A clean source of drinking water is critical for the health of people and the viability of communities. It is therefore important to protect rivers and groundwater where they are a source of local drinking water. Policies must ensure that land use activities in these areas do not cause contamination. By addressing potential threats near drinking water sources, people and communities will be better protected.

3 Policies that Address Specific Threats

What You Will Find in This Section

Ontario's *Clean Water Act* specifies human land use activities that have the potential to contaminate drinking water sources. The policies in this section will ensure that these activities are safely managed or restricted near sources of drinking water, primarily municipal drinking water.

For each set of policies, the following information is provided:

- Why the activity is a drinking water threat
- What the desired outcomes of the policies are
- Where and under what circumstances the policies will apply

KEY CONCEPT

An existing activity is one that:

- Is present or occurring on the date this Source Protection Plan takes effect; or
- Is established or commences on a date after the date this Source Protection Plan takes effect but meets the criteria of the Transition Policy in Section 3.15.3 of this Source Protection Plan; or
- Resumes after an interruption or expands after the date the Source Protection Plan takes effect but meets the criteria of the Interruptions / Expansions Policy in Section 3.15.3 of this Source Protection Plan.

A future activity is one that:

- Is established or commences on a date after the date this Source Protection Plan takes effect; and
- Does not meet the criteria of the Transition Policy or the Interruptions / Expansions Policy in Section 3.15.3 of this Source Protection Plan.

The Transition Policy and the Interruptions / Expansions Policy stipulate certain situations where an activity that commences, resumes or expands after the date the Source Protection Plan takes effect would be considered existing and therefore would be subject to policies addressing existing activities rather than policies addressing future activities. These policies can be found in Section 3.15.3 entitled Existing and Future — Special Provisions.

Each policy then identifies:

- The body responsible for implementing the policy
- The tool used to implement the policy
- All policy requirements

- The compliance date (if no date is indicated the policy is in effect immediately upon the Source Protection Plan taking effect)

Policy Topics

The policies in this section address the 19 prescribed drinking water threats that have the potential to contaminate a source of drinking water, as well as two other permissible threat topics — transportation corridors and transport pathways. Three types of administrative policies are also included to assist municipalities and other policy implementers with policy implementation. All of the policies are organized into the following subsections:

3.1 Waste Disposal Sites
3.2 Sewage Works
3.3 Road Salt and Storage of Snow
3.4 Dense Non-aqueous Phase Liquids (DNAPLs) and Organic Solvents
3.5 Fuel
3.6 Commercial Fertilizer
3.7 Pesticide
3.8 Outdoor Livestock Areas
3.9 Agricultural Source Material (ASM)
3.10 Non-agricultural Source Material (NASM)Aquaculture
3.11 Aircraft De-icing
3.12 Transportation Corridors
3.13 Transport Pathways
3.14 Administrative Policies

General Policy Intent

The policies ensure that the activities listed above will not pose a significant threat of contamination near sources of municipal drinking water. The policies accomplish this by:

- **Supporting** existing programs that already ensure good management practices
- **Requiring** additional oversight or risk reduction measures where needed
- **Prohibiting** certain activities from being established in the future

Where additional risk reduction measures are required (usually through Prescribed Instruments or Risk Management Plans), the general expectation is that effective best management practices will be implemented. This means, those activities already adhering to good management practices may not require any additional measures,

while those being undertaken without any measures in place will be brought up to industry standards.

KEY CONCEPT

An activity is considered a **significant threat** to drinking water if, according to a risk assessment, it poses or has the potential to pose a significant risk. For an activity to be considered a significant threat it must occur within a certain vulnerable drinking water area or zone and involve specific circumstances such as a certain volume of fuel stored. The risk assessments to determine significant threat activities and circumstances were conducted at the provincial level as part of the development of the *Clean Water Act* regulations and are prescribed in the legislation. Therefore, local Source Protection Committees and municipal Risk Management Officials do not have the legal authority to determine what activities are significant and therefore subject to the Source Protection policies.

Where Policies Apply

Each policy only applies in a certain location and under certain circumstances. These circumstances are summarized in a yellow box in each subsection and are outlined in greater detail in Appendix B. The locations referred to in these circumstances are shown on the maps in Schedules A to L and are explained in Section 2.2. Some policies also distinguish between existing activities and those that will be established in the future. This distinction is explained in the Key Concept box on page 22.

Complementary Education Policies

Section 4 of this Plan contains additional policies to raise awareness about vulnerable drinking water areas and what people can do to help protect them. These education policies cover all drinking water threats, including the activities addressed by the policies in this section.

Corresponding Monitoring Policies

Section 5 of this Plan contains monitoring policies. They outline important information that implementing bodies need to provide to Source Protection Authorities so they can evaluate implementation progress and policy effectiveness.

KEY CONCEPT

What is a Risk Management Plan?

A Risk Management Plan is a document that outlines the actions required to address an activity that has the potential to contaminate drinking water. These actions manage the risk associated with the activity so that drinking water is better protected.

- The plan is site-specific — it is customized to fit the nature of the property, activity, or business
- The plan includes and accounts for risk management measures that are already in place — some property owners will only need to document what they are already doing to protect drinking water
- The plan can include measures to address multiple activities so only one plan is needed for a property with fuel storage, manure storage and livestock for example

How is a Risk Management Plan Created?

The Risk Management Official works with the person engaging in the activity to decide on the components of the Risk Management Plan.

- The process provides significant opportunity for discussion, flexibility and agreement
- The property owner receives recognition of previous efforts and good stewardship actions
- The Risk Management Official receives formal assurance that the property owner will continue to engage in effective risk reduction measures
- Where new risk reduction measures are required, the property owner can be assured that these measures help to protect their property and assets from a potentially devastating contamination event

3.1 Waste Disposal Sites

Background

The storage or land disposal of waste has the potential to leach numerous contaminants into surface water and groundwater. These include petroleum hydrocarbons, heavy metals, nutrients like phosphorus or nitrogen, DNAPLs and pathogens. Pathogens, such as *E. coli*, are microscopic organisms capable of causing serious infections or infectious disease in humans. Pathogen contaminants from waste disposal are associated with the application of untreated septage to land.

An aerial view of a landfill

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Given the potential for waste disposal sites to contaminate drinking water sources, the *Clean Water Act* designated the following activity as a prescribed drinking water threat:

- The establishment, operation, or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act.*

As required by the *Clean Water Act,* this Plan includes policies to address this activity where it is considered a significant threat to sources of municipal drinking water. The Source Protection Committee also decided to include policies to address this activity where it is considered a moderate or low drinking water threat in Highly Vulnerable Aquifer areas.

The types of waste disposal sites that can be subject to the policies in this section are:

- Application of untreated septage to land
- Landfarming of petroleum refining waste
- Liquid industrial waste injection into a well
- PCB (polychlorinated biphenyl) waste storage
- Landfilling (hazardous waste)
- Landfilling (municipal waste)
- Landfilling (solid non hazardous industrial or commercial waste)
- Storage of hazardous waste at disposal sites

- Storage of waste described in clauses (p), (q), (r), (s), (t), or (u) of the definition of hazardous waste in Ontario Regulation 347 (General-Waste Management) made under the Environmental Protection Act.
- Storage, treatment and discharge of tailings from mines

The following types of waste activities are NOT subject to these policies:

- Domestic waste
- Waste that is regulated by the MOECC through means other than Certificates of Approval or

Policy Intent

The policies for waste disposal sites recognize that these are hazardous, often large-scale land uses that are best located outside of areas where they would be a significant threat to municipal drinking water. The policies also recognize that since regional aquifers in most of the Mississippi-Rideau region are highly vulnerable to contamination, any proposal to establish a new waste disposal site in these areas warrants careful consideration.

Significant, Moderate and Low Threat Circumstances

Certain waste disposal sites (depending on their type, size and other characteristics) are considered a significant drinking water threat in:

- Wellhead Protection Areas with a vulnerability score of 8 or 10
- Intake Protection Zones with a vulnerability score of 8 to 10

They can also be considered a moderate or low drinking water threat in Highly Vulnerable Aquifers. For more details about significant, moderate and low threat circumstances see Appendix B.

The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any waste disposal sites in areas where they are considered a significant threat. Should one exist (operational or abandoned), the policies are intended to ensure that adequate measures are in place to protect municipal drinking water sources. For most waste disposal sites, this will be accomplished through amendments to the site's existing Certificate of Approval or Environmental Compliance Approval required by the MOECC under *the Environmental Protection Act* or the *Ontario Water Resources Act.* For waste disposal sites not governed by these Prescribed Instruments, this will be accomplished through a Risk Management Plan except where the waste is regulated by the MOECC through other means such as Director's Instructions, the waste generation reporting

system or waste manifest system. For these types of waste, best management practices will be promoted through education policy EDU-1-LB outlined in Section 4.

The policies also intend to ensure that future waste disposal sites are never established in areas where they would be considered a significant threat. This will be accomplished by not issuing new Prescribed Instruments in these areas or through prohibition under Section 57 of the
Clean Water Act for waste disposal sites that do not require an instrument except where the waste is regulated by the MOECC through other means such as Director's Instructions, the waste generation reporting system or waste manifest system. For these types of waste, best management practices will be promoted through education policy EDU-1-LB outlined in
Section 4.

In areas where waste disposal sites would be considered a moderate or low drinking water threat to Highly Vulnerable Aquifers, the policies are intended to ensure that regulating agencies consider the potential impact to regional groundwater during the review and approval process. regulating agencies.

Policies

Policy: WASTE-1-LB-PI-MC

Existing Waste Disposal Site — Prescribed Instrument

Where an existing waste disposal site is a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument that governs the site (Certificate of Approval or Environmental Compliance Approval required under the *Environmental Protection Act* or the *Ontario Water Resources Act)* includes appropriate terms and conditions to manage the threat so that it ceases to be significant. Where the Director considers it appropriate, terms and conditions will include modern design, operational, monitoring and reporting requirements as well as requirements for eventual closure and abandonment. The MOECC shall review, and if necessary amend, the Prescribed Instrument within three years from the date the Source Protection Plan takes effect.

Policy: WASTE-2-LB-S58

Existing Waste Disposal Site — Risk Management Plan

An existing waste disposal site that is not governed by a Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval) is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in

areas where it is a significant drinking water threat as described in Appendix B. Risk Management Plans for existing waste disposal sites shall be established within three years from the date the Source Protection Plan takes effect. This policy does not apply to waste that is registered with the MOECC waste generation reporting system or waste that is approved to be transported off-site using the MOECC manifest process or waste that is subject to Director's Instructions.

Policy: WASTE-3-LB-PI-MC

Future Waste Disposal Site — Prescribed Instrument

Future waste disposal sites are prohibited where they would be a significant drinking water threat as described in Appendix B. Accordingly, decisions to issue, otherwise create or amend Prescribed Instruments (Environmental Compliance Approvals under the *Environmental Protection Act* or the *Ontario Water Resources Act*) must conform with this policy.

Policy: WASTE-4-LB-S57

Future Waste Disposal Site — Section 57 Prohibition

Future waste disposal sites that are not governed by a Prescribed Instrument (Environmental Compliance Approval) are designated as prohibited under Section 57 of the *Clean Water Act* in areas where they would be a significant drinking water threat as described in Appendix B. This policy does not apply to waste that is registered with the MOECC waste generation reporting system or waste that is approved to be transported off-site using the MOECC manifest process or waste that is subject to Director's Instructions.

Policy: WASTE-5-LB-PI-HR

Future Waste Disposal Site in the Highly Vulnerable Aquifers — Prescribed Instrument

The MOECC shall consider the potential impact on drinking water sources during their review of applications for Prescribed Instruments (Environmental Compliance Approvals under the *Environmental Protection Act* and the *Ontario Water Resources Act)* for the establishment of new waste disposal sites where they would be a moderate or low drinking water threat in Highly Vulnerable Aquifers as described in Appendix B.

Policy: WASTE-6-NLB

Future Waste Disposal Site in the Highly Vulnerable Aquifers— Other Approvals

The MOECC and Environment Canada are strongly encouraged to consider the potential impact on drinking water sources during their review of applications for other approvals (that are not Prescribed Instruments) required for new waste disposal sites where the site would be a moderate or low drinking water threat in Highly Vulnerable Aquifers as described in Appendix B. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements

3.2 Sewage Works

General Background

Various types of sewage works can contribute contaminants to local groundwater and surface water. They include acetone, lead, chloride, nitrogen, phosphorus and pathogens such as *E. coli*. Given the potential for sewage works to contaminate drinking water sources, the *Clean Water Act* designated the following activity as a prescribed drinking water threat:

- The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage

As required by the *Clean Water Act*, this Plan includes policies to address this activity where it is considered a significant threat to municipal drinking water sources. The types of sewage systems (herein referred to as “sewage works”) that are subject to these policies are:

- On-site sewage systems (mainly septic systems and holding tanks)
- Sanitary sewers and related pipes
- Stormwater management facilities
- Sewage treatment plant effluent discharges (including lagoons)
- Storage of sewage (such as in sewage treatment plant tanks)
- Combined sewer discharge from a stormwater outlet to surface water
- Sewage treatment plant bypass discharge to surface water
- Industrial effluent discharges

Overall Policy Intent

The policies recognize that sewage works are essential to communities and industry. It is infrastructure that treats sewage and manages stormwater so that it does not impair water quality. The policies therefore make a distinction between the types of sewage works that need to be located in vulnerable areas in order to service development (e.g., sanitary sewer systems) and the types of sewage works that, although important parts of the sewage and stormwater system, can be located outside of vulnerable areas (e.g., sewage treatment plants). As such, the policies prohibit the future establishment of the types of sewage works that can and should be located outside of vulnerable areas. For those works that already exist, and those that need to be located in vulnerable areas to provide servicing, the policies make provisions to ensure risks to drinking water are managed effectively.

3.2.1 On-Site Sewage Systems Regulated under the *Building Code Act*

Background

The most common types of on-site sewage systems are leaching bed systems (commonly called septic systems) and holding tanks. A holding tank retains sewage at the site where it is produced before it is collected by a sewage hauler and disposed of elsewhere. A properly functioning septic system also has a tank that stores sewage for collection by a sewage hauler, but it has an additional component that removes wastewater from the sewage and treats it on-site to a safe level before returning it to the groundwater system. Septic systems and holding tanks that are leaking, inadequate or not functioning properly can contaminate surface water or groundwater. Potential contaminants include nitrogen and pathogens.

KEY CONCEPT

The ***Building Code Act*** regulates sewage systems that are located on one lot and have a design capacity of 10,000 litres per day or less (usually a residential system). All other

on-site sewage systems are regulated by the ***Ontario Water Resources Act*** (usually larger systems designed to service public buildings or institutions).

A septic tank and leaching bed

This section contains policies to address the following sewage works where they are considered a significant threat to sources of municipal drinking water:

- Sewage systems as defined in the *Ontario Building Code* (Section 1 of Ontario Regulation 350/06 made under the *Building Code Act*)

On-site sewage systems regulated under the *Ontario Water Resources Act* are addressed in Section 3.2.2.

KEY CONCEPT

Mandatory On-Site Sewage System Maintenance Inspection Program

The *Ontario Building Code* was amended in 2010 to require regular inspections of on-site sewage systems in locations where they are considered a significant drinking water threat. The first inspection must be completed within five years of the Assessment Report being approved (August 2016 in the Mississippi watershed and December 2016 in the Rideau watershed) and then systems must be inspected once every five years thereafter. If an inspection indicates that a system is not functioning as designed, inspectors can issue an order for maintenance, replacement or upgrading to ensure the system functions effectively.

Policy Intent

The policies recognize that if an on-site sewage system is functioning properly, contaminants from the system are greatly reduced or eliminated. A key part of protecting drinking water is therefore accomplished through the Mandatory On-Site

Sewage System Maintenance Inspection Program. Through inspections, this program ensures that on-site sewage systems are functioning properly where they are considered a significant drinking water threat. It is also important that residents know what to do to keep their system functioning properly. This is accomplished through the education and outreach policies in section 4. As of 2012, it is estimated that there are fewer than three existing on-site sewage systems in areas where they are considered a significant threat.

Significant Threat Circumstances

On-site sewage systems are considered a significant drinking water threat in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 10

Policies are also intended to ensure that the Principal Authorities (who are responsible for on-site sewage system approvals under the Building Code) have good information on which to base approvals for new systems and good procedures in place to assess if existing systems can support redevelopment or renovations.

Lastly, the policies recognize that while sanitary sewers also pose a threat to drinking water, they are a preferred option in vulnerable drinking water areas. The policies are therefore intended to ensure mandatory connection to municipal sewer services where they are available, but only when the existing on-site sewage system is at the end of its service life.

Policies

Policy: SEW-1-LB

Mandatory On-Site Sewage System Maintenance Inspection Program

The Principal Authorities shall implement the On-Site Sewage System Maintenance Inspection Program as required by and in accordance with the time frame set out in the *Ontario Building Code* where existing and future on-site sewage systems are or would be a significant drinking water threat as described in Appendix B.

Policy: SEW-2-LB

Redevelopment / Renovation Proposals

In areas where on-site sewage systems are a significant drinking water threat as described in Appendix B, the Principal Authorities shall establish a procedure to ensure that them.

Review under the *Ontario Building Code* of redevelopment or renovation proposals using existing systems uses well-documented technical information to determine if the current system is adequate. The procedure should involve the careful consideration of such factors as depth to water table, soil type, size and age of system and lot size. The procedure must be established within six months from the date the Source Protection Plan takes effect.

Policy: SEW-3-LB

Lot Grade and Drainage Plans

In areas where on-site sewage systems would be a significant drinking water threat as described in Appendix B, the municipality shall require lot grade and drainage plans as part of the application materials for building permits where a new system is proposed as part of new development. New systems are only permitted where policy SEW-4-LB (Mandatory Connection to Municipal Sewer Services) does not apply. Lot grade and drainage plans must show existing grade and proposed final grade elevations referenced to a permanent benchmark. The new requirements must be established within six months from the date the Source Protection Plan takes effect.

Policy: SEW-4-LB

Mandatory Connection to Municipal Sewer Services

In areas where on-site sewage systems are a significant drinking water threat as described in Appendix B, the municipality through their powers under the *Municipal Act* must require connection to municipal services (capacity permitting and within designated serviced areas) where services are available at the property line in the following situations:

- Where an existing system has failed a Phase II Maintenance Inspection and/or an order has been issued to replace or do significant upgrades
- When the Principal Authority has deemed an existing system inadequate to service a proposed redevelopment / renovation
- For new development

The new requirements must be established within one year from the date the Source Protection Plan takes effect. This policy also applies to on-site sewage systems regulated under the *Ontario Water Resources Act.*

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.2.2 On-site Sewage Systems Regulated under the *Ontario Water Resources Act*

Background

As discussed in Section 3.2.1, on-site sewage systems such as holding tanks and septic systems that are leaking, inadequate or not functioning properly are potential sources of drinking water contaminants such as nitrogen and pathogens.

This section contains policies to address the following sewage works activity where it is considered a significant threat to sources of municipal drinking water:

- On-site sewage systems regulated by the MOECC under the *Ontario Water Resources Act*

Systems regulated under the *Ontario Water Resources Act* are usually larger and designed to service public buildings or institutions. These systems are subject to application requirements that provide information about the impact of the system on the receiving waterbody or aquifer such as:

- Background levels of contaminants in the groundwater
- Expected rate of contaminants discharge to the groundwater
- Proposed measures to reduce or prevent groundwater contamination
- A monitoring program to assess the effectiveness of these measures

On-site sewage systems regulated under the Building Code are addressed in Section 3.2.1.

Policy Intent

The policies recognize the rigorous nature of the existing regulations for on-site sewage systems regulated under the *Ontario Water Resources Act* and the fact that these systems are essential in areas where there are no municipal sewer services. For these reasons, the policies are intended to permit on-site sewage systems in areas where they are considered a significant threat subject to adequate risk reduction measures.

The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any on-site sewage systems regulated under the *Ontario Water Resources Act* located in areas where they are considered a significant threat. Should one exist, the policies require the

MOECC to review and, if necessary, amend the terms and conditions of the existing approval to ensure adequate measures are in place to protect municipal drinking water sources. Similarly, when approving a new system, the policies require the MOECC to determine if anything beyond the standard requirements outlined in the background section (above) are required to ensure adequate protection of municipal source water.

Policy SEW-4-LB requiring connection to municipal sewer services in some situations, also applies to on-site sewage systems regulated under the *Ontario Water Resources Act.*

Policies

Policy: SEW-5-LB-PI-MC

On-Site Sewage Systems — Prescribed Instrument

Where an on-site sewage system regulated under the *Ontario Water Resources Act* (existing and/or future) is or would be a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument that governs the system (Certificate of Approval or Environmental Compliance Approval) includes appropriate terms and conditions so that:

a) The system (existing) ceases to be a significant drinking water threat; or
b) The system (future) never becomes a significant drinking water threat.

The MOECC shall comply with part (a) of this policy within three years from the date the Source Protection Plan takes effect.

Policy SEW-4-LB also applies to on-site sewage systems regulated under the Ontario Water Resources Act.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.2.3 Sanitary Sewers and Related Pipes

Background

This section contains policies to address the following sewage works activities where they are considered a significant threat to sources of municipal drinking water:

- Sanitary sewers and related pipes

A sanitary sewer system is a network of pipes that collects sewage within a community and conveys it to a treatment plant where the sewage can be treated before it is discharged to a surface water body. Sanitary sewer systems have the potential to contaminate surface water or groundwater as raw sewage can leak from degraded pipes or pipe joints.

Policy Intent

The 2011 Assessment Reports for the Mississippi-Rideau region identified that there are existing sanitary sewers that meet the circumstances of a significant threat. While municipal sewer systems are subject to periodic monitoring, maintenance and replacement, the policies are intended to ensure that sanitary sewer systems in areas where they are considered a significant threat are subject to a regular maintenance program. This program will identify sections of the sewer network that require remedial work to keep the system in good repair.

Significant Threat Circumstances

Sanitary sewers and related pipes are considered a significant drinking water threat when located in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 10

For more details about significant threat circumstances, see Appendix B

Sanitary sewer pipe installation

The policies also recommend advanced sewer design standards for new sewers which will better protect drinking water sources and possibly reduce maintenance requirements for these sections in the future.

Policies

Policy: SEW-6-LB

Sanitary Sewer Maintenance Program

In areas where sanitary sewers and related pipes are or would be a significant drinking water threat as described in Appendix B, the municipality shall implement a Sanitary Sewer Maintenance Program. Where possible, the program should include sewer pipe cleaning followed by a camera inspection focused on identifying areas of infiltration. Pressure testing of pipes may also be conducted in lieu of camera inspection. Remedial work is required if areas of discernible leakage are identified. The program shall be initiated within one year from the date the Source Protection Plan takes effect. Each portion of the sewer network shall be subject to the maintenance program at five-year intervals.

Policy: SEW-7-LB-PI-MC

Future Sanitary Sewers and Related Pipes — Prescribed Instrument

Where new or replacement sanitary sewers and related pipes would be a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument (Environmental Compliance Approval required under the *Ontario Water Resources Act)* includes appropriate terms and conditions to manage the threat so that it does not become significant. Where the Director considers it appropriate, terms and conditions will include requiring that new or replacement sanitary sewers and related pipes be constructed of watermain quality pipe and pressure tested in place at a pressure of 350 kPa (50 psi) using the testing methodology in Ontario Provincial Standard Specification 412 (OPSS 412).

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.2.4 Stormwater Management Facilities

Background

This section contains policies to address the following sewage works activities where they are considered a significant threat to sources of municipal drinking water:

- Stormwater management facilities including stormwater ponds, stormwater pipes and their discharges

The policies do not apply to simple conveyance systems such as gutters, ditches, swales and culverts.

Stormwater discharge outlet

A stormwater management facility is a facility for the treatment, retention, infiltration or control of stormwater. Stormwater is made up of rainwater runoff, water runoff from roofs, snowmelt and surface runoff, all of which can contain contaminants such as pathogens, heavy metals, pesticide and hydrocarbons. Stormwater management ponds, which capture excess runoff and allow time for suspended pollutants to settle, are the most common end of pipe treatment system.

Significant Threat Circumstances

Certain stormwater management facilities (depending on the size and predominant land use of the drainage area) are considered a significant drinking water threat in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 8 to 10

For more details about significant threat circumstances see Appendix B.

Policy Intent

The policies recognize that while stormwater management facilities are designed to collect and treat runoff to help protect water quality, stormwater ponds and discharges should be located away from sources of municipal drinking water where possible.

The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any existing stormwater management facilities that meet the circumstances of a significant threat. Should one exist, the policies would require the MOECC to review, and if

necessary, amend the Certificate of Approval or Environmental Compliance Approval to ensure approval conditions are adequate to protect municipal sources of drinking water.

The policies are intended to ensure no new stormwater management facilities are established within Wellhead Protection Area “A” (within 100 metres of a municipal well) or within an Intake Protection Zone scored 10. However, there is an exemption, subject to certain stipulations, when the municipality owns the entire Wellhead Protection Area “A” and maintains it in a natural state that protects the source of municipal drinking water. This exemption is designed to encourage municipal ownership of Wellhead Protection Area “A” for new developments. The result is an area within 100 metres of the municipal well with one municipally owned and managed drinking water threat (stormwater pond) versus an area that is fully developed containing multiple threats (e.g., sanitary sewers, on-site sewage systems, road salt use).

The policies are intended to permit the establishment of stormwater management facilities that would be a significant threat in Wellhead Protection Area “B” with a vulnerability score of 10 and Intake Protection Zones with a vulnerability score of 8 to 9. It is recommended that new facilities within these areas are designed and constructed in compliance with enhanced level protection standards as described in the *Stormwater Management Planning and Design Manual,* MOECC 2003.

These policies will be accomplished through Certificates of Approval or Environmental Compliance Approvals required by the MOECC under the *Ontario Water Resources Act.* For stormwater management facilities not governed by a Prescribed Instrument, the policies will be accomplished through a Risk Management Plan or prohibition under Section 57 of the *Clean Water Act.*

Policies

Policy: SEW-8-LB-PI-MC

Existing Stormwater Management Facility — Prescribed Instrument

Where an existing stormwater management facility is a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument that governs the facility (Certificate of Approval or Environmental Compliance Approval required under the *Ontario Water Resources Act)* includes appropriate terms and conditions to manage the threat so that it ceases to be significant. The MOECC shall review, and if necessary amend, the Prescribed Instrument within three years from the date the Source Protection Plan takes effect.

Policy: SEW-9-LB-PI/PA-MC

Future Stormwater Management Facility In Wellhead Protection Area "A" or Intake Protection Zone Scored 10 — Prescribed Instrument/*Planning Act* Decisions

Future stormwater management facilities that would be a significant drinking water threat as described in Appendix B are prohibited in the:

- Wellhead Protection Area "A"; and
- Intake Protection Zone with a vulnerability score of 10.

Accordingly, decisions to issue, otherwise create or amend Prescribed Instruments (Environmental Compliance Approvals required under the *Ontario Water Resources Act)* must conform with this policy. In addition, decisions made by planning authorities under the *Planning Act* must conform with this policy.

A stormwater management facility is exempt from this policy and instead subject to policy SEW-10-LB-PI-MC if:

- It is located within a Wellhead Protection Area "A" that is under municipal ownership and maintained in a natural state that protects source water;
- It is located at the outer perimeter of the Wellhead Protection Area "A" and a minimum of 30 metres from the municipal well; and
- It is located in an area where it can be demonstrated that there is no discernible hydrogeological connection between the surface and the aquifer supplying the municipal well.

Policy: SEW-10-LB-PI-MC

Future Stormwater Management Facility in Wellhead Protection area "B" Scored 10 or Intake Protection Zone Scored 8 to 9 — Prescribed Instrument

A future stormwater management facility that would be a significant drinking water threat as described in Appendix B is permitted in the:

- Intake Protection Zone with a vulnerability score of 8, 8.1 or 9
- Wellhead Protection Area "A" (under the exemption described in policy SEW-9-LB-PI/PA-MC)
- Wellhead Protection Area "B" with a vulnerability score of 10

The MOECC shall ensure that the Prescribed Instrument (Environmental Compliance Approval required under the *Ontario Water Resources Act)* that governs a stormwater management facility permitted to be established in these areas includes appropriate

terms and conditions to manage the threat so that it does not become significant. Where the Director considers it appropriate, terms and conditions will include a requirement that a new stormwater management facility be built to Enhanced Level Protection Standards as described in the Stormwater Management Planning and Design Manual, MOECC 2003.

Policy: SEW-11-LB-S58

Stormwater Management Facility — Risk Management Plan

A stormwater management facility that is not governed by a Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval) is designated for the purpose of Section 58 of the *Clean Water Act*, requiring a Risk Management Plan in the following situations:

a) An existing stormwater management facility that is a significant threat as described in Appendix B
b) A future stormwater management facility that would be a significant threat as described in Appendix B located within the:
    - Intake Protection Zone with a vulnerability score of 8, 8.1 or 9;
    - Wellhead Protection Area “A” (under the exemption described in policy SEW-9-LB-PI/PA-MC); and Wellhead Protection Area “B” with a vulnerability score of 10.

Where the Risk Management Official considers it appropriate, risk management measures will require that a new stormwater management facility be built to Enhanced Level Protection Standards as described in the Stormwater Management Planning and Design Manual, MOECC 2003. Risk Management Plans for existing stormwater management facilities shall be established within three years from the date the Source Protection Plan takes effect.

Policy: SEW-12-LB-S57

Stormwater Management Facility — Section 57 Prohibition

A stormwater management facility that is not governed by a Prescribed Instrument (Environmental Compliance Approval) is designated as prohibited under Section 57 of the *Clean Water Act in* the following situation:

a) A future stormwater management facility that would be a significant drinking water threat as described in Appendix B located within:
    - Intake Protection Zone with a vulnerability score of 10; and
    - Wellhead Protection Area “A.”

A stormwater management facility is exempt from this policy and instead subject to policy SEW-11-LB-S58 if:

- It is located within a Wellhead Protection Area “A” that is under municipal ownership and maintained in a natural state that protects source water;
- It is located at the outer perimeter of the Wellhead Protection Area “A” and a minimum of 30 metres from the municipal well; and
- It is located in an area where it can be demonstrated that there is no discernible hydrogeological connection between the surface and the aquifer supplying the municipal well.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.2.5 Other Sewage Works

Background

This section contains policies to address the remaining sewage works activities where they are considered a significant threat to sources of municipal drinking water:

- Sewage treatment plant effluent discharges and bypass discharges
- Industrial effluent discharges
- Storage of sewage
- Combined sewer discharges

For sewage treatment plant effluent and industrial effluent, the MOECC sets criteria for the quality of the effluent and the effluent is discharged to water bodies that have sufficient assimilative capacity to receive it without adverse impacts. Nevertheless, pathogens and numerous chemicals can still pose a contamination threat if effluent is discharged near sources of drinking water. When the capacity at a sewage treatment plant is overwhelmed, bypass discharges can occur which is partially treated or untreated sanitary waste that is released directly into the receiving water body. The storage of sewage is also a threat because storage tanks can leak or spills may occur. Combined sewers also pose a risk because they may discharge sanitary sewage containing human waste directly to surface water.


An aerial view of a sewage treatment plant

Policy Intent

The 2011 Assessment Reports for the Mississippi-Rideau region identified one existing storage of sewage activity in areas where sewage works are considered a significant threat. The policies are intended to ensure that adequate measures are in place to protect municipal drinking water sources. This will be accomplished through amendments to the existing Certificate of Approval or Environmental Compliance Approval required by the MOECC under the *Ontario Water Resources Act.* If the activity is not governed by a Prescribed Instrument, this will be accomplished through a Risk Management Plan.

The policies are also intended to ensure that these sewage works are never established in the future in areas where they would be considered a significant threat to municipal source water. This will be accomplished by not issuing new Prescribed Instruments in these areas or through prohibition under Section 57 of the *Clean Water Act* for activities that do not require an instrument.

KEY CONCEPT

Combined sewers collect sanitary sewage and stormwater in the same pipe. Under normal conditions all flow goes through the sewage treatment plant and gets treated before being discharged. However, during extreme wet weather events the system can become overwhelmed with too much water causing overflows. This is the discharge of untreated sewage that has bypassed the sewage treatment plant. Combined sewers are no longer permitted to be installed. Sanitary sewage and stormwater must be collected in separate pipes.

Significant Threat Circumstances

Other sewage works (depending on their type, designed flow rates and other characteristics) are considered a significant drinking water threat in:

- Wellhead Protection Areas with a vulnerability score of 8 or 10
- Intake Protection Zones with a vulnerability score of 8 to 10

For more details about significant threat circumstances see Appendix B.

Policies

Policy: SEW-13-LB-PI-MC

Existing "Other" Sewage Works — Prescribed Instrument

Where an existing sewage works is a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval required under the *Ontario Water Resources Act)* that governs the sewage works includes appropriate terms and conditions to ensure that it ceases to be a significant drinking water threat. This policy applies where the types of sewage works include:

- Sewage treatment plant effluent discharges
- Industrial effluent discharges
- Storage of sewage (excluding storage associated with the sewer network)
- Combined sewer discharge from a stormwater outlet to surface water

- Sewage treatment plant bypass discharge to surface water

The MOECC shall review and amend the Prescribed Instrument within three years from the date the Source Protection Plan takes effect.

Policy: SEW-14-LB-S58

Existing "Other" Sewage Works — Risk Management Plan

An existing sewage works that is not governed by a Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval) is designated for the purpose of Section 58 of the *Clean Water Act*, requiring a Risk Management Plan. This policy applies to the types of sewage works listed in policy SEW-13-LB-PI-MC in areas where the sewage works is a significant drinking water threat as described in Appendix B. Risk Management Plans shall be established within three years from the date the Source Protection Plan takes effect.

Policy: SEW-15-LB-PI/PA-MC

Future "Other" Sewage Works — Prescribed Instrument/*Planning Act* Decisions

Future sewage works of the types listed in policy SEW-13-LB-PI-MC are prohibited where they would be a significant drinking water threat as described in Appendix B. Accordingly, decisions to issue, otherwise create or amend Prescribed Instruments (Environmental Compliance Approvals required under the *Ontario Water Resources Act)* must conform with this policy. In addition, decisions made by planning authorities under the *Planning Act* must conform with this policy.

Policy: SEW-16-LB-S57

Future "Other" Sewage Works — Section 57 Prohibition

Future sewage works of the types listed in policy SEW-13-LB-PI-MC that are not governed by a Prescribed Instrument (Environmental Compliance Approval) are designated as prohibited under Section 57 of the

Clean Water Act in areas where they would be a significant drinking water threat as described in Appendix B.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.3 Road Salt and Storage of Snow

Road salt has the potential to contaminate groundwater and surface water with sodium and chloride. This has proven extremely problematic for communities that rely on groundwater as these contaminants are very difficult to remove. In addition, runoff from snow storage areas can contain road salt, oil, grease, heavy metals, litter and airborne pollutants.

Road salt application

Road salt use is increasing due to a variety of factors such as more roads and parking lots, climate change which increases the frequency of salt use and society's expectations regarding bare roads. Evidence is provided in a 2001 Environment Canada report that concluded that road salts are entering the environment in a quantity or concentration that have or may have an immediate or long-term harmful effect on the environment and that constitute or may constitute a danger to the environment on which life depends.

Given the potential for road salt and snow storage to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

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

As required by the *Clean Water Act,* this Plan contains policies to address these activities where they are considered a significant threat to municipal drinking water sources. The Source Protection Committee also decided to include policies to address these activities where they are considered a drinking water threat in Highly Vulnerable Aquifer areas.

Policy Intent

The policies recognize that road salt makes roads safe in northern climates and the accumulation of “snow piles” (where snow is pushed up into piles at the edge of a road or parking lot) is a result of necessary snow removal. Therefore, these threats cannot be eliminated from vulnerable drinking water areas. Instead, the policies rely on two widely recognized tools to manage these threats where they are a significant drinking water threat:

- Road Salt Management Plans
- Smart Salt Practices

Large snow dump

The intent of these tools is to manage road salt application in a way that leads to less salt being used per weather event. This in turn addresses the threat posed by snow piles because less salt use will lower chloride and sodium levels in snow. The 2011 Assessment Reports for the Mississippi-Rideau region identify that road salt application can be considered a significant threat in small parts of Carleton Place, Kemptville, Perth and Smiths Falls.

The policies also recognize that due to the highly vulnerable nature of the region’s aquifers and the increasing use of road salt, all municipalities should take steps to address this emerging environmental and drinking water issue. The recommendation is that all municipalities establish Road Salt Management Plans and promote smart salt practices in their communities.

The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any existing road salt storages or “snow dumps” (where snow is hauled to a central location by the truckload) in areas where they are considered a significant drinking water threat. Should one exist, the policies are intended to ensure risk reduction measures are in place to protect municipal drinking water sources. Future road salt storages and snow dumps would be prohibited in these areas under Section 57 of the *Clean Water Act.*

KEY CONCEPT

Smart Salt Practices involve:

- Equipment calibration — ensures salt is being measured properly
- Application rates — ensures only the needed amount of salt is used
- Use of liquids — a technique that improves safety with less salt
- Plowing — mechanical removal is an important salt management tool
- Use of low or no-chloride materials — reduces the amount of chloride released into the environment
- Material tracking — needed to properly manage salt use
- Training — so that all personnel have the skills to implement smart salt practices

A **Road Salt Management Plan** documents what a municipality currently does for winter maintenance and identifies affordable actions they can take to improve their management of road salt. Short-term actions that involve little cost include benchmarking spreader routes, calibrating existing equipment, establishing/reviewing level of service policies and tracking material usage. Longer-term actions could include improvements to storage and handling facilities and equipment upgrades or replacement. Road Salt Management Plan templates are available from the Ontario Good Roads Association at www.ogra.org.

Significant Threat Circumstances

The **handling and storage of road salt** is a significant threat if it is stored in a manner that may result in exposure to precipitation or runoff and if:

- 5,000 tonnes is stored in a Wellhead Protection Area with a vulnerability score of 10
- 5,000 tonnes is stored in an Intake Protection Zone with a vulnerability score of 9
- 500 tonnes is stored in an Intake Protection Zone with a vulnerability score of 10

The **application of road salt** is a significant threat depending on the percentage of total impervious surface area (impenetrable surfaces like roads and parking lots). This circumstance is met at:

- The Kemptville Wellhead Protection Area with a vulnerability score of 10
- The Carleton Place, Perth and Smiths Falls Intake Protection Zones with a vulnerability score of 10

The **storage of snow** is a significant threat, depending on where it is stored (below, at or above grade) and the area of the storage in hectares in:

- •Wellhead Protection Areas with a vulnerability score of 10
- •Intake Protection Zones with a vulnerability score of 9 or 10

For more details about significant threat circumstances see Appendix B.

Policies

Policy: SALT-1-LB-S58

Existing Storage of Road Salt and Snow (Snow Dumps) — Risk Management Plan

The existing storage of road salt and storage of snow (at snow dumps where snow is hauled from another location) are designated for the purpose of Section 58 of the *Clean Water Act*, requiring a Risk Management Plan in areas where the threat is significant as described in Appendix B. Risk Management Plans shall be established within three years from the date the Source Protection Plan takes effect.

Policy: SALT-2-LB-S57

Future Storage of Road Salt and Snow (Snow Dumps) — Section 57 Prohibition

The future storage of road salt and storage of snow (at snow dumps where snow is hauled from another location) are designated as prohibited under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B.

Policy: SALT-3-LB

Road Salt Management Plans — Significant Threats

Within one year of the Source Protection Plan taking effect, upper and lower tier municipalities with roads, sidewalks and municipally owned parking lots in the areas where road salt application and snow storage (snow piles) are or would be a significant drinking water threat as described in Appendix B, shall prepare and implement a Road Salt Management Plan for these areas in accordance with Environment Canada’s Code

of Practice for the Environmental Management of Road Salts. Areas outside of significant threat areas are subject to policy SALT-5-NLB.

Policy: SALT-4-LB

Smart Salt Practices — Significant Threats

Within one year of the Source Protection Plan taking effect, municipalities that have areas where road salt application and/or snow storage (snow piles) are or would be a significant drinking water threat as described in Appendix B shall begin to take the following action in these areas:

- Undertake initiatives such as a municipal staff training program to encourage smart salt practices for municipally owned parking lots, sidewalks and other public facilities
- Promote the Smart About Salt program to private contractors and encourage them to become Smart About Salt certified (Source Protection Authorities can assist with promotion)
- Promote the Smart About Salt program to managers of private facilities and encourage them to certify their sites and use certified contractors (Source Protection Authorities can assist with promotion)

Areas outside of significant threat areas are subject to policy SALT-6-NLB.

Policy: SALT-5-NLB

Road Salt Management Plans — Highly Vulnerable Aquifers

Within one year of the Source Protection Plan taking effect, upper and lower tier municipalities that apply road salt on roads, sidewalks and municipally owned parking lots in Highly Vulnerable Aquifers are strongly encouraged to prepare and implement a Road Salt Management Plan in accordance with Environment Canada's Code of Practice for the Environmental Management of Road Salts.

Policy: SALT-6-NLB

Smart Salt Practices — Highly Vulnerable Aquifers

Within one year of the Source Protection Plan taking effect, municipalities within Highly Vulnerable Aquifers are strongly encouraged to begin to:

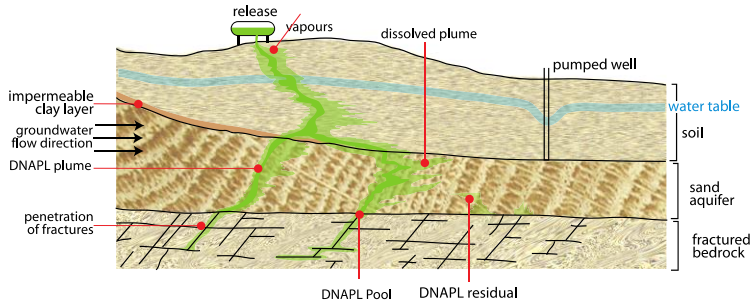
- Undertake initiatives such as a municipal staff training program to encourage smart salt practices for municipally owned parking lots, sidewalks and other public facilities
- Promote the Smart About Salt program to private contractors and encourage them to become Smart About Salt certified (Source Protection Authorities can assist with promotion)
- Promote the Smart About Salt program to managers of private facilities and encourage them to certify their sites and use certified contractors (Source Protection Authorities can assist with promotion)

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements

3.4 Dense Non-aqueous Phase Liquids (DNAPLs) and Organic Solvents

Background

Dense non-aqueous phase liquids (DNAPLs) are chemical compounds that are denser than water and do not dissolve readily in water. Organic solvents are carbon-based substances that are capable of dissolving or dispersing other substances. Both are used in a variety of commercial and industrial settings and are found in such products as paints, adhesives, degreasing and cleaning agents and in the production of dyes, plastics, textiles, printing inks and pharmaceuticals.



An illustration of DNAPL migration

Many organic solvents are recognized as carcinogens, reproductive hazards and neurotoxins so they would pose a serious health risk if they contaminated drinking water sources. DNAPLs are particularly dangerous near sources of drinking water because:

- A small amount can cause toxic levels of contamination for human health
- They defy conventional cleanup methods because they sink in water (this means spilled DNAPLs travel quickly and deeply through rock and soil making them nearly impossible to find or remove from groundwater)

- They do not dissolve readily in water creating toxic pools that can remain for decades or centuries

Given the potential for DNAPLs and organic solvents to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

- The handling and storage of a dense non-aqueous phase liquid
- The handling and storage of an organic solvent

As required by the *Clean Water Act*, this Plan contains policies to address these activities where they are considered a significant threat to sources of municipal drinking water.

Policy Intent

The policies recognize that DNAPLs and organic solvents are highly hazardous substances and any future use should be located outside of areas where they are considered a significant threat. However, the policies acknowledge that the risks associated with the use of these substances can be managed through the implementation of risk management measures where necessary to accommodate existing businesses.

As of 2012, it is estimated that there are 11 potential properties where DNAPLs/organic solvents may be in use in areas where they would be considered a significant threat.

The policies are therefore intended to ensure that where DNAPL and organic solvent use is considered a significant drinking water threat:

- Risk Management Plans are established for existing businesses to set out and ensure compliance with risk management measures. The policy does not stipulate risk management measures, instead these measures should be customized to suit the property, activity and business.
- The future handling and storage of the listed DNAPL and organic solvent substances is prohibited (thereby prohibiting the establishment of new businesses involving the use of these substances).

In addition, the education policies outlined in Section 4 will raise awareness about these substances, alternative products and proper disposal among all residents in vulnerable areas.

Significant Threat Circumstances

The handling and storage of certain types of **DNAPLs** is a significant threat in any quantity in:

- Wellhead Protection Area A, B, and C (any vulnerability score)
- Intake Protection Zones with a vulnerability score of 10

The reason DNAPLs are considered a significant threat in such a large area is because once they contaminate groundwater they are nearly impossible to capture and they do not dissipate. If DNAPLs contaminate a source of municipal drinking water, it is possible that a new municipal well or drinking water source would have to be established.

The handling and storage of certain types and quantities of **organic solvents** is a significant threat in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 10

For more details about significant threat circumstances see Appendix B.

Policies

Policy: DNAPL-1-LB-S58

Existing DNAPLs and Organic Solvents — Risk Management Plan

The existing handling and storage of DNAPL and organic solvent substances is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is significant as described in Appendix B. Risk Management Plans shall be established within three years from the date the Source Protection Plan takes effect. Retail sales establishments are excluded from the Risk Management Plan requirement. This policy applies to these DNAPL and organic solvent substances in the quantities and at the locations listed in Appendix B:

DNAPLs	Organic Solvents
Dioxane-1,4	Carbon tetrachloride
Polycyclic Aromatic Hydrocarbons (PAHs)	Chloroform
Tetrachloroethylene (PCE) (or PERC)	Methylene chloride (dichloromethane)

DNAPLs	Organic Solvents
Trichloroethylene (TCE)	Pentachlorophenol

Policy: DNAPL-2-LB-S57

Future DNAPLs and Organic Solvents — Section 57 Prohibition Where the Vulnerability Score is 10

The future handling and storage of the DNAPL and organic solvent substances listed in policy DNAPL-1-LB-S58 is designated as prohibited under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

Policy: DNAPL-3-LB-S57

Future DNAPLs— Section 57 Prohibition Where the Vulnerability Score is is 4 to 8 in Wellhead Protection Areas "B" and "C" in quantities greater than 25 liters.

The future handling and storage of the DNAPL listed in policy DNAPL-1-LB-S58 is designated as prohibited in quantities greater than 25 liters under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B. Retail sales establishments are excluded from this prohibition.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

Policy: DNAPL-4-LB-S58

Future DNAPLs— Risk Management Plan Where the Vulnerability Score is 4 to 8 in Wellhead Protection Areas "B" and "C" for quantities less than 25 liters

The future handling and storage of DNAPL under 25 liters is designated for the purpose of Section 58 of the *Clean Water Act*, requiring a Risk Management Plan in areas where the threat is significant as described in Appendix B. Risk Management Plans shall be established within three years from the date the Source Protection Plan takes effect. Retail sales establishments are excluded from the Risk Management Plan requirement.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.5 Fuel

Background

Spills or leaks during the handling or storage of fuel can result in surface water or groundwater becoming contaminated with BTEX and petroleum hydrocarbons. BTEX is an acronym for benzene, toluene, ethylbenzene and xylene. Benzene is a known carcinogen and ethylbenzene may be carcinogenic and could produce birth defects. BTEX are highly water soluble and can travel long distances in groundwater and surface water. Petroleum hydrocarbons are mixtures of organic compounds that occur in substances that originate in geological formations such as oil, bitumen and coal. Petroleum hydrocarbons can cause an array of negative health effects to the reproductive, respiratory, immune and nervous systems.

Given the potential for fuel to contaminate drinking water sources, the *Clean Water Act* designated the following activity as a prescribed drinking water threat:

- The handling and storage of fuel

As required by the *Clean Water Act*, this Plan includes policies to address these activities where they are considered a significant threat to municipal drinking water sources.

3.5.1 Fuel (Heating) Oil

This section contains policies to address fuel oil which is any fuel regulated by the Technical Standards and Safety Authority (TSSA) under the *Technical Standards and Safety Act,* Ontario Regulation 213/01 and the Ontario Installation Code for Oil Burning Equipment. The TSSA enforces Ontario's *Technical Standards and Safety Act* under the Ministry of Consumer Services. In general, this is fuel that is handled or stored for the purpose of heating buildings or powering standby generators. Home heating oil used to fuel furnaces is included in this category. Liquid fuel, such as fuel used in motor vehicles, is addressed in Section 3.5.2.

Storage of fuel oil

Policy Intent

The policies recognize that oil is the home heating fuel of necessity or choice for many residents. Therefore, it is not reasonable to require conversions to other fuels since there are many measures that can be taken to greatly reduce the risk of leaks and spills. These measures also have the added benefit of protecting homes and private wells from contamination and protecting homeowners from the potentially devastating financial impacts of a spill. As of 2012, it is estimated that there are 300 potential properties with fuel oil storage in areas where this activity is considered a significant threat.

The policies are therefore intended to ensure risk management measures are in place in areas where fuel handling and storage is a significant drinking water threat. In this case, the policy recommends the minimum content of the Risk Management Plan to address specific risks such as old style single walled steel tanks with side feed and to standardize good stewardship practices such as annual inspections. Where fuel is being handled or stored at a municipal drinking water system (usually to fuel back-up generators in the event of a power outage), the risk management measures will be established through their existing Prescribed Instruments (licenses and approvals issued under the *Safe Drinking Water Act)* rather than through a Risk Management Plan.

The policies are also intended to promote the voluntary implementation of risk management measures where fuel handling and storage is a moderate threat to drinking water, especially where outdoor tanks are in use. Outdoor tanks are associated with a higher rate of leaks as they are exposed to harsh and changing weather conditions as well as other hazards. This will be accomplished through the Education and Outreach policies in Section 4.

The policies also encourage the TSSA and the Ministry of Consumer Services to consider source water protection in their code review process and promote the importance of regular maintenance.

Significant Threat Circumstances

The handling and storage of fuel is a significant threat if it is stored at a facility* and if

- 250 litres is stored below or partly below grade in a Wellhead Protection Area with a vulnerability score of 10
- 2,500 litres is stored at or above grade in a Wellhead Protection Area with a vulnerability score of 10
- 2,500 litres is stored at or above grade in an Intake Protection Zone with a vulnerability score of 10

*"Facility" under Ontario Regulation 213/01 means an installation (including homes) where fuel oil is handled. This encompasses fuel oil storage for furnaces, boilers, water heaters and standby generators but excludes vehicles, lawnmowers and portable storage like jerry cans.

For more details about significant threat circumstances see Appendix B.

Policies

Policy: FUEL-1-LB-S58

Fuel (Heating) Oil — Risk Management Plan

The existing or future handling and storage of fuel at a facility as defined in Section 1 of Ontario Regulation 213/01 except for the handling and storage of fuel regulated under the *Safe Drinking Water Act* is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B. Risk Management Plans shall have the following minimum content (except where alternate measures are determined to be as protective of drinking water sources):

- Single-walled steel tanks with side feed must be replaced at 10 years old
- Single-walled steel tanks with bottom-feed must be replaced at 15 years old
- Double-bottom steel tanks with bottom-feed must be replaced at 25 years old (or earlier if a leak detection device indicates a leak)
- Replacement tanks must not be side feed and must be more leak resistant than single-walled steel (e.g., fiberglass or double-bottomed steel for indoor; double-walled with leak detection for outdoor)
- Replacement or new tanks must be outfitted with a tank tray to capture fuel in the event of an overfill or small leak

- Oil lines must be installed and maintained in a manner that protects them from physical damage
- Annual inspections must be carried out by a certified Oil Burner Technician (or equally qualified person) as required under Section 13 of the Ontario Installation Code for Oil-Burning Equipment
- Prompt repairs or upgrades must be made to address deficiencies noted in the annual inspection
- Property owners are advised to hold pollution liability insurance
- Procedures to follow in the event of a spill
- Unused fuel oil tanks must be decommissioned in accordance with Section 6.16 of the Ontario Installation Code for Oil-burning Equipment

The Risk Management Plans for existing activities shall be established within three years from the date the Source Protection Plan takes effect.

Policy: FUEL-2-LB-PI-MC

Fuel (Heating) Oil — Prescribed Instrument

Where the handling and storage of fuel associated with the drinking water system (existing and/or future) is or would be a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument that governs the system (approvals issued under the *Safe Drinking Water Act)* includes appropriate terms and conditions so that:

a) The handling and storage of fuel (existing) ceases to be a significant drinking water threat; or
b) The handling and storage of fuel (future) never becomes a significant drinking water threat.

The MOECC should consider including in the terms and conditions the risk management measures listed in policy FUEL-1-LB-S58. The MOECC shall comply with part (a) of this policy within three years from the date the Source Protection Plan takes effect.

Policy: FUEL-3-NLB

Fuel (Heating) Oil — Recommendations to the TSSA and Ministry of Consumer Services

Where the handling and storage of fuel at a facility as defined in Section 1 of Ontario Regulation 213/01 is or would be a significant drinking water threat as described in

Appendix B, the Ministry of Consumer Services and the Ministry of the Environment and Climate Change are strongly encouraged to consider source water protection during the next scheduled code review.

In addition, the TSSA is strongly encouraged to continue to include information regarding new code requirements and leak resistant technology in its communications products and request fuel suppliers to:

a) Promote to their customers the importance of regular maintenance as described in Section 13 of the Ontario Installation Code for Oil-burning Equipment to increase
b) awareness of and compliance with this requirement (this could be accomplished by printing a reminder on the fuel bill)

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.5.2 Liquid Fuel

This section contains policies to address liquid fuel. Liquid fuel is gasoline or an associated product used as fuel in motor vehicles and other equipment. Liquid fuel is primarily regulated by the Technical Standards and Safety Authority (TSSA) under the *Technical Standards and Safety Act,* Ontario Regulation 217/01 and the *Liquid Fuels Handling Code, 2007.* The TSSA enforces *Ontario's Technical Standards and Safety Act* under the Ministry of Consumer Services.

Storage of liquid fuel

The types of facilities where liquid fuel is handled or stored fall into three categories:

- Refineries (facilities that manufacture or refine fuel)
- Licensed facilities (bulk plant, retail outlet, marina, cardlock/keylock)
- Private outlets (such as fire stations, RV parks, municipal garages, farms)

Fuel oil (such as home heating oil) is addressed in Section 3.5.1.

Policy Intent

The policies make a distinction between fuel focused businesses (refineries and licensed facilities such as gas stations) and businesses or public services that store fuel on site to support their operations (private outlets such as farms or fire stations). Fuel focused businesses are usually associated with larger volumes of fuel and they do not have a need to be located in vulnerable drinking water areas.

There are no refineries in the Mississippi-Rideau region. Furthermore, the 2011 Assessment Reports for the Mississippi-Rideau region did not identify any existing licensed facilities in areas where they would be considered a significant threat. Should one exist, the policies allow them to continue to operate subject to the many mandatory risk management measures already required by the TSSA (measures such as leak prevention and detection technologies).

Significant Threat Circumstances

The handling and storage of fuel is a significant threat if it is stored at a facility* or a premises that manufactures or refines fuel and if:

250 litres is stored below or partly below grade in a Wellhead Protection Area with a vulnerability score of 10

- 2,500 litres is stored at or above grade in a Wellhead Protection Area with a vulnerability score of 10
- 2,500 litres is stored at or above grade in an Intake Protection Zone with a vulnerability score of 10

*”Facility” under Ontario Regulation 217/01 means a permanent or mobile retail outlet, bulk plant, marina, cardlock/keylock or private outlet where gasoline or an associated product is handled other than in portable containers.

For more details about significant threat circumstances see Appendix B.

The policies also intend to ensure the future handling and storage of liquid fuel at refineries and licensed facilities is prohibited where it would be considered a significant drinking water threat. This will essentially prohibit the establishment of new fuel focused businesses in these vulnerable areas. This will be accomplished through prohibition under Section 57 of the *Clean Water Act.*

The policies are intended to allow existing and future storage and handling of liquid fuel at private outlets with the implementation of adequate risk management measures. This will not limit the storage of fuel necessary for non-fuel based businesses, public works and public services. This will be accomplished through a Risk Management Plan because private outlets are not monitored as regularly by the TSSA as licensed facilities. As of 2012, it is estimated that there are 10 potential properties that could be subject to this requirement.

Policies

Policy: FUEL-4-NLB

Liquid Fuel at Existing Licensed Facilities — The TSSA's Existing Procedures

Where the handling and storage of fuel at an existing bulk plant, cardlock/keylock or retail outlet including a marina (licensed facilities) as defined in Section 1 of Ontario Regulation 217/01 is a significant drinking water threat as described in Appendix B, this activity shall continue to be managed through existing regulatory requirements. The existing requirements under Ontario Regulation 217/01 and the Liquid Fuels Handling Code administered by the TSSA already manage this activity so that it is not a significant threat to drinking water.

Policy: FUEL-5-LB-S57

Liquid Fuel at Future Licensed Facilities and Refineries — Section 57 Prohibition

The future handling and storage of fuel at a bulk plant, cardlock/keylock or retail outlet, including a marina (licensed facilities) as defined in Section 1 of Ontario Regulation 217/01 or at a facility that manufactures or refines fuel is designated as prohibited under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B.

Policy: FUEL-6-LB-S58

Liquid Fuel at Private Outlets — Risk Management Plan

The existing or future handling and storage of fuel at a private outlet as defined in Section 1 of Ontario Regulation 217/01 is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B. Risk Management Plans shall have the following minimum content:

- New installations must be above ground if feasible and installed in accordance with Ontario Regulation 217/01 and the Liquid Fuels Handling Code
- Tanks and piping systems must be tested and monitored in accordance with Section 7 of the Liquid Fuels Handling Code
- Dispensing operations must be in compliance with Section 6 of the Liquid Fuels Handling Code
- Owner/operator is advised to hold pollution liability insurance
- Procedures to follow in the event of a spill
- Decommissioning of unused fuel tanks must be in accordance with the Liquid Fuels Handling Code

The Risk Management Plans for existing handling and storage of fuel at private outlets shall be established within three years from the date the Source Protection Plan takes effect.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.6 Commercial Fertilizer

Background

Commercial fertilizer is a substance containing nitrogen, phosphorus and potassium (or other plant food intended for use as a plant nutrient) that is applied to land to improve the growth of crops. Commercial fertilizer can be a source of chemical contaminants, mainly nitrogen, if it is improperly applied to land or spilled during handling and storage.

Application of commercial fertilizer

Given the potential for commercial fertilizer to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

- The application of commercial fertilizer
- The handling and storage of commercial fertilizer

As required by the *Clean Water Act,* this Plan contains policies to address these activities where they are considered a significant threat to sources of municipal drinking water.

Significant Threat Circumstances

The handling and storage of commercial fertilizer is considered a significant drinking water threat when more than 2,500 kilograms is stored for retail sale or in relation to its application within:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 10

Any amount of commercial fertilizer applied to land is considered a significant drinking water threat in areas where the level of agricultural activity and other land management activities are already high (determined by livestock density and the percentage of managed lands). In the Mississippi-Rideau region, this circumstance is only met in the following area:

- Munster Wellhead Protection Area with a vulnerability score of 10 (2011 Assessment Reports)

Policy Intent

The policies are intended to prohibit the future storage of commercial fertilizer for the purpose of retail sale where it would be considered a significant threat to municipal drinking water. Retail facilities are commonly associated with larger volumes of fertilizer stored for longer periods of time and it is unnecessary that new ones be located where they would pose a significant threat.

The policies are also intended to ensure that best management practices are being implemented when the land application, handling and storage of commercial fertilizer is taking place where it is considered a significant threat. This includes the existing storage of commercial fertilizer for retail sale. Best management practices will be documented and enforced through Risk Management Plans except for the application of commercial fertilizer already governed by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) through Nutrient Management Plans under the Nutrient Management Act. As of 2012, it is estimated that in the Mississippi-Rideau region there

are four properties where commercial fertilizer use may require a Risk Management Plan.

Best management practices for residential use of commercial fertilizer will be promoted through education policy EDU-1-LB outlined in Section 4.

Policies

Policy: FERT-1-LB-PI-MC

Commercial Fertilizer — Prescribed Instrument

Where the application of commercial fertilizer (existing and/or future) that is or would be a significant drinking water threat as described in Appendix B is governed by a Prescribed Instrument (Nutrient Management Plan developed under General Regulation 267/03 of the *Nutrient Management Act),* this activity shall continue to be managed through these existing requirements. The existing regulatory requirements administered by the Ontario Ministry of Agriculture, Food and Rural Affairs and the corresponding compliance program enforced by the MOECC already manage this activity so that it is not a significant threat to drinking water.

Policy: FERT-2-LB-S58

Commercial Fertilizer — Risk Management Plan

The following activities related to commercial fertilizer are designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B:

- Existing handling and storage for retail sale
- Existing and future non-residential handling and storage in relation to application
- Existing and future non-residential application

The Risk Management Plan should demonstrate and ensure compliance with Canadian Fertilizer Institute guidelines and codes of practice where appropriate. The Risk Management Plans for existing activities shall be established within three years from the date the Source Protection Plan takes effect. This policy does not apply to:

- Activities governed by Nutrient Management Plans developed under the *Nutrient Management Act*

Policy: FERT-3-LB-S57

Future Retail Storage of Commercial Fertilizer — Section 57 Prohibition

The future handling and storage of commercial fertilizer for retail sale is designated as prohibited under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.7 Pesticide

Background

The term pesticide as defined under the *Pesticides Act* includes herbicides, insecticides and fungicides. These products contain numerous chemicals of concern that could make their way into surface or groundwater as a result of the application of pesticide to land or due to spills during handling and storage.

Given the potential for pesticide to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

- The application of pesticide
- The handling and storage of pesticide

Under the Act, these activities are only a drinking water threat if the pesticide contains one of the following 11 chemicals (they are all active ingredients

in herbicides except Dichloropropene-1,3 which is used to control nematodes and Metalaxyl which is a fungicide):

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

- Pendimethalin
- Dicamba

As required by the *Clean Water Act*, this Plan contains policies to address these activities where they are considered a significant threat to sources of municipal drinking water.

Policy Intent

Ontario has a Cosmetic Pesticides Ban which prohibits the application of pesticide for cosmetic purposes on lawns, gardens, patios, driveways, cemeteries, parks and school yards. Exempted users such as golf courses must become accredited for Integrated Pest Management and report annually to the public about how they have minimized their pesticide use. Commercial exterminators and operators must be licensed under the Ontario Pesticide Training and Certification Program. Farmers and pesticide vendors must be certified under the Ontario Pesticide Education Program. The policies recognize the highly regulated nature of pesticide use in Ontario and simply:

- Encourage the MOECC to give consideration to inspections in areas where pesticide use is considered a significant threat.
- Request that the MOECC consider requiring training/certification for all pesticide use that is or would be a significant threat (currently the use of some types of pesticide that pose a significant threat do not require the course).
- Direct the MOECC to ensure adequate risk management measures are in place for pesticide use that is governed by instruments issued under the Pesticides Act (mainly aerial spraying).
- Promote the importance of adhering to the Cosmetic Pesticides Ban and the importance of complying with all content of the training and certification programs required for exempted uses (this will be accomplished through education policy EDU-1-LB outlined in Section 4.

As of 2012, it is estimated that there are nine properties in the Mississippi-Rideau region where application or non-commercial storage of pesticide is a significant drinking water threat.

The policies are also intended to prohibit the future establishment of commercial pesticide storage (manufacturing, processing or wholesaling facility, retail outlet or custom applicator’s storage facility) where it would be a significant threat to drinking water. These activities are generally associated with larger volumes of pesticide stored for longer periods of time and it is unnecessary that new ones be located where they would pose a significant threat. The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any existing commercial pesticide storage. Should one

exist, the policies will require a Risk Management Plan to ensure best management practices are in place to protect municipal drinking water.

Policies

Policy: PEST-1-NLB

Pesticide Inspections

The MOECC is strongly encouraged to integrate source water protection information, such as the location of vulnerable drinking water areas, into the criteria used by program managers and inspectors to determine inspection priorities related to pesticide use in areas where the application, handling and storage of pesticide is or would be a significant drinking water threat as described in Appendix B. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Policy: PEST-2-NLB

Pesticide Education Programs

The MOECC is strongly encouraged to undertake a program analysis of the Ontario Pesticide Education Program and the Ontario Pesticide Training and Certification Program. The analysis should consider the need for training/certification to be required for all pesticide application, handling and storage that is or would be a significant drinking water threat as described in Appendix B. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Policy: PEST-3-LB-PI-MC

Pesticide Use — Prescribed Instrument

Where the application of pesticide (existing and/or future) is or would be a significant drinking water threat as described in Appendix B, the MOECC shall ensure that the Prescribed Instrument that governs the activity (approvals issued under the *Pesticides Act)* includes appropriate terms and conditions so that:

a) The application of pesticide (existing) ceases to be a significant drinking water threat; or
b) The application of pesticide (future) never becomes a significant drinking water threat.

The MOECC shall comply with part (a) of this policy within three years from the date the Source Protection Plan takes effect.

Policy: PEST-4-LB-S58

Existing Commercial Storage of Pesticide — Risk Management Plan

The existing handling and storage of pesticide at a manufacturing, processing or wholesaling facility, retail outlet or custom applicator's storage yard is designated for the purpose of Section 58 of the *Clean Water Act*, requiring a Risk Management Plan in areas where the threat is significant as described in Appendix B. The Risk Management Plans shall be established within three years from the date the Source Protection Plan takes effect.

Policy: PEST-5-LB-S57

Future Commercial Storage of Pesticide — Section 57 Prohibition

The future handling and storage of pesticide at a manufacturing, processing or wholesaling facility, retail outlet or custom applicator's storage yard is designated as prohibited under Section 57 of the *Clean Water Act* in areas where the threat would be significant as described in Appendix B.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements

3.8 Outdoor Livestock Areas

Background

Nitrogen, total phosphorus and pathogens (such as *E. coli)* are contaminants that could make their way into surface water and groundwater from outdoor livestock areas. Pathogens are microscopic organisms capable of producing infections or infectious disease in humans. Pathogens such as Salmonella, *Campylobacter* and pathogenic *E. coli (E. coli* O157:H7 was the pathogen in the Walkerton tragedy) can be excreted from a range of livestock including cattle (dairy and beef), sheep, swine and poultry. Infected animals can excrete tens to thousands of these pathogens per gram of fecal matter. Surface water is especially vulnerable to contamination from pathogens.

Grazing and pasturing area

Given the potential for outdoor livestock areas to contaminate drinking water sources, the *Clean Water Act* designated the following activities as a prescribed drinking water threat:

KEY CONCEPT

Outdoor livestock areas include:

- **Grazing and pasturing** which refers to forage crop production where animals do the harvesting. The animals are kept at low density (two to three animals per acre) often on a rotational basis.
- **Outdoor Confinement Areas** which are enclosures with no roof with a very high animal concentration (typically greater than 15 animals per acre) where animals are fed and watered, and grazing provides less than 50 percent of their feed.
- **Farm-Animal Yards** which are enclosures with no roof and a high animal concentration where food and water are not provided. They are generally used as outdoor exercise areas or holding areas for when barns are being cleaned out.
- The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard (referred to as “outdoor livestock areas” in this Plan)

As required by the *Clean Water Act,* this Plan contains policies to address these activities where they are considered a significant threat to sources of municipal drinking water.

Policy Intent

The policies to address outdoor livestock areas recognize that best management practices are the key to preventing livestock operations from contaminating drinking water sources. For large or expanding farms that are subject to the requirements of the *Nutrient Management Act,* best management practices for outdoor confinement areas and farm-animal yards are entrenched in the operations' customized Nutrient Management Strategies. For farms and outdoor livestock areas not addressed by this Act, a Risk Management Plan will ensure appropriate best management practices are in place to protect drinking water sources.

A Risk Management Plan recognizes a farm's existing good stewardship actions, identifies areas for improvement and provides formal assurance that action will be taken where needed. In the Mississippi-Rideau region (as of 2012) it is estimated that there are 23 properties with outdoor livestock areas that may require a Risk Management Plan.

Small, non-intensive farms are exempt from requiring a Risk Management Plan. Instead, best management practices will be promoted through education policy EDU-1-LB outlined in
Section 4.

Significant Threat Circumstances

The use of land as livestock grazing or pasturing, an outdoor confinement area or a farm-animal yard for one or more animals is considered a significant threat in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 8 to 10

The reason the use of land by one or more animals is considered a significant threat in these areas is because they pose a pathogen threat. Since pathogens can cause serious health problems, a minimum number of animals is not set, rather the presence of any farm animals is considered a significant threat within a certain proximity to a municipal drinking water source. Surface water is especially vulnerable to contamination from pathogens, which is why the policies extend out to an Intake Protection Zone scored 8.

Policies

Policy: LIVE-1-LB-PI-MC

Outdoor Livestock Areas — Prescribed Instrument

Where the use of land as an outdoor confinement area or a farm-animal yard (existing and/or future) that is or would be a significant drinking water threat as described in Appendix B is governed by a Prescribed Instrument (Nutrient Management Strategy developed under General Regulation 267/03 of the *Nutrient Management Act),* this activity shall continue to be managed through these existing requirements. The existing regulatory requirements administered by the Ontario Ministry of Agriculture, Food and Rural Affairs and the corresponding compliance program enforced by the MOECC already manage this activity so that it is not a significant threat to drinking water.

Policy: LIVE-2-LB-S58

Outdoor Livestock Areas — Risk Management Plan

The existing or future use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B. The Risk Management Plans for existing activities shall be established within three years from the date the Source Protection Plan takes effect. This policy does not apply to:

- Small, non-intensive farms where the number of farm animals is not sufficient to generate five or more nutrient units of manure annually and the concentration is less than one nutrient unit per acre of cropland
- Activities that are governed by Nutrient Management Strategies developed under the Nutrient Management Act.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.9 Agricultural Source Material (ASM)

Background

Agricultural source material (ASM) is material produced on a farm and applied to land, usually

as a fertilizer. The most common example is manure. Before being applied, ASM may be stored in a variety of ways including above or below grade, temporary field storage or longer term lagoon storage.

The improper storage or application of ASM can contaminate surface water or groundwater with nitrogen, phosphorus or pathogens. Pathogens, such as *E. coli,* are microscopic organisms capable of causing serious infections or infectious disease in humans.

Storage of agricultural source material

Given the potential for ASM to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

- The application of agricultural source material
- The storage of agricultural source material

As required by the *Clean Water Act,* this Plan includes policies to address these activities where they are considered a significant threat to sources of municipal drinking water.

KEY CONCEPT

Agricultural Source Material (ASM) is material produced on a farm and applied to land to improve the growth of crops and for soil conditioning. ASM may include:

- Manure and bedding material
- Runoff from farm-animal yards and manure storages
- Wash water such as milking centre waste
- Anaerobic digestion output where at least 50 percent of the anaerobic digestion material were on-farm and does not contain sewage (anaerobic digestion is the process by which organic materials in an enclosed vessel are broken down by

micro-organisms in the absence of oxygen; the process produces a liquid effluent called anaerobic digest output or digestate)

Policy Intent

The policies are intended to ensure that the storage and land application of ASM, in areas where it is considered a significant threat, is undertaken in a way that provides effective protection of municipal drinking water sources. This can be accomplished through the establishment of Risk Management Plans which provide an opportunity for discussion, flexibility and agreement regarding suitable best management practices while providing the assurance that these practices will be implemented if they are not already in place.

The policies recognize that some ASM activities are already regulated by the Ontario Ministry of Agriculture, Food and Rural Affairs under the *Nutrient Management Act.* For farms that already have Nutrient Management Strategies or Nutrient Management Plans in place that address the application and storage of ASM, a Risk Management Plan is not required. The policies also recognize that some ASM users pose a lower risk to drinking water and mandatory requirements would be unreasonable. Small, non-intensive farms, and other small users like gardeners, are exempt from requiring Risk Management Plans. Instead best management practices will be promoted through education policy EDU-1-LB outlined in Section 4.

In the Mississippi-Rideau region (as of 2012) it is estimated that there are 52 properties where ASM is applied or stored that may require a Risk Management Plan.

Significant Threat Circumstances

The use of land as livestock grazing or pasturing, an outdoor confinement area or a farm-animal yard for one or more animals is considered a significant threat in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 8 to 10

The reason the use of land by one or more animals is considered a significant threat in these areas is because they pose a pathogen threat. Since pathogens can cause serious health problems, a minimum number of animals is not set, rather the presence of any farm animals is considered a significant threat within a certain proximity to a municipal drinking water source. Surface water is especially vulnerable to contamination from pathogens, which is why the policies extend out to an Intake Protection Zone scored 8.

KEY CONCEPT

A **nutrient unit** (NU) is a unit of measurement developed to standardize the nutrients generated by different sizes and types of livestock. One nutrient unit represents the number of animals required to produce 43 kg of nitrogen or 55 kg of phosphorus annually. For example, 5 NUs equals 40 dairy goats, 3.5 large frame dairy cows or five medium frame horses.

Policies

Policy: ASM-1-LB-PI-MC

Agricultural Source Material — Prescribed Instrument

Where the land application or storage of agricultural source material (existing and/or future) that is or would be a significant drinking water threat as described in Appendix B is governed by a Prescribed Instrument (Nutrient Management Strategy or Plan developed under General Regulation 267/03 of the *Nutrient Management Act),* this activity shall continue to be managed through these existing requirements. The existing regulatory requirements administered by the Ontario Ministry of Agriculture, Food and Rural Affairs and the corresponding compliance program enforced by the MOECC already manage this activity so that it is not a significant threat to drinking water.

Policy: ASM-2-LB-S58

Agricultural Source Material — Risk Management Plan

The existing or future land application or storage of agricultural source material is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B. The Risk Management Plans for existing activities shall be established within three years from the date the Source Protection Plan takes effect. This policy does not apply to:

- Small, non-intensive farms where the number of farm animals is not sufficient to generate five or more nutrient units of manure annually and the concentration is less than one nutrient unit per acre of cropland
- Activities that are governed by Nutrient Management Strategies or Nutrient Management Plans developed under the Nutrient Management Act

- Residential use of ASM such as bagged manure applied to gardens

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.10 Non-agricultural Source Material (NASM)

Background

Non-agricultural source material (NASM) is material produced off-farm, such as biosolids, that is used as a fertilizer. The improper storage or application of NASM can contaminate surface water or groundwater with nutrients (such as nitrogen and phosphorus) or pathogens. Pathogens, such as *E. coli,* are microscopic organisms capable of causing serious infections or infectious disease in humans.


Application of non-agricultural source material

Given the potential for NASM to contaminate drinking water sources, the *Clean Water Act* designated the following activities as prescribed drinking water threats:

- The application of non-agricultural source material
- The handling and storage of non-agricultural source material

As required by the *Clean Water Act,* this Plan contains policies to address these activities where they are considered a significant threat to municipal drinking water sources.

KEY CONCEPT

Non-agricultural Source Material (NASM) is material other than commercial fertilizer that is not produced on a farm that is applied to land to improve the growth of crops and for soil conditioning. NASM may include:

- Pulp and paper biosolids
- Sewage biosolids (treated sewage from sewage treatment plants)
- Anaerobic digestion output where less than
- 50 percent of the anaerobic digestion material were on-farm

Any other material that is not from an agricultural source that can be applied to land as nutrients (such as waste materials from food processing)

Policy Intent

Most application and storage of NASM requires a NASM Plan to be prepared pursuant to the *Nutrient Management Act* and Ontario Regulation 267/03. The NASM Plan ensures compliance with the NASM standards and includes measures to protect water such as separation distances from wells and surface water, maximum application rates, safe storage and contingency plans. However, there are some circumstances where a NASM Plan is not required but the activity is still considered a significant drinking water threat. The policies are intended to fill this regulatory gap by requiring that a Risk Management Plan be prepared to document the measures that will be taken to protect drinking water.

Some types of NASM are regulated by instruments issued under *the Environmental Protection Act.* In this situation, the policies are intended to ensure that the MOECC requires measures to protect sources of municipal drinking water through terms and conditions attached to these instruments.

The 2011 Assessment Reports for the Mississippi-Rideau region did not identify any existing handling, storage or application of NASM that are considered significant drinking water threats.

This type of NASM poses a pathogen threat. Since pathogens can cause serious health problems, any amount of this NASM is considered a significant threat within a certain proximity to a municipal drinking water source.

Significant Threat Circumstances

The **application** of NASM that **does not contain material from a meat plant or sewage works** is only considered a significant drinking water threat in:

- •The Munster Wellhead Protection Area with a vulnerability score of 10 (2011 Assessment Reports)

This type of NASM poses a nutrient threat. NASM applied to land is therefore considered a significant threat in areas where the level of agricultural activity and other land management activities are already high (determined by livestock density and the percentage of managed lands). These circumstances are only met at Munster.

The **storage** of NASM that **does not contain material from a meat plant or sewage works** is considered a significant drinking water threat depending on the location of storage (above or below grade), the type of storage (permanent or temporary field storage) and the mass of nitrogen in tonnes when the storage is located in:

- Wellhead Protection Areas with a vulnerability score of 10
- Intake Protection Zones with a vulnerability score of 9 or 10

The **application or storage** of any amount of NASM that **contains material from a meat plant or sewage works** is considered a significant drinking water threat in:

- •Wellhead Protection Areas with a vulnerability score of 10
- •Intake Protection Zones with a vulnerability score of 8 to 10

Policies

Policy: NASM-1-LB-PI-MC

Non-agricultural Source Material — Prescribed Instrument (under the *Nutrient Management Act)*

Where the application, handling or storage of non-agricultural source material (existing and/or future) that is or would be a significant drinking water threat as described in Appendix B is governed by a Prescribed Instrument (NASM Plan developed under

General Regulation 267/03 of the *Nutrient Management Act),* this activity shall continue to be managed through these existing requirements. The existing regulatory requirements administered by the Ontario Ministry of Agriculture, Food and Rural Affairs and the corresponding compliance program enforced by the MOECC already manage this activity so that it is not a significant threat to drinking water.

Policy: NASM-2-LB-PI-MC

Non-agricultural Source Material — Prescribed Instrument (under the *Environmental Protection Act)*

Where the application, handling or storage of non-agricultural source material (existing and/or future) is or would be a significant drinking water threat as described in Appendix B and is governed by a Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval under the *Environmental Protection Act)* the MOECC shall ensure the instrument includes appropriate terms and conditions so that:

a) The application, handling and storage of non-agricultural source material (existing) ceases to be a significant drinking water threat; or
b) The application, handling and storage of non-agricultural source material (future) never becomes a significant drinking water threat.

The MOECC shall comply with part (a) of this policy within three years from the date the Source Protection Plan takes effect.

Note that if the material is untreated septage, the future application is prohibited through policies

WASTE-3-LB-PI-MC and WASTE-4-LB-S57.

Policy: NASM-3-LB-S58

Non-agricultural Source Material — Risk Management Plan

The existing and future land application, handling or storage of non-agricultural source material is designated for the purpose of Section 58 of the *Clean Water Act,* requiring a Risk Management Plan in areas where the threat is or would be significant as described in Appendix B. The Risk Management Plans for existing activities shall be established within three years from the date the Source Protection Plan takes effect.

This policy does not apply to:

- •Activities that are governed by an approval issued under the *Environmental Protection Act*
- • Activities that are governed by a NASM Plan developed under the *Nutrient Management Act*

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.11 Aquaculture

Aquaculture involves farm-raising cultured fish in facilities that are located in water or on land. These operations generate fish manure and other by-products like uneaten feed and dead fish which are considered agricultural source material. This agricultural source material can be a source of pathogens which can contaminate surface water or groundwater.

Given the potential for aquaculture to contaminate drinking water sources, the *Clean Water Act* designated the following activity as a prescribed drinking water threat:

- The management of agricultural source material — aquaculture.

Aquaculture facility

Under the *Clean Water Act,* this activity is not considered a significant drinking water threat in any area. The Source Protection Committee decided to include policies to address this activity where it is considered a moderate threat to sources of municipal drinking water.

Policy Intent

To establish a new commercial aquaculture facility, approval is required from the Ontario Ministry of Natural Resources and Forestry. An aquaculture license must be obtained in accordance with the *Fish and Wildlife Conservation Act* and *Ontario Regulation 664/98.* The aquaculture license may have conditions pertaining to pathogens and diseases and require reporting of some disease organisms. Facilities would also typically require a Certificate of Approval or Environmental Compliance Approval under the *Ontario Water Resources Act* for discharge of water from the facility and a Permit to Take Water in some situations. Aquaculture is not currently regulated under the *Nutrient Management Act.*

Local knowledge indicates there are no existing aquaculture facilities located in areas where they would be considered a moderate threat to municipal drinking water sources.

The policies are intended to ensure that agencies consider the potential impact of aquaculture on sources of municipal drinking water when amending existing instruments (should an existing facility be found) or issuing new instruments for aquaculture facilities. This includes approvals of the location for the initial establishment of the business and when issuing approvals for the withdrawing of water and managing of sewage during the operation of the business.

Moderate Threat Circumstances

The use of land or water for aquaculture is considered a moderate drinking water threat in:

- Intake Protection Zones with a vulnerability score of 9 or 10

For more details about threat circumstances see Appendix B.

Policies

Policy: AQUA-1-LB-PI-HR

Use of Land or Water For Aquaculture — Prescribed Instrument

Where the use of land or water for aquaculture (existing and/or future) is or would be a moderate drinking water threat as described in Appendix B and requires a Prescribed Instrument (Certificate of Approval or Environmental Compliance Approval or Permit to Take Water under the *Ontario Water Resources Act),* the MOECC shall ensure:

a) Amendments to an existing instrument includes appropriate terms and conditions that address the threat and protect drinking water sources; or

b) The future instrument includes appropriate terms and conditions that address the threat and protect drinking water sources.

Policy: AQUA-2-NLB

Use of Land or Water for Aquaculture – *Fish and Wildlife Conservation Act* Approvals

The Ontario Ministry of Natural Resources and Forestry is strongly encouraged to consider the proximity to and potential impact on drinking water sources during their review of applications for future aquaculture facilities subject to approvals under the *Fish and Wildlife Conservation Act* and the aquaculture regulations. This policy applies where the use of land or water for aquaculture is a moderate threat to drinking water (an Intake Protection Zone with a vulnerability score of 9 or 10). When approving a location for a new facility, preference should be given to locations outside of these zones. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.12 Aircraft De-Icing

Background

Aircraft de-icing materials contain dioxane-1,4 and ethylene glycol. There are toxicity concerns associated with certain glycols and the additives that are mixed into glycol formulations. Runoff that contains these chemicals can contaminate groundwater and surface water.

De-iced aircraft

Given the potential for aircraft de-icing to contaminate drinking water sources, the *Clean Water Act* designated the following activity as a prescribed drinking water threat:

- The management of runoff that contains chemicals used in the de-icing of aircraft.

Significant Threat Circumstances

Runoff containing de-icing materials that originates at a **national** airport is a significant threat in:

- Wellhead Protection Areas with a score of 10
- Intake Protection Zones with a score of 9 or 10

Runoff containing de-icing materials that originates at a **regional** airport is a significant threat in:

- Intake Protection Zones with a score of 10

As required by the *Clean Water Act,* this Plan includes policies to address this activity where it is considered a significant threat to sources of municipal drinking water.

Policy Intent

The 2011 Assessment Reports for the Mississippi-Rideau region confirmed there are no national or regional airports in areas where de-icing runoff would be considered a significant threat. In future, it is unlikely that an airport could be established in these areas due to lack of space and incompatible existing land uses. The policies are therefore intended to ensure that aircraft de-icing runoff originating at a national or regional airport is prohibited under Section 57 of the *Clean Water Act* where it would be considered a significant threat.

Policies

Policy: DEICE-1-LB-S57

Aircraft De-icing — Section 57 Prohibition

The future management of runoff that contains chemicals used in the de-icing of aircraft and originating at a national or regional airport is designated as prohibited under Section 57 of the *Clean Water Act* where it would be a significant threat as described in Appendix B.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.13 Transportation Corridors

Background

Transportation corridors refer to roads, railways and shipping lanes. The transportation of dangerous or hazardous goods along these corridors is a concern because a spill could contaminate surface water or groundwater.

Spill response

Given the potential for drinking water sources to become contaminated along transportation corridors, the *Clean Water Act* allows policies to be developed that address this concern. Policies can recommend updating spill prevention and contingency plans or Emergency Response Plans. The Source Protection Committee decided to include policies in this Plan to address transportation corridors within Wellhead Protection Areas and Intake Protection Zones. These policies apply to highways as defined in subsection 1(1) of the *Highway Traffic Act* and railway lines.

Policy Intent

The policies are intended to reduce the impact of a spill by ensuring appropriate and effective spill response within Wellhead Protection Areas and Intake Protection Zones. Under the *Emergency Management and Civil Protection Act,* municipalities are already required to identify and assess hazards and risks to public safety that could give rise to emergencies and identify the facilities and other elements of the infrastructure that are at risk of being affected by emergencies. The Act also requires municipalities to have Emergency Response Plans but it does not specify that drinking water systems and associated vulnerable areas be included. The policies are intended to encourage municipalities to update their Emergency Response Plans to include this information.

The MOECC also plays an important role in spill response, primarily through their Spills Action Centre. It is imperative that they also integrate information about vulnerable drinking water areas into their procedures. The policies are intended to encourage the MOECC to ensure such steps have been taken. Complementary education policies in Section 4 are also intended to reduce the potential of spills in these vulnerable areas.

The policies (EDU-2-NLB, EDU-3-NLB and EDU-4-NLB) strongly encourage the Ontario Ministry of Transportation and municipalities to install standardized signs along provincial and municipal roadways and recreational waterways. These signs would notify travellers when they enter the most vulnerable sections of a Wellhead Protection Area or Intake Protection Zone. This awareness is intended to motivate people to undertake precautions, and should there be a spill, report it quickly.

Policies

Policy: CORR-1-NLB

Municipal Emergency Response Plan Updates

Within one year of the Source Protection Plan taking effect, municipalities are strongly encouraged to ensure that local first responders have information about the Wellhead Protection Areas and Intake Protection Zones (which will be marked by road and waterway signs) and should update Emergency Response Plans to include:

- Maps to show the location of municipal drinking water systems and associated Wellhead Protection Areas and Intake Protection Zones.
- Requirements to contain water and chemicals used to suppress fires that occur in these areas, if appropriate.
- Spill contingency measures for spills of any potential contaminant (e.g., fuel, chemicals, septage) resulting from highway accidents and train derailments that occur in these areas, if appropriate.

This policy applies to railways and highways* as defined in subsection 1(1) of the *Highway Traffic Act* within Wellhead Protection Areas and Intake Protection Zones (all scores).

*a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicles and includes the areas between the lateral property lines thereof.

Policy: CORR-2-NLB

Ministry of the Environment and Climate Change Spill Response Procedure Updates

The MOECC is strongly encouraged to update spill response procedures for the purpose of protecting drinking water sources with respect to spills that occur within a

Wellhead Protection Area or Intake Protection Zone along highways and railway lines. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements

3.14 Transport Pathways

Background

The *Clean Water Act* regulations define transport pathways as “a condition of land resulting from human activity that increases the vulnerability of a raw water supply of a drinking water system.” In essence, transport pathways provide a channel to an aquifer that bypasses the natural protection of the overburden layer resulting in greater potential risk of contamination from nearby threats. Transport pathways may facilitate the movement of contaminants vertically (a well or a quarry) or laterally (sewer lines) and result in faster or more widespread distribution of contaminants.

KEY CONCEPT

Earth (Geothermal) Energy Systems

Below a certain depth, ground temperature is relatively constant all year long. The ground is warmer than the air in winter and cooler in summer. An earth energy system harnesses this underground temperature to heat and cool buildings. An open loop system uses groundwater from a well or series of wells. A closed loop system uses heat transfer fluids and does not involve withdrawing and discharging groundwater. Both types of systems involve drilling and or excavating that may impact water quality by creating a pathway through which contaminants can reach groundwater (a transport pathway). The MOECC is now considering requiring an Environmental Compliance Approval for some types of earth energy systems.

Policy Intent

The policies are intended to encourage agencies to enhance their monitoring and regulation of wells, pits, quarries and earth (geothermal) energy systems; activities that can act as transport pathways.

Complementary education policies in Section 4 raise awareness about the risks transport pathways can pose to groundwater and best management practices that can reduce these risks. The education initiatives will also promote funding that is available to assist property owners with the cost of projects that eliminate transport pathways such as properly decommissioning abandoned wells.

Policies

Municipalities should note that Ontario Regulation 287/07 (under the *Clean Water Act)* already contains the following notification requirements pertaining to transport pathways:

27(3) If a person applies to a municipality for approval of a proposal to engage in an activity in a Wellhead Protection Area or a surface water Intake Protection Zone that may result in the creation of a new transport pathway or the modification of an existing transport pathway, the municipality shall give the Source Protection Authority and the Source Protection Committee notice of the proposal and shall include a description of the proposal, the identity of the person responsible for the proposal and a description of the approvals the person requires to engage in the proposed activity.

27(4) If a municipality gives a notice described in Subsection 27(3), the municipality shall give a copy of the notice to the person responsible for the proposal.

Policy: PATH-1-NLB

Oversight of Earth (Geothermal) Energy Systems

In addition to their role under the *Building Code Act,* the municipality is strongly encouraged to require additional measures to ensure that new earth energy systems within Wellhead Protection Areas do not endanger the raw water supply of a municipal drinking water system.

The municipality should:

- In Wellhead Protection Area “A,” prohibit the installation of all types of earth energy systems.

In Wellhead Protection Area “B,” require a qualified hydrogeologist to oversee* the design and installation of new earth energy projects (with the exception of horizontal,

closed loop systems) to ensure that the construction of the system meets the requirements of the *Ontario Building Code* and will not result in contamination of groundwater. For a residential system, the hydrogeologist should assess the potential

- of encountering problems (such as multiple aquifers, cross-connection of aquifers of differing water quality, high yield formations, gas, salty water) and make recommendations to mitigate them including alterations to the design of the system.
- Keep records of the location, size and other pertinent details of new earth energy systems within Wellhead Protection Areas.

Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

- The Canadian Standards Association standard already requires that a commercial/institutional system be designed and inspected by a professional engineer and requires a site survey by a hydrogeologist.

Policy: PATH-2-NLB

Well Regulations

The MOECC is strongly encouraged to undertake an updated risk-based program analysis of the compliance program associated with the Wells Regulation [R.R.O., 1990 Regulation 903(Wells) as amended, made under the *Ontario Water Resources Act,* R.S.O., 1990, c. O. 40].

The program analysis should consider:

- Increased MOECC field presence with well contractors
- Complaint response prioritization where the presence of a transport pathway would endanger sources of municipal drinking water
- Focusing resources in areas where improperly constructed, maintained or abandoned wells may increase the potential threat to municipal drinking water sources

Action to implement this policy should be initiated within two years from the date the Source Protection Plan takes effect.

Policy: PATH-3-NLB

Approvals for Pits and Quarries

The Ontario Ministry of Natural Resources and Forestry is strongly encouraged to implement measures to ensure that new pits and quarries located within Wellhead Protection Areas do not endanger the raw water supply of a municipal drinking water system. Measures may include requiring proponents to conduct an assessment of potential impacts and if necessary develop plans to mitigate impacts and/or circulating proposals to the Ministry of the Environment and Climate Change or other agencies for review. Action to implement this policy should be initiated within one year from the date the Source Protection Plan takes effect.

Implementing bodies should see Section 5 for corresponding monitoring policies which could contain reporting requirements.

3.15 Administrative Policies

Background

There are three types of administrative policies that need to be directed at municipalities and other implementers to help implement the source protection policies. They are:

- Restricted Land Use policies which require a procedure to be established to help implement Section 57 (Prohibition) and Section 58 (Risk Management Plan) policies.
- An Official Plan and zoning by-law conformity policy which requires planning documents to be updated to help implement policies that affect decisions under the Planning Act.
- Existing and future special provisions which set out criteria to determine if an activity is considered existing or future.

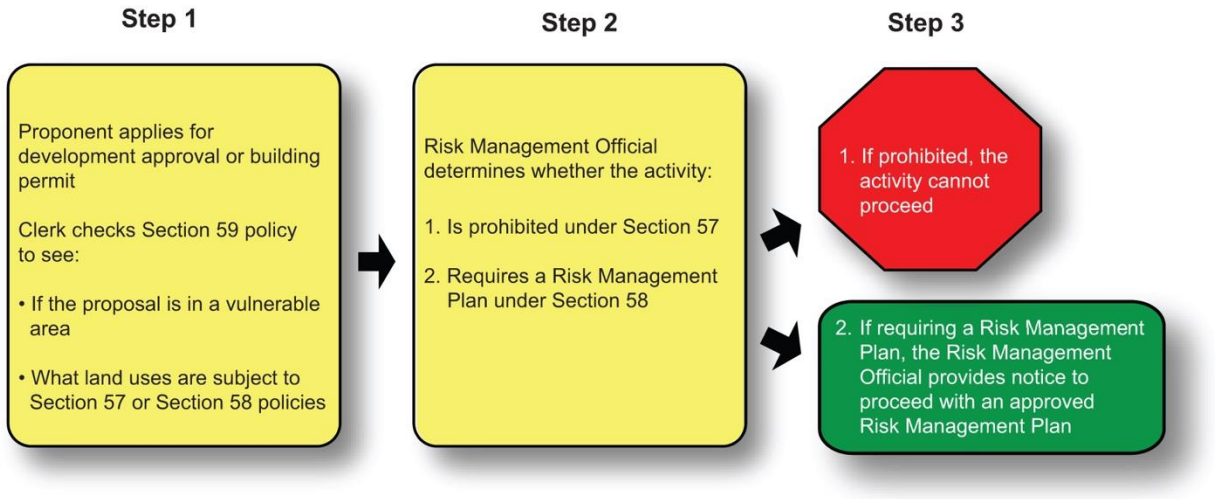
3.15.1 Restricted Land Use

Policy Intent

Restricted Land Use policies require municipalities to screen planning applications and applications under the Building Code to determine if the proposed activities are subject to Section 57 (Prohibition) or Section 58 (Risk Management Plan) policies. The purpose is to help municipalities avoid inadvertently approving an application without complying with Source Protection Plan policies first. Restricted Land Use policies (through Section 59 of the *Clean Water Act)* reference the land use types and vulnerable areas where applications need to be screened. If an application is made for an activity that is prohibited by this Plan, then the application cannot proceed. If an application is made for an activity that is subject to a Risk Management Plan, then the proponent must work

with the Risk Management Official to establish a Risk Management Plan before the application can proceed.

Section 59 Screening Process



Policies

Policy: ADMIN-1-LB

Restricted Land Use Policy — Intake Protection Zones and Wellhead Protection Areas Where the Vulnerability Score is 10

All land uses identified within the Official Plan and/or Zoning By-Laws are designated for the purpose of Section 59 of the *Clean Water Act* if they are located within:

- Intake Protection Zones with a vulnerability score of 10; or
- Wellhead Protection Areas with a vulnerability score of 10.

Within these designated land use categories and areas, a notice from the Risk Management Official in accordance with Section 59(2) of the *Clean Water Act* shall be required prior to approval of any *Planning Act* application (as prescribed in Ontario Regulation 287/07 section 62) or Building Permit application.

Despite the above policy, a site specific proposed land use that is the subject of an application for an approval under the *Planning Act* or for a permit under the *Building Code Act,* is not designated for the purposes of Section 59 if the applicant can demonstrate to the satisfaction of the planning authority or the building official that a

significant drinking water threat activity designated for the purposes of Section 57 or 58 of the Clean Water Act will not be engaged in.

Policy: ADMIN-2-LB

Restricted Land Use Policy — Intake Protection Zones Scored 8 to 9 and Wellhead Protection Areas "B" and "C" Scored 4 to 8

All land uses, with the exception of solely residential land uses, identified within the Official Plan and/or Zoning By-Laws are designated for the purpose of Section 59 of the *Clean Water Act* if they are located within:

- Intake Protection Zones with a vulnerability score of 8, 8.1 or 9; or
- Wellhead Protection Areas "B" or "C" with a vulnerability score of 4, 6 or 8.

Within these designated land use categories and areas, a notice from the Risk Management Official in accordance with Section 59(2) of the *Clean Water Act* shall be required prior to approval of any *Planning Act* application (as prescribed in Ontario Regulation 287/07 section 62) or Building Permit application.

Despite the above policy, a site specific proposed land use that is the subject of an application for an approval under the *Planning Act* or for a permit under the *Building Code Act,* is not designated for the purposes of Section 59 if the applicant can demonstrate to the satisfaction of the planning authority or the building official that a significant drinking water threat activity designated for the purposes of Section 57 or 58 of the *Clean Water Act* will not be engaged in.

3.15.2 Official Plan and Zoning By-Law Conformity

Policy Intent

Municipalities regulate development through their powers under the *Planning Act.* Updating the Official Plan and zoning by-laws, which are the tools that municipal planning authorities use, will help to ensure that decisions on planning matters will be consistent with Source Protection Plan policies.

While decisions under the *Planning Act* must conform with significant threat policies as soon as a Source Protection Plan is in effect, Official Plans and zoning by-laws can be updated to reflect these policies at the time of the next scheduled review.

Under this Source Protection Plan, Official Plan and zoning by-law updates need to reflect the prohibition of the future establishment of certain types of sewage works consistent with policies:

- SEW-9-LB-PI/PA-MC
- SEW-15-LB-PI/PA-MC

Official Plans must also be updated to reflect the Restricted Land Use Policies, the Transition Policy and the Interruptions / Expansions Policy:

- ADMIN-1-LB
- ADMIN-2-LB
- ADMIN-4-LB
- ADMIN-5-LB

This conformity can be accomplished by adding maps showing the Wellhead Protection Areas and Intake Protection Zones and the list of land uses subject to Restricted Land Use policies (explained in section 3.15.1).

Policies

Policy: ADMIN-3-LB

Official Plan and Zoning By-Law Conformity

Where this Source Protection Plan specifies that Section 40 and 42 of the *Clean Water Act* apply (see Appendix A, List A), the municipality shall amend their Official Plan and Zoning By-Laws to conform with significant threat policies in this Source Protection Plan. Official Plans must be updated no later than the date of their next five-year review required under Section 26 of the *Planning Act* and zoning by-laws must be updated within three years of the Official Plan amendments to bring them into conformity with the Official Plan.

Policy: ADMIN-4-LB

Transition Policy

A drinking water threat activity that is established or commences after the date the Source Protection Plan takes effect is considered existing and is subject to policies addressing existing activities when:

The activity is related to a development proposal where an application was made or an approval was obtained under the *Planning Act* or the *Condominium Act* on a date before

the date this Source Protection Plan takes effect. (Note that the activity would also be considered “existing” with respect to any further applications under the

- *Planning Act, Condominium Act,* or Prescribed Instruments required to implement the development proposal).
- The activity is related to an application made or an approval was obtained under the Building Code Act on a date before the date this Source Protection Plan takes effect.
- The activity is related to an application made or an approval was obtained for the issuance or amendment of a Prescribed Instrument on a date before the date this Source Protection Plan takes effect.

Policy: ADMIN-5-LB

Interruptions / Expansions Policy

A drinking water threat activity that resumes after an interruption or expands after the date the Source Protection Plan takes effect is considered existing and is subject to policies addressing existing activities when:

- It is usually occurring on the property but has been interrupted for a maximum of 24 months due to temporary circumstances such as fire, renovation, change of ownership or due to the seasonal nature of the activity
- It involves an expansion of an existing activity but the expanded activity would be more protective of drinking water sources
- It involves an expansion of the existing physical space but does not result in an expansion of the existing activity (unless the expansion of the activity is more protective of drinking water sources)
- It involves an expansion of the existing activity that is minor such that:
- It does not require regulatory or planning approvals; and
- It is not part of, or was not preceded by, an expansion of the physical space that required regulatory or planning approvals.

3.15.3 Existing and Future — Special Provisions

Policy Intent

Some policies in this Source Protection Plan manage existing drinking water threat activities but prohibit any new activities of the same type from being established in the future (this prevents additional significant drinking water threat activities from being

created but allows existing activities to continue while being appropriately managed). Generally an existing activity is one that is occurring on the date this Source Protection Plan takes effect and a future activity is one that commences after the date the Source Protection Plan takes effect (see the definitions on page 22). However, the following Transition Policy and Interruptions / Expansions Policy stipulates circumstances when an activity that commences, resumes or expands after the date the Source Protection Plan takes effect can be considered existing and, therefore, subject to the policies for existing activities.