DRINKING WATER SOURCE PROTECTION
ACT FOR CLEAN WATER

CATARAQUI Source Protection Area

How will the Source Protection Plan affect municipal decisions?

Municipality
Area: Sydenham Intake Protection Zone 1
Water Source: Sydenham Lake

The Importance of Source Protection

Drinking water source protection is intended to ensure that activities do not pollute our sources of drinking water. Some chemicals are not removed from water, even with a water treatment system. In some cases when the pollution cannot be cleaned up, the resulting contamination can ruin a water source forever. It is much easier to keep water clean than it is to try and clean it up after it has been polluted. Protecting drinking water sources can also benefit tourism and recreation, as well as providing good fish and wildlife habitat. More details about the benefits of source protection can be found **here.**

For source protection, particular activities that have the potential to pollute drinking water are called “drinking water threats”. This is because they pose a risk of pollution, especially if the activities are improperly managed. The source protection plan accounts for drinking water threats that already exist, and those that must or should be considered if they were to become established. Depending on their scale, the type of activity and their proximity to the source of drinking water, drinking water threats are ranked significant, moderate, or low.

Threats to drinking water exist in the Sydenham Intake Protection Zone (IPZ). The majority relate to the handling and storage of liquid fuel, and septic systems/holding tanks. There are policies within the Cataraqui Source Protection Plan (the Plan) to protect the drinking water source from activities occurring within the IPZ.

Intake Protection Zone One (IPZ-1)

IPZ-1 is one of three zones that form a complete IPZ. The IPZ is an area of land and water that contributes source water to a drinking water system (i.e. Sydenham Lake). Actions must or should be taken within the IPZ to protect the drinking water supply. IPZ-1 is defined as the immediate area surrounding the intake pipe in the lake that brings water into the drinking water treatment plant. It is

particularly important to prevent pollution in IPZ-1 because there is little time to react and little distance for any pollution to dissipate before reaching the intake pipe.

IPZ-1 has a vulnerability score of 9. Vulnerability scores refer to how vulnerable a drinking water source is to contamination. It is determined by considering the physical characteristics of the area and of the intake itself, including how easily contaminants could enter the waterbody, how long it would take contaminants to reach the intake, as well as the pathways that contaminants could travel along to reach the intake. A high vulnerability score like that of IPZ-1 means that certain activities are or could be significant drinking water threats, and therefore these activities require special attention by the municipality and others. In general, vulnerability scores are highest near intake points and lowest at the edge of the IPZ.

Requirements for Municipalities under the *Clean Water Act*

Planning decisions and documents

Decisions made under the *Planning Act* and the *Condominium Act* must conform to related significant drinking water threat policies in the Plan and have regard for moderate and low threat policies immediately following the Plan effective date. Planning documents should be updated to reflect Plan policies by at least the next five year review.

Transport pathway notification

The creation of a new transport pathway or the modification of an existing transport pathway has the potential to increase the vulnerability score of an intake protection zone. Additional landowners/businesses may become subject to binding source protection policies as a result of an increased vulnerability score in the IPZ. Examples of transport pathways include new or modified storm sewers, roadside ditches, sanitary sewers, and tile drainage.

Subsection 27(3) of Ontario Regulation 287/07 (General) under the *Clean Water Act requires* that:

If a person applies to the municipality for approval of a proposal that may create a new transport pathway/modify an existing transport pathway, the municipality *must* notify the source protection authority and the source protection committee of the proposal and *must* include a description of the proposal, identify the person responsible for the proposal, and describe the approvals required for the proposed activity.

On-site sewage systems

The Cataraqui Source Protection Plan as enabled by the *Building Code Act, 1992* and the Building Code encourages municipalities to ***establish*** an on-site sewage system maintenance inspection program for areas of the IPZ (such as IPZ-1) where the systems are moderate or low drinking water threats. The inspection confirms that the on-site sewage systems are functioning properly, and requires that failed/poorly functioning on-site sewage systems are remediated to protect source water.

Cataraqui Source Protection Plan

The Township of South Frontenac is responsible for providing safe drinking water to the village of Sydenham. The *Safe Drinking Water Act* includes a standard of care for individuals responsible for overseeing municipal drinking water systems. Responsible individuals include not only the operator of

the drinking water treatment facility, but also municipal councillors and staff with decision-making authority over the drinking water system. The intent is to ensure that the appropriate steps are taken in good faith by the individuals responsible for safeguarding the drinking water system. This responsibility includes the implementation of the Cataraqui Source Protection Plan**. Click here for more information on standard of care.**

The Plan has several policies to help the Township protect the source water. The following information is applicable to Sydenham IPZ-1, and is only a summary of the policies directly applicable to the municipality. It is provided as a scoped and plain language alternative to referencing the full **Plan**. For more detail, please refer to the Plan. Note that the policies relevant to municipalities belong to three different categories of implementation: comply with (CW), have regard to (HR), and non-binding (NB).

Plan Policy Summaries

To go directly to the section you are interested in, select it from the table below. If you want to see the policy as it appears in the Plan, simply click on the policy number and you will be directed to the appropriate chapter within the Plan.

Area of Interest	Included Topics
Risk Management Office – Part IV of the *Clean Water Act*	Risk management plans
	Prohibitions
	Restricted land use
Land Use Planning and Related Reporting	*Planning Act* risk management measures for development in sensitive groundwater areas*
	Prohibitions
	Risk management measures for development in IPZ
	Enhanced stromwater protection
Municipal Operations	Emergency and spill response
	Road salt management plans
	Management of hauled sewage
	Stormwater management programs
	Fertilizer-free buffer zone
	Source protection road signs
On-site Sewage Systems	Inspection program
Local Study	Lakeshore capacity study
Regional Programs	Education and outreach

* Highly vulnerable aquifers and in some cases significant groundwater recharge areas are present within intake protection zones; therefore, it is necessary to account for these policies as well.

Risk Management Office - Part IV of the *Clean Water Act*

7.3.1-CW: Risk management plans for agriculture-related activities.

Intent	Policy summary
Ensure that a risk management plan is developed to reduce the risk to source water by officially recognizing risk management measures already in place or including others to fill gaps in management.	The following activities are/would be significant drinking water threats: i. The storage of agricultural source material ii. The application of agricultural source material to land iii. The use of land for livestock Therefore, a risk management plan is *required* for these activities

7.3.2-CW: Risk management plans for small quantities of waste

Intent	Policy summary
Ensure that a risk management plan is developed to reduce the risk to source water by officially recognizing risk management measures already in place or including others to fill gaps in management.	The storage of hazardous waste at disposal sites in Sydenham IPZ-1 is a significant drinking water threat. Therefore, a risk management plan is *required* for these activities where they relate to existing or future uses. This policy applies to the storage of small amounts of waste generated onsite at a business/facility due to the nature of their activity (e.g. waste oil at an auto repair shop) but does not apply to infrequent events such as a do-it-yourself oil change at a private residence.

7.3.3-CW: Prohibition

Intent	Policy summary
Ensure that certain activities never become established in areas where they would be a significant drinking water threat.	The following activities, where they would be a significant drinking water threat, are prohibited from becoming established in Sydenham IPZ-1. The prohibited activities are: i. The application of pesticides ii. The management of runoff containing chemicals used to de-ice aircraft iii. The handling and storage of pesticides iv. The handling and storage road salt v. At/above-grade snow storage

7.3.4-CW: Restricted land uses

Intent	Policy summary
To flag proposed developments to ensure that any Part IV prohibition or risk management plan requirements are met prior to processing a *Planning Act*, *Condominium Act* or building permit application.	Any proposed developments in IPZ-1 that could involve the following activities must be forwarded to the Risk Management Official: i. The application of agricultural source material ii. The application of pesticides iii. The management of runoff containing chemicals used to de-ice aircraft iv. The use of land for livestock v. The handling/storage of pesticides vi. The storage of agricultural source material vii. The handling/storage of road salt viii. The storage of snow ix. The storage of hazardous wastes

Land use planning and related reporting

5.5.1-HR: *Planning Act* risk management measures in sensitive groundwater areas

Intent	Policy summary
To protect sensitive regional groundwater sources from contamination associated with particular types of development.	Municipalities reviewing proposals for new developments/expansions to an existing development in a highly vulnerable aquifer/significant groundwater recharge area, and involving certain activities, *should* incorporate risk management measures to protect groundwater quality. If there is evidence of surface karst formation, the municipality should require the developer to have a karst assessment performed to determine if any additional risk management measures may be required. For a list of example activities, please refer to the SPP. This requirement can be waived if the proponent can demonstrate that the property does not exhibit characteristics of a highly vulnerable area and/or significant groundwater recharge area.

5.5.2-NB: Monitoring implementation of 5.5.1-HR

Intent	Policy summary
To monitor the implementation of policy 5.5.1-HR.	Municipalities *should* provide the Cataraqui Source Protection Authority with copies of any approvals under the *Planning Act* or *Condominium Act* for applications in the highly vulnerable aquifers/significant groundwater recharge when the Notice of Decision is issued related to policy

	5.5.1-HR.

7.2.2-CW: Prohibited land use

Intent	Policy summary
Ensure that the listed land uses never become established where the associated activities would be a significant drinking water threat.	The following land uses *must* be prohibited from becoming established in the future in IPZ-1: waste disposal sites involving activities that would be a significant drinking water threat, wastewater treatment facilities that would be a significant drinking water threat. For more details regarding these activities, please refer to the SPP.

7.2.4-HR: Risk management measures

Intent	Policy summary
Encourage proposed developments to incorporate risk management measures to protect drinking water sources.	Proposals under the *Planning Act* or *Condominium Act* for new development/expansions to existing development *should* incorporate measures to manage the risk to drinking water associated with the proposed activities. These activities include: i. The handling/storage of a dense non-aqueous phase liquid (DNAPL) and/or organic solvent ii. The handling/storage of commercial fertilizer iii. The handling/storage of liquid fuel (e.g. at gas stations, marinas).

7.2.6-CW: Monitoring implementation of 7.2.2-CW

Intent	Policy summary
To monitor the implementation of policy 7.2.2-CW.	The municipality *must* provide the Cataraqui Source Protection Authority with copies of approvals under the *Planning Act* or *Condominium Act* for applications on properties in IPZ-1, when the Notice of Decision is issued related to policy 7.2.2-CW.

7.2.7-NB: Monitoring implementation of 7.2.4-HR

Intent	Policy summary
To monitor the implementation of 7.2.4-HR.	The municipality *should* provide the Cataraqui Source Protection Authority with copies of approvals under the *Planning Act* or *Condominium Act* for applications on properties in the IPZ, when

	the Notice of Decision is issued related to policy 7.2.4-HR.

7.3.5-HR: Enhanced stormwater protection

Intent	Policy summary
Encourage municipalities to require enhanced stormwater protection.	Municipalities *should* require proponents to incorporate stormwater management features (in accordance with best practices and that provide enhanced protection) into building and site plans. These features should reduce the volume of contaminants entering storm sewer systems and roadside ditches, or Sydenham Lake.

Municipal Operations

4.3.2-CW: Emergency and spill response

Intent	Policy summary
Ensure that municipalities are prepared for emergencies and spills within the vulnerable areas and have up-to-date procedures and information.	Municipalities *must* update their Emergency Management Plan and department supplemental plans to identify the location of the IPZ or WHPHA and also update procedures to manage the threat to the drinking water source in case an emergency or spill occurs related to a significant local transportation-related drinking water threat.

4.3.3-NB: Emergency and spill response for all IPZs

Intent	Policy summary
Encourage municipalities to be prepared for emergencies and spills within the vulnerable areas and have up-to-date procedures and information.	*ALL* municipalities that have an IPZ or WHPA *should* update their Emergency Management Plan and department supplemental plans in order to identify the location of these vulnerable areas, and to protect drinking water sources in case of an emergency, spill or unauthorized discharge along a highway/railway line/shipping lane.

4.7.2-NB: Road salt management plans

Intent	Policy summary
Encourage municipalities to update/establish salt management plans to account for vulnerable areas.	All municipal road authorities *should* review/update their salt management plans, taking into consideration the risk that salt operations/snow storage pose to drinking water sources. The Township should ***establish*** a salt management plan.

4.4.1-NB: Source protection road signs

Intent	Policy summary
Encourage the municipalities with WHPAs or IPZs to purchase and install source protection road signs.	As part of policy 4.4.1-NB, municipalities are responsible for the purchase, installation and maintenance of road signs (designed by the Province and the Source Protection Authority) which identify the location of the IPZ or WHPA. The signs should be placed where municipal arterial roads are located within the IPZ or WHPA.

4.4.4-NB: Municipal waste management programs

Intent	Policy summary
Reduce the overall impact of waste on drinking water sources through proper waste management.	All municipalities *should* evaluate their waste management programs and improve them in order to reduce the impacts of waste on drinking water sources.

4.7.3-NB: Management of hauled sewage

Intent	Policy summary
Encourage municipalities to protect drinking water sources where certain activities related to hauled sewage would be a moderate or low drinking water threat.	Municipalities *should* consider taking the following actions to protect drinking water sources where the application of hauled sewage to land, sewage treatment plant effluent discharges, and on-site sewage treatment systems are moderate or low drinking water threats: i. Managing the treatment of untreated septage at existing wastewater facilities and/or ii. Upgrading existing/constructing new facilities to handle demand and/or iii. Encouraging the use of alternative treatments.

7.2.8-NB: Stormwater management retrofits

Intent	Policy summary
To encourage the municipality to develop a strategy to address stormwater management.	The municipality *should* develop a strategy to address stormwater runoff in IPZ-1.

7.3.6-NB: Fertilizer-free buffer zone

Intent	Policy summary
Encourage the Township to establish buffer zones where no fertilizer is applied to municipally owned lands along the Sydenham Lake shoreline.	The Township of South Frontenac *should* establish fertilizer-free buffer zones between the sports fields in IPZ-1 and Sydenham Lake, in order to address the moderate drinking water threat caused by the application of commercial fertilizer to land.

On-site sewage systems

5.4.1-NB: Maintenance inspection program

Intent	Policy summary
Encourage municipalities to establish an on-site sewage system maintenance inspection program within sensitive groundwater areas as prioritized to reflect local circumstances.	Municipalities *should* establish an on-site sewage system (i.e. septic systems and holding tanks) maintenance inspection program to address drinking water threats. The inspection program should be consistent with the Ontario Building Code.

7.2.1-NB: On-site sewage system maintenance

Intent	Policy summary
Encourages municipalities to establish an on-site sewage system maintenance inspection program in some IPZs including Sydenham.	Municipalities *should* establish an on-site sewage system maintenance inspection program consistent with the Ontario Building Code and inspection guidelines under the code, in order to address moderate and low drinking water threats.

Local study

7.3.7-CW: Lakeshore capacity assessment

Intent	Policy summary
Ensure that the Township of South Frontenac considers conducting a lakeshore capacity assessment.	In order to identify the best local risk management measures to address significant drinking water threats related to agricultural runoff, the Township of South Frontenac *must* consider undertaking a lakeshore capacity assessment for Sydenham Lake. The assessment will determine the impact of on-site sewage systems, and agricultural runoff, on the water quality of Sydenham Lake.

Regional programs

4.4.2-CW: Education and outreach

Intent	Policy summary
Ensure the update of education/outreach materials to include drinking water source protection information.	Municipalities are expected to deliver education and outreach programs with the assistance of the Source Protection Authority. The Cataraqui Source Protection Authority *must* consider working with the municipality and with provincial partners to coordinate the update of education and outreach programs to include source protection information for use in IPZs and WHPAs where significant drinking water threats could/do exist.

4.4.3-NB: Education and outreach

Intent	Policy summary
Encourage the update of education/outreach materials to include drinking water source protection information.	Municipalities are expected to deliver education and outreach programs with the assistance of the Source Protection Authority. The Cataraqui Source Protection Authority *should* consider working with the municipality and with provincial partners to coordinate the update of education and outreach programs to include source protection information for use in IPZs and WHPAs where moderate or low drinking water threats could/do exist.

CATARAQUI REGION CONSERVATION AUTHORITY
1641 Perth Road • P.O. Box 160 • Glenburnie, ON • K0H 1S0
Telephone: (613) 546-4228 Fax: (613) 547-6474
E-mail: info@crca.ca Website: cleanwatercataraqui.ca & crca.ca

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