



## Essex Region Conservation Authority

### Essex Region Source Protection Committee Meeting Agenda

Meeting Date: Wednesday, February 8, 2023

Time: 4:00 pm

Location and Details: Essex Civic Centre, Room C

<b>List of Business</b>	<b>Page Number</b>
<b>1. Land Acknowledgement</b>	
<b>2. Call to Order</b>	
<b>3. Chair's Welcome</b>	
<b>4. Declarations of Conflict of Interest</b>	
<b>5. Approval of Agenda</b>	<b>1-3</b>
THAT the agenda for the Wednesday, February 8, 2023 meeting of the Essex Region Source Protection Committee (SPC) be approved.	
<b>6. Adoption of Minutes</b>	
<b>A. Essex Region Source Protection Committee (SPC)</b>	<b>4-8</b>
2022-11-09 Meeting Minutes	
THAT the minutes of the Source Protection Committee meeting held on Wednesday, November 9, 2022 be approved as presented.	

**B. Essex Region Source Protection Authority (ERSPA) x-x**

None

**7. Correspondence x-x**

1) Letter to MPPs Dowie, Leardi and Jones from Tim Byrne, CAO, ERCA

RE: Bill 23, More Homes Built Faster (2022)

2) Letter to CAOs of all Essex County Municipalities from Tim Byrne, CAO and James Bryant, Director of Watershed Management Services, ERCA

RE: Legislative and regulation changes affecting Conservation Authorities, effective January 1, 2023: Royal Assent of Bill 23, More Homes Built Faster Act (2022) and O. Reg. 596.22

3) Letter to Premier Ford, Minister Clark, Minister Smith and Minister Piccini from Tania Jobin, Chair, and Kieran McKenzie, Vice Chair, ERCA

RE: Bill 23, The More Homes Built Faster Act

**8. MECP Liaison's Update**

Presented by Beth Forrest

**9. Presentations**

None.

**10. Reports**

**A. SPC 01/23 9-14**

*S.36 Update – Dense non-aqueous phase liquids (DNAPLs)*

THAT the SPC receive the information in SPC Report 01.23 and provide direction on policy approach, and further;

THAT SPA staff prepare draft policies for review.

**B. SPC 02/23**

**15-22**

*S.36 Update – Combined Sewer Overflow/Sanitary Sewer Overflow Policy  
Amendments*

THAT the SPC receive the information in SPC Report 02.23 and provide direction on policy approach, and further;

THAT SPA staff prepare draft policies for review pending response from the City of Windsor.

**11. New Business**

None.

**12. Other Business**

To be presented during the virtual meeting of the SPC.

**13. Adjournment**

THAT the February 8, 2023 meeting of the Essex Region Source Protection Committee be adjourned.

**Next Meeting**

The next meeting of the Essex Region Source Protection Committee is to be held on March 8, 2023.



## Essex Region Source Protection Committee

### Report 01/23

From: Katie Stammler, Source Water Project Manager

Date: Tuesday, January 31, 2023

**Subject: S.36 Update – Dense non-aqueous phase liquids (DNAPLs)**

#### Recommendation

**THAT the SPC receive the information in SPC Report 01.23 and provide direction on policy approach and further;  
THAT SPA staff prepare draft policies for review.**

#### Summary

- The Table of Drinking Water Threats was updated in 2021
- The Handling and Storage of Dense Non-aqueous Liquids (DNAPLs) was previously only a SDWT in IPZ's with score of 10, in the 2021 Director Technical Rules, the vulnerability score was lowered to 9, making it a SDWT for Lakeshore IPZ-1, Windsor IPZ-1 and Amherstburg IPZ-1
- New policies are required in the Essex Region Source Protection Plan and will be included in the comprehensive s.36 update

#### Discussion

Dense non-aqueous phase liquids (DNAPLs) are heavier-than water organic liquids that are only slightly soluble in water, which means that they do not mix with either water or air but rather remain as a separate fluid (like oil and water). This makes them more likely to result in long term contamination and difficult to remediate because a spill will sink. They are also very toxic to humans and the environment even at low levels. For more information on DNAPLs, the UK Environment Agency compiled a very [comprehensive handbook](#). The handling and storage (at, above or partially below grade) of DNAPLs is now considered to be a Significant Drinking Water Threat in IPZ's with vulnerability score of 9 or higher, which includes Lakeshore IPZ-1, Windsor IPZ-1 and Amherstburg IPZ-1.

