

## Thames – Sydenham and Region Source Protection Committee

# Meeting Notice

Please be advised that a meeting of the Thames-Sydenham and Region Source Protection Committee has been called for the following time. Please confirm attendance with **Deb Kirk by email at [kirkd@thamesriver.ca](mailto:kirkd@thamesriver.ca)**

**Meeting**

**Date:** March 21, 2025

**Meeting**

**Time:** 10:00 a.m- 1:00 p.m

**Meeting In person at the Upper Thames office (1424 Clarke Road, London)**

**Location: Virtual Meeting Link: ZOOM**

<https://us02web.zoom.us/j/89832812307?pwd=x1hylEGThuEqTkmCR6W3es8cHpk2yu.1>

### Proposed Agenda

|    |  |             |
|----|--|-------------|
| 1  | <b>Chair's Welcome, Roll Call and Certification of Quorum</b>  | 10:00-10:10 |
| 2  | <b>Adoption of the Agenda</b>  |             |
| 3  | <b>Approval of November 2024 SPC minutes –approved by Email Dec 3/24</b>   |             |
| 4  | <b>Delegations</b><br>• <i>Municipality of Chatham-Kent</i>  | 10:10-10:40 |
| 5  | <b>Declaration of Conflict of Interest</b>   | 10:40       |
| 6  | <b>Business arising from the minutes</b>   | 10:40-10:45 |
| 7  | <b>Business</b>  |             |
| 7a | <b>Annual Reporting (Motion)</b>   | 10:45-11:00 |
| 7b | <b>s.34 Pre-Consultation Comments (Motion)</b>   | 11:00-11:15 |
| 7c | <b>Program Update</b>  | 11:15-11:30 |
| 8  | <b>Information-</b><br>8i. New Phosphorus Reduction Program receives funding<br><a href="https://farmtario.com/news/new-phosphorus-reduction-program-receives-17-41-million-from-canada-water-agency/">https://farmtario.com/news/new-phosphorus-reduction-program-receives-17-41-million-from-canada-water-agency/</a><br>8ii. Housing-Enabling Water Systems Fund Projects<br><a href="https://news.ontario.ca/en/backgrounder/1005648/housing-enabling-water-systems-fund-projects">https://news.ontario.ca/en/backgrounder/1005648/housing-enabling-water-systems-fund-projects</a><br>8iii. PFAS article<br><a href="https://www.cbc.ca/news/canada/british-columbia/goodbye-forever-chemicals-1.7330391">https://www.cbc.ca/news/canada/british-columbia/goodbye-forever-chemicals-1.7330391</a> | 11:30-11:35 |
| 9  | <b>In Camera Session (not planned)</b>   |             |
| 10 | <b>Other Business</b>  |             |
| 11 | <b>MECP Update</b>   | 11:35-11:40 |
| 12 | <b>Members Reports</b>   | 11:40-11:50 |
| 13 | <b>Adjournment &amp; Next Meeting</b>  | 11:50       |



SPC MEETING MINUTES  
NOVEMBER 22, 2024  
Meeting #86

The Source Protection Committee Chair, Dean Edwardson called the meeting to order at 10:00 a.m. on NOVEMBER 22, 2024. The following members and staff were in attendance.

**Members**

Dean Edwardson  
Sean Beech  
Gary Eagleson  
Matthew Jauernig  
Gary Martin  
Earl Morwood

Karleen Sirna  
Matthew Stewart  
John Van Dorp  
Nathan VanBelois  
Sandy Levin  
Andrew Powell

**Regrets:**

Jarrold Craven  
Ron Elijah  
Emma Young  
Brent Clutterbuck  
Carl Kennes  
George Marr  
Valerie M'Garry

**Staff:**

Julie Welker  
Jenna Allain  
Deb Kirk  
Steve Clark  
Mark Peacock  
Jason Wintermute  
Olivia Orsini  
Ken Phillips

**MECP:**

**Regrets: Michael Halder**  
George Jacoub,  
Naghmeh Sharifi  
Jen McKay

**1) Chair's Welcome**

Dean Edwardson welcomed the committee and noted a quorum was not achieved. The meeting was held as a sub-committee meeting; minutes will be circulated by email for approval. The Chair read the territorial acknowledgement.

**2) Adoption of the Agenda**

The November 22, 2024 agenda was approved.

Moved by J.Van Dorp -seconded by E. Morwood

“RESOLVED that the November 22, 2024 agenda be approved.”

CARRIED.

**3) Approval of June 21, 2024 SPC minutes**

The June 21st, 2024 meeting minutes were approved.

