effect.

## **4.2 Welland Water Treatment Plant Threat Policies**

The following policies apply to the Welland Water Treatment Plant Intake Protection Zone 3 (IPZ-3) and IPZ-1 where significant threats have been identified through event-based modelling. The areas where these policies apply are also presented on Schedule WL1.

Table 4.4 Policies for the Welland Intake Protection Zones

<b>Policy Number</b>	<b>Welland Strategic Action Policy</b>
WL-1	<p>In accordance with Section 22 (7) of the Clean Water Act, the Ministry of Transportation, in collaboration with the Ministry of the Environment as well as in consultation with the Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standards, to identify the locations of Intake Protection Zones. The Ministry of Transportation should manufacture, install and maintain the signs along Provincial Highways within an Intake Protection Zone with a vulnerability score of 8 or higher. This policy will be implemented as part of an overall education and outreach plan where it applies to the Ministry of Transportation.</p> <p>For signs on the municipal roads, Niagara Region, in cooperation with the City of Welland will be responsible for the purchase, installation and maintenance of appropriate signs, designed by the Province in collaboration with the Source Protection Authority.</p> <p>This policy, as it applies to municipal arterial roads will be implemented as part of an overall education and outreach plan by Niagara Region. This policy should be implemented within two years from the date the Source Protection Plan comes into effect.</p>
	<b>Welland IPZ-3 Policies</b>
WL-2	<p>Niagara Region, and the municipalities of Port Colborne, Welland and Thorold, shall update their Emergency Response Plans (ERPs) to include the following:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the Welland Water Treatment Plant intake and its associated IPZ-3 and IPZ-1.</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>The ERPs shall be updated within two years from the time the Source Protection Plan comes into effect.</p>

	<b>Welland IPZ-3 Policies - continued</b>
WL-3	<p>St. Lawrence Seaway Management Corporation (SLSMC), Ontario Ministry of Environment (MOE) Spills Action Centre (SAC), and Ontario Ministry of Transportation (MTO) are requested to update their Emergency Response Plans (ERPs) to include the following where applicable:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the Welland Water Treatment Plant intake and its associated IPZ-3 and IPZ-1.</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>As it relates to railway corridors, Transport Canada is requested to ensure Emergency Response Plans under their jurisdiction are updated accordingly.</p> <p>The ERP shall be updated within two years from the time the Source Protection Plan comes into effect.</p>
WL-4	<p>The St. Lawrence Seaway Management Corporation (SLSMC) is requested to implement the following Risk Management Measures to address the potential impacts of a fuel spill on the raw water supply for the Welland Water Treatment Plant:</p> <ul style="list-style-type: none"> <li>• Require that persons handling fuel follow a protocol that uses best management practices to prevent spills from occurring.</li> <li>• Ensure that spill containment booms can be readily deployed in the event of a fuel spill.</li> </ul> <p>The risk management measures should be updated within two years from the time the Source Protection Plan comes into effect.</p>

### **4.3 DeCew Falls Threat Policies**

#### **4.3.1 Intake Protection Zone 1 Policies**

The following policies apply to the DeCew Falls Intake Protection Zone 1 (IPZ-1) where significant threats have been identified in Schedules DC1, DC2 and DC3.

Table 4.5 Policies for the DeCew Falls Intake Protection 1 Zones

<b>Policy Number</b>	<b>DeCew Falls IPZ-1s Significant Threat Policy</b>
DC-1	No new waste disposal sites for the application of untreated septage to land shall be permitted within the DeCew Falls IPZ-1s.
DC-2	No new combined sewers, wastewater treatment facilities, stormwater management facilities, or industrial effluent systems shall be permitted where they would be a significant threat within the DeCew Falls IPZ-1s.
DC-3	No new industrial or commercial land uses shall be permitted within the DeCew Falls IPZ-1s, in order to prevent significant threats related to stormwater discharges.
DC-4	In the DeCew Falls IPZ-1s the application of agricultural source material (ASM) to land; the storage of ASM; and livestock grazing/pasturing, farm animal yards and outdoor confinement areas are all designated for the purposes of Section 58 (risk management plans) of the Clean Water Act. All new and existing occurrences of these activities shall require a Risk Management Plan which shall contain appropriate risk management measures.
DC-5	All land uses except residential are designated for the purposes of Section 59 (restricted land uses) of the Clean Water Act in the DeCew Falls IPZ-1s, where the application of agricultural source material (ASM) to land; the storage of ASM; and livestock grazing/pasturing, farm animal yards and outdoor confinement areas are, or would be, a significant threat.
DC-6	<p>Within one year from the date the Source Protection Plan comes into effect, an Outreach and Education program shall be established by Niagara Region that promotes best management practices for the following existing and future significant threat activities: the application to land, and storage of agricultural source material; livestock grazing/pasturing, farm animal yards, and outdoor confinement areas.</p> <p>The Outreach and Education program shall be for landowners within the DeCew Falls IPZ-1s, but may be extended to the DeCew Falls IPZ-2s (Schedules DC4, DC5 and DC6). This Outreach and Education program may be implemented by Niagara Region in combination with other Outreach and Education programs at its discretion.</p>
DC-7	No new or existing Category 3 Non-Agricultural Source Material application, or handling and storage, shall be permitted within the DeCew Falls IPZ-1s.

### **4.3.2 Strategic Action Policies**

The following policy applies to the DeCew Falls Intake Protection Zones 1 (IPZ-1) as shown in Schedule DC1, DC2, and DC3. It is suggested the policy also be considered for areas shown in DC7 and DC8.

Table 4.6 Strategic Action Policies for the DeCew Falls Intake Protection Zones 1

<b>Policy Number</b>	<b>DeCew Falls IPZ-1s Signage Policy</b>
DC-8	<p>In accordance with Section 22 (7) of the Clean Water Act, the Ministry of Transportation, in collaboration with the Ministry of the Environment as well as in consultation with the Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standards, to identify the locations of Intake Protection Zones. The Ministry of Transportation should manufacture, install and maintain the signs along Provincial Highways within an Intake Protection Zone with a vulnerability score of 8 or higher. This policy will be implemented as part of an overall education and outreach plan where it applies to the Ministry of Transportation.</p> <p>These signs should also be placed, at a minimum, where municipal arterial roads are within the DeCew Falls IPZ-1s. For signs on the municipal roads, Niagara Region, in cooperation with the City of Thorold will be responsible for the purchase, installation and maintenance of appropriate signs, designed by the Province in collaboration with the Source Protection Authority.</p> <p>This policy, as it applies to municipal arterial roads will be implemented as part of an overall education and outreach plan by Niagara Region. This policy should be implemented within two years from the date the Source Protection Plan comes into effect.</p>

### **4.3.3 Policies for Threats Identified by Event-Based Modelling**

The following policies apply to the DeCew Falls Intake Protection Zones 3 (IPZ-3s) and some portions of the IPZ-1s and IPZ-2s as shown in Schedules DC7 and DC8. These policies address the threats that were identified in the Assessment Report through event-based modelling.

Table 4.7 Policies for the DeCew Falls Intake – Locally Added Threats

	<b>DeCew Falls IPZ-3 Policies</b>
DC-9	<p>Niagara Region, and the municipalities of Port Colborne, Welland, and Thorold shall update their Emergency Response Plans (ERPs) to include the following:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the DeCew Water Treatment Plant and associated Highway 406 and Lake Gibson Alternate intakes and the areas where this policy applies.</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>The ERPs shall be updated within two years from the date the Source Protection Plan comes into effect.</p>
DC-10	<p>The St. Lawrence Seaway Management Corporation, Ontario Ministry of Environment (MOE) Spills Action Centre (SAC), and Ontario Ministry of Transportation (MTO) are requested to update their Emergency Response Plans (ERPs) to include the following:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the DeCew Water Treatment Plant and associated Highway 406 and Lake Gibson Alternate intakes, and the areas where this policy applies.</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>As it relates to railway corridors, Transport Canada is requested to ensure Emergency Response Plans under their jurisdiction are updated accordingly.</p> <p>The ERP should be updated within two years from the date the Source Protection Plan comes into effect.</p>
DC-11	<p>The St. Lawrence Seaway Management Corporation (SLSMC), is requested to implement the following Risk Management Measures to address the potential impacts of a fuel spill on the raw water supply for the DeCew Falls Water Treatment Plant:</p> <ul style="list-style-type: none"> <li>• Require that persons that handle fuel follow a protocol that uses best management practices to prevent spills from occurring.</li> <li>• Ensure that spill containment booms can be readily deployed in the event of a fuel spill.</li> </ul> <p>The risk management measures should be implemented within two years from the date the Source Protection Plan comes into effect.</p>

## **4.4 Port Colborne Threat Policies**

Policies that apply to only Port Colborne Intake Protection Zones 1, 2, and 3 are presented below. The Port Colborne IPZ-1 is more vulnerable and subject to more potential significant threats than the IPZ-2.

### **4.4.1 Intake Protection Zone 1**

The following policies apply to the Port Colborne Intake Protection Zone 1 (IPZ-1) where significant threats have been identified as presented on Schedule PC1.

Table 4.8 Policies for the Port Colborne Intake Protection Zone 1

<b>Policy Number</b>	<b>Port Colborne IPZ-1 Significant Threat Policy</b>
PC-1	No new waste disposal sites shall be permitted within the Port Colborne IPZ-1.
PC-2	The St. Lawrence Seaway Management Corporation is requested not to permit the establishment of any new waste disposal sites on lands owned or controlled by it within the Port Colborne IPZ-1.
PC-3	This policy is deleted. See Footnote 1 for Table 4.8
PC-4	This policy is deleted. See Footnote 1 for Table 4.8.
PC-5	The storage of pesticides in quantities greater than 2,500 kg is designated for the purposes of Section 58 (risk management plans) of the Clean Water Act, where this activity would be a significant threat in the Port Colborne IPZ-1. All new and existing occurrences of this activity shall require a Risk Management Plan which shall contain appropriate risk management measures.
PC-6	All land uses except residential are designated for the purposes of Section 59 (restricted land uses) of the Clean Water Act in Port Colborne IPZ-1, where the storage of pesticides in quantities greater than 2,500 kg would be an existing or future significant threat.
PC-7	Where the storage of pesticides would be an existing or future threat within the Port Colborne IPZ-1, the St. Lawrence Seaway Management Corporation is requested to ensure that persons engaged in these activities on its lands, do so in a way that safely manages the activities so they cease to be significant threats, and that those persons be appropriately licensed.
PC-8	No new open storage of road salt greater than 5,000 tonnes shall be permitted within the Port Colborne IPZ-1.
PC-9	No new storage of snow greater than 1 hectare in area shall be permitted within the Port Colborne IPZ-1.

Policy Number	Port Colborne IPZ-1 Significant Threat Policy
PC-10	<p>Within two years from the date the Source Protection Plan comes into effect, Niagara Region shall implement an annual Outreach and Education program to the appropriate staff of the Niagara Region Transportation Division and the City of Port Colborne Operations Department.</p> <p>The Outreach and Education program shall describe best management practices for handling and storage of road salt since these activities could be existing or future significant threats within the Port Colborne IPZ-1.</p>
PC-11	The St. Lawrence Seaway Management Corporation is requested not to permit the establishment of any new open salt storage greater than 5,000 tonnes or snow storage greater than 1 hectare in area on lands owned or controlled by it within the Port Colborne IPZ-1.
PC-12	In order to prevent stormwater runoff that contains chemicals used in the de-icing of aircraft from becoming a significant threat in future, no new stormwater discharge from a national airport, that is a significant drinking water threat, shall be permitted within the Port Colborne IPZ-1.
PC-13	In order to prevent stormwater runoff that contains chemicals used in the de-icing of aircraft from becoming a significant threat in the future, this activity is prohibited where it would be a significant threat, and therefore is designated for the purpose of Section 57 (Prohibition) under the Clean Water Act.
PC-14	The St. Lawrence Seaway Management Corporation is requested not to permit the establishment of any new national airports on lands they own or control within the Port Colborne IPZ-1, in order to prevent stormwater runoff that contains chemicals used in the de-icing of aircraft from becoming a significant threat in future.

Table 4.8 Footnote 1: Fertilizer application to land is currently not considered a significant threat in the Port Colborne IPZ-1. This activity could only become a significant threat if major changes in land usage across the IPZ-1 occur. This is unlikely to happen. For more detailed information please refer to the Explanatory Document.

#### 4.4.2 Intake Protection Zone 2

The following policy applies to the Port Colborne Intake Protection Zone 2 (IPZ-2) where the significant threat has been identified as presented on Schedules PC2.

Table 4.9 Policies for Port Colborne Intake Protection Zone 2

Policy Number	Port Colborne IPZ-2 Significant Threat Policy
PC-15	No new waste disposal sites for the application of untreated septage to land shall be permitted within the Port Colborne IPZ-2.



#### 4.4.3 Intake Protection Zones 1 and 2

The following policies apply to the Port Colborne Intake Protection Zone 1 (IPZ-1) and 2 (IPZ-2) where significant threats have been identified as presented on Schedules PC2.

Table 4.10 Policies for the Port Colborne IPZ-1 and IPZ-2

Policy Number	Port Colborne IPZ-1 and IPZ-2 Significant Threat Policy
PC-16	<p>Where an existing or future stormwater management system is in the Port Colborne IPZ-1 or IPZ-2 and the activity is, or would be, a significant drinking water threat, the Ministry of the Environment shall ensure that the Environmental Compliance Approval that governs the stormwater management system includes appropriate terms and conditions to ensure that the stormwater management system:</p> <ul style="list-style-type: none"> <li>a) Existing, ceases to be a significant drinking water threat; or</li> <li>b) Future, never becomes a significant drinking threat.</li> </ul>
PC-17	<p>Within the Port Colborne IPZ-1 and IPZ-2 Niagara Region and the City of Port Colborne shall ensure that stormwater runoff volume and pollutant loadings from future land development are reduced by:</p> <ul style="list-style-type: none"> <li>(a) encouraging implementation of a treatment train approach and reliance on a hierarchy of source, lot-level, conveyance and end-of-pipe controls;</li> <li>(b) encouraging the implementation of innovative stormwater management measures;</li> <li>(c) allowing for flexibility in development standards to incorporate alternative community design and stormwater techniques, such as those related to site plan design, lot grading, ditches and curbing, road widths, road and driveway surfaces, and the use of open space as temporary detention ponds; and</li> <li>(d) supporting implementation of source control programs, which are targeted to existing areas that lack adequate stormwater controls.</li> </ul> <p>Municipalities shall require that an application for commercial or industrial development or the expansion, extension, or alteration of existing stormwater management facilities or the expansion of an existing commercial or industrial development within the Port Colborne IPZ-1 and IPZ-2 shall be accompanied by a stormwater management plan that demonstrates consistency with these stormwater management measures and any Best Management Practices identified in the stormwater Management Master Plan (PC-18).</p>
PC-18	<p>In consideration of existing or future significant threats related to stormwater discharges, the City of Port Colborne shall, within five years from the date the Source Protection Plan comes into effect, prepare and implement a comprehensive stormwater management master plan for the catchments out-letting to the Port Colborne IPZ-1 and IPZ-2. The stormwater management master plan will be prepared in accordance with the Municipal Class Environmental Assessment and will include:</p> <ul style="list-style-type: none"> <li>(a) an evaluation of the cumulative environmental impact of stormwater from existing and planned <i>development</i>;</li> </ul>

Policy Number	Port Colborne IPZ-1 and IPZ-2 Significant Threat Policy
	<p>(b) a determination of the effectiveness of existing stormwater management works at reducing the negative impacts of stormwater on the environment;</p> <p>(c) an examination of any stormwater retrofit opportunities that have already been identified for areas where stormwater is uncontrolled or inadequately controlled;</p> <p>(d) the identification of additional stormwater management retrofit opportunities or improvements to existing stormwater management works that could improve the level of treatment;</p> <p>(e) a description of existing or planned programs for regular maintenance of stormwater management works;</p> <p>(f) an identification of the recommended approaches for stormwater management; and</p> <p>(g) an implementation plan for the recommended approaches.</p>
PC-19	<p>In consideration of existing or future significant threats related to stormwater discharges within the Port Colborne IPZ-1 or IPZ-2, an Outreach and Education program shall be established by the Niagara Peninsula Conservation Authority (NPCA) that promotes good stewardship of water resources and stormwater management systems. The Outreach and Education program should target local industries and residents located within the Port Colborne IPZ-1 and IPZ-2. This Outreach and Education program may be implemented by NPCA in combination with other Outreach and Education programs at its discretion.</p>
PC-20	<p>No new combined sewers, wastewater treatment facilities, or industrial effluent systems shall be permitted where they would be a significant threat within the Port Colborne IPZ-1 or IPZ-2.</p>
PC-21	<p>The St. Lawrence Seaway Management Corporation is requested not to permit new combined sewers, wastewater treatment facilities, or industrial effluent from facilities located on lands owned or controlled by it within the Port Colborne Intake IPZ-1 and IPZ-2.</p>
PC-22	<p>No new agricultural land uses are permitted within the Port Colborne IPZ-1 and IPZ-2.</p>
PC-23	<p>The St. Lawrence Seaway Management Corporation is requested not to permit new activities related to agricultural land uses on lands owned by it within the Port Colborne IPZ-1 and IPZ-2. (These activities include the application to land, and storage of agricultural source material; the application to land, and handling and storage of non-agricultural source material; and livestock grazing/pasturing, farm animal yards, and outdoor confinement areas.)</p>
PC-24	<p>No new Category 3 Non-Agricultural Source Material application, or handling and storage, shall be permitted within the Port Colborne IPZ-1 and IPZ-2.</p>
PC-25	<p>Where the application of pesticide is an existing significant threat, or could be in future in the Port Colborne IPZ-1 or IPZ-2, this activity is designated for the purposes of Section 58 (risk management plans) of the Clean Water Act. All new and existing occurrences of this activity shall require a Risk Management Plan which shall contain appropriate risk management measures.</p>

Policy Number	Port Colborne IPZ-1 and IPZ-2 Significant Threat Policy
PC-26	All land uses except residential are designated for the purposes of Section 59 (restricted land uses) of the Clean Water Act in Port Colborne IPZ-1 or IPZ-2, where the application of pesticides would be an existing or future significant threat.
PC-27	Where the application of pesticide is an existing significant threat, or could be in future, within the Port Colborne IPZ-1 or IPZ-2, the St. Lawrence Seaway Management Corporation is requested to ensure that persons engaged in these activities on its lands do so in a way that safely manages the activities, so they cease to be, or never become significant threats, and that those persons be appropriately licensed.

#### 4.4.4 Strategic Action Policies

The following policies apply to the Port Colborne Intake Protection Zones as denoted below. Schedule PC2 identifies where policies apply to IPZs 1 and 2. Policy PC-28 should also be considered for areas where local threat policies apply (as shown in Schedule PC3).

Table 4.11 Strategic Action Policies for Port Colborne WTP Intake

Policy Number	Port Colborne IPZ-1 and IPZ-2 Strategic Action Policies
PC-28	<p>In accordance with Section 22 (7) of the Clean Water Act, the Ministry of Transportation, in collaboration with the Ministry of the Environment as well as in consultation with the Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standards, to identify the locations of Intake Protection zones.</p> <p>Niagara Region, in cooperation with the City of Port Colborne, will be responsible for the purchase, installation and maintenance of appropriate signs designed by the Province in collaboration with the SPA. These signs should be placed, at a minimum, where municipal arterial roads are located within the Port Colborne IPZ-1 and IPZ-2.</p> <p>This will be implemented as part of an overall education and outreach plan by Niagara Region. This policy should be implemented within two years from the date the Source Protection Plan comes into effect.</p>
PC-29	Niagara Region is encouraged to undertake an outreach and education program to promote best management practices for road salt application. Niagara Region may wish to combine this initiative with the outreach program described under Policy PC-10. (See also Footnote 1 for Table 4.11)

Table 4.11 Footnote 1: Road salt application is currently not a significant threat according to the Technical Rules under the Clean Water Act, because the impervious area for the IPZ-1 is not above 80%. Please see Section 7.4 and Figure 7.1 of the Explanatory Document.

#### **4.4.5 Policies for Threats Identified by Event-Based Modelling and Transportation Threats**

The following policies apply to the Port Colborne Intake Protection Zones as listed in Table 1.4 (Section 1.2) and shown in Schedule PC3. For example, PC-30 and PC-31 only apply to the IPZ-1 for transportation threats. Policies PC-30, PC-31 and PC-32 however apply to diesel and gasoline threats in the IPZ-3, and the area of the IPZ-1 shown on Schedule PC3.

Table 4.12 Policies for Port Colborne Intake - Locally Added Threats

<b>Policy Number</b>	<b>Port Colborne Event-based Modelling Policies and Transportation Threat Policies</b>
PC-30	<p>Niagara Region, and the City of Port Colborne shall update their Emergency Response Plans (ERPs) to include the following:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the Port Colborne Water Treatment Plant intake and the areas where this policy applies. (Schedule PC3).</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>The ERPs should be updated within two years from the date the Source Protection Plan comes into effect.</p>
PC-31	<p>The St. Lawrence Seaway Management Corporation (SLSMC), and Ontario Ministry of Environment (MOE) Spills Action Centre (SAC) are requested to update their Emergency Response Plans (ERPs) to include the following:</p> <ul style="list-style-type: none"> <li>• Maps that show the locations of the Port Colborne Water Treatment Plant intake, and the areas where this policy applies. (Schedule PC3).</li> <li>• An up-to-date communications protocol showing the structure of command of the various agencies that would be contacted.</li> </ul> <p>As it relates to railway corridors, Transport Canada is requested to ensure Emergency Response Plans under their jurisdiction are updated accordingly.</p> <p>The ERP should be updated within two years from the date the Source Protection Plan comes into effect.</p>
PC-32	<p>The St. Lawrence Seaway Management Corporation (SLSMC) is requested to implement the following Risk Management Measures to address the potential impacts of a fuel spill on the raw water supply for the Port Colborne Water Treatment Plant:</p> <ul style="list-style-type: none"> <li>• Require that persons handling fuel follow a protocol that uses best management practices to prevent spills from occurring.</li> <li>• Ensure that spill containment booms can be readily deployed in the event of a fuel spill.</li> </ul> <p>The risk management measures should be updated within two years from the date the Source Protection Plan comes into effect.</p>

## 4.5 Niagara Falls Threat Policies

The following policies apply to the Niagara Falls Intake Protection Zone 1 (IPZ-1) where significant threats have been identified as presented on Schedule NF1.

Table 4.13 Policies for the Niagara Falls IPZ-1

Policy Number	Niagara Falls IPZ-1 Significant Threat Policy
NF-1	No new waste disposal sites for the application of untreated septage to land shall be permitted within the Niagara Falls IPZ-1.
NF-2	No new combined sewers, wastewater treatment facilities, stormwater management facilities, or industrial effluent systems shall be permitted where they would be a significant threat within the Niagara Falls IPZ-1.
NF-3	No new industrial or commercial land uses shall be permitted within the Niagara Falls IPZ-1, in order to prevent significant threats related to stormwater discharges.
NF-4	In consideration of existing or future significant threats related to stormwater discharges within the Niagara Falls IPZ-1, an Outreach and Education program shall be established by the Niagara Peninsula Conservation Authority (NPCA) within one year from the date the Source Protection Plan comes into effect that promotes good stewardship of water resources and stormwater management systems. The Outreach and Education program should target local industries and residents located within the Niagara Falls IPZ-1. This Outreach and Education program may be implemented by NPCA in combination with other Outreach and Education programs at its discretion.
NF-5	No new agricultural land uses are permitted within the Niagara Falls IPZ-1.
NF-6	No new Category 3 Non-Agricultural Source Material application, or handling and storage, shall be permitted within the Niagara Falls IPZ-1.
	<b>Niagara Falls IPZ-1 Signage Policy</b>
NF-7	<p>In accordance with Section 22 (7) of the Clean Water Act, the Ministry of Transportation, in collaboration with the Ministry of the Environment as well as in consultation with the Source Protection Authorities (SPAs), should design a sign to the appropriate Provincial standards, to identify the locations of Intake Protection zones.</p> <p>Niagara Region, in cooperation with the City of Niagara Falls and the Niagara Parks Commission, will be responsible for the purchase, installation and maintenance of appropriate signs designed by the Province in collaboration with the SPA. These signs should be placed, at a minimum, where municipal arterial roads are located within the Niagara Falls IPZ-1.</p> <p>This policy will be implemented as part of an overall education and outreach plan by Niagara Region. This policy should be implemented within two years from the date the Source Protection Plan comes into effect.</p>

## 4.6 Monitoring and Reporting Policies

This section provides the monitoring policies that apply to each significant threat policy. Some monitoring policies apply to more than one threat policy. Table 4.14 is intended to be read in conjunction with Tables 4.4 through 4.13. The policy numbers referenced in Table 4.14 correspond with the policy numbers presented in those tables.

Table 4.14 Monitoring Policies

Monitoring Policy No.	Threat Policy Referenced	Monitoring Policy
M-1	WL-3, DC-1, DC-2, DC-7, DC-10, PC-1, PC-12, PC-15, PC-16, PC-20, PC-24, PC-31, NF-1, NF-2, NF-6	By February 1st of each year, the Ontario Ministry of the Environment (MOE) shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.
M-2	DC-7, PC-24, NF-6	By February 1st of each year, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.
M-3	WL-2, DC-1, DC-2, DC-3, DC-5, DC-6, DC-9, PC-1, PC-6, PC-8, PC-9, PC-10, PC-15, PC-17, PC-20, PC-22, PC-26, PC-30, NF-1, NF-2, NF-3, NF-5	By February 1st of each year, Niagara Region shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.
M-4	WL-2, DC-1, DC-2, DC-3, DC-5, DC-9	By February 1st of each year, the City of Thorold shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policies.
M-5	NF-1, NF-2, NF-3, NF-5	By February 1st of each year, the City of Niagara Falls shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policies.
M-6	WL-2, DC-9, PC-1, PC-6, PC-8, PC-9, PC-15, PC-17, PC-18, PC-20, PC-22, PC-26, PC-30,	By February 1st of each year, the City of Port Colborne shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policies.

Monitoring Policy No.	Threat Policy Referenced	Monitoring Policy
M-7	DC-4, DC-5, PC-5, PC-6, PC-13, PC-25 and PC-26	By February 1st of each year the Risk Management Official shall report annually to the Source Protection Authority with the information required in Section 65 of Regulation 287/07 for the previous calendar year.
M-8	PC-19, NF-4	By February 1st of each year, Niagara Peninsula Conservation Authority shall report to the Source Protection Authority with a description of the actions it has taken to implement the significant threat education and outreach policies in the previous year.
M-9	WL-3, WL-4, DC-10, DC-11, PC-2, PC-7, PC-11, PC-14, PC-21, PC-23, PC-27, PC-31, and PC-32	By February 1st of each year, Niagara Peninsula Conservation Authority shall report to the Source Protection Authority with a description of the steps St. Lawrence Seaway Management Corporation and Transport Canada have taken to implement significant threat policies during the previous calendar year.
M-10	WL-2, and DC-9	By February 1st of each year, the City of Welland shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policies.
M-11	WL-3, DC-10	By February 1st of each year, the Ontario Ministry of Transportation shall report to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policies.

Note: There are no monitoring policies for WL-1, DC-8, PC-28, PC-29 or NF-7, as these are not significant threat policies.

## **5.0 GREAT LAKES**

The Niagara Peninsula Source Protection Area (NPSPA) contains water that flows into the Great Lakes and is therefore required to consider the following agreements (MOE, 2007):

- The Canada-United States Great Lakes Water Quality Agreement (GLWQA);
- The Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem;
- Great Lakes – St. Lawrence River Basin Water Resources Compact; and
- The Great Lakes Charter.

In order to achieve water quality goals and objectives set under the GLWQA, the Canadian and U.S. federal governments are developing Lakewide Management Plans (LaMPs) in conjunction with the Province of Ontario and the United States of America within the Great Lakes' watersheds. Lakewide Management Plans are broad plans to restore and protect water quality in each Great Lake. Information compiled as part of the Lake Erie and Lake Ontario LaMPs were incorporated into the technical studies that were completed for the Assessment Report (AR) (Appendix A).

The work undertaken in the AR contributes to the achievement of Goal 6 under Annex 3: Lake and Basin Sustainability under the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (Environment Canada and Ontario Ministry of the Environment, 2007). The Report addresses two key results by identifying and assessing the risks to drinking water sources (Result 6.1), and developing knowledge and understanding of water quality and water quantity issues of concern (Result 6.2).

The Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement is a good faith agreement between the eight U.S. Great Lakes States and the Provinces of Ontario and Quebec, intended to implement the Great Lakes Charter and the 2001 Great Lakes Charter Annex. The Agreement sets out objectives related to collaborative water resources management and the prevention of significant impacts related to diversions, withdrawals and loss of water from the Great Lakes basin (Ministry of Natural Resources, 2005). The Agreement sets out conditions under which transfers of water from one Great Lake watershed into another (intra-basin transfer) can occur.

Great Lakes policies have not been included in this Source Protection Plan (SPP) as Great Lakes targets have not yet been established. It is anticipated that this task will be completed during future rounds of source protection planning.



Northerly view from DeCew Supply Weir Tailrace



## **6.0 IMPLEMENTATION**

The implementation of the Source Protection Plan (SPP) policies requires the cooperation of the various source protection partners. In most cases, implementation will be led by the municipalities. In some cases, the Province, conservation authorities, or other organizations may be involved in implementing SPPs. The involvement and cooperation of individuals and landowners affected by the SPP will also be a key component of the SPPs implementation. The following outlines the key roles and responsibilities of the players in the implementation of the SPP. Further information regarding the roles and responsibility as per Part IV and V of the Clean Water Act (CWA) not related to the Niagara Peninsula Source Protection Area (NPSPA) are defined within the Act.

### ***Source Protection Committee***

The Source Protection Committee (SPC) will continue to have input on additional studies to be included in future Assessment Reports (ARs) and SPP amendments.

### ***Source Protection Authority***

The main role of the Source Protection Authority (SPA) will be to continue to support the SPC, particularly when making amendments to the SPP at the time of review. The SPA, along with municipalities and other partners, will have an important role in monitoring and reporting on the progress of the SPP's implementation. They will continue their role as liaison with the Ministry of the Environment (MOE) and local conservation authorities and municipalities.

### ***Province***

The Province will be required to carry out the policies associated with provincial instruments as prescribed in O.Reg.287/07 s. 1.0.1.

The MOE is responsible for reviewing and approving the SPP, as well as for future updates of the SPP. The Director or Lieutenant Governor in Council can also specify rules regarding the content of the Risk Management Plans (RMPs). Further, the Lieutenant Governor in Council can prescribe the activities that may be subject to regulation under Part IV.

The MOE will also continue to conduct research and set water quality standards to achieve water protection across all the Source Protection Regions in Ontario.

### ***Municipalities***

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

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

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

- In most cases, municipalities will have the responsibility to negotiate site-specific RMPs with landowners where they are necessary through the appointed Risk Management Official (RMO).
- Inspection and enforcement authority under Part IV tools – prohibition, risk management plans.
- Municipalities may also be given some responsibilities related to monitoring threats and ensuring progress is being made.

Municipalities are free to use their existing authority under the Planning Act to address moderate drinking water threats as identified in the AR, but not addressed in the SPP.

It is also possible that in carrying out their roles, municipalities may enter into an agreement with another municipality in order to share costs associated with enforcement. Similarly, a municipality or group of municipalities may decide to transfer their responsibility to the SPA. In this case, some or all of the costs would be transferred back to the municipality.

Inspection and enforcement of the aspects of the SPP that pertain to its Official Plan, Zoning By-laws, subdivision plans and condominium plans are the responsibility of the municipality.

For the implementation of policies that utilize Part IV Tools, two new roles would be required within municipalities – an RMO and a Risk Management Inspector (RMI). The RMO is responsible for negotiating or establishing RMPs. In addition, the RMO will have the responsibility/authority to establish enforcement orders (S. 63), orders to cause things to be done (S. 64), order to pay (S. 57), and annual reports (S. 81). The RMI is responsible for enforcing the SPPs and ensuring compliance. The RMO and RMI can be the same person.

The RMO and RMI will be required to meet specific requirements and hold specific qualifications and receive proper training, as outlined in the regulation. The CWA contains provisions whereby a municipality can enter into an agreement with other entities, in which case that entity would be responsible for Part IV enforcement.

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

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

In implementing SPP policies and taking action to protect municipal water supplies, landowners may apply for grants under the Ontario Drinking Water Stewardship Program. This program was created by the Provincial government in part to help landowners who are required to take action on their properties to address significant threats.

### **Conservation Authorities**

The main role of the Niagara Peninsula Conservation Authority (NPCA) in the implementation of the SPP is to provide technical and planning advice to municipal partners. As they do now, the NPCA will also protect environmental areas and promote stewardship in the cities and best management practices on farms and in rural areas. Conservation Authority staff will also work with private landowners to implement stewardship projects to improve groundwater and surface water quality.

## **6.1 Enforcement**

Many of the policies included in the SPP will be implemented through other plans and instruments. The details of how a particular policy will be enforced and the consequences for non-compliance, therefore, differ depending on the particular plan or instrument being used.

The following clauses give an overview of compliance issues; however they do not replace rules set out in the CWA:

- If a municipality fails to bring its Official Plan into conformity with the significant threat policies included in the SPP, by the date specified, the Province has the authority to compel a municipality to complete this conformity exercise. The Province may also, by order, amend a municipal Official Plan or Zoning By-law so that it conforms with the SPP policies.
- With respect to prescribed instruments, there are various methods of enforcement, depending on the governing statute.
- If an owner of a property subject to a RMP does not fulfill their obligations, there could be consequences (CWA Sections 63 through 69). The legislation allows for various orders to be imposed or actions taken. All orders issued include Environmental Review Tribunal appeal provisions.
- If an individual or a corporation is found guilty of an offence under the CWA, they may incur financial penalties.
- Obstructing or providing false information to an employee or agent of a SPA or municipality is also subject to the penalties in the CWA.

The penalties stated above are in addition to other remedies or penalties provided by law.

## **6.2 Annual Review Process**

The CWA requires that the SPA prepares an annual progress report describing the measures taken to address existing and future significant drinking water threats, the results of monitoring and the progress that has been achieved in meeting the SPP's objectives. The annual reports will rely on several sources for information:

- Monitoring results of implementation of the policies.
- Annual reports prepared by the RMO.
- Information collected outside of Source Protection (e.g. raw water intake data collected by municipalities under the *Safe Drinking Water Act*).

- Information collected from certain public bodies (i.e. technical studies, records related to a drinking water threat).
- Information gathered from property inspection (Section 88 of the CWA also provides the SPA the power to enter property for the purpose of gathering information to prepare an annual progress report).

Further details on what information must be included in these annual reports can be found in O.Reg. 287/07 s. 46.

In order for the SPP to be effective in reducing threats to drinking water sources, it is important that its implementation be monitored. This monitoring will allow the implementers, the SPC, the SPA and the MOE to assess the effectiveness of the SPP and ensure that it is achieving its legislated objectives. This information will also inform future updates to the SPP.

At least 30 days prior to submitting the annual progress report to the MOE, the SPA will submit the report to the SPC. The SPC will review the report and provide written comments to the SPA about the extent to which, the objectives set out in the SPP are being achieved by the measures described in the report. The SPC's comments must then be included with the annual report to the Director.

Each report applies to a calendar year with the exception of the first report which applies to the period beginning on the day the plan takes effect and ending on December 31 of the second calendar year following the year in which the plan takes effect. Each report shall be submitted to the Director by May 1 in the year following the year to which the report applies. To allow the timely submission of the annual report, monitoring reports must be submitted before the deadline included in the policies (February 1).

The annual reports will provide the basis for future SPP amendments and will serve as important information in the ongoing assessment of progress towards source water protection. The first annual report is expected to be released in 2014.

### **6.3 Financing and Costs**

The CWA and the Source Protection Planning process was introduced by the Province in response to a province-wide concern about the safety of municipal drinking water. The Province of Ontario has fully funded the Source Protection Planning process, including capacity building, at each conservation authority, and the writing of various reports and completion of the technical documents required for the ARs and SPPs.

Municipalities, residents, and persons engaged in significant drinking water threats, share responsibility for protecting drinking water sources and are responsible for financing the implementation of the SPP.



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

Within the CWA, some provisions are set out for financing various aspects of Source Protection including stewardship programs and application of fees for Part IV policies. As stated in the CWA, fees can be applied for applications received under section 58, 59 or 60, for agreeing to or establishing a RMP 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.



Northwest view of DeCew Main Intake Lower Reservoir



Southerly view from Port Colborne intake

## **7.0 REFERENCES**

Environment Canada and the Ontario Ministry of the Environment, 2007.

Canada-Ontario Agreement – Respecting the Great Lakes Basin Ecosystem.

Ministry of Natural Resources, 2005.

Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement.

[http://www.mnr.gov.on.ca/en/Business/Water/2ColumnSubPage/STEL02\\_164560.html](http://www.mnr.gov.on.ca/en/Business/Water/2ColumnSubPage/STEL02_164560.html)

Ministry of the Environment, 2009.

Tables of Drinking Water Threats. 2008, as amended in 2009.

Niagara Peninsula Source Protection Committee, 2011.

Explanatory Document, 5th Draft - Internal.





Northwest view of Niagara River entering the Welland River

## **8.0 GLOSSARY**

Activity: one or a series of related processes, natural or anthropogenic that occur within a geographic area and may be related to a particular land use.

Agricultural managed land: means managed land that is used for agricultural production purposes including areas of cropland, fallow land, and improved pasture where agricultural source material (ASM), commercial fertilizer, or non-agricultural source material (NASM) is applied or may be applied.

Category 1 and 2 Non-Agricultural Source Material (NASM): Examples of Category 1 NASM include unprocessed plant material such as leaf and yard waste and culled vegetables. Category 2 NASM includes processed plant material, bakery waste, organic matter that does not contain fish or meat.

Category 3 Non-Agricultural Source Material (NASM): sewage biosolids, pulp and paper biosolids, and washwater and waste from a process that involves animal products. These are identified in the MOE Tables of Drinking Water Threats as pathogens threats, and in some circumstances also as chemical threats because of their nitrogen and phosphorus content.

Climate Change: is any short or long-term change in average weather over periods of time that range from decades to millions of years due to natural or anthropogenic factors. Inconsistencies include changes in temperature, wind patterns and precipitation.

Contaminant: chemicals and pathogens.

Contamination: the mixing of harmful elements, compounds, or microorganisms with surface or groundwater.

Dates for policies to take effect: a Source Protection Plan takes effect once the Minister of the Environment has approved the Plan and published a notice of approval on the Environmental Bill of Rights Registry. Policies may specify a later date to take effect.

Discharge: the process by which water is removed from a groundwater system along a discharge area, which may include a spring, seepage from an excavation face, or inflow to a stream.

Drinking-water system: has the same meaning as in the *Safe Drinking Water Act, 2002*;

Drinking water systems not included in the terms of reference: may include privately owned systems and non-residential municipal drinking water systems (e.g. a well supplying a municipally owned/operated hockey arena)

Drinking water threat: an activity that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water.

Escarpment: a steep-faced linear ridge frequently presented by the abrupt termination of sedimentary rock layers.

Intake protection zone: an area surrounding a surface water intake and within which it is desirable to regulate or monitor drinking water threats.

Legal provisions: for any drinking water threat policy or monitoring policy to take effect (i.e. to obligate a party or body to implement the policy as per the legislation) Ontario Regulation 287/07 (section 34) requires each plan identify the legal provision(s) in the legislation that applies to the policy in question.

Managed lands: Managed lands according to the Assessment Report means land to which nutrients are applied. Managed lands are lands to which agricultural source material (e.g. manure), commercial fertilizer or non-agricultural source material (e.g. biosolids) are applied. Managed land can include, but is not limited to; cropland, fallow land, improved pasture, golf courses, sports fields and lawns.

Moderate Drinking Water Threat: means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a moderate risk.

Moderate Threat: in this document shall mean the same as Moderate Drinking Water Threat.

National Airport: an airport in the national capital region, Greater Toronto Area or an airport with annual passenger traffic of 200,000 persons or more.

Pathogen: a disease causing organism

Prescribed instruments: specific types of Government of Ontario approvals, permits and other authorizing documents identified by Ontario Regulation 287/07.

Risk: the likelihood of a drinking water threat (a) rendering an existing or planned drinking water source impaired, unusable, or unsustainable, or (b) compromising the effectiveness of a drinking water treatment process, resulting in the potential for adverse human health effects.

Risk assessment: means an assessment of risks prepared in accordance with the regulations and the rules;

Risk Management Inspector: means a risk management inspector appointed under Part IV of the Clean Water Act.

Risk Management Official: is a person appointed under Part IV of the *Clean Water Act, 2006*, by the council of a municipality that has authority to pass by-laws respecting water production, treatment, and storage under the *Municipal Act, 2001*.

Risk management plan: means a plan for reducing a risk, prepared in accordance with the regulations and the rules (for S. 58 of the *Clean Water Act, 2006*).

Runoff: rainwater that does not infiltrate the soil but flows across the earth's surface into a body of water. The proportion of runoff varies greatly depending on a number of factors such as the topography, soil conditions, and vegetative cover.

Sewage: includes drainage, stormwater, commercial wastes and other such other matter or substance as is specified by Ontario Water Resource Act

Significant Drinking Water Threat: means a drinking water threat that, according to a risk assessment, poses or has the potential to pose a significant risk;

Significant Threat: in this document shall mean the same as Significant Drinking Water Threat.

Significant (Drinking Water) Threat Policy: means (a) a policy set out in a source protection plan that, for an area identified in the assessment report as an area where an activity is or would be a significant drinking water threat, is intended to achieve the Source Protection Plan objectives referred to in paragraph 2 of subsection 22(2) of the CWA, or (b) is a policy set out in a source protection plan that, for an area identified in the assessment report as an area where a condition that results from a past activity is a significant drinking water threat, is intended to achieve the objective of ensuring that the condition ceases to be a significant drinking water threat.

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

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

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

Source Protection Plan: means a drinking water source protection plan prepared under of the *Clean Water Act*;

Source Protection Region: means a drinking water source protection region established by the regulations of the *Clean Water Act*;

Source Water: Water in its natural or raw state, prior to being withdrawn into the drinking water system.

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

Tables of Drinking Water Threats: tables prepared by the Ministry of the Environment that list the prescribed threats to drinking water sources, their sub-threats and circumstances correlated with their level of risk to drinking water sources when occurring within vulnerable areas.

Technical Rules: The Assessment Report Technical Rules are issued by the Director of the Source Protection Planning Branch and provide scope and direction on the technical work that is completed for the Assessment Reports.

Time of Travel (TOT): an estimate of the time required for a particle of water to move in the saturated zone from a specific point in an aquifer into the well intake.

Transport pathways: a change to land caused by human activity that increases the vulnerability of a drinking water source.

Treatment train approach: a combination of controls usually required in an overall stormwater management strategy. These controls would include: (i) at the lot level, (ii) in conveyance, (iii) followed by end-of-pipe controls. A treatment train is required to meet the multiple objectives of water balance, water quality, and erosion and flood control.

Waste disposal sites: this threat category includes the application of untreated septage, the storage, treatment and discharge of tailings from mines and waste disposal sites (as defined under Part V of the Ontario Environmental Protection Act).

Water source: an aquifer or surface water body being used to supply drinking water.

## **9.0 ACRONYMS**

AR	-Assessment Report
ASM	-Agricultural Source Material
BMP	-Best Management Practice
C/I	-Commercial/Industrial
CWA	-Clean Water Act
ED	-Explanatory Document
EPA	-Environmental Protection Act
ERP	-Emergency Response Plan
GLWQA	-Great Lakes Water Quality Agreement
Hwy 406	-Highway 406
ICP	-Integrated Community Planning
IPZ	-Intake Protection Zone
IPZ-1	-Intake Protection Zone One
LaMPs	-Lakewide Management Plans
MOE	-Ontario Ministry of the Environment
MOE-SAC	- Ontario Ministry of the Environment Spills Action Centre
MMAH	-Ministry of Municipal Affairs and Housing
MTO	-Ontario Ministry of Transportation
NASM	-Non-agricultural Source Material
NPCA	-Niagara Peninsula Conservation Authority
NPSPA	-Niagara Peninsula Source Protection Area
OMAFRA	-Ontario Ministry of Agriculture, Food & Rural Affairs
OP	-Official Plans
OPG	-Ontario Power Generation
OWRA	-Ontario Water Resources Act
RMI	-Risk Management Inspector
RMM	-Risk Management Measure
RMO	-Risk Management Official
RMP	-Risk Management Plan
SAC	-Spills Action Centre
SLSMC	-St. Lawrence Seaway Management Corporation
SPA	-Source Protection Authority
SPC	-Source Protection Committee
SPP	-Source Protection Plan
SPPWG	-Source Protection Plan Working Group
SWP	-Source Water Protection
TOR	-Terms of Reference
WHPA	-Wellhead Protection Area
WTP	-Water Treatment Plant