Common types of DNAPLs include timber treating oils such as creosote, transformer and insulating oils containing polychlorinated biphenyls (PCBs), coal tar, and a variety of chlorinated solvents such as trichloroethene (TCE) and tetrachloroethene (PCE).

According to the 2021 Director Technical Rules, the following (List 1) is applicable to the circumstances related to the handling and storage of DNAPLS.

- Adhesives and resins manufacturing and processing
- Airstrips and hangars operations
- Asphalt and bitumen manufacturing
- Boat manufacturing\*
- Coal gasification and coal tar manufacturing and processing
- Commercial autobody shops (including automotive and other motor vehicles)\*
- Commercial port activities, including operation and maintenance of wharves and docks\*
- Cosmetics manufacturing and processing
- Dye manufacturing and processing
- Electroplating
- Electronic, computer, photographic and printing equipment manufacturing
- Garages (including automotive and other motor vehicles) and maintenance and repair of railcars, marine vehicles and aviation vehicles)\*
- Glass manufacturing and production
- Iron and steel manufacturing and production
- Metal fabrication
- Metal treatment, coating, plating and finishing
- Operation of dry-cleaning equipment (where chemicals are used)
- Paints manufacturing and processing
- Pesticides (including herbicides, fungicides and anti-fouling agents) manufacturing and processing
- Pharmaceutical manufacturing and processing
- Plastics (including fibreglass) manufacturing and processing
- Pulp, paper and paperboard manufacturing and processing
- Rail yards, tracks and spurs\*
- Rubber manufacturing and processing
- Solvent manufacturing and processing
- Vehicles and associated parts manufacturing
- Tanneries
- Textile manufacturing and processing
- Wood treating and preservative facility

\* indicates high possibility of occurring in Lakeshore IPZ-1, Windsor IPZ-1 and/or Amherstburg IPZ-1

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Given that this activity is a SDWT, the Source Protection Plan must include policies that ensure that the activity ceases to be or never becomes a threat to our sources of drinking water. While this is a new threat circumstance for the Essex Region, most other Source Protection Areas (SPAs) already have policies to protect groundwater sources of drinking water from DNAPL spills. Staff will review other policies to draft policies at the Committee's direction. Note that there is no quantity limit on the threat circumstance as even small amounts of DNAPL can be a contaminant. However, given that some of the examples listed above may occur in small amounts, the Committee may choose to use different policy approaches for different volumes or types of DNAPL, which has been done in other SPAs, e.g. excluding quantities and concentrations typical of household use. There are no Prescribed Instruments for this activity so this Committee must select one or more other policy tools, these can include:

- Education and Outreach
- Specify Action
- Prohibition through s.57 (Risk Management Official)
- Manage through s.58 (Risk Management Official)

Lakeshore IPZ-1 is entirely occupied by a marina, which is likely to contain many DNAPLs, likely in small quantities, but cumulatively could result in large volumes. Given the number of individuals who use the marina, s.57 and s.58 policies might be difficult to implement. In this situation, Education and Outreach might be the best option. It may also be possible to use a Specify Action policy that could, for example require that education material be accessible and available to all users of the marina; have signage posted; have appropriate waste disposal available on-site. Windsor IPZ-1 is mostly park land and is almost entirely municipally owned. Amherstburg IPZ-1 is mostly residential, with a main thoroughfare (Front Road), for which road repairs might use DNAPLs. There are auto repair shops within the IPZ-1, which would contain DNAPLs.

Having both prohibition and risk management policies could allow the Risk Management Official (RMO) to use their discretion to determine which approach to use if the policies are carefully worded (there are examples from other SPAs). The benefit to this would be that the RMO would have the ability to prohibit should they feel that an activity poses an especially dangerous threat due to volume or lack of Risk Management Measures. However, the onus would be on the RMO to show that the activity should be prohibited.

At this time, the Committee is invited to discuss policy options. Staff will bring forward draft policies at a later date based on these discussions.

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**RECOMMENDATION**

THAT the SPC receive the information in SPC Report 01.23 and provide direction on policy approach and further;

THAT SPA staff prepare draft policies for review



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Katie Stammler, PhD  
Project Manager, Source Water Protection/  
Water Quality Scientist



## Essex Region Source Protection Committee

### Report 02/23

From: Katie Stammler, Source Water Project Manager

Date: Wednesday, February 1, 2023

**Subject: S.36 Update – Combined Sewer Overflow/Sanitary Sewer Overflow Policy Amendments**

#### Recommendation

**THAT the SPC receive the information in SPC Report 02.23 and provide direction on policy approach, and further;  
THAT SPA staff prepare draft policies for review pending response from the City of Windsor**

#### Summary

- The Table of Drinking Water Threats was updated in 2021
- The threat circumstances for various wastewater circumstances were changed
- Amended and/or new policies are required in the Essex Region Source Protection Plan
- Amended policies will be included in the comprehensive s.36 update

#### Discussion

##### Definitions

"Combined Sewer Overflow (CSO)" means a discharge of untreated sewage to the land or surface water;

"outfall" means the discharge point of a structure designed and built to direct storm water, snow meltwater, sanitary sewage, sewage treatment plant final effluent or overflow, industrial waste sewage and cooling water into surface water for dispersion and dilution;

"manhole" means an access point to a sewer from the surface to allow a person to enter the sewer for inspection, survey or maintenance;

"partially separated sanitary sewer" means a "sanitary sewer" in which either only a portion of an original "Combined Sewer" was retrofitted to "separated sanitary sewers", or in which a new development area served by separate sanitary sewers was added to an area served by a Combined Sewer;



“sanitary sewer overflow (SSO)” means a discharge of untreated sanitary sewage to the land or surface water from a sanitary sewer at designed locations, other than the final discharge to a wastewater treatment plant or at a combined sewer outfall;

“sanitary sewage pumping station overflow (PSO)”: means a discharge of sanitary sewage overflow to land or surface water from a sanitary sewage pumping station at designed locations, other than the final discharge to a wastewater treatment plant or to a combined sewer;

“wet well” means an underground pit as part of a sewage pumping station or lift station, where sanitary sewage is stored in until it is pumped out of the station;

### **Significant Drinking Water Threat categories**

Municipal wastewater falls under the threat category of ‘The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage’, with SDWT circumstances in the following sub-threat categories:

- Wastewater Collection Facilities and Associated Parts: Outfall of a Combined Sewer Overflow (CSO), or a Sanitary Sewer Overflow (SSO) from a Manhole or Wet Well.
- Wastewater Treatment Facilities and Associated Parts.
- Wastewater Collection Facilities and Associated Parts: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel. (new)

This report will outline the current policies used in the Source Protection Plan and will provide suggestions for amended policies for discussion. Chair Fuerth and Project Manager, Katie Stammler, met with City of Windsor staff on 19 January 2023 to discuss these policy suggestions. City staff have been asked to provide feedback by the end of February, 2023 so that new policies can be provided to the SPC for review at their next meeting. Importantly, these policies will still be reviewed by the MECF and will be made available for public consultation before they are approved.

### **Outfall of a Combined Sewer Overflow (CSO), or a Sanitary Sewer Overflow (SSO) from a Manhole or Wet Well.**

#### *Overview and Existing Policies*

Combined sewer discharge (also know as combined sewer overflow or CSO) from a stormwater outlet to surface water was previously considered to be a significant drinking water threat, which was addressed in the Essex Region Source Protection Plan by a policy to prohibit future CSOs. This policy uses a prescribed instrument, in this case Environmental Compliance Approval under Section 39 of the Environmental Protection Act to prohibit the activity in Windsor IPZ-1, Windsor IPZ-2, Lakeshore IPZ-1 and Amherstburg IPZ-1. The 2021 Director Technical Rules includes an updated Table of Drinking Water Threats, which includes changes to the circumstances under which this activity is considered to be a significant drinking water threat, and includes the addition of sanitary sewer overflow (SSO) and sanitary sewage pumping station overflow (PSO). The addition of SSOs and PSOs is meant to capture all potential instances of raw sanitary sewage being discharged to the environment. The daily flow rates for WWTPs was also changed (Table 1).

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In addition to the Prescribed Instrument policy, the current Source Protection Plan also includes three policies directed at the City of Windsor:

1. Policy 36 uses Specify Action to require the City of Windsor to initiate the development of a sewer and storm management plan, which has now been completed.
2. Policy 37 uses the Govern Research tool to initiate a research program to characterize combined sewer overflows in the Windsor intake protection zones (IPZs) 1s and 2s such that the program will provide input to a sewer and storm management plan.
3. Policy 38 uses the Education and Outreach tool to require the City of Windsor to provide a program to promote downspout disconnection, use of rain barrels, and, and other such initiatives that assist in educating the property owners about combined sewer overflow, as well as stormwater management.
4. Policy 39 uses the Stewarding/Incentive tool to require the City of Windsor to seek funding assistance from the Ministry of the Environment, in order to undertake a stewardship/incentive program for downspout disconnections and similar measures that will assist in addressing the threats associated with combined sewer overflows, bypass and effluent discharges

#### *Suggestions for policy amendments*

The following recommendations are made for discussion:

1. Retain the Prescribed Instrument policy prohibiting sanitary sewer overflow where it is a SDWT (IPZ's with vulnerability score >8). Note that the Little River Pollution Control Plant has a capacity of 73,000 m<sup>3</sup>d, putting it below the threshold to be a SDWT.
  2. Revise existing Policy 36 to reflect work completed and intended for the future. Policy language could support ongoing consideration of source water protection in the sewer master plan.
  3. Remove policy 37 since the research portion has now been completed and the policy calls for the initiation of research. Or the policy could be amended to reflect the next stages in this process.
  4. Policy 38 could be revised to reflect the ongoing education that the City of Windsor provides on this subject. This would support the ongoing need for this education program to help reduce CSOs. Alternatively, this policy could be removed since the work is already being done.
  5. Policy 39 should be removed as there is no such funding available from the MECP. Similar policies have already been removed from the Source Protection Plan. Alternatively, policy text could be modified to read that the City will apply for funding, should such funding become available.
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Table 1 – Comparison of significant drinking water threat circumstances between the 2013 and 2021 version of the Director Technical Rules

2013 SDWT Circumstance	2021 SDWT Circumstance	Areas of SDWT
	Chemical	
<p>The system is a combined sewer that may discharge sanitary sewage containing human waste to surface water other than by way of a designed bypass.</p> <p>The combined sewer is part of a system that includes a wastewater treatment facility designed to discharge treated sanitary sewage at an average daily rate that is more than <b>17,500 but not more than 50,000 cubic metres</b> on an annual basis (IPZ 9) or <b>&gt;50,000 m<sup>3</sup>/d</b> (IPZ 8)</p>	<p>A <b>combined sewer or partially separated sanitary sewer</b> outfall that discharges combined sewer overflow (CSO), or a manhole that discharges <b>sanitary sewer overflow or a wet well outfall that discharges sanitary pumping station overflow (PSO)</b>, and forms part of a wastewater collection facility that may discharge <b>to land or surface water</b>.</p> <p>The wastewater collection facility is designed to convey <b>10,000 – 100,000m<sup>3</sup>/d</b> (IPZ 9) or <b>&gt;100,000 m<sup>3</sup>/d</b> (IPZ 8) of sewage</p>	<p>Lakeshore IPZ-1,                      Windsor IPZ-1,                      Amherstburg IPZ-1,                      Windsor IPZ-2</p>
	Pathogen	
<p>The system is a <b>combined sewer</b> that may discharge sanitary sewage containing human waste to surface water.</p> <p>The discharge may result in the presence of one or more pathogens in surface water.</p>	<p>A <b>combined sewer or partially separated sanitary sewer</b> outfall that discharges combined sewer overflow (CSO), or a manhole that discharges <b>sanitary sewer overflow or a wet well outfall that discharges sanitary pumping station overflow (PSO)</b>, and forms part of a wastewater collection facility</p> <p>The discharge may result in the presence of one or more pathogens in groundwater or surface water. (IPZ 8 and 9)</p>	<p>Lakeshore IPZ-1,                      Windsor IPZ-1,                      Amherstburg IPZ-1,                      Windsor IPZ-2</p>

### Wastewater Treatment Facilities and Associated Parts.

#### Overview and Existing Policies

This threat circumstance applies to the final outfall of a water treatment plant. The language used in the Director Technical Rules has changed substantially, but generally serves to simplify the meaning and intent of the circumstance (Table 2). In addition, the previous version of the Director Technical Rules listed specific chemicals as SDWTs, whereas the current Rules do not. Sewer outfalls are a SDWT in vulnerability scores greater than 8 (Windsor IPZ-1, Windsor IPZ-2, Lakeshore IPZ-1 and Amherstburg IPZ-1). The outfall of the Little River Pollution Control Plant is within the Windsor IPZ-2.

The Source Protection Plan currently includes three Prescribed Instrument policies, using Environmental Compliance Approval under Section 39 of the Environmental Protection Act. Policy 2 prohibits the

activity in Windsor IPZ-1, Lakeshore IPZ-1 and Amherstburg IPZ-1. Policy 3 manages the activity specifically to account for the retention basin. Policy 7 manages with an ECA in Windsor IPZ-2 to account for the existing outfall.

There are also several additional policies directed at the City of Windsor:

- Policy 34 uses Specify Action to require compliance with their ECAs for the Little River Pollution Plant. Policy 34 requires ongoing compliance with the ECA listing specifically mercury and PCBs as chemicals of concern.
- Policy 35 uses Specify Action to require that the City add to its current monitoring scheme the testing of 2-methyl-4-chlorophenoxyacetic acid (MCPA) – a specific pesticide no longer identified explicitly in the Rules.
- Policy 40 uses Specify Action to require that sewage treatment tanks be prohibited in the Windsor IPZ-1, Lakeshore IPZ-1 and the Amherstburg IPZ-1, with the exception of storage of stormwater and sewage (from combined sewers) in the Windsor IPZ-1, through a means that the Municipality finds appropriate such as Municipal Act By-law.

The MECP recently launched a new Consolidated Linear Infrastructure Approach (CILA) for low-risk sewage works. Previously, municipalities might have had several ECAs to manage individual sewer lines and outfalls. Under the CILA, there will now be a single ECA for all stormwater and another ECA for all sanitary sewers. This is, in theory, a good approach. However, Project Managers have raised some concerns with the approach to Source Water protection, which puts the onus on municipalities to identify SDWTs and mitigation measures. The ECA also includes a requirement for annual reporting, including Source Water Protection.

#### *Suggestions for policy amendments*

1. Retain and combine the existing Prescribed Instrument policies with amendments to reflect the 2021 DTR
  2. Modify and combine the Specify Action policies that direct Windsor to comply with their ECA (Policy 34 and 35). The modified Specify Action policy will reflect the requirements of the ECA while providing an avenue to ensure that the City confers with the Source Protection Authority in the preparation of the annual ECA reports (or something to that effect). Specific wording to be determined.
  3. Policy 40 could be removed as this activity is already prohibited through the use of a Prescribed Instrument (ECA) policy and this activity is already not permitted through municipal by-law
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Table 2 – Comparison of significant drinking water threat circumstances between the 2013 and 2021 version of the Director Technical Rules

Current Circumstance	New Circumstance	
<p>The system is a wastewater treatment facility that may discharge sanitary sewage containing human waste to surface water by way of a designed bypass <i>or</i> through means other than designed bypass.</p> <p>Discharge of treated effluent &gt;17,500 m<sup>3</sup>/d (IPZ with score greater than 9) or &gt;50,000 m<sup>3</sup>/d (IPZ with score greater than 8)</p>	Chemical	
	<p><b>A final effluent outfall or a sewage treatment plant overflow outfall</b> that is part of a wastewater treatment facility.</p> <p>Discharge of treated sanitary sewage <u>17,500 - 50,000 m<sup>3</sup>/d (IPZ 9)</u></p> <p>Discharge of treated sanitary sewage <u>&gt;50,000 m<sup>3</sup>/d (IPZ 8)</u></p>	<p>Lakeshore IPZ-1, Windsor IPZ-1, Amherstburg IPZ-1, (no WWTP outfalls in IPZ-1s)</p> <p>Windsor IPZ-2</p>
	Pathogen	
<p><b>The system is a wastewater treatment facility that discharges to surface water</b> by way of a designed bypass <i>or</i> through means other than designed bypass.</p> <p>A discharge may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p><b>A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility.</b></p> <p>A discharge may result in the presence of one or more pathogens in surface water. (IPZ with score greater than 8)</p>	
<p>The system is a sewage treatment tank or sewage storage tank in either a wastewater collection facility or wastewater treatment facility, and any part of the tank is at, above or below grade; A spill from the tank may result in the presence of one or more pathogens in groundwater or surface water.</p>	<p>A sewage treatment plant process tank or a sewage treatment plant <b>holding tank</b> that forms part of a wastewater treatment facility.</p> <p>A spill may result in the presence of one or more pathogens in groundwater or surface water. (IPZ 9)</p>	

**Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel. (new)**

This is a new circumstance in the 2021 Director Technical Rules. At this time, ERSPA staff are still exploring potential policy direction, but this will likely also use a Prescribed Instrument policy.

2013 SDWT Circumstance	2021 SDWT Circumstance	Areas of SDWT
	Pathogen	
Not previously included	<p>A wet well, a holding tank or a tunnel that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste.</p> <p>A spill may result in the presence of one or more pathogens in groundwater or surface water.</p>	Lakeshore IPZ-1, Windsor IPZ-1, Amherstburg IPZ-1

**Summary**

There are currently 11 policies in the Source Protection Plan that address wastewater. The following recommendations are made for discussion:

Policy Number	Threat	Policy Tool	Recommendation
1	CSO/SSO/PSO	Prescribed Instrument - Prohibit	Retain
2	Effluent/storage	Prescribed Instrument - Prohibit	Retain and combine with Policy 3 and 7
3	Storage	Prescribed Instrument - Manage	Retain and combine with Policy 2 and 7
7	Effluent	Prescribed Instrument - Manage	Retain and combine with Policy 2 and 3
34	Eluent	Specify Action – comply with ECA	Modify
35	Effluent	Specify Action – add specific chemical	remove
36	CSO	Specify Action	Revise
37	CSO	Govern Research	Remove
38	CSO	Education and Outreach	Revise or remove
39	CSO	Stewardship/ Incentive	Revise or remove
40	Storage	Specify Action – prohibit through by-law	Remove

**RECOMMENDATION**

THAT the SPC receive the information in SPC Report 02.23 and provide direction on policy approach, and further;

THAT SPA staff prepare draft policies for review pending response from the City of Windsor



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Katie Stammler, PhD  
Project Manager, Source Water Protection/  
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