Moved by G. Eagleson-seconded by A. Powell

“RESOLVED that the June 21st, 2024 meeting minutes be approved.”

CARRIED.

**4) Delegations**

None.

**5) Declaration of Conflict of Interest**

No conflict of interest was identified.

**Borex Presentation on Battery Storage Plants.**

Anjali Purohit, the Environmental Committee Relations Manager for Borex gave a presentation on battery storage plants specific to the one planned in SW Oxford. Her colleagues Asier Ania, Chris Ollson, Mark Van Der Woerd and Nick Petrakis were

also in attendance. Boralex is a Canadian-based company who develops, builds and operates wind, solar, hydro electricity generation systems and storage. For the plant in SW Oxford mayors were consulted and technical studies are underway. Ontario is entering a time of emerging electricity system needs that require more resources. The goal is to have the plant constructed in 2025 and operational in 2026.

Key points during the presentation:

- The project was described as providing 125 MW for 4 hours capacity and will connect to existing 115 kilovolt transmission line, with most of line being underground.
- The plant will be located in an aggregate facility to reduce any environmental impacts and have better sound reduction.
- A slide was shown outlining how Battery storage technology works.
- Permits and consultation will include conducting a Class Environmental Assessment from the MECP, MECP approvals for storm water/ sound and municipal land use permits will be required.
- Construction mitigation practices will be considered looking at air quality, impacts on the environment and wildlife. And operationally procedures will be enforced to ensure compliance for emergency response, sound, environment and vegetation management.
- Consultation/engagement will be planned with municipalities, Indigenous Communities and local communities.
- The Project is in the UT/SPA and a portion is within a Wellhead Protection Area-D. Groundwater levels were measured showing approximately 4 meters below the surface. The study area has a vulnerability level of 2 out of 10.
- The commitment to safety was discussed to include prevention, monitoring and Emergency response.

The Committee asked whether sound will be an issue. Chris Ollsen, in Environmental Health, reported that studies indicate government noise regulations are met; sound relates to the cooling fans. The MECP reviews and signs off, to ensure requirements are met. The plant will be built in the base of a gravel pit which also will reduce noise. The shelf life of a lithium battery is approximately 20 years but it depends on usage.

Fire safety was discussed as a concern. Although prevention is key what happens in the event of a fire. Anjali Purohit noted a third party Fire Safety Expert has been retained. BESS equipment will meet National Fire Code of Canada and the batteries are designed to adhere to and pass evolving safety tests. Monitoring and emergency response will also be in place.

Nick Petrakis and Brian Scholl from Energy Safety Response Group (ESRG), a group of fire safety professionals were present on line for the presentation. Nick Petrakis the Director of Engineering reported that emergency response plans will be developed for all local fire departments of what to do and not to. Every possible safety mechanisms will be in place that meets gold standard safety codes.

Water quality safety concerns were raised. The batteries will be in a self-contained modular design storage system. Maintenance is done on the exterior of the container; it is not a walk in system. Very complex and comprehensive 9540A testing is done using multiple steps, preparing for the worst case scenario. Explosion protection will also be in place. The system can burn itself out without affecting the adjacent systems and do not involve any spills. Water may not be necessary and if so is only used to the units beside the unit with the fire. A community Risk Assessment will be done in Oxford County and results can be provided to the committee. Geotechnical and hydrogeology studies are being done for any impacts on ground and surface water and findings to date have shown no risks. Results of previous studies from New York State fires will be shared with the Ministry; there has been no evidence of elevated risk concerns with fires that have occurred. Chair Edwardson thanked the group for coming to present at the meeting.

**6) Business arising from the minutes –Policy 2.26.1 Commercial Fertilizer in a WHPA-B (10)**

Julie Welker provided a report to update the committee on this policy. The SPC had approved a standalone Prohibition policy for Application of Commercial Fertilizer in a WHPA-A (10) to align with the Nutrient Management Act. The SPA staff recommended a separate policy to address the application of Commercial Fertilizer in a WHPA-B (10) using a s.58 Management Tool. The SPC at the previous SPC meeting asked for more information before finalizing this decision.

Challenges with using prohibition are: could create unnecessary hardship for farms/businesses, it is costly and difficult to determine the cost to retire productive agricultural lands. Risk Management measures would include record keeping, ensuring manufacturing direction is followed, equipment calibrated, set back distance from wells and supervision of fertilizer tank filling. A Spills Action plan would be in place, and the application of nutrients would be restricted in the late fall. Use of alternative products is also an option.

Various funding options were noted such as the Clean Water Program, Ontario Soil and Crop Improvement Association and ALUS.

At the SPC meeting in June 2024, it was suggested to include the wording 'containing nitrogen' to policies 2.26 and 2.26.1 (Application of Commercial

Fertilizers). However, as referenced by the NMA under the Fertilizer Act (Canada), Fertilizer is defined as ‘*means any substance or mixture of substances, containing nitrogen, phosphorus, potassium or other plant food, manufactured, sold or represented for use as a plant nutrient*’. By including ‘containing nitrogen’ within the policy text, it could exclude other substances. It was suggested to better define this in the Explanatory Document and keep policy generic.

**Recommendation:**

THAT the Thames-Sydenham Source Protection Committee approve the use of s.58 Management Tools for WHPA-B(10) and IPZ (9) for Policy 2.26.1 – Application of Commercial Fertilizer

AND THAT the Thames-Sydenham Source Protection Committee approves having SPA staff better define Commercial Fertilizers in the Explanatory Document and leave the policy generic.

Moved by J. Van Dorp -seconded by S. Levin

“RESOLVED that the recommendation to approve the use of s.58 Management Tools for WHPA-B(10) and IPZ (9) for Policy 2.26.1 – Application of Commercial Fertilizer and that SPA staff better define Commercial Fertilizers in the Explanatory Document and leave the policy generic was approved.

CARRIED.

Discussion: J. Van Dorp noted it is important to understand and take into consideration that not all *fertilizer represents a nitrogen hazard*.

**7a) Business –Program Update**

Julie Welker circulated a report outlining updates to the Source Program. Provincial funding has been secured for 3 years and the work plan includes: 3 SPC meetings per year, Annual Reporting, s.34 Amendments, municipal meetings, Climate change action, Water Budget Data gaps, Assessment Report and Source Protection Plan (SPP) Updates to align with the 2021 Technical Rules. A concern was noted that the budget does not include cost of living over the 3 years. The Program Managers have expressed their concerns about this and overhead costs.

The SPC membership will consist of a new member for Perth County, Stratford, St. Mary's and Huron County and for Lambton County. In June 2025, 8 term positions will expire. Julie Welker will be contacting the members in January to discuss their status going forward.

The SPP included a list of policies organized by municipalities that is out dated, not reliable or required and labour intensive to keep updated. No other Source Protection Regions have this list. The committee agreed it can be removed.

Work has been done and is ongoing to ensure the SPP and ARs are AODA compliant.

Risk Management services are done for 11 municipalities through the RMO at St. Clair and the Upper Thames office. Thames Centre has asked recently for RM Services through our program. RMO responsibilities include: enforcing Part IV of the Clean Water Act, ensure all drinking water threats are addressed. A list of Part IV duties was outlined and a chart of the municipalities that the RMOs are responsible for were shown for this region.

**Recommendation:**

THAT the Thames-Sydenham Source Protection Program Update report be received as information

**b) s.34 MECP Early Engagement Comments**

The committee was provided a package that Included: the Draft policies as a result of 2021 Technical Rules, information on the LAWSS Secondary Intake and Thornton Wellfield Nitrate Issue Contributing Area.

Draft policies are required as a result of 2021 Technical Rules. Comments were received from the MECP on November 18, 2024. The Assessment Report comments include: General editing to align with new Technical Rules, to ensure all technical information from consultant's reports is captured in AR, address any discrepancy's and update mapping. The SPP Volume III comments pertained to general editing to align with 2021 Technical Rules. Revisions will be made as follows:

**Policy 2.01** (Hauled Sewage to Land). Application of Hauled Sewage to Land – Prohibition.

Land disposal of hauled sewage shall be prohibited so that it ceases to be or never becomes a significant drinking water threat. Within vulnerable areas where it is or would be

a significant threat, the Province (MECP) shall prohibit this activity through the Environmental Compliance Approvals (ECA) process. **All ECAs issued following the effective date of the Source Protection Plan shall incorporate terms and conditions. These terms and conditions, when implemented, would prohibit this future activity where it is, or would be, a significant drinking water threat.**

**Revisions:** SPA staff are recommending to remove the section in bold.

### **Policy 2.05.1** Existing Waste Disposal Sites - Management

Where a future waste disposal site does not require an Environmental Compliance Approval and comprises one of the following waste disposal site threat subcategories:

- **Transfer/Processing Sites approved to receive Hazardous Waste or Liquid Industrial Waste,**
- **Transfer/Processing Site approