

**EXPLANATORY DOCUMENT**

for the

**SOURCE PROTECTION PLAN**

**Niagara Peninsula Source Protection Area**

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

December 2013



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## 1.0 INTRODUCTION

The Explanatory Document (ED) provides the rationale that has influenced policy decisions and accompanies the Proposed Source Protection Plan (SPP). The ED is intended for stakeholders, the general public, other interested parties, as well as the Source Protection Authority (SPA) and the Ministry of the Environment (MOE).

The ED describes the policy development process used (Section 2), the affect of early engagement and pre-consultation on policy development (Section 3) and the rationale for the proposed policies for the Welland, DeCew Falls, Port Colborne and Niagara Falls intake protection zones (IPZs) (Sections 5, 6, 7 and 8).

The ED is intended to be read in concert with the SPP. As the ED is not a stand-alone report the reader is directed to the SPP for the relevant maps, acronyms and glossary.

### 1.1 Regulatory Requirements

The General Regulation (287/07) of the Clean Water Act (CWA) requires that an ED be prepared and submitted with each SPP (Section 40 of the General Regulation). The ED must include:

- An explanation of the Source Protection Committee's (SPCs) policy decisions, or the reasons for the policies set out in the SPP. The rationale explains why a policy is written generally or with specific details. Where a general policy was included an explanation is given how the specifics will be determined locally during implementation.
- Statements from the SPC why non-regulatory measures are sufficient to address significant threats, when used as a stand-alone policy tool, and an explanation why the significant threat was dealt with this way.
- A summary of any comments received as a result of requesting written comments during the pre-consultation notification process and an explanation of how these comments affected the policies in the SPP.
- Where financial implications were considered, a summary of how this influenced the development of policies (Section 2.7).
- An explanation of how climate change consideration may have impacted policies (Section 2.11).

Reasons for the use of a Section 57 (CWA) Prohibition of an existing threat activity must also be included. However, this policy option was only used to address a future threat activity, and not an existing threat (Section 2.10).

The ED itself is not subject to comments by the public or other stakeholders (MOE, 2011a), but does provide reasons for the policy decisions in the SPP and is updated to reflect the SPP.

Explanatory Document - Chapter 1: Introduction  
Niagara Peninsula Source Protection Area

This includes a brief write-up in the ED of comments received during pre- and public consultation and their effect on the Draft SPP (Section 43 of the General Regulation). The Minister of the Environment will use the ED to assist in understanding the rationale for the policies in the SPP. However, the ED is neither formally reviewed nor approved by the Minister (MOE, 2011a). If changes are made to the SPP, the ED will also be updated to reflect those changes to the plan.

## **2.0 POLICY DEVELOPMENT PROCESS**

The Source Protection Committee (SPC) established a policy development framework to assist in decision making and policy development (Figure 2.1). This first began with the creation of a Source Protection Plan Working Group (SPPWG) (Section 2.1) and subsequently a set of guiding principles derived from guidance from the Ministry of the Environment (MOE 2011b) (Section 2.2).

As shown on Figure 2.1, the first policy development task was to summarize the significant threats. This information came from the Amended Assessment Report (NPCA, 2011) and is a function of the intake protection zone (IPZ) vulnerability scores. Only IPZs with a vulnerability score of 8.0 or more can contain a significant threat. IPZs with higher vulnerability scores will have more types of significant threats. Only the DeCew Falls, Niagara Falls, and Port Colborne water treatment plants (WTPs) had IPZs with vulnerability scores of 8.0 or more. Consequently significant drinking water threats were identified only in the IPZs for these three WTPs. The other three WTPs (Grimsby, Rosehill, and Welland) did not have significant drinking water threats in their IPZs.

Background documents on each identified significant threat category were prepared (Section 2.3, Appendix A). The threats were characterized, available policy options analyzed, and policy approach option(s) recommended (Section 2.4). Policies were then prepared and early engagement consultations on these policies conducted with affected landowners, municipalities and agencies (Section 3.1.2). Following receipt of early engagement comments, pre-consultation letters were sent and presentations given (Section 3.1.3). The Draft Source Protection Plan (SPP) was then assembled, and received by the SPC.

### **2.1 Source Protection Planning Working Group**

In October 2010, the SPC established a SPPWG to assist in the development and writing of policies for the SPP. The group was chaired by Brian Wright (Niagara Peninsula Source Protection Area Project Manager) and members included the SPC Chair Mark Neufeld, SPC member Drew Semple, Niagara Peninsula Conservation Authority (NPCA) Source Protection staff, Niagara Region Public Works and Integrated Community Planning staff and Ministry of the Environment (MOE) Liaison and Planning staff. The Agriculture and Industry representatives of the SPC were also included in meetings where appropriate. This group met on a monthly to bi-monthly basis from its inception to completion of the Draft SPP.

Explanatory Document - Chapter 2: Policy Development Process  
 Niagara Peninsula Source Protection Area

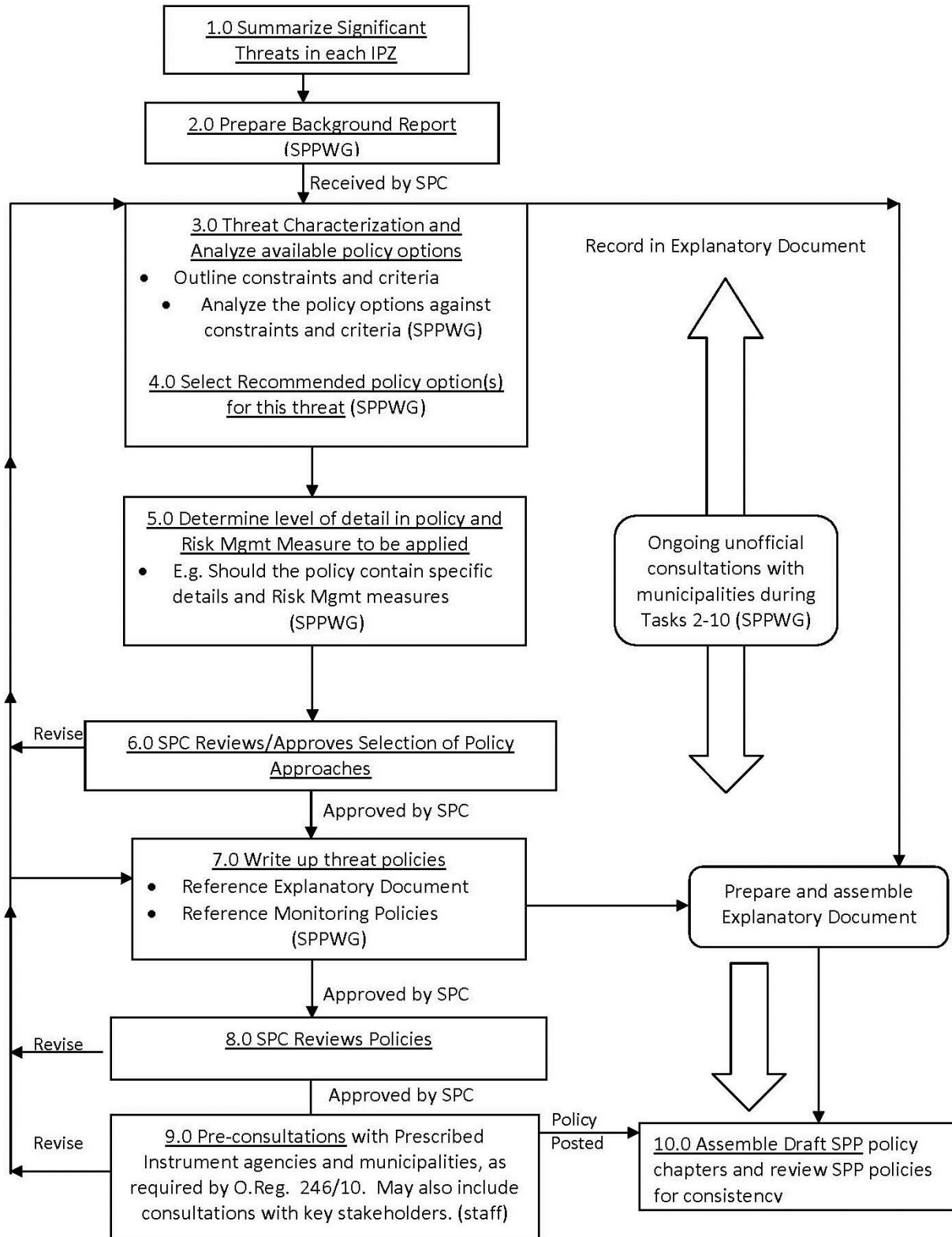


Figure 2.1 Policy Development Process



## **2.2 Guiding Values and Philosophy**

The guiding values used by the Niagara Peninsula SPC for use in the policy selection process were that the policies be:

- Applicable
- Comprehensive
- Reasonable
- Acceptable
- Effective
- Timely
- Cost Effective
- Implementable

These values are further described in Section 2.4 as part of the policy selection analysis.

The philosophy of the Niagara Peninsula SPC was to write policies necessary to achieve the fundamental goals of the SPP, while appropriately considering the specific threat type and the local conditions of the drinking water system. Where possible, policies were based on tools or programs that are already being used to protect sources of drinking water.

## **2.3 Background Documents**

Background documents were prepared for each of the prescribed significant drinking water threats (Table 2.1 and Appendix A). The reports for the Niagara Peninsula Source Protection Area (NPSPA) were largely based on those produced by the Cataraqui Region Conservation Authority and Conservation Ontario, but were revised to reflect the local conditions in the NPSPA. The background documents provide information on the existing regulatory framework and offer general options for preparing policies to address the threats.

The main sections of the threat backgrounders are:

1. Threat definition
2. What causes the activity to be a drinking water threat
3. Understanding the nature of the drinking water threats
4. Applicable legislation, policies and programs
5. Gaps in existing legislation, policies and programs
6. Policy considerations
7. Examples of risk management measures and policy ideas

Table 2.1 Drinking Water Source Protection Background Documents for the NPSPA

<b>Threat Backgrounder</b>	<b>Threat Category</b>	<b>Sub-threat Category (where applicable)</b>
1A	The establishment, operation or maintenance of a waste disposal site	The application of hauled sewage to land
1B		The storage of tailings from mining operations
1C		Landfarming of petroleum refining waste Landfilling (hazardous, municipal, solid non-hazardous industrial or commercial waste) Storage of hazardous or liquid industrial waste
2A	The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage	Stormwater management
2B		Wastewater treatment plants and sewer systems
2C		Industrial effluent discharges
3	The application of agricultural source material to land	
4	The storage of agricultural source material	
6 / 7	The application, handling and storage of non-agricultural source material	
8 / 9	The application, handling and storage of commercial fertilizer to land	
10 / 11	The application, handling and storage of pesticide to land	
12 / 13	The application, handling and storage of road salt	
14	The storage of snow	
18	Management of runoff containing chemicals used in aircraft de-icing	
21	Lands used for livestock grazing/pasturing, farm animal yards and outdoor confinement areas	

## 2.4 Policy Selection Analysis

Following completion of the Background documents, the SPC discussed and analyzed each policy option in terms of the suitability of its approach and its merits. The group assessed each policy option against any possible alternatives, cost implications, and the availability of regulatory and non-regulatory tools and instruments.

Five criteria were used to characterize the threat to inform the policy analysis. For example, if there were no existing activities of a given threat type and none were expected to occur in future in the IPZ, then the SPC considered the impact of a policy prohibiting that threat activity to have a minimal impact to land owners and residents, including expected costs to the landowner. The five questions were:

Table 2.2 Threat Characterization Criteria

<b>Threat Characterization - Criteria</b>	
1	Where will the policy cover this threat? (i.e. in all intake protection zones or just one specific intake protection zone)
2	Are there any existing/enumerated significant threat activities in the intake protection zone(s)?
3	Where there are no existing/enumerated activities of this threat in the intake protection zone, what is the likelihood there will be any in the future?
4	What are the impacts to the water treatment plant/intake protection zone if a spill occurs? If impacts are high – regulatory policy approach recommended at a minimum.
5	Can the water treatment plant normally treat this type of threat contaminant? If threat contaminants are easily treated – consider using a softer policy approach.

The major policy tools that were available for use by the SPC, starting with the most restrictive (Part IV Prohibition) progressing to the least restrictive as shown in Table 2.3 (MOE, 2011d). More detailed descriptions of these policy tools are provided in Section 2.4 of the SPP.

Explanatory Document - Chapter 2: Policy Development Process  
Niagara Peninsula Source Protection Area

**Table 2.3: Summary of Approaches / Tools Available for Source Protection Plan Policies**

Approach / Tool		Policies Addressing:									
		Significant Drinking Water Threat - activities	Significant Drinking Water Threat - conditions	Moderate or Low Threats	Monitoring Significant Threats	Monitoring Moderate and Low Threats	Monitoring Drinking Water Issues	Transport Pathways	Spill Prevention/Contingency Plans/Emergency Response Plans	Climate Change Condition Data	Non-Terms of Reference Drinking Water Systems
Part IV Tools	S. 57 Prohibition	√*									
	Risk Management Plans	√*									
	Restricted Land Uses	√*									
Prescribed Instruments		√	√	√							
Land Use Planning Approaches		√	√	√							
Incentives		√	√	√				√			
Education / Outreach		√	√	√				√			√
Other	Stewardship Programs	√	√	√				√			
	Best Management Practices	√	√	√				√			
	Pilot Programs	√	√	√				√			
	Research	√	√	√				√			
	Specify Actions	√	√	√				√	√	√	
Specify Monitoring Details					√	√	√				

\* Except for waste and sewage threats that require a prescribed instrument under the Environmental Protection Act / Ontario Water Resources Act, or fall under the Building Code.

	Optional Plan Policies
	Mandatory Plan Policies



These policy approaches were assessed against the following criteria which are presented with their guiding values in Table 2.4 below:

Table 2.4 Policy Analysis Criteria

<b>Analysis of Policy Approaches - Analysis Criteria</b>	<b>Guiding Value</b>
Is the policy approach applicable?	Applicable
Can the policy approach be used to address this threat on all or most lands throughout the Intake Protection Zone?	Comprehensive
Logistical difficulty with which this policy could be implemented? Can the policy be successfully implemented?	Reasonable & Implementable
Degree of acceptance from key stakeholders/ landowners to accept the policy approach? e.g. will landowners engaged in this threat activity likely incorporate the mitigating measures cited – using this policy approach.	Acceptable
Is this policy approach expected to make the activity cease to be, or never become a significant threat?	Effective
Estimated timelines to implement the policy and effective date.	Timeliness
Are the costs of implementing the policy reasonable? To the implementing body? By other persons affected by the policy?	Cost Effective
Degree of difficulty to develop and implement monitoring policy.	Implementable

This evaluation was reviewed and a policy approach, or set of approaches, was selected that best addressed the significant threat and the philosophy of the SPC (Section 2.2). As mentioned in Section 2.1 specialists in agriculture and industry participated in the SPPWG as needed to assist in these analyses.

Where practical, a consistent policy approach was used for a particular significant threat across the NPSPA. For example, waste disposal sites for the application of untreated septage to land were prohibited in all the IPZs where the activity would be a significant threat (DeCew Falls IPZ-1z, Port Colborne IPZ-1 and IPZ-2 and Niagara Falls IPZ-1).

Unique IPZ threat policies were designed in certain circumstances to manage rather than prohibit. For example, in an effort to minimize undue hardship and increase stakeholder acceptance, while meeting the goal of protecting source water, a risk management approach was used for the application of agricultural source material (ASM) in the DeCew Falls IPZ-1s, where agricultural activities occur. In Port Colborne and Niagara Falls IPZs a prohibition policy was most appropriate since there are no agricultural lands in those IPZs.

## **2.5 Multi-Pronged Approach**

Some policies used multiple tools to address a particular threat or group of threats. The reasons for using multiple tools are described below.

Provincial instruments, such as certificates of approval (which are now known as environmental compliance approvals), are used in the SPP as a regulatory tool to address certain threats. These provincial instruments usually comprise just one part of the approval process for a development application. Planning approvals may be the first step in this process, since the development or proposed activity will often require establishing or changing a land use. As a result, the province has suggested using policies that incorporate land use planning as well as provincially prescribed instruments to ensure the development proponents are informed at the beginning of the application process, whether certain land uses or activities would be prohibited by the SPP.

Multiple tools were used for some threats to ensure that all approval agencies are consistent in making decisions that meet the SPP objectives. For example, several agencies would be involved in approving the storage of tailings from mining operations, so the threat policy identified more than one tool and more than one agency as the implementing body.

In some instances, the SPC was of the opinion that an education and outreach program aimed at individuals would be beneficial in reducing the risk to drinking water sources. In particular, this is thought to be the case if the education and outreach programs are implemented before the regulatory policies take effect.

## **2.6 Monitoring and Reporting Policies**

Monitoring policies are intended to track or measure whether policies are being implemented. They 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 its obligations under these policies.

Agencies and municipalities, who are required to implement significant threat policies, are also required to report annually to the Source Protection Authority (SPA) on the steps they have taken to implement these policies.

In general, monitoring policies have been provided for each significant threat policy. However, there are no specific monitoring policies covering Section 59, Restricted Land Uses, under the Clean Water Act (CWA), as policy monitoring will be completed for the associated Risk Management Plan (RMP) policies instead.

The St. Lawrence Seaway Management Corporation (SLSMC) cannot be legally bound to fulfill any monitoring policies in the SPP, because the SLSMC is a federal agency over which the

SPP has no jurisdiction. Consequently, the NPCA has been named as the agency responsible for monitoring and reporting on the progress of the SLSMC in implementing the non-legally binding policies directed towards it.

## 2.7 Financial Considerations

During the policy selection analysis (Section 2.4) a preliminary assessment of the costs to implement proposed policies was completed. These potential financial implications for persons or bodies implementing, or affected by the SPP, influenced the SPP policy selection.

Policy costs were generally considered reasonable by the SPC where the policy would be adopted or incorporated as part of an existing process, or position. The SPC chose the least restrictive policies to reduce possible lost revenue opportunities and larger community costs. This is reflected in the policy choices, and policy options. “New” SPP policy costs were endorsed only where the SPC felt it was needed, such as for RMP, or Outreach and Education. In these cases the tools are required to make the threat cease to be (Example: RMP) and be palatable to those impacted by the policy (outreach and education). However the overall costs were considered reasonable because the number of RMPs is expected to be relatively small and the Outreach and Education programs are expected to fit within existing programs (for example “Yellow Fish Road”).

## 2.8 Use of Non-regulatory policies

The SPC used stand-alone non-regulatory policies to address the following significant threats:

- Transportation of agricultural source material (ASM) and non-agricultural source material (NASM) in the Port Colborne IPZ-1.
- Storage, handling and transportation of diesel fuel in areas where event-based modelling shows these activities would be a significant threat. These areas include:
  - DeCew Falls Hwy 406 IPZ-3 and portions of the IPZ-1 and IPZ-2
  - Portions of the DeCew Falls Lake Gibson IPZ-1 and IPZ-2.
  - Welland IPZ-3 and portions of the IPZ-1
  - Port Colborne IPZ-3 and portions of the IPZ-1

Policies WL-2, WL-3, WL-4, DC-9, DC-10, DC-11, PC-30, PC-31, and PC-32 are used to address these significant threats. The policies are non-regulatory “specify action” and non-legally binding commitment policies.

The SPC is of the opinion that:

- i. These policies, if implemented, will promote the achievement of the objectives of the SPP; and
- ii. A policy to regulate or prohibit the activity is not required to achieve those objectives for the above-noted threats.



These stand-alone non-regulatory policies were used because the SPC is of the opinion that a non-regulatory policy is sufficient to address the above-noted threats. Also there were no land use planning approaches or provincially prescribed instruments that were appropriate to use to prevent an activity such as the transportation of fuel from becoming a significant threat in future.

## **2.9 Non-legally Binding Commitment policies**

The SPP has no jurisdictional authority over federal lands such as the lands owned or managed by the SLSCMC within the Port Colborne Intake Protection Zones 1 and 2 (IPZ-1 and IPZ-2). The SPP contains policies that request non-legally binding commitments from the SLSCMC to address significant threats that would be located on these lands.

## **2.10 Use of Part IV Clean Water Act - Prohibition**

The SPC used Section 57 Prohibition (CWA) to address a future significant threat activity, but not existing threat activities. Policy PC-13 is used to prevent stormwater runoff that contains chemicals used in the de-icing of aircraft at a national airport, from entering the Port Colborne IPZ-1. This policy is used in concert with policies PC-12 and PC-14. The SPC chose to use this tool after the MOE Source Protection Planning Branch recommended that a land use planning approach not be used to prohibit airports in the Port Colborne IPZ-1.

## **2.11 Climate Change Considerations**

The summary of climate change information in the Assessment Report (AR) (Sections 3.1.4 and 12.1.8) had no impact on the development of policies in the SPP.

## **3.0 RESULTS OF CONSULTATION PROCESS**

### **3.1 Pre-Consultation**

“Pre-consultation” activities are called as such because they occur before the draft Source Protection Plan (SPP) is released to the public for review and comment. This pre-consultation summary is only a reference for comments received during the notification process, and subsequently considered in policy development and selection (Sections 5, 6, 7 and 8).

The Niagara Peninsula SPP pre-consultation included the required components as well as voluntary early engagement with stakeholders. Pre-consultation included: required notification of plan preparation commencement (Section 3.1.1), voluntary early engagement correspondence and presentations (Section 3.1.2), and required pre-consultation letters and presentations (Section 3.1.3).

#### **3.1.1 Notice of Plan Preparation Commencement**

The Source Protection Committee (SPC) was required to formally give notice in their Source Protection Area when they began preparing their SPPs (as per Section 19 of General Regulation 287/07). The Niagara Peninsula SPC did this by notifying the clerks of each municipality within the Source Protection Area 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 Assessment Report (AR)”. In addition, letters of Plan Preparation Commencement were also sent to the St. Lawrence Seaway Management Corporation (SLSMC) and Ontario Power Generation. These notification letters were sent in late April to early May 2011.

#### **3.1.2 Early Engagement**

Early engagement activities were voluntary efforts to engage local stakeholders, municipalities and government agencies prior to the formally required pre-consultation phase. The SPC conducted early engagement meetings, and associated correspondence of draft policies, to allow stakeholders additional time to comment and the SPC an opportunity to consider policy refinements ahead of the formal pre-consultation stage.

#### **Landowners:**

A meeting was held on July 13, 2011 with agricultural land owners within the DeCew Falls Water Treatment Plant (WTP) Intake Protection Zones 1 (IPZs) (DeCew IPZ-1s) to discuss the proposed policies for agricultural source material (ASM) application, handling and storage and livestock lands (i.e. the use of land as livestock grazing or pasturing land, an outdoor confinement areas or a farm-animal yard). The landowners were amenable to the policy approaches proposed.

**City of Port Colborne:**

Meetings were held with the City of Port Colborne Planning and Development, and Engineering and Operations Departments on July 26 and August 10, 2011, respectively. The meetings were held to discuss proposed policies for the Port Colborne WTP IPZ-1 and IPZ-2 (Port Colborne IPZ-1/IPZ-2). Staff did not recommend any changes in response to these meetings.

**City of Niagara Falls:**

A meeting was held with the City of Niagara Falls Planning and Development staff on August 17, 2011, to discuss proposed policies for the Niagara Falls WTP IPZ-1 (Niagara Falls IPZ-1). Staff did not recommend any changes in response to this meeting.

**City of Thorold:**

A meeting was held with the City of Thorold Planning staff on August 22, 2011, to discuss proposed policies for the DeCew Falls IPZ-1s. Staff did not recommend any changes in response to the meeting.

**Niagara Region:**

A meeting was held with Niagara Region Public Works and Integrated Community Planning staff on September 9, 2011, to discuss proposed policies for the Port Colborne IPZ-1 and IPZ-2, DeCew Falls IPZ-1s and Niagara Falls IPZ-1. Niagara Region staff provided thoughtful policy comments concerning policy applicability, timing, funding, consistency and responsibility of policies. An explanation of how these comments affected policies in the SPP is given in Sections 4, 5, 6, 7, 8 and 9.

**St. Lawrence Seaway Management Corporation:**

Meetings were held with the SLSMC staff on May 24, September 22 and December 16, 2011, to discuss proposed policies for the Port Colborne WTP IPZ-1 and IPZ-2. SLSMC staff did not recommend any changes in response to the meetings.

**3.1.3 Pre-Consultation Notices (O. Reg.287/07 Sections 35 to 39)**

Pre-consultation refers in a general sense to stakeholder consultation activities conducted before the Draft SPP. However under Ontario Regulation 287/07 Sections 35 to 39, the term also has legislated requirements. Pre-consultation is described as sending “notices to persons or bodies responsible for implementing policies, and to government ministries that have obligations under the Clean Water Act (CWA)” (MOE, 2011c). 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.

Comments from the Niagara Peninsula Source Protection Area (NPSPA) pre-consultation were received from October to January 2012.

The following is a summary of written comments received from the pre-consultation notices to-date.

Table 3.1 – NPSPA Significant Threat Policy Implementing Bodies

<b>Section 35 – Implementing bodies responsible for threat policies, and/or monitoring policies,</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 – Implementing bodies responsible for prescribed instrument policies</b>
Ministry of the Environment, Ministry of Agriculture Food and Rural Affairs
<b>Section 37 – Implementing bodies 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 - Implementing bodies responsible for significant threat policies or Great Lakes 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

**City of Thorold:**

The City of Thorold planning staff have been directed by council to work with Niagara Peninsula Conservation Authority (NPCA) and Niagara Region to incorporate significant drinking water threat policies into the City’s Official Plan Update. No changes have been requested to the proposed policies.

**City of Port Colborne:**

The City of Port Colborne planning staff did not provide any written comments on the pre-consultation documents. Public Works indicated in an email they have no comments.

**City of Niagara Falls:**

The City of Niagara Falls has reviewed the pre-consultation documents and supports the SPC’s recommended policies. As part of the necessary amendments to the City’s Zoning By-Law and Official Plan they would like to also consider their significance in the context of the City’s Pollution Control Plan (2013), Stormwater Management Plan (2012), and Recreation Plan Update (2012). To-date no changes have been requested to the proposed policies.

**Niagara Region:**

Niagara Region provided written comments after a presentation and staff report were provided to the Integrated Community Planning Committee on November 9, 2011. The comments are summarized below.

- Niagara Region would be willing to assist local municipalities in the implementation process of the SPP policies.
- Niagara Region does not have jurisdiction over planning matters on federal lands, and cannot be identified as being responsible for implementing source protection policies related to federal lands. This needs to be emphasized in the SPP.
- Niagara Region had suggested that one year is too short a time period to amend its Official Plan (OP), and is pleased that the SPC has revised the SPP policies to allow two years to revise the OP. (Also, local municipalities now have three years to complete updates to their OP and By-laws.)
- Where policies differ between municipalities, or if a multi-pronged approach is used, the rationale for these approaches should be provided in the Explanatory Document (ED).
- A detailed overview of what Section 59 of the CWA means should be provided in the main body of the SPP.
- The draft policies require further clarity on what types of applications, permits etc. will be used as a trigger or screening tool for many of the proposed policies. Guidance on what types of applications will be impacted by the policies would be useful for implementation.
- It is unclear who has the role of creating a Risk Management Plan (RMP). In the case of Threat 8 in the Port Colborne IPZ-1, what would trigger the RMP to be prepared?
- Niagara Region have been involved in all phases of the SPP development, and look forward to continuing to work with the various key stakeholders during development and implementation of the SPP.

In response to the above noted comments:

- The SPC has included a specific section in the SPP on federal lands as well as specific policies directed to a federal agency with the legal effect of non-legally binding commitment.
- The NPCA has been named to complete the monitoring of SLSMC policies rather than Niagara Region.
- The SPC has provided an explanation why a multi-pronged approach was used and an explanation why some policies differed between municipalities for a given threat.
- An overview of Section 59 (of the CWA) was added to the SPP.
- NPCA is committed to providing additional guidance, once the SPP is completed, on how to best implement the policies.
- The Risk Management Official (RMO) approves RMPs, however it is not specified at this time who prepares the plans. The trigger for the RMPs to be prepared will be determined by the RMO.

**Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA):**

OMAFRA indicated they support the proposed RMP policies to address the following significant threats in, DeCew Falls, Port Colborne and Niagara Falls IPZ-1s:

- Threat Categories 3, 4, and 21 - application to land and storage ASM and lands used for livestock grazing, pasturing, farm animal yards and outdoor confinement areas
- Threat Category 8 - application to land of fertilizer, (This activity is no longer considered a significant threat in the Port Colborne IPZ-1 by MOE, because the IPZ does not meet the minimum criteria for livestock density and percent of managed land. See Section 7.2 of this Explanatory Document for more details.)
- Threat Categories 10 and 11 – storage, and application to land, of pesticides.

OMAFRA also support the proposed education and outreach policy for agricultural threats, and policies prohibiting the application to land of non-agricultural source material (NASM) in the IPZ-1s.

OMAFRA indicated they have information on standards, management practices, and other education materials that could be useful when implementing the policies.

**Ontario Ministry of the Environment (MOE):**

The Southwestern Region of the MOE provided some initial general comments on the pre-consultation package.

- They encourage the use of complementary land use planning policies when a provincial instrument under the Environmental Protection Act (EPA) or Ontario Water Resources Act (OWRA) is used to address a significant drinking water threat.
- Consider drafting policies that use language that more directly prohibits the activity instead of prohibiting the minister from issuing approvals.
- When the SPC pre-consults with MOE on policies covering existing significant threat activities, the MOE requires as much information on the activity as possible, including owner/facility name, provincial instrument number, etc.
- The MOE estimates that several years will be required to fully implement new site-specific policies into its provincial instrument review processes.

After considering the above noted comments, the SPC has:

- Kept using complementary land use planning policies where they have been used already.
- Changed the policy language to more directly prohibit the activity.
- Noted that implementation of prescribed instrument policies will follow the timelines indicated in the CWA.

**Ministry of Municipal Affairs and Housing (MMAH)**

MMAH provided comments by letter received January 12, 2012. The comments are summarized below.

- They are supportive of the inclusion of a timeframe requirement and the general policy direction for official plan conformity.

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- They encourage the SPC to discuss the proposed conformity deadlines with the implementing municipalities to determine whether Source Water Protection conformity could be integrated as part of their respective five-year official plan update.
- They recommend broadening policy PC-16 to include the expansion, extension, and alteration of existing stormwater management facilities or the expansion of an existing commercial and industrial development.
- They recommend a policy be added to the SPP that requires the City of Port Colborne update its “complete application” policy within its Official Plan to require a Stormwater Management Plan that addresses the measures outlined in threat policy PC-17.
- A policy should be added for the Port Colborne IPZ-1 and IPZ-2 to require an update to the Official Plan that would require proponents for any proposal for commercial and/or industrial development to implement any Stormwater Management BMPs identified in the Stormwater Management Master Plan (PC-17) when developing project-specific stormwater management plans.
- The SPC may want to provide a policy to allow for an extension to compliance for a Zoning By-law update that could go well beyond the two year stipulated timeframe.
- They recommended a statement be added to the SPP that clarified the Planning Act restricts “use” not “activities”.
- The SPC may want to only prohibit agricultural uses related to livestock rather than all agricultural within the Port Colborne IPZ-2.
- They recommend changing the word “lands” to “uses” for prohibition of land uses.
- The SPC should ensure that the land use planning prohibitions do not contravene any provincial legislation and or regulation.

After considering the above noted comments, it is noted:

- Conformity deadlines were discussed with the affected municipalities during pre-consultation and early engagement meetings. The City of Thorold has confirmed in writing that they will be incorporating SPP policies into their Official Plan update. The City of Port Colborne has indicated they expect to be able to do the same. It is expected Niagara Region will amend their Regional Policy Plan and the City of Niagara Falls their Official Plan following notice of approval of the SPP.
- Policy PC-17 was broadened to include the expansion, extension, and alteration of existing stormwater management facilities or the expansion of an existing commercial or industrial development.
- The City of Port Colborne is looking to amend its Official Plan in 2012 to include a “complete application” policy and it will include Stormwater Management Plan criteria.
- Text was added to PC-17 identifying the need to comply with any BMPs identified in the Stormwater Management Master Plan (PC-18).
- The SPC has extended the deadline for Zoning By-law updates to three years.
- The SPP now includes clarification that the Planning Act restricts “uses” not “activities”.
- The Port Colborne IPZ-2 is within the urban area and agricultural land use is already prohibited.
- “Lands” changed to “uses” for prohibition of land uses policies.

- The SPC has ensured that the land use planning prohibitions do not contravene any provincial legislation and or regulation.

**St. Lawrence Seaway Management Corporation (SLSMC):**

SLSMC provided comments by letter received January 26, 2012. The comments are summarized below.

- They were unable to complete a full review of the pre-consultation policies for the requested date, but are continuing to consider these matters.
- They have in place a number of specific policies and procedures specifically designed to prevent, and address any situation which may negatively impact the environment, including within the designated Port Colborne IPZ-1 and IPZ-2.
- It is correct there are no enumerated significant threats in the Port Colborne IPZ-1 or IPZ-2, for lands under control or management of the SLSMC, and there are not likely to be any in the future.
- There seems no urgent need to consider the various obligations and required implementation actions, or make a final decision as to participation.

**Niagara Peninsula Conservation Authority (NPCA):**

NPCA staff indicated verbally they have no comments on the policies affecting NPCA.

### **3.2 Public Consultation (O. Reg.287/07 Section 41)**

The Niagara Peninsula Source Protection Committee approved the Draft Proposed Source Protection Plan on February 21, 2012 and began the public consultation period March 2, 2012 with a posting on the internet of the Draft Source Protection Plan. The public consultation period lasted 35 days and included four public meetings and multiple notices in local newspapers and public libraries. Notification letters were also sent to all fifteen municipalities in the Niagara Peninsula Source Protection Area. Comments were received on the Draft Proposed Source Protection Plan until April 10, 2012.

The following is a summary of written comments received from this first consultation process:

**Ministry of the Environment, Source Protection Planning Branch:**

It was recommended to:

- Include rationale in the Explanatory Document for general timeline policies and monitoring policies;
- Further clarify for threat policies whether they refer to existing or future occurrences;
- Change policy PC-13 as a land use planning tool cannot prohibit a national airport;
- Further clarify in the policies which threat category they refer to;
- Change PC-16 to match wording as provided in the January 26<sup>th</sup>, 2012 Planners FAQ
- Section 59 restricted land use policies must be included in a monitoring policy



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- Change some text in Sections 5 and 6 for clarity
- Further clarify the specified action portion of the DC-6 education and outreach program in the IPZ-2s

In response to the above noted comment:

- The Explanatory Document was updated and rationale added for general timeline policies and monitoring policies.
- Additional text was added to policies to clarify whether referring to existing or future.
- PC-13 was changed to a Section 57 Prohibition of a national airport, and Transport Canada added to the PC-14 non-legally binding commitment.
- Additional text was added to policies, where needed, clarifying the threat category.
- PC-16 was changed to reflect the recommended wording.
- Section 59 restricted land policies included in monitoring policies.
- Text revised in Sections 5 and 6 and additional information provided on the DC-6 specified action portion of the policy

**Ministry of Municipal Affairs and Housing:**

No further comments at this time.

**Ministry of Agriculture, Food and Rural Affairs (OMAFRA):**

OMAFRA recommended prohibition of future nutrient management related activities (i.e. threat categories 3, 4 and 21) in IPZ-1s (within some technical exclusions). However if risk management plans (RMPs) are chosen for managing these activities as well as the application of commercial fertilizers, they recommend the RMPs be based on nutrient management standards under the Nutrient Management Act. They asked if the RMP policies could be updated with additional wording to reflect the use of existing standards. Policies PC-24 and NF-6 should be directed to the MOE because the lands are not agricultural.

In response to the above noted comments:

- The SPC will not use prohibition of threat categories 3, 4 and 21 in the DeCew Falls IPZ-1s.
- Policies PC-24 and NF-6 were not directed to the MOE because the SPP must address all areas where threats could be significant, based on the vulnerability score, not the zoning.

**Niagara Region:**

Public Works staff indicated transportation corridors are a concern in the intake protection zones and road signage would be a proactive approach to source protection.

In response to the above noted comment:

- The SPC has included signage policies provided by the province (MTO) for signage to be placed where intake protection zones have vulnerability scores greater than 8 crossing a municipal arterial road.

**Public Comment:**

- A number of comments from the public related to the Assessment Report (AR).
- A resident was concerned transportation routes are not prescribed threats in the SPP.
- Some comments were outside the scope of the SPP. (Ex. A resident recommended a groundwater source protection be considered to compliment this SPP for rural residents.

In response to the above noted comments:

- Comments concerning the AR will be reviewed during the next AR update.
- The SPC will recommend to the MOE and the SPA that transportation routes be included in the next round of the Source Protection Program.
- The current focus of the SPP is on *municipal* significant drinking water threats. While all comments were reviewed by the SPC, many did not result in a change to the SPP.

### **3.3 Updates to the Source Protection Plan**

Updates were made to the SPP in 2013. The updates mainly consisted of new policies to address significant threats that were added in the Assessment Report. The consultation requirements for updates to the AR and SPP are different compared to the process that was required when the SPP was originally submitted to the MOE in 2012. Pre-consultation on the SPP updates generally was accomplished by way of notification letter and a request to meet in person with the implementing body. Changes were then made before the SPP was posted for public commenting.

Pre-consultation notices were sent to the following municipalities, and provincial and federal agencies:

- Municipalities of Niagara Region, City of Thorold, City of Welland and City of Port Colborne
- Ontario Ministry of Environment and Ontario Ministry of Transportation
- St. Lawrence Seaway Management Corporation (SLSMC) and Transport Canada.

Source Protection staff also met in person with staff from City of Port Colborne, City of Thorold, Niagara Region, and SLSMC. Based on feedback from the pre-consultations, the proposed policies concerning Emergency Response Plans were revised before the SPP was posted for public consultation.

A 30-day public consultation was held in September 2013 to obtain comments on the updates to the AR and SPP. The Source Protection Authority (SPA) also had the opportunity at this time to provide comments. On completion of the 30-day public consultation period, the SPC reviewed the comments and made changes to the updates as it deemed appropriate. The AR and SPP were then submitted to the SPA and MOE.

## 4.0 TIMING POLICIES RATIONALE

In general, a time limit must be specified for the implementation of each threat policy in the Source Protection Plan (SPP). Some timelines for policy implementation are already specified in by the Clean Water Act (i.e. when planning decisions must conform with the policies). However, other timelines have been left for the SPC to specify (i.e. when Official Plans must be brought into conformance with the SPP). Rather than specify timelines for implementation in each threat policy, this SPP utilizes general timing policies that apply to a number of threat policies.

### 4.1 Rationale for Policies G-1 to G-4

Land use planning decisions must immediately conform with significant threat policies once the Source Protection Plan takes effect. All Planning Act decisions have to be made in this manner regardless of whether the official plan or zoning by-laws have been updated. It is understood however, that the municipalities may require additional time beyond the SPP effective date to bring their Official Plans and by-laws into conformance with the SPP policies.

Policy G-1: Policy G-1 directs Niagara Region to amend their Regional Policy Plan to conform to the Source Protection Plan within two years from the date the plan comes into effect.

Policy G-1 refers to seventeen source protection plan 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 and NF-5.

Policy G-2: Policy G-2 directs the City of Thorold to amend their Official Plan and Zoning By-laws to conform to the Source Protection Plan within three years from the date the plan comes into effect.

Policy G-2 refers to four source protection plan policies: DC-1, DC-2 DC-3 and DC-5.

Policy G-3: Policy G-3 directs the City of Port Colborne to amend their Official Plan and Zoning By-laws to conform to the Source Protection Plan within three years from the date the plan comes into effect.

Policy G-3 refers to nine source protection plan policies: PC-1, PC-6, PC-8, PC-9, PC-13, PC-15, PC-17, PC-20 and PC-22.

Policy G-4: Policy G-4 directs the City of Niagara Falls to amend their Official Plan and Zoning By-laws to conform to the Source Protection Plan within three years from the date the plan comes into effect.

Policy G-4 refers to four source protection plan policies: NF-1, NF-2, NF-3 and NF-5.

The rationale for proposing these timing policies was:

- The SPC believed it was important for municipalities to update their planning documents as quickly as possible even though it is not necessary for conformity dates to be included within the text of each source protection plan policy.
- In response to pre-consultation with Niagara Region who were pleased that two years were given to revise the Regional Policy Plan rather than the originally proposed one. Municipalities of Thorold, Niagara Falls, and Port Colborne did not object to the proposed timelines.
- Key stakeholder acceptance to this policy is expected to be high because it should be a reasonable time-frame for the municipality.

## **4.2 Rationale for Policy G-5**

Once the Source Protection Plan takes effect, newly issued or amended prescribed instruments must conform with significant threat policies. However, prescribed instrument policies for existing instruments may explicitly identify the effective date. Policy G-5 prescribes the effective date for these existing prescribed instrument policies.

Policy G-5: Policy G-5 directs the Ministry of the Environment, and Ministry of Agriculture and Food, to amend provincial instruments, that were issued before the Source Protection Plan comes into effect, to conform to the Source Protection Plan within three years from the date the plan comes into effect or other such date as the Director determines based on a prioritized review of instruments that govern significant drinking water threat activities.

Policy G-5 applies to two source protection plan policies: DC-7 and PC-16. Please note that at the time the Assessment Report was approved there were no known existing significant threats and no known existing prescribed instruments for which Policy G-5 would apply. However some prescribed instruments could be, or could have been, approved after the Assessment Report was completed, but before the plan is approved. Policy G-5 has been inserted for this reason.

After assessing that the policy satisfied the guiding principles, the rationale for proposing this timing policy was:

- The SPC believed it was important for any future or existing prescribing instruments to conform to source protection plan policies.
- Key stakeholder acceptance to this policy is expected to be high because it is unlikely the applicable significant threat prescribed instruments will be sought by applicants.

## **4.3 Rationale for Policy G-6**

Non-legally binding commitment policies are not given legal effect by the Clean Water Act but are important for achieving the source protection plan objectives.

Policy G-6: Policy G-6 requests the St. Lawrence Seaway Management Corporation to conform to the Source Protection Plan within one year from the date the plan comes into effect.

Explanatory Document - Chapter 4: Timing Policies Rationale  
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Policy G-6 applies to seven source protection plan policies: PC-2, PC-7, PC-11, PC-14, PC-21, PC-23, and PC-27.

After assessing that the policy satisfied the guiding principles, the rationale for proposing this timing policy was:

- The SPC believed it was important to allow the St. Lawrence Seaway Management Corporation an additional year to conform to source protection plan policies.
- Key stakeholder acceptance to this policy is expected to be high because the significant threat activities do not exist and are unlikely in the future.

#### **4.4 Rationale for Policy G-7**

Source protection authorities, e.g. the NPCA, must comply with any obligations imposed on it to address a significant drinking water threat, regardless of the particular tool or approach used in the policy.

Policy G-7: Policy G-7 directs the Niagara Peninsula Conservation Authority to implement outreach and education programs on urban water resource and stormwater management for the Port Colborne IPZ-1 and IPZ-2, and the Niagara Falls IPZ-1, within one year from the date the plan comes into effect.

Policy G-7 applies to two source protection plan policies: PC-19 and NF-4.

After assessing that the policy satisfied the guiding principles, the rationale for proposing this timing policy was:

- The SPC believed it was important to allow the Niagara Peninsula Conservation Authority an additional year to implement the outreach and education programs established by the source protection plan policies.
- Key stakeholder acceptance to this policy is high.

## **5.0 WELLAND IPZ POLICY RATIONALE**

For each draft policy prepared by the Niagara Peninsula Source Protection Committee (SPC) concerning the Welland Water Treatment Plant intake, the corresponding context and policy rationale is presented below. General guiding principles and policy development processes (including stakeholder consultations etc.) are found in Chapter 2 and 3 of this document. This document is intended to be read in conjunction with the Source Protection Plan (SPP).

### **5.1 Policy WL-1 for Drinking Water Safety Zone Road Signs**

The purpose of placing signs in vulnerable areas is to make emergency responders aware that they are in a drinking water source area that is vulnerable to contamination and that special consideration should be given to spill containment and clean-up in order to protect the nearby drinking water source. Travelers along the signed roads will also become familiar with the drinking water protection areas and may take the initiative to learn more about source protection. This policy does not address a specific prescribed drinking water threat.

The Ministry of the Environment and Source Protection Committees have been in discussions with the Ministry of Transportation to develop a common provincial 'drinking water safety zone' road sign.

The Welland IPZ-1 has a vulnerability score less than 8.0, so signs would not normally be suggested for Welland IPZs. However it is recommended signage be implemented for the IPZ-1 and IPZ-3 (i.e. Highway 406 and Woodlawn Road) as event-based modelling has shown that fuel spills along these corridors can be significant threats.

### **5.2 Policies WL-2, WL-3, and WL-4 for Welland IPZ-3**

Since the IPZ-1 for the Welland Water Treatment Plant intake has a vulnerability score under 8.0, there are no provincially prescribed threats that are significant in the IPZ-1. There is no IPZ-2 since the 2-hour time-of-travel is located wholly within the IPZ-1.

However, the Clean Water Act allows 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 and was able to confirm that a diesel fuel spill of 1,000 litres or a gasoline fuel spill of 10,000 litres into the Welland Canal or Welland Recreational Canal would adversely affect the water supply at the Welland Water Treatment Plant intake. Thus diesel/gasoline transportation, handling and

Explanatory Document - Chapter 5: Welland Policy Rationale  
Niagara Peninsula Source Protection Area

storage are significant drinking water threats (See also Section 1.2.4 of the Source Protection Plan.) Typically the spill is assumed to occur during the transportation of fuel from a tanker truck, railcar, or ship, but also could occur from the storage or handling of this volume of fuel within the areas where this policy applies.

In accordance with the Technical Rules under the Clean Water Act, an Intake Protection Zone 3 (IPZ-3) was delineated between the modelled spill locations and the existing IPZ-1. This is because under the MOE Technical Rules an IPZ-3 may not overlap another intake protection zone. Diesel/gasoline fuel storage, handling and transportation are significant in the IPZ-3 as well as the IPZ-1 as shown on Schedule WL1 in the Source Protection Plan (SPP). The IPZ-3 extends from the City of Welland (and a small portion of the City of Thorold) south through the Welland Canal to the City of Port Colborne. The following policies therefore apply to the Welland IPZ-1 and IPZ-3 as shown in Schedule WL1. Further details of the contaminant modelling and the IPZ-3 delineation are also provided in the Assessment Report (Appendix A of the SPP).

Three policies were used to address this threat as follows:

Policy WL-2: Policy WL-2 requires that the implementing bodies, Niagara Region and municipalities of Thorold, Welland and Port Colborne, update their Emergency Response Plans (ERPs) to include specific additional information as outlined in the policy.

Policy WL-3: Policy WL-3 requests that the St. Lawrence Seaway Management Corporation (SLSMC), Ontario Ministry of Environment (MOE) Spills Action Centre, and Ontario Ministry of Transportation update their Emergency Response Plans (ERPs) to include specific additional information as outlined in the policy. Transport Canada is requested to ensure Emergency Response Plans for railway corridors under its jurisdiction are also updated accordingly.

Transport Canada is listed as an implementer because there are railway corridors within the areas where this policy applies.

Policy WL-4: Policy WL-4 requests that the St. Lawrence Seaway Management Corporation (SLSMC) implement a number of risk management measures (RMM's) which would help mitigate the impacts of a fuel spill on the Welland Water Treatment Plant intake.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy approaches was:

- The current operations of landowners should not be affected.

Explanatory Document - Chapter 5: Welland Policy Rationale  
Niagara Peninsula Source Protection Area

- The logistical difficulty to implement policies WL-2 and WL-3 is expected to be moderate, since the implementing bodies should already have Emergency Response Plans, which would then just need to be updated.
- The logistical difficulty to implement policy WL-4 is expected to be moderate. The SLSMC is considering risk management measures to mitigate the impacts of another fuel spill.
- These policies are expected to mitigate the impact that a fuel spill would have on the source water at the Welland Water Treatment Plant intake.
- These policies are expected to have a moderate to high degree of acceptance by the key stakeholders and implementing bodies since some of the actions are already being undertaken.



## 6.0 DECEW FALLS IPZ-1 POLICY RATIONALE

For each draft policy prepared by the Niagara Peninsula Source Protection Committee (SPC) for the DeCew Falls Intake Protection Zone 1's (IPZ-1s), the corresponding context and policy specific rationale is presented below. General guiding principles and policy development processes (including stakeholder consultations, etc.) are found in Chapter 2 and 3 of this document. This document is intended to be read in conjunction with the Source Protection Plan (SPP).

### 6.1 Policy DC-1 for Threat # 1A - Application to land of untreated septage

Untreated septage is typically produced from the clean-out of residential septic system tanks. Properties where untreated septage is applied to land are considered 'waste disposal sites' under Part V of the Environmental Protection Act (EPA). The application of untreated septage to land is considered a significant drinking water threat in the three DeCew Falls IPZ-1s (which consist of DeCew Main IPZ-1, Highway 406 IPZ-1, and Lake Gibson Alternate Supply IPZ-1).

Currently, there are no existing threats of this type in the DeCew Falls IPZ-1s, and none are likely to occur in future, since the application of untreated septage to farmland is no longer practiced in Niagara Region. The practice was stopped because it was considered undesirable and the municipal sewage treatment plants in Niagara have sufficient capacity to accept and treat this waste. Therefore, prohibiting this activity in future was considered the best approach to address this threat.

Policy DC-1: Policy DC-1 uses a provincial instrument (under Part V of the EPA) and a land use planning approach to prohibit the application to land of untreated septage where it would be a significant threat, within the IPZ-1s.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach was:

- There are currently no existing threats of this type in the DeCew Falls IPZ-1s.
- The policy approach can be applied to all agricultural areas within the DeCew Falls IPZ-1s.
- Key stakeholder acceptance to this policy is expected to be moderate to high because it should not impact the current operations of landowners or the municipality.
- A prohibition policy should not add additional costs for Ministry of the Environment (MOE) Certificate of Approval reviews (also known as Environmental Compliance Approval).

## **6.2 Policies DC-2&3 for Threats # 2A - Stormwater management, 2B – Wastewater treatment plants and sewer systems and 2C – Industrial effluent**

Threat Category 2 includes the “establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage” according to the Clean Water Act (CWA). In this case “sewage” Ontario Water Resources Act (OWRA) includes drainage, stormwater, commercial wastes and other such matter or substance as is specified by OWRA regulation. The following ‘activities’ would be significant threats in the DeCew Falls IPZ-1s: Stormwater management facilities, wastewater treatment plants, combined sewers, industrial effluent and the discharges from these activities.

### Stormwater Discharges

The discharge from untreated stormwater management systems is considered a significant threat under certain circumstances, depending on the size and land uses of the stormwater catchment area. Currently, there are no stormwater management facilities discharging in the DeCew Falls IPZ-1s (Main, Highway 406 and Lake Gibson Alternate).

Currently most land use in the DeCew Falls IPZ-1s is agricultural. To be a significant threat in the DeCew Falls IPZ-1s, storm sewer drainage areas would need to be at least 100 ha in size with the predominant land use commercial/industrial (C/I).

There are currently a number of drains in the DeCew Falls IPZ-1s that collect stormwater from the south side of the DeCew-OPG water supply canal and discharge into the Lake Gibson Alternate Intake IPZ-1, but the catchment areas of these drainage systems do not meet the above-noted criteria as they are less than 100 hectares, and the land-uses are currently agricultural.

### Wastewater Treatment Plant, Combined Sewer and Industrial Effluent Discharges

The discharge from wastewater treatment plants or combined sewer overflows, or discharge of industrial effluent into the natural environment are also considered significant threats in the DeCew Falls IPZ-1s (Main, Highway 406 and Lake Gibson Alternate) under certain circumstances. However, there are currently no known discharges within these IPZs, and none are likely to occur in future.

Two policy approaches were used to address these threat types:

Policy DC-2: Policy DC-2 uses a land use planning approach and a provincially prescribed instrument to prohibit new stormwater management facilities, combined sewer systems, or industrial sewage facilities that would be a significant threat and would discharge into the DeCew Falls IPZ-1s;

The provincially prescribed instrument would be administered by the MOE under the OWRA. The land use planning approach would be implemented by City of Thorold and Niagara Region.

Policy DC-3: Policy DC-3 uses a land use planning approach where the City of Thorold and Niagara Region will not permit any new industrial or commercial land uses, within the DeCew Falls IPZ-1s in future. This policy is used to prevent stormwater management facilities from becoming a significant threat by preventing the land uses in the catchment areas located in the IPZ-1s from becoming predominantly commercial/industrial (C/I) (Currently, they are primarily agricultural.) This is considered a reasonable approach within the IPZ-1s, since the desired land use is not expected to become industrial or commercial in the foreseeable future.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy approaches was:

- There are currently no existing significant threats of this type in the DeCew Falls IPZ-1s.
- Land use restrictions (imposed by the policy) will prevent this activity from becoming a significant threat. Currently most land in the DeCew Falls IPZ-1s is agricultural.
- The land use planning approach is compatible with the current Official Plan for the City of Thorold.
- These land use approaches can be applied to all areas within the DeCew Falls IPZ-1s.
- Key stakeholder acceptance to these policies is expected to be high, partly because these policies are not expected to negatively impact the current operations of landowners within the DeCew Falls IPZ-1s.
- A prohibition policy should not add additional costs for MOE Certificate of Approval reviews (also known as Environmental Compliance Approval).
- The logistical difficulty to implement these policies is expected to be low.
- Policies that provide multiple tools to address these threats were considered desirable.

### **6.3 Policies DC-4 to 6 for Threats # 3, 4, and 21 – Agricultural Source Material**

Threat Categories 3 and 4 concerning the storage, and application to land of agricultural source material (ASM) are significant threats in the DeCew Falls IPZ-1s (for the Main, Highway 406, and Lake Gibson Alternate intakes). Threat Category 21, concerning lands used for livestock grazing/pasturing, farm animal yards and outdoor confinement areas, is also a significant threat in the DeCew Falls IPZ-1s.

The possibility exists that these threat activities will occur in the DeCew Falls IPZ-1s, which contain agricultural lands. Consequently, the SPC has proposed a policy approach that requires the risks from these threat activities be managed, rather than prohibiting the activities. The following policy approaches were used:

Explanatory Document - Chapter 6: DeCew Falls IPZ-1 Policy Rationale  
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Policy DC-4: Under Policy DC-4, a Risk Management Plan (RMP), as described in Section 58 under Part IV of the CWA, will be required for persons to engage in these significant threat activities in the IPZ-1. The RMP must be approved by the Risk Management Official (RMO).

Policy DC-5: Policy DC-5 is a “restricted land use” policy, as described under Section 59 of the CWA, will be used as a screening tool to identify future occurrences of this significant threat activity within the IPZ-1.

Policy DC-6 Policy DC-6 requires an Outreach and Education program be implemented by Niagara Region to augment the RMP policies in the DeCew Falls IPZ-1s. The Outreach and Education program will promote Best Management Practices (BMPs) for storing and applying ASM. BMPs for outdoor confinement areas, pasturing and livestock grazing/pasturing will also be promoted. This program may be extended to the DeCew Falls IPZ-2s as a strategic action (since these activities are moderate or low threats in the DeCew Falls IPZ-2s).

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this approach was:

- Currently there are enumerated significant threats of these three types/categories in the DeCew Falls IPZ-1s.
- This RMP approach and Outreach and Education program can be applied to all areas within the DeCew Falls IPZ-1s.
- The overall degree of acceptance from stakeholders is expected to be moderate.
- Only a limited amount of agricultural land is located in the DeCew Falls IPZ-1s which could require a RMP, and most of this land is not suitable for ASM storage.
- A single non-regulatory policy such as Outreach and Education may not provide sufficient protection to the source water over the long term and therefore would not meet the requirements of the CWA. However, an Outreach and Education program may be used effectively in conjunction with an RMP policy. A policy approach is suggested in which Outreach and Education would be implemented for a period of time prior to implementing the RMP policy. However, the phased approach is not mandatory.
- It is intended that an Outreach and Education policy would include BMPs that could be implemented in conjunction with other policies.
- The implementation costs should primarily involve costs to the person(s) engaging in these activities, in preparing and adhering to a RMP, and to Niagara Region for the RMO.
- Extension of the Outreach and Education program to the DeCew Falls IPZ-2s is recommended because IPZ-2s are located between the IPZ-1s. Without this extension a landowner could be excluded from the program, while neighbours on either side participate.

Where a SPP policy relies on a RMP (Policy DC-4) it is recommended to also incorporate a policy that applies Section 59 of the CWA, called “restricted land uses”. (This does not have the same meaning as ‘restricted land use’ under the Planning Act.) This is a screening tool to provide a link between RMPs and municipal planning approvals and building permits.

Section 59 of the CWA authorizes a SPP to prohibit development approvals from being issued where section 57 (which covers RMPs) is in effect for an activity, unless a notice is obtained. The section 59 notice is intended to serve as a sort of “red flag” to ensure that the development proposal is in compliance with section 57, before an approval for the development proposal is issued.

#### **6.4 Policy DC-7 for Threats # 6 and 7 - Non-Agricultural Source Material**

The storage, handling, and application to land of non-agricultural source material (NASM) (Threat Categories 6 and 7) are considered significant threats in the DeCew Falls Main, Highway 406 and Lake Gibson Alternate IPZ-1s, primarily because of the presence of pathogens in the NASM. NASMs are commonly called biosolids. Only Category 3 NASM from sewage treatment plants or meat processing plants is considered a significant threat in the DeCew Falls IPZ-1s.

There are no existing activities of this threat type in the DeCew Falls IPZ-1s, since NASM from the waste water treatment plants is not applied to these lands according to Niagara Region’s Biosolids Master Plan. Effective January 1, 2011, the Province requires that a NASM Plan be approved by Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA), in order for Category 3 NASM to be applied to agricultural lands. Since there are no existing threats of this type in the IPZ-1s, prohibition of these threat activities is an acceptable policy approach.

Policy DC-7: Policy DC-7 uses the provincial instruments of NASM Plans administered by OMAFRA, and Certificates of Approval (also known as Environmental Compliance Approval) administered by Ministry of the Environment, to prohibit the storage, handling, and application to land of NASM where it would be a significant threat.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach to address these threats was:

- There are currently no enumerated Category 3 NASM threats in the DeCew Falls IPZ-1s.
- This policy approach can be applied to all agricultural areas within the DeCew Falls IPZ-1s.
- Key stakeholder acceptance to this policy is expected to be moderate to high, because it should not impact the current operations of landowners within the DeCew Falls IPZ-1s.
- A prohibition policy should not add additional costs for OMAFRA reviews.

### **6.5 Policy DC-8 for Drinking Water Safety Zone Road Signs**

The purpose of placing signs in vulnerable areas is to make emergency responders aware that they are in a drinking water source area that is vulnerable to contamination and that special consideration should be given to spill containment and clean-up in order to protect the nearby drinking water source. Travelers along the signed roads will also become familiar with the drinking water protection areas and may take the initiative to learn more about source protection. This policy does not address a specific prescribed drinking water threat.

The Ministry of the Environment and Source Protection Committees have been in discussions with the Ministry of Transportation to develop a common provincial 'drinking water safety zone' road sign.

Provincial Highway 406 would be included in Policy DC-8, as well as the municipal arterial roads which include two Niagara Region roads; Merrittville Highway and Beaverdams Road. It is recommended signage be implemented for Highway 406 and Highway 20 as event-based modelling has shown that fuel spills along these corridors can be significant threats.

### **6.6 Policies DC-9, DC-10, and DC-11 for IPZ-3 Based Significant Threats**

The Clean Water Act allows 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 and were able to confirm that a diesel/gasoline fuel spill of 10,000 litres into the Welland Canal or OPG Supply Channel would adversely affect the water supply at the DeCew Falls, Highway 406 and Lake Gibson Alternate Intakes. In addition a 1,000 litre spill of diesel/gasoline at Allanburg would be a significant drinking water threat for the Highway 406 intake. Thus diesel/gasoline transportation, handling and storage are significant drinking water threats. (See also Section 1.2.4 of the Source Protection Plan.) Typically the spill is assumed to occur during the transportation of fuel from a tanker truck, railcar, or ship, but also could occur from the storage or handling of these volumes of fuel within the areas where this policy applies.

An Intake Protection Zone 3 (IPZ-3) was delineated for the spill scenario according the Technical Rules under the Clean Water Act. Since an IPZ-3 cannot overlap an IPZ-1 or IPZ-2, this type of modelled threat is significant in an area which includes the IPZ-3 as well as portions of the IPZ-1 and IPZ-2 where it has been shown that the event-based modelling applies. These areas are shown on Schedules DC7 and DC8 in the Source Protection Plan (SPP) and correspond to the DeCew Falls Highway 406 and Lake Gibson Alternate intakes respectively. Further details of the contaminant modelling and delineation of the IPZ-3's are provided in the Assessment Report (See Appendix A of the SPP).

Three policies were used to address this threat as follows:

Policy DC-9: Policy DC-9 requires that the implementing bodies (Niagara Region and municipalities of Thorold, Welland and Port Colborne) update their Emergency Response Plans (ERPs) to include specific additional information as outlined in the policy.

Policy DC-10: Policy DC-10 requests that the St. Lawrence Seaway Management Corporation (SLSMC), Ontario Ministry of Environment (MOE) Spills Action Centre, and Ontario Ministry of Transportation (MTO) update their Emergency Response Plans (ERPs) to include additional information as outlined in the policy. Transport Canada is requested to ensure Emergency Response Plans for railway corridors under its jurisdiction are also updated accordingly.

MTO is listed as an implementer because it owns and operates Highway 406 that passes through the areas where this policy applies. Transport Canada is listed as an implementer because there are railway corridors within the areas where this policy applies.

Policy DC-11: Policy DC-11 requests that the St. Lawrence Seaway Management Corporation (SLSMC) implement a number of risk management measures (RMM's) which would help mitigate the impacts of a fuel spill on the DeCew Water Treatment Plant intakes.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy approaches was:

- These policy approaches together would address the modelled threats for the DeCew Falls, Hwy 406 and Lake Gibson Alternate Intakes.
- The current operations of landowners should not be affected.
- The logistical difficulty to implement policies DC-9 and DC-10 is expected to be moderate, since the implementing bodies should already have Emergency Response Plans, which would then just need to be updated.
- The logistical difficulty to implement policy DC-11 is expected to be moderate. The SLSMC is considering some risk management measures to mitigate the impacts of another fuel spill.
- These policies are expected to reduce the impact that a fuel spill would have on the source water at the DeCew Falls Hwy 406 Intake and DeCew Falls Lake Gibson Alternate Intake.
- These policies are expected to have a moderate to high degree of acceptance by the key stakeholders and implementing bodies since some of the actions are already being undertaken.

## **7.0 PORT COLBORNE IPZ-1 and IPZ-2 POLICY RATIONALE**

For each draft policy prepared by the Niagara Peninsula Source Protection Committee (SPC) for the Port Colborne Intake Protection Zone (IPZ) IPZ-1 and IPZ-2, the corresponding context and rationale is presented below. General guiding principles and policy development processes (including stakeholder consultations etc.) are found in Chapter 2 and 3 of this document. This document is intended to be read in conjunction with the Source Protection Plan (SPP).

### **7.1 Policies PC-1 to 2 for Threats # 1A - Application to land of untreated septage, 1B - Tailings from mining operations, and 1C – Waste disposal sites**

Untreated septage is typically produced from the clean-out of residential septic system tanks. Lands where untreated septage is applied to land are considered 'waste disposal sites' under Part V of the Environmental Protection Act (EPA). The application of untreated septage to land is considered a significant drinking water threat in the Port Colborne IPZ-1.

The storage, treatment and discharge of tailings from mines are considered a significant drinking water threat in the Port Colborne IPZ-1 as prescribed by the Province, due to chemicals that have the potential to be introduced into surface water as a result of these activities. Discharge from mine tailings is regulated under the Ontario Water Resources Act (OWRA).

Waste Disposal sites (as defined under Part V of the Ontario EPA) are also considered drinking water threats in the Port Colborne IPZ-1 under the Clean Water Act (CWA). This is due to the presence of chemicals that have the potential to be introduced into surface water as a result of the storage and land disposal of a prescribed waste.

Currently, there are no existing significant threats of these types in the Port Colborne IPZ-1, and none are likely to occur in future, since the IPZ is located in an urban area of Port Colborne. Also the application of untreated septage to farmland is no longer practiced in Niagara Region because the municipal sewage treatment plants in Niagara have sufficient capacity to accept and treat this waste. Therefore, prohibiting these activities in future was considered the best approach to address these threats.

A two policy approach was used to ensure that the establishment of these significant threats is prohibited from occurring in future. The two policy approach will ensure all potential scenarios of this threat are addressed across the entire IPZ-1. The two policies are described as follows:

Policy PC-1: Policy PC-1 uses a provincially prescribed instrument and a land use planning approach to prohibit the application to land of untreated septage, establishment of any new waste disposal site, and the discharge from mine tailings, within the IPZ-1.



The provincially prescribed instrument would be administered by the Ministry of the Environment (MOE) under the OWRA and the EPA. The land use planning approach would be implemented by City of Port Colborne and Niagara Region.

Policy PC-2: Policy PC-2 requests that a non-legally binding commitment be obtained from the St. Lawrence Seaway Management Corporation (SLSMC) to prohibit these activities on federal lands, where policy PC-1 is not enforceable.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy approaches was:

- There are currently no enumerated significant threats of this type in the Port Colborne IPZ-1, and there are not likely to be any in the future.
- Policies that provide multiple tools to address these threats were considered desirable.
- These policy approaches together can be applied to cover the entire Port Colborne IPZ-1.
- The logistical difficulty to implement this policy is expected to be low.
- Key stakeholder acceptance to these policies is expected to be moderate to high because it should not impact the current operations of landowners.
- A prohibition policy should not add additional costs for MOE Certificate of Approval reviews (also known as Environmental Compliance Approval).
- Municipal implementation costs should primarily be amending Official Plans and By-Laws.
- SLSMC implementation costs should primarily be updating lease agreements.
- The timelines to implement these policies are considered by the SPC to be reasonable.

## **7.2 Deleted Policies PC-3&4 for Threat # 8 - Application of fertilizer**

### Description of Threat # 8

The application of fertilizer is not currently considered a significant drinking water threat in the Port Colborne IPZ-1. According to the Technical Rules, this activity can only become a *significant* drinking water threat if certain conditions for the whole IPZ-1 are met. The conditions or circumstances are outlined in the Tables of Drinking Water Threats and include the following:

- The vulnerability score of the IPZ must be 8.0 or greater;
- The livestock density for the IPZ (as shown in the Assessment Report); and
- The % managed lands making up the IPZ (as shown in the Assessment Report);

For example, Circumstance 29 in the Tables of Drinking Water Threats indicates the application of fertilizer would be considered a significant threat if “managed lands” covers between 40% and 80% of the IPZ-1, and “livestock density” is at least 1.0 nutrient unit/acre for the IPZ-1. Currently the Port Colborne IPZ-1 only contains about 14% managed lands, and the livestock density value is less than 0.5 nutrient unit/acre, so this particular threat circumstance would not apply until major increases in % managed lands or livestock density occur.

#### Why were Policies PC-3 and PC-4 Deleted?

The Ontario Ministry of the Environment (MOE) has stated that policies addressing Threat # 8, (concerning the application of fertilizer), cannot come into effect until the Assessment Report shows the minimum thresholds for managed lands and livestock density are exceeded across the Port Colborne IPZ-1. Once these thresholds are shown in the AR as being exceeded, a policy would be required to address this type of threat.

The SPC chose not to include a policy for this type of threat at this time, since the criteria for managed lands and livestock density will not likely be exceeded across the IPZ-1 in the foreseeable future. Consequently the policy would not come into effect in the foreseeable future either.

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. Livestock density is a calculation based on the number and type of farm animals.

### **7.3 Polices PC-5 to 7 for Threat # 11 - Handling and storage of pesticides**

The commercial storage of pesticides in a quantity greater than 2,500 kg is considered a significant threat in the Port Colborne IPZ-1. Currently there is no known commercial storage of pesticides in quantities that would be a significant threat in the IPZ-1.

A three policy approach was used to prevent this activity from becoming a significant threat in future. The three policies are:

Policy PC-5: Under Policy PC-5, a RMP, as described in Section 58 under Part IV of the CWA, will be required for persons to engage in this activity, where it is considered a significant threat in the IPZ-1. The RMP must be approved by the RMO.

Policy PC-6: Policy PC-6 is a “restricted land use” policy, as described under Section 59 of the CWA, and will be used as a screening tool to identify future occurrences of this significant threat activity within the IPZ-1.

Policy PC-7: Policy PC-7, requests that a non-legally binding commitment be obtained from the SLSMC to require persons apply risk management measures when engaging in these significant threat activities on federal lands that are controlled by SLSMC in the Port Colborne IPZ-1. Policy PC-5 would not have legal effect on federal lands.

Under the CWA, Niagara Region is responsible for designating and funding the RMO, because Niagara Region operates and owns the Port Colborne WTP.

Where a SPP policy relies on a RMP (under Part IV of the CWA), it is recommended to also incorporate a policy that applies Section 59 of the CWA, called “restricted land uses”. This does not have the same meaning as “restricted land use” under the Planning Act.

Section 59 of the CWA authorizes a SPP to prohibit development approvals from being issued where section 57 (which covers RMPs) is in effect for an activity, unless a notice is obtained from the RMO. The section 59 notice is intended to serve as a sort of “red flag” or screening tool to ensure that the development proposal is in compliance with section 57, before an approval for the development proposal is issued.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach to address these threats was:

- There are currently no enumerated significant threats of this type in the Port Colborne IPZ-1, but this activity could occur in the future.
- These RMP policies can be applied to all areas within the Port Colborne IPZ-1.
- The overall degree of acceptance is expected to be moderate since there is currently no pesticide storage of this quantity in the Port Colborne IPZ-1.
- A single non-regulatory policy such as Outreach and Education may not provide sufficient protection to the source water over the long term and therefore would not meet the requirements of the CWA.
- The implementation costs should primarily involve costs to the person(s) engaging in this activity in preparing and adhering to a RMP, and to Niagara Region for the RMO.

#### **7.4 Policies PC-8, 9, 10, 11, and 29 for Threats # 12, 13, and 14, Road Salt application, handling & storage, and Snow storage**

Road salt handling and storage (Threat Category 13), and snow storage (Threat Category 14), are considered significant threats in the Port Colborne IPZ-1, under certain circumstances.

The storage of road salt is considered a significant threat in the Port Colborne IPZ-1, if stored outside with no cover, in amounts greater than 5,000 tonnes. The storage of snow is considered a significant threat in the Port Colborne IPZ-1, if stored in quantities greater than 1 hectare. Snow storage is considered a threat because of the contaminants associated with it. Neither road salt nor snow is currently stored in quantities sufficient to be a significant threat in the IPZ-1.

The application of road salt (Threat 12) would be only be considered a significant threat in the Port Colborne IPZ-1 if more than 80% of the land area was impervious (as prescribed by the technical rules under the CWA). Impervious surfaces may include paved roads, concrete surfaces, and parking lots. Currently, the amount of impervious area in the Port Colborne IPZ-1 ranges from 11.4% to 38.3% as shown on Figure 7.1. Since this range is below the significant threat criteria of 80%, road salt application is not currently considered a significant threat in the IPZ-1.

There are currently no provincial instruments that can be used to restrict or prohibit snow storage, or road salt storage. Consequently, land use planning policies combined with an Outreach and Education policy were considered the most suitable tools. Finally, a policy to address federal lands was also needed. A five policy approach is used to address these significant threats as follows:

Policy PC-8: Policy PC-8 is a land use planning policy that requires the City of Port Colborne and Niagara Region to prohibit open salt storage in amounts greater than 5,000 tonnes, where it would be a significant threat in the IPZ-1.

Policy PC-9: Policy PC-9 is a land use planning policy that requires the City of Port Colborne and Niagara Region prohibit snow storage in amounts greater than 1 hectare, where it would be a significant threat in the IPZ-1.

Policy PC-10: Policy PC-10 requires Niagara Region conduct an Outreach and Education program that promotes best management practices for the handling and storage of road salt.

Policy PC-11: Policy PC-11 requests that a non-legally binding commitment be obtained from the SLSMC to prohibit these significant threat activities on federal lands that are controlled by SLSMC in the Port Colborne IPZs.

Policy PC-29: Policy PC-29 is a strategic action policy that encourages Niagara Region to undertake an Outreach and Education program that promotes best management practices for the application of road salt. This program would most likely be combined with the Outreach and Education program that promotes best management practices for the storage and handling of road salt and snow.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policies tools to address these threats was:

- There are currently no existing significant threats for storage and handling of road salt or snow in the Port Colborne IPZ-1,
- Road salt application is not a significant threat because the IPZ does not exceed the required 80% impervious area threshold. This threshold for road salt application is unlikely to be met in the foreseeable future.
- The combination of these policies may be applied to all areas within the Port Colborne IPZ-1.
- The overall degree of acceptance of this policy by stakeholders is expected to be high, since there are currently no existing activities of this type in the IPZ-1.
- The logistical difficulty to implement this policy is expected to be low.
- Municipal implementation costs should primarily include amending Official Plans & By-Laws.
- SLSMC implementation costs should primarily include updating lease agreements.

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- Niagara Region implementation costs should primarily include an Outreach and Education program.
- A strategic action policy was desired to promote best management practices for applying road salt even though this activity is not currently considered a significant threat.

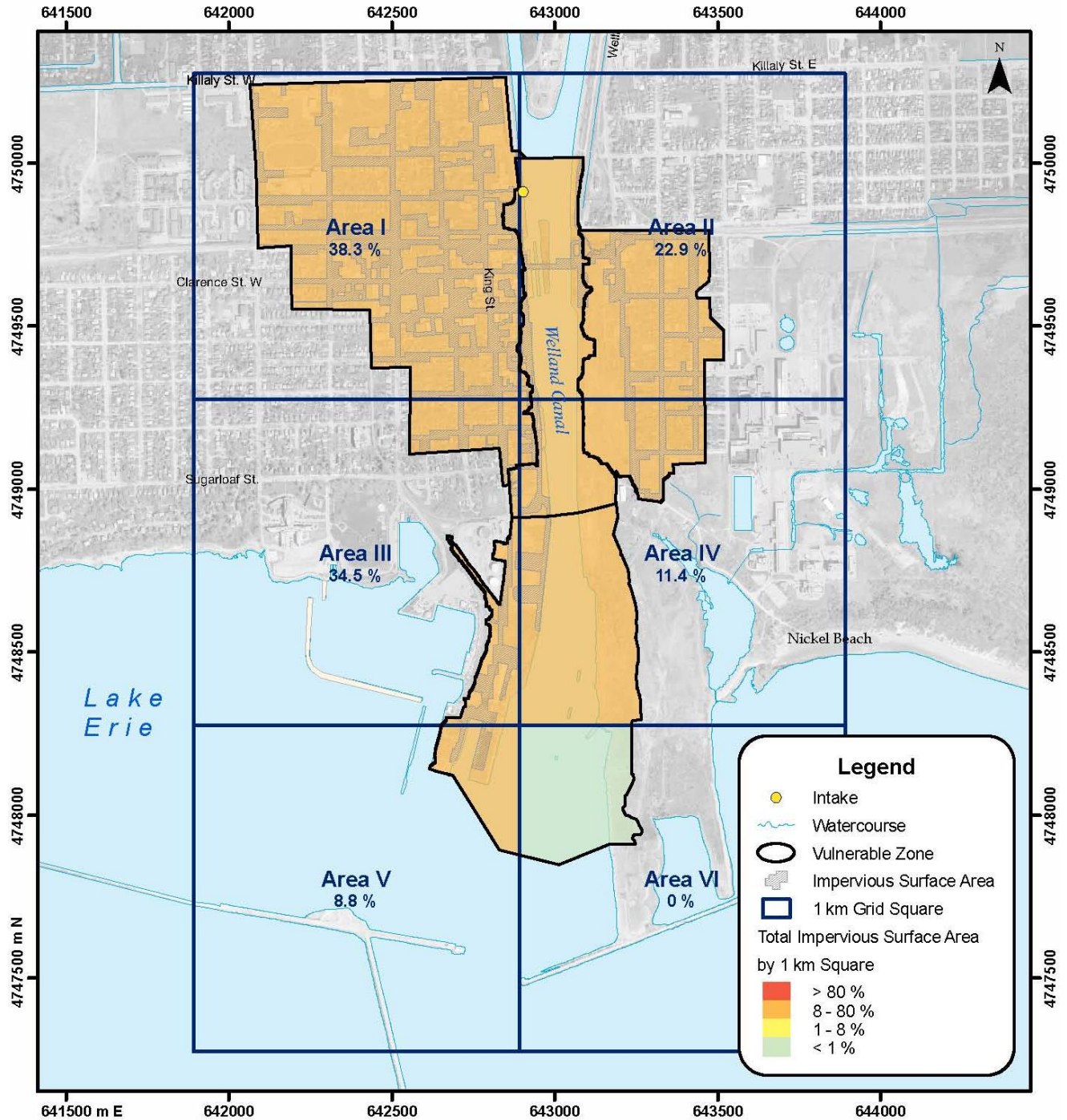


Figure 7.1 Percent Impervious Areas for Port Colborne

### **7.5 Policies PC-12 to 14, Threat # 18 - Aircraft De-icing**

Stormwater runoff from national airports may contain chemicals used in the de-icing of aircraft. The management of this impacted stormwater runoff is considered a significant threat in Port Colborne IPZ-1. However, there are currently no existing threat activities of this type in the Port Colborne IPZ-1, since there are no airports (national or otherwise) in the IPZ-1. No national airports are likely to be established in the vicinity of the Port Colborne IPZs in future since the IPZ-1 is located in the downtown area of the City of Port Colborne. Therefore, prohibition of this activity is considered an acceptable policy approach to ensure this threat does not occur in future. To prohibit this activity, the MOE has suggested using Part IV of the Clean Water Act instead of municipal planning tools for threats where federal agencies may be involved. Three policies were used to address this threat as follows:

Policy PC-12: Policy PC-12 uses a provincial instrument administered by the MOE (under OWRA) to prohibit any new stormwater management facilities that would discharge from a national airport into the natural environment within the Port Colborne IPZ-1.

Policy PC-13: Policy PC-13 uses Section 57 Prohibition (of the Clean Water Act) to prohibit stormwater runoff containing aircraft de-icing chemicals from being discharged from a national airport into the Port Colborne IPZ-1.

Policy PC-14: Policy PC-14 requests a non-legally binding commitment be obtained from the SLSMC and Transport Canada to prohibit the establishment of any national airports on federal lands that are controlled by SLSMC or Transport Canada in the Port Colborne IPZ-1.

While policies PC-12, PC-13 and PC-14 do not have any legal effect over the federal government agencies or ministries, it is the SPC's desire that the federal bodies voluntarily adhere to this policy to help keep the drinking water supply safe from this threat.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy tools to address this threat was:

- There are currently no existing significant threats of this type in the Port Colborne IPZ-1 and none are likely to occur in the future.
- This set of policies can be applied to all areas within the Port Colborne IPZ-1.
- Key stakeholder acceptance to this policy is expected to be high, partly because it should not impact the current operations of landowners.
- A prohibition policy should not add additional costs for MOE Certificate of Approval reviews (also known as Environmental Compliance Approval).
- Municipal implementation costs should primarily include amending Official Plans and By-Laws (if required) and costs for a Risk Management Official.
- Policy PC-14 may be applied to federal areas within the Port Colborne IPZ-1.

## **7.6 Policy PC-15 for Threat # 1A - Application to land of untreated septage**

Untreated septage is typically produced from the clean-out of residential septic system tanks. Lands where untreated septage is applied to land are considered 'waste disposal sites' under Part V of the EPA. The application of untreated septage to land is considered a significant drinking water threat in the Port Colborne IPZ-2.

Currently, there are no existing threats of this type in the Port Colborne IPZ-2, and none are likely to occur in future, since the IPZ is located in an urban area of Port Colborne. Also the application of untreated septage to farmland is no longer practiced in Niagara Region because the municipal sewage treatment plants in Niagara have sufficient capacity to accept and treat this waste. Therefore, prohibiting this activity in future was considered the best approach to address this threat.

Policy PC-15: Policy PC-15 uses a provincial instrument (under Part V of the EPA) and a land use planning approach to prohibit the application to land of untreated septage where it would be a significant threat, within the IPZ-2.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach was:

- There are currently no existing threats of this type in the IPZ.
- Key stakeholder acceptance to this policy is expected to be moderate to high because it should not impact the current operations of landowners or the municipality.
- A prohibition policy should not add additional costs for MOE reviews.

## **7.7 Policies PC-16 to 19 for Threat # 2A - Stormwater management**

The discharge from untreated stormwater management systems is a significant threat under certain circumstances, depending on the land uses and size of the stormwater catchment area. The discharge from stormwater systems are considered drinking water threats due to the presence of chemicals that have the potential to be introduced into surface water as a result of this 'activity'.

There are six stormwater outlets in the Port Colborne IPZ-1 that are currently identified as moderate threats (Figure 7.2 and 7.3 below). However, the discharge from the Victoria Street stormwater outlet in the Port Colborne IPZ-1 could become a significant threat if the predominant land use in its catchment becomes commercial or industrial instead of the current residential. This is a possibility since the Port Colborne Community Improvement Plan within the Downtown Central Business District recommends increases in commercial and industrial zoned lands under the current Official Plan (RCI Consulting et al, 2010). For stormwater management to be a significant threat in the Port Colborne IPZ-1, the storm sewer drainage area must be at least 10 ha in size with the predominant land use as commercial/industrial (C/I).



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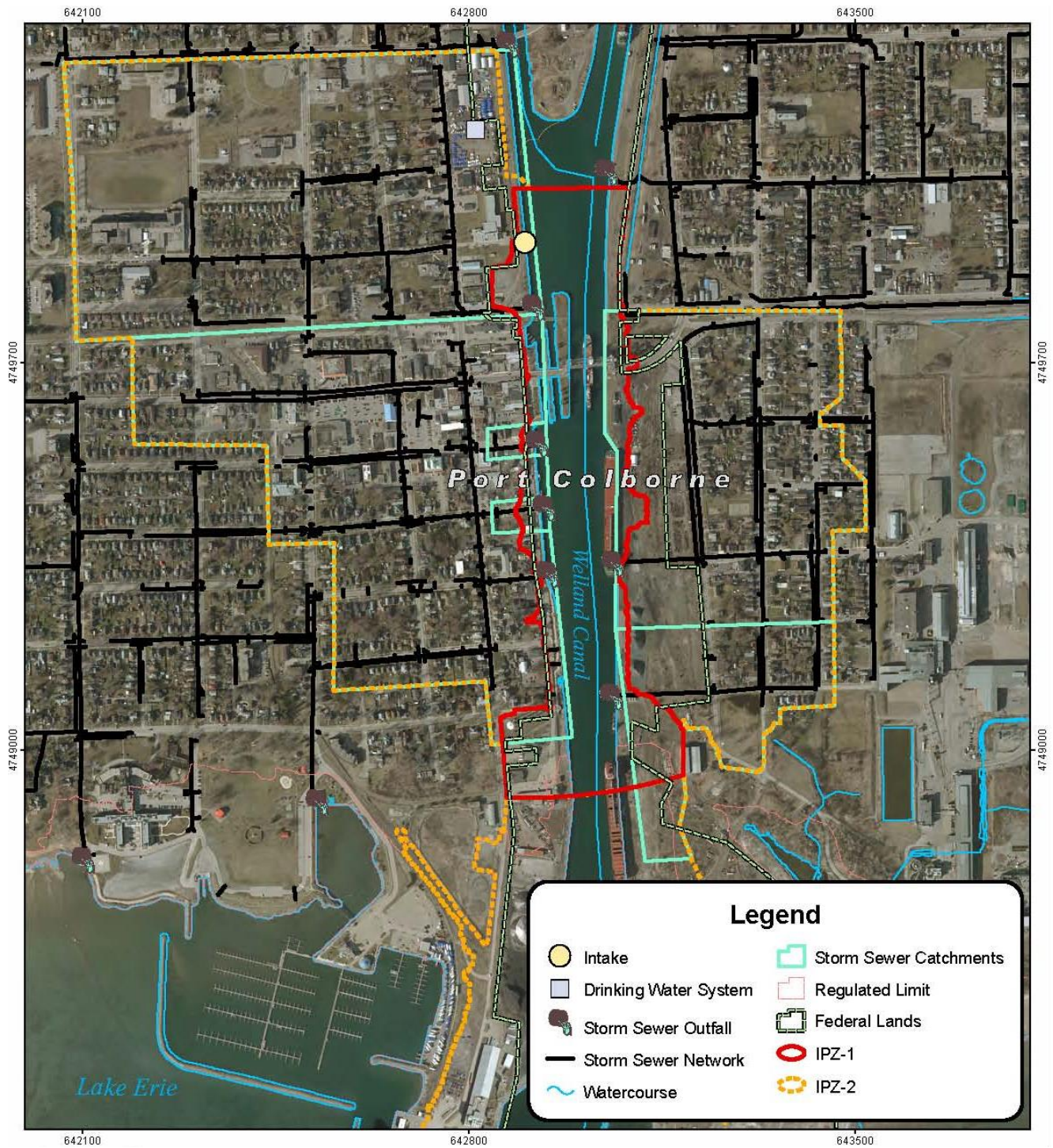


Figure 7.2 Port Colborne IPZs and Stormwater Outlets



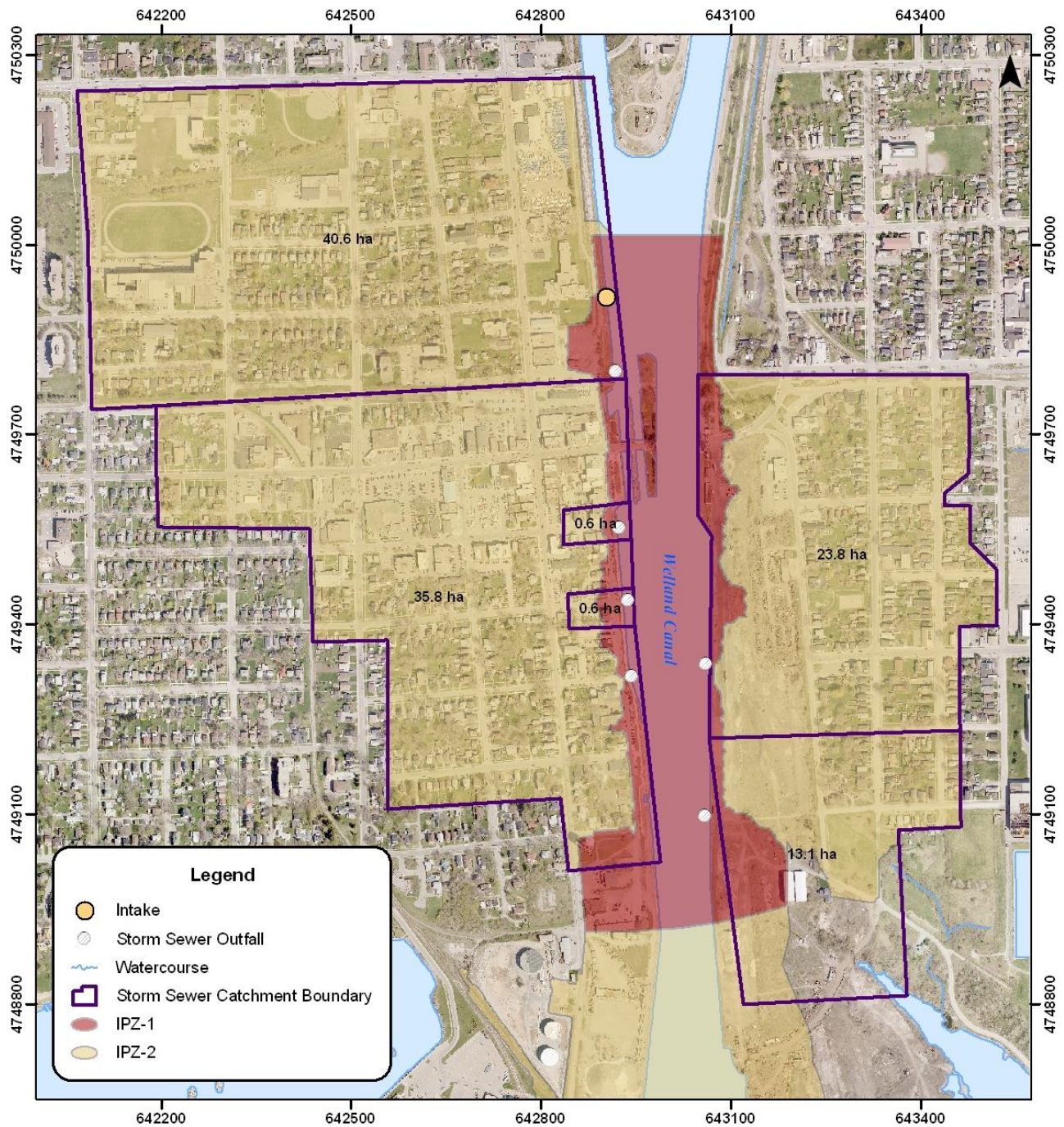


Figure 7.3 Stormwater Catchment Areas in the Port Colborne IPZs

A four policy approach was used to prevent the stormwater systems from becoming a significant drinking water threat in future in the Port Colborne IPZ-1. The four policies are:

**Policy PC-16:** Policy PC-16 uses a provincial instrument with the MOE (under OWRA) to restrict stormwater systems to ensure that drinking water sources are protected for any changes to the stormwater systems or any new systems;

Policy PC-17: Policy PC-17 requires the City of Port Colborne implement measures to reduce pollutant loadings from stormwater discharges from new commercial or industrial developments in the IPZ-1 and IPZ-2;

Policy PC-18: Policy PC-18 requires the City of Port Colborne develop a storm water master plan for stormwater systems that outlet within the IPZ-1 and IPZ-2; and

Policy PC-19: Policy PC-19 requires the Niagara Peninsula Conservation Authority implement an Outreach and Education program aimed at the residents and landowners in the IPZs, which will promote good stewardship of water resources and stormwater management systems.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these four policy tools to address this threat was:

- There are currently no enumerated significant threats of this type in the Port Colborne IPZ-1 (or IPZ-2). However there are moderate threats that could become significant if increased commercial or industrial development occurs in downtown Port Colborne.
- These policy approaches together can be applied to cover the entire Port Colborne IPZ.
- The current operations of landowners should not be affected.
- The logistical difficulty to implement Policy PC-17 policies is expected to be low, since the City of Port Colborne has a 2008 by-law to regulate the management of storm sewer works with infill development criteria. The by-law contains criteria compatible with those proposed in the following policy.
- The logistical difficulty to implement policy PC-18 is expected to be low, since the City of Port Colborne has recently begun to prepare a stormwater master plan to compliment its 2008 by-law that regulates the management of storm sewer works with infill development criteria.
- A stormwater master plan policy is applicable to the entire catchment while stormwater management measures will address new commercial and industrial development water quality concerns.
- These policies are expected to reduce the stormwater runoff volume and pollutant loadings from development.
- The logistical difficulties to implement policy PC-19 are expected to be low
- Policy PC-18 is expected to have a high degree of acceptance by the key stakeholders such as the City of Port Colborne, since the policy should not conflict with the Community Improvement Plan targets.
- Policy PC-19 is expected to have a high degree of acceptance by the key stakeholders.

## **7.8 Policies PC-20 & 21 for Threat # 2B - Wastewater treatment plants / sewer systems and 2C Industrial effluent**

The discharge from wastewater treatment plants, combined sewer overflows or industrial effluent are considered significant threats under certain circumstances. Currently, there are no wastewater treatment plants, combined sewers or industrial effluent facilities that discharge in the Port Colborne IPZ-1 or IPZ-2.

Two policies are used to ensure these threat activities do not occur in the Port Colborne IPZs in the future:

Policy PC-20: Policy PC-20 uses a provincially prescribed instrument and a land use planning approach to prohibit any new wastewater treatment plants, combined sewer systems or industrial effluent systems that would discharge into the IPZ-1 or IPZ-2.

The provincially prescribed instrument would be administered by the MOE under the OWRA. The land use planning approach would be implemented by City of Port Colborne and the Niagara Region.

Policy PC-21: Policy PC-21 requests a non-legally binding commitment be obtained from the SLSMC to prohibit any new wastewater treatment plants, combined sewer systems or industrial effluent systems that would discharge into the natural environment on federal lands controlled by them within the IPZ-1 and IPZ-2. Policy PC-21 would apply where PC-20 is not enforceable on federal lands.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing the above-noted policy tools to address these threats was:

- There are currently no existing significant threats of this type in the Port Colborne IPZ-1 or IPZ-2 and there are not likely to be any in the future. The wastewater treatment plant is currently located downstream of the WTP intake on the Welland Canal. Combined sewers are no longer constructed.
- Multiple policy tools were needed to cover all areas within the IPZs.
- The logistical difficulty to implement this policy is expected to be low.
- This land use approach can be applied to all areas within the Port Colborne IPZ-1 and IPZ-2.
- A policy that does not allow wastewater treatment plants or combined sewer overflows to discharge within the IPZs will prevent this activity from becoming a significant threat in the future.
- The land use planning policy would be compatible with current Official Plans.
- Key stakeholder acceptance to this policy is expected to be high, partly because it does not impact the current operations of landowners within the IPZs.

- A prohibition policy should not add additional costs for MOE Certificate of Approval reviews (also known as Environmental Compliance Approval).
- Municipal implementation costs should primarily be amending Official Plans and By-Laws.
- SLSMC implementation costs should primarily be updating lease agreements.

**7.9 Policies PC-22, 23 & 24 for Threats # 3, 4, and 21 – Agricultural Source Material, and Threats 6 and 7 – Non-Agricultural Source Material**

The following agricultural related activities are considered significant threats in the Port Colborne IPZ-1 and IPZ-2:

- The application of agricultural source material (ASM) to land (Threat Category 3),
- The storage of ASM (Threat Category 4)
- Lands used for livestock grazing/pasturing, farm animal yards and outdoor confinement areas (Threat Category 21),
- The application of non-agricultural source material (NASM) to land (Threat Category 6); and
- The handling and storage of NASM (Threat Category 7)

An example of agricultural source material (ASM) is manure produced from livestock. ASM is often applied to agricultural lands because of its nutrient value. Lands used for livestock grazing/pasturing, farm animal yards and outdoor confinement areas (Threat 21) are considered a significant drinking water threat because of the ASM that would likely be produced from these activities. ASM is considered a significant threat mainly because of the pathogens it contains. However, under certain conditions the storage and application to land of ASM may be a significant threat due to the Total Phosphorus and Nitrogen in the ASM. ASM threats are addressed by policies PC-22 and PC-23 which are described later in this section.

The province classifies non-agricultural source material (NASM) into three general categories as shown in the table below.

Category or Class of NASM	Examples of Each Class of Non-Agricultural Source Material
1	Unprocessed plant material such as leaf and yard waste
2	Processed plant material, bakery waste, organic matter that doesn't contain fish or meat
3	Sewage biosolids, pulp and paper biosolids, etc.

Category 3 NASM may contain pathogens and thus require a NASM Plan approval from the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) (and in some cases MOE) before it can be applied to agricultural lands. Category 3 NASM is considered a significant drinking water threat in the Port Colborne IPZ-1 and IPZ-2 because of the pathogens that it may contain. (For more details on when NASM Plans are required please refer to Appendix A, Threat 6 & 7 concerning NASMs).



Under certain conditions or circumstances, the handling, storage and application to land of all three categories of NASMs may be considered significant threats in the IPZ-1, because of the Total Phosphorus and Nitrogen they may contain. The specific circumstances where these activities would be a significant threat are detailed in the Technical Rules under the Clean Water Act. These circumstances consider a number of factors in the IPZ such as:

- The vulnerability score of the IPZ
- The % managed lands making up the IPZ (as shown in the Assessment Report); and
- The livestock density across the IPZ (as shown in the Assessment Report).

For example, Circumstance 11 in the Table of Drinking Water Threats indicates the application of NASM is a significant threat when “managed lands” cover between 40% and 80% of the IPZ-1, and livestock density is at least 1.0 nutrient units/acre for the IPZ-1.

#### Summary of ASM and NASM Related Threats

ASM and NASM related threats are not likely to occur in the Port Colborne IPZ-1 or IPZ-2 because these threats are mainly associated with agricultural activities, which are not likely to occur in the downtown urban area of Port Colborne. Therefore policies that prohibit agricultural land uses within the IPZ-1 and IPZ-2 would be an acceptable and effective approach to address these threats.

More specifically, prohibiting agricultural land uses in the IPZ-1 and IPZ-2 would:

- Prevent the application, handling and storage of ASM and Class 3 NASM for agricultural purposes,
- Prevent the ‘managed lands’ in the IPZ-1 from exceeding 40%, thereby preventing Class 1 and 2 NASM from ever becoming a significant threat,
- Prevent increases in the livestock density in the IPZ-1, thereby preventing Class 1 and 2 NASM from becoming a significant threat.

Three policies were used to address these significant threats within the Port Colborne IPZ-1 and IPZ-2. The policy tools are:

Policy PC-22: Policy PC-22 uses a land use planning approach with the City of Port Colborne and Niagara Region to prohibit agricultural land uses within the Port Colborne IPZ-1 and IPZ-2.

Policy PC-23: Policy PC-23 requests that a non-legally binding commitment be obtained from the SLSMC to prohibit these activities on their federal lands within the Port Colborne IPZ-1 and IPZ-2.

Policy PC-24: Policy PC-24 uses the provincial instrument, NASM Plans, administered by OMAFRA under the Nutrient Management Act (and in some cases MOE), to

prohibit the storage, handling and application to land of Category 3 NASM in the Port Colborne IPZ-1 and IPZ-2 in future.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these two policy approaches to address these threats was:

- There are currently no enumerated significant threats of these types in the Port Colborne IPZ-1 and IPZ-2 and there are not likely to be any in the future since the land uses in these IPZs are not agricultural. Land uses in these IPZs under the current Official Plans include residential, commercial and industrial uses.
- The combination of these three policy tools can be applied to all areas within the Port Colborne IPZs.
- These policy tools will ensure these threat activities do not occur in the IPZs in future.
- Key stakeholder acceptance to this policy is expected to be high, because it does not impact the current operations of landowners within Port Colborne IPZ-1 and IPZ-2, and is consistent with current Official Plans.
- Municipal implementation costs should primarily be for amending Official Plans and By-Laws.
- SLSMC implementation costs should primarily be for updating lease agreements.
- A prohibition policy (such as PC-24) should not add significant additional costs for OMAFRA/MOE reviews.

### **7.10 Policies PC-25, 26, & 27 for Threat # 10 - Application of Pesticide**

The application of pesticide is considered a significant threat in the Port Colborne IPZ-1 and IPZ-2. In the IPZ-2, only the application of the pesticide, MCPA, is a significant threat. According to the Technical Rules the pesticide must be applied to at least one hectare of land in order to be considered a significant threat in the Port Colborne IPZs.

A three policy approach to address this potential significant threat was used as follows:

Policy PC-25: Under Policy PC-25, a Risk Management Plan (RMP) as described under Part IV of the CWA will be required for persons to engage in this activity, where it is considered a significant threat in the IPZ-1 or IPZ-2. The RMP must be approved by the Risk Management Official (RMO).

Policy PC-26: Policy PC-26 is a “restricted land use” policy, as described under Section 59 of the CWA, and will be used as a screening tool to identify future occurrences of this significant threat activity within the IPZ-1 and IPZ-2.

Policy PC-27: Policy PC-27 requests that a non-legally binding commitment be obtained from the St. Lawrence Seaway Management Corporation (SLSMC) to require persons apply risk management measures when engaging in this significant threat activity on federal lands controlled by SLSMC in the Port Colborne IPZ-1 and IPZ-2 where Policy PC-25 is not enforceable.

Under the CWA, the RMO is the responsibility of the municipality that operates or owns the drinking water treatment system. Since Niagara Region owns and operates the Port Colborne Water Treatment Plant (WTP), it is responsible for funding and designating the RMO.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach to address this threat was:

- There are currently no existing significant threats of this type in the Port Colborne IPZ-1 and IPZ-2, and this activity is not likely to occur in the future.
- The RMP policies can be applied to areas within the Port Colborne IPZ-1 and IPZ-2.
- The overall degree of acceptance is expected to be high since there are currently no pesticide applications that meet the significant threat criteria in the IPZ-1 and IPZ-2.
- A single non-regulatory policy such as Outreach and Education may not provide sufficient protection to the source water over the long term and therefore would not meet the requirements of the CWA.
- The implementation costs should primarily involve costs to the person(s) engaging in this activity in preparing and adhering to a RMP, and to Niagara Region for the RMO.

### **7.11 Policy PC-28 for Drinking Water Safety Zone Road Signs**

The purpose of placing signs in vulnerable areas is to make emergency responders aware that they are in a drinking water source area that is vulnerable to contamination and that special consideration should be given to spill containment and clean-up in order to protect the nearby drinking water source. Travelers along the signed roads will also become familiar with the drinking water protection areas and may take the initiative to learn more about source protection. This policy does not address a specific prescribed drinking water threat.

The Ministry of the Environment and Source Protection Committees have been in discussions with the Ministry of Transportation to develop a common provincial 'drinking water safety zone' road sign.

The municipal arterial roads that would be included in this policy include four streets; Bridge East, Clarence, King and Welland Streets. These roads belong to the City of Port Colborne. Signage along Clarence Street is particularly recommended for implementation as event-based modelling has shown that fuel spills along that corridor can be significant threats.

## **7.12 Policies PC-30, PC-31, and PC-32 for Event-based Modelling (IPZ-3) Threats and Transportation Threats**

### Event-Based Modelling

The Clean Water Act allows 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 and was able to confirm that a diesel/gasoline fuel spill of 10,000 litres into the Welland Canal would adversely affect the water supply at the Port Colborne Water Treatment Plant Intake. Thus diesel/gasoline transportation, handling and storage are significant drinking water threats. (See also Section 1.2.4 of the Source Protection Plan.) Typically the spill is assumed to occur during the transportation of fuel from a tanker truck, railcar, or ship, but also could occur from the storage or handling of these volumes of fuel within the areas where these policies apply.

Once the event-based contaminant modelling showed the spill would affect the water treatment plant, an Intake Protection Zone 3 (IPZ-3) was delineated for the spill scenario according to the Technical Rules under the Clean Water Act. Since an IPZ-3 cannot overlap an IPZ-1 or IPZ-2, this type of locally modelled threat is significant in an area which includes the IPZ-3 as well as portions of the Port Colborne IPZ-1 where it can be reasonably shown that the event-based modelling would apply. These areas are shown on Schedule PC3 in the Source Protection Plan (SPP). Further details of the contaminant modelling and delineation of the IPZ-3's are provided in the Assessment Report (See Appendix A of the SPP).

Three policies were used to address this threat as follows:

Policy PC-30: Policy PC-30 requires that the implementing bodies (Niagara Region and the municipality of Port Colborne) update their Emergency Response Plans (ERPs) to include specific additional information.

Policy PC-31: Policy PC-31 requests that the St. Lawrence Seaway Management Corporation (SLSMC), and Ontario Ministry of Environment (MOE) Spills Action Centre update their Emergency Response Plans (ERPs) to include specific additional information as outlined in the policy. Transport Canada is requested to ensure Emergency Response Plans for railway corridors under its jurisdiction are also updated accordingly.

Transport Canada is listed as an implementer because there are railway corridors within the areas where this policy applies.

Policy PC-32: Policy PC-32 requests that the St. Lawrence Seaway Management Corporation (SLSMC) implement a number of risk management measures (RMM's) which would help mitigate the impacts of a fuel spill.



### Transportation Threats

At the request of the SPC, the transportation of certain hazardous materials were also added locally as threats by the MOE. However only the transportation of agricultural source material (ASM) and non-agricultural source material (NASM) were considered to be significant threats and then only in the Port Colborne IPZ-1.

Two of the above-noted three policies (PC-30 and PC-31) were also used to address the significant local threats; transportation of ASM or NASM.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing these policy approaches was:

- The current operations of landowners should not be affected.
- The logistical difficulty to implement policies PC-30 and PC-31 are expected to be moderate, since the implementing bodies should already have Emergency Response Plans, which would then just need to be updated.
- The logistical difficulty to implement policy PC-32 is expected to be moderate. The SLSMC is considering some risk management measures to mitigate the impacts of a fuel spill.
- These policies are expected to reduce the impact that a fuel spill would have on the source water at the Port Colborne Intake.
- These policies are expected to have a moderate degree of acceptance by the key stakeholders and implementing bodies since some of the actions are already being undertaken.

## 8.0 NIAGARA FALLS IPZ-1 POLICY RATIONALE

For each draft policy prepared by the Niagara Peninsula Source Protection Committee (SPC) for the Niagara Falls Intake Protection Zone 1 (IPZ-1), the corresponding context and rationale is presented below. General guiding principles and policy development processes (including stakeholder consultations etc.) are found in Chapter 2 and 3 of this document. This document is intended to be read in conjunction with the Source Protection Plan (SPP).

### 8.1 Policy NF-1 for Threat # 1A - Application to land of untreated septage

Untreated septage is typically produced from the clean-out of residential septic system tanks. Properties where untreated septage is applied to land are considered 'waste disposal sites' under Part V of the Environmental Protection Act (EPA). The application of untreated septage to land is considered a significant drinking water threat in the Niagara Falls IPZ-1.

Currently, there are no existing threats of this type in the Niagara Falls IPZ-1, and none are likely to occur in future since the IPZ-1 is located in an urban area of Niagara Falls. Also the application of untreated septage to farmland is no longer practiced in Niagara Region because the municipal sewage treatment plants in Niagara have sufficient capacity to accept and treat this waste. Therefore, prohibiting this activity in future was considered the best approach to address this threat.

Policy NF-1: Policy NF-1 uses a provincial instrument (under Part V of the EPA) and a land use planning approach to prohibit the application to land of untreated septage where it would be a significant threat, within the IPZ-1.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach was:

- There are currently no existing threats of this type in the IPZs.
- This policy approach can be applied to all areas within the Niagara Falls IPZ-1.
- Key stakeholder acceptance to this policy is expected to be moderate to high because it should not impact the current operations of landowners or the municipality.
- A prohibition policy should not add additional costs for Ministry of the Environment (MOE) reviews.

### 8.2 Policies NF-2 to 4 for Threats # 2A - Stormwater management, 2B – Wastewater treatment plants and sewer systems and 2C – Industrial effluent

#### Stormwater Management Systems

The discharge from untreated stormwater management systems is a significant threat under certain circumstances, depending on the size and land uses of the stormwater catchment area.

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Currently, there are three stormwater outlets in the Niagara Falls IPZ-1 (Figure 8.1) and one is a moderate threat.

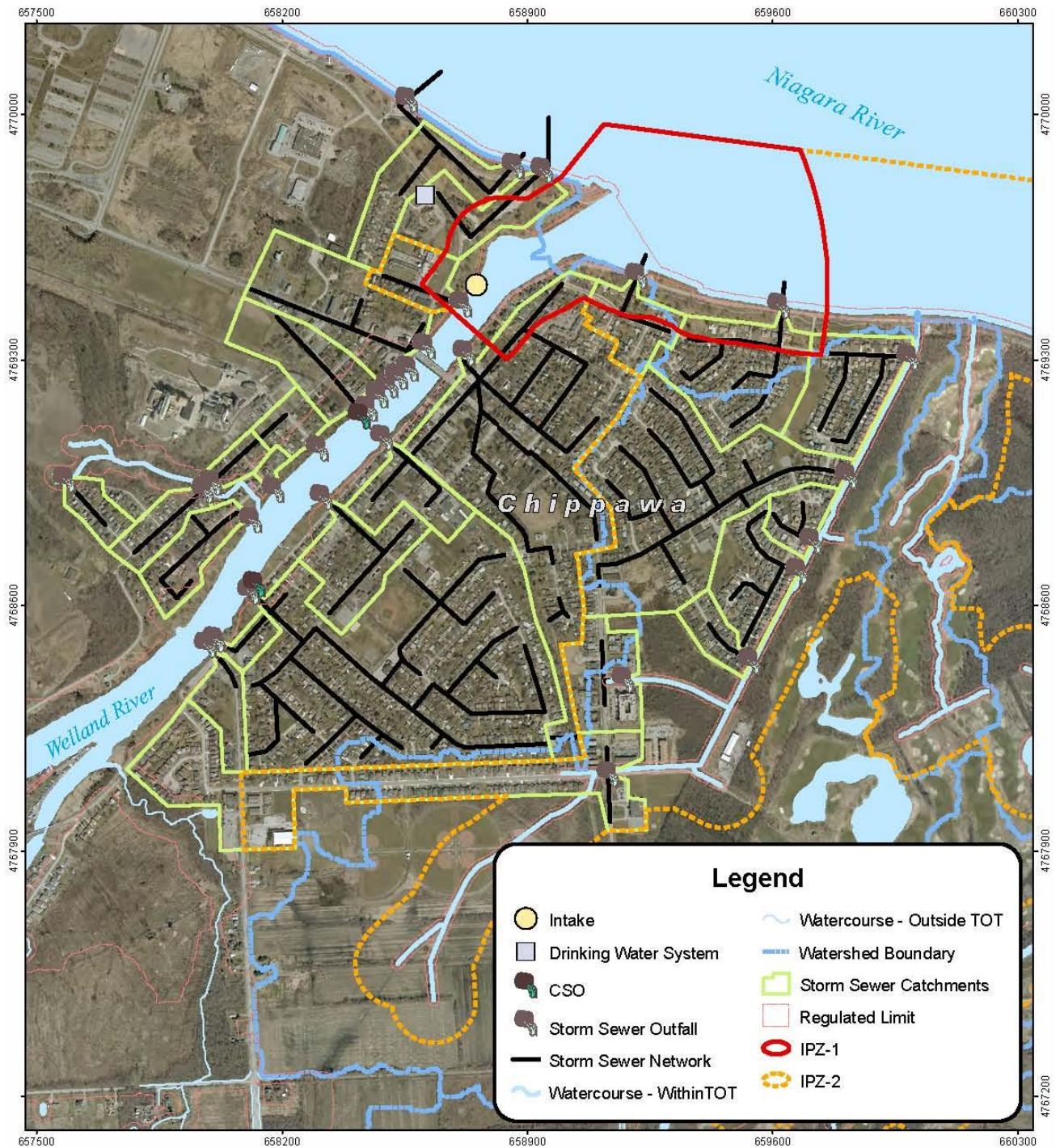


Figure 8.1 Niagara Falls Intake Protection Zone Stormsewer Catchments

Currently land use in the Niagara Falls IPZ-1 is a mixture of residential, environmental protection and resort commercial. To be a significant threat in the Niagara Falls IPZ-1, storm sewer drainage areas would need to be at least 100 ha in size with the predominant land use commercial/industrial (C/I).

#### Wastewater Treatment Plants, Combined Sewers and Industrial Effluent Systems

The discharges from wastewater treatment plants, combined sewer overflows or industrial effluent are also considered significant threats under certain circumstances. Currently, there are no wastewater treatment plants, combined sewers or industrial effluent systems discharging into the Niagara Falls IPZ-1. No new facilities of these types of systems are expected in future. Consequently, prohibition would be an acceptable policy approach to use.

The policy tools that were used are described below:

Policy NF-2: Policy NF-2 uses a provincially prescribed instrument and a land use planning approach to prohibit new stormwater management facilities, combined sewers, and industrial effluent systems facilities that would discharge into the IPZ-1.

The provincially prescribed instrument would be administered by the MOE under the Ontario Water Resources Act (OWRA). The land use planning approach would be implemented by City of Niagara Falls and Niagara Region.

Policy NF-3: Policy NF-3 uses a land use planning approach with the City of Niagara Falls and Niagara Region to not permit any new industrial or commercial land uses, within the Niagara Falls IPZ-1s in future;

Policy NF-4: Policy NF-4 is an Outreach and Education program aimed at the residents and landowners in the Niagara Falls IPZ-1 that should promote good stewardship of water resources and stormwater management systems.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach was:

- There are currently no enumerated significant threats of this type in the Niagara Falls IPZ-1.
- Policies that provide multiple tools to address these threats were considered desirable.
- These policy approaches can be applied to all areas within the Niagara Falls IPZ-1.
- Policies that use Risk Management Plans (RMPs) or Prohibition powers under Part IV of the Clean Water Act (CWA) cannot be used for threats concerning wastewater treatment plants or combined sewers.
- A policy that does not allow wastewater treatment plants, combined sewer overflows or industrial effluent to discharge within the IPZ-1s will prevent this activity from becoming a significant threat in the future.

- Land use restrictions (imposed by the land use planning policy) will prevent these activities from becoming significant threats through maintaining current Official Plans. Currently most land in Niagara Falls IPZ-1 is residential, environmental protection and resort commercial.
- The logistical difficulty to implement this policy is expected to be low
- Key stakeholder acceptance to this policy is expected to be high, partly because it should not impact the current operations of landowners.
- A prohibition policy should not add additional costs for MOE Certificate of Approval reviews (also known as Environmental Compliance Approval).
- Municipal implementation costs should primarily be amending Official Plans and By-Laws.
- NPCA Outreach and Education program can be implemented with existing programs.

### **8.3 Policy NF-5 for Threats # 3, 4, and 21 – Agricultural Source Material**

The storage, handling, and application to land of agricultural source material (ASM) (Threats Categories 3 and 4), and lands used for livestock grazing/pasturing, farm animal yards and outdoor confinement areas (Threat Category 21), are considered significant threats in the Niagara Falls IPZ-1.

Livestock lands and the storage, handling and application to land of ASM, are associated with farming operations on agricultural lands. However there are no farming operations or lands currently zoned agricultural within the Niagara Falls IPZ-1, since it is located in an urban area of Niagara Falls. Therefore prohibition would be an acceptable policy approach to address this threat.

Policy NF-5: Policy NF-5 uses a land use planning approach with the City of Niagara Falls and Niagara Region to prohibit agricultural land uses in the IPZ-1.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this approach was:

- There are currently no existing significant threats of this type in the Niagara Falls IPZ-1 and there are not likely to be any in future since the land uses in the IPZ are not agricultural.
- This land use planning approach can be applied to all areas within the Niagara Falls IPZ-1.
- A policy that does not allow agricultural land uses within the IPZ would prevent this activity from becoming a significant threat. Land uses under the current Official Plans, which include residential, environmental protection and resort commercial, would be maintained.

- Key stakeholder acceptance to this policy is expected to be high, partly because it does not impact the current operations of landowners within Niagara Falls IPZ-1, and is consistent with current Official Plans.
- Municipal implementation costs should primarily be amending Official Plans and By-Laws.

#### **8.4 Policy NF-6 for Threats # 6 and 7 - Non-Agricultural Source Material**

The storage, handling, and application to land of non-agricultural source material (NASM) are considered significant threats in the Niagara Falls IPZ-1, because of the presence of pathogens in the NASM. NASMs are commonly called biosolids. Only Category 3 NASM from sewage treatment plants or meat processing plants is considered a significant threat in the Niagara Falls IPZ-1.

There are no existing activities of this threat type in the Niagara Falls IPZ-1, since NASM from the waste water treatment plants is not applied to these lands according to Niagara Region's Biosolids Master Plan. However for Category 3 NASM to be applied to non-agricultural lands, it must first be approved by the Ontario Ministry of the Environment (MOE). It is highly unlikely approval will be sought to apply NASM in Niagara Falls. Since there are no existing threats of these types in the IPZ-1, prohibition of these threat activities is an acceptable policy approach.

Policy NF-6: Policy NF-6 uses the provincial instrument, NASM Plans administered by OMAFRA under the Nutrient Management Act (and in some cases MOE), to prohibit these significant threat activities in the Niagara Falls IPZ-1.

After assessing how well the various policy options satisfied the guiding principles, the rationale for choosing this policy approach to address these threats was:

- There are currently no enumerated Category 3 NASM threats in the Niagara Falls IPZ-1, and there are not likely to be any in future since lands within the IPZ-1 are mostly residential or parkland.
- As there are no lands zoned agricultural in the Niagara Falls IPZ-1, this policy approach can be applied.
- Key stakeholder acceptance to this policy is expected to be moderate to high, because will not impact the landowners within the IPZ.
- A prohibition policy does not add additional costs for OMAFRA/MOE reviews.

#### **8.5 Policy NF-7 for Drinking Water Safety Zone Road Signs**

The purpose of placing signs in vulnerable areas is to make emergency responders aware that they are in a drinking water source area that is vulnerable to contamination and that special consideration should be given to spill containment and clean-up in order to protect the nearby

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drinking water source. Travelers along the signed roads will also become familiar with the drinking water protection areas and may take the initiative to learn more about source protection. This policy does not address a specific prescribed drinking water threat.

The Ministry of the Environment and Source Protection Committees have been in discussions with the Ministry of Transportation to develop a common provincial 'drinking water safety zone' road sign.

The municipal arterial roads that would be included in this policy include three streets; Main, Macklem and Bridgewater Streets. Main and Macklem belong to the City of Niagara Falls and Bridgewater belongs to the Niagara Parks Commission.



## 9.0 MONITORING POLICIES RATIONALE

For each monitoring policy prepared by the Niagara Peninsula Source Protection Committee (SPC) the corresponding context and policy specific rationale is presented below. General guiding principles and policy development processes are found in Chapter 2 and 3 of this document. This document is intended to be read in conjunction with the Source Protection Plan (SPP).

Monitoring policies are intended to track or measure whether or not significant threat policies are being implemented. This includes determining:

- If the implementing body has implemented the threat policy (including compliance with any specific implementation dates);
- If the persons engaged in the significant threat activity are complying with the policy, if the policy is regulatory in nature (e.g. a risk management plan);
- The uptake of the program (i.e. by sector stakeholders), if the policy is non-regulatory in nature (e.g. education and outreach program); and
- Where feasible, tracking to ensure that the measures/actions that have been adopted to manage the significant drinking water threat activity have not failed (i.e. achieving the desired outcome).

Any public body identified in monitoring policies in an approved Source Protection Plan must satisfy their obligations under these policies.

### 9.1 Monitoring Policies

#### 9.1.1 Ministry of the Environment

A single monitoring policy (M-1) was developed for the Ministry of the Environment concerning their prescribed instrument significant threat policies.

Policy M-1: Policy M-1 directs the Ministry of the Environment to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-1 refers to 15 source protection plan policies: 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 and NF-6.

#### 9.1.2 Ministry of Agriculture, Food and Rural Affairs

A single monitoring policy (M-2) was developed for the Ministry of Agricultural, Food and Rural Affairs concerning their prescribed instrument significant threat policy.

Policy M-2: Policy M-2 directs the Ministry of Agriculture, Food and Rural Affairs to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement the significant threat policy.



Policy M-2 refers to three source protection plan policies: DC-7, PC-24, and NF-6.

### **9.1.3 Niagara Region**

A single monitoring policy (M-3) was developed for Niagara Region concerning their land use planning, education and outreach, and specified action significant threat policies.

Policy M-3: Policy M-3 directs Niagara Region to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-3 refers to 22 source protection plan policies: 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 and NF-5.

### **9.1.4 City of Thorold**

A single monitoring policy (M-4) was developed for the City of Thorold concerning their land use planning and specified action significant threat policies.

Policy M-4: Policy M-4 directs the City of Thorold to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-4 refers to five source protection plan policies: DC-1, DC-2, DC-3, DC-5, and DC-9.

### **9.1.5 City of Niagara Falls**

A single monitoring policy (M-5) was developed for the City of Niagara Falls concerning their land use planning significant threat policies.

Policy M-5: Policy M-5 directs the City of Niagara Falls to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-5 refers to four source protection plan policies: NF-1, NF-2, NF-3 and NF-5.

### **9.1.6 City of Port Colborne**

A single monitoring policy (M-6) was developed for the City of Port Colborne concerning their land use planning and specified action significant threat policies.

Policy M-6: Policy M-6 directs the City of Port Colborne to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-6 applies to 13 source protection plan policies: WL-2, DC-9, PC-1, PC-6, PC-8, PC-9, PC-15, PC-17, PC-18, PC-20, PC-22, PC-26, and PC-30.

### **9.1.7 Risk Management Official**

A single monitoring policy (M-7) was developed for the Risk Management Official concerning their restricted land use, risk management plan and prohibition significant threat policies.

Policy M-7: Policy M-7 directs the Risk Management Official to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-7 applies to seven source protection plan policies: DC-4, DC-5, PC-5, PC-6, PC-13, PC-25 and PC-26.

### **9.1.8 Niagara Peninsula Conservation Authority**

A single monitoring policy (M-8) was developed for the Niagara Peninsula Conservation Authority concerning their education and outreach significant threat policies.

Policy M-8: Policy M-8 directs the Niagara Peninsula Conservation Authority to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-8 refers to two source protection plan policies: PC-19 and NF-4.

### **9.1.9 St. Lawrence Seaway Management Corporation, Transport Canada and the Niagara Peninsula Conservation Authority**

A single monitoring policy (M-9) was developed for the Niagara Peninsula Conservation Authority concerning the St. Lawrence Seaway Management Corporation and Transport Canada significant threat policies.

Policy M-9: Policy M-9 directs the Niagara Peninsula Conservation Authority to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps the St. Lawrence Seaway Management Corporation and Transport Canada has taken in the previous calendar year to implement significant threat policies.

Policy M-9 refers to 13 source protection plan policies: 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.

### **9.1.10 City of Welland**

A single monitoring policy (M-10) was developed for the City of Welland concerning their specified action significant threat policies.

Policy M-10: Policy M-10 directs the City of Welland to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement significant threat policies.

Policy M-10 refers to two source protection plan policies: WL-2 and DC-9.

### **9.1.11 Ontario Ministry of Transportation**

A single monitoring policy (M-11) was developed for the Ontario Ministry of Transportation (MTO) concerning their 'specified-action' significant threat policy.

Policy M-11: Policy M-11 directs the MTO to report annually by February 1<sup>st</sup> to the Source Protection Authority on the steps it has taken in the previous calendar year to implement this 'non-legally binding commitment' significant threat policy.

Policy M-11 refers to two source protection plan policies: WL-3 and DC-10.

## **9.2 Rationale**

After assessing that the monitoring policies satisfied the guiding principles, the rationale for proposing these monitoring policies was:

- The Clean Water Act requires monitoring policies for each significant threat policy.
- The SPC believe this policy is reasonable in timing and scope and have been given no indication otherwise during consultation and consequently key stakeholder acceptance to this policy is expected to be high.

## 10.0 REFERENCES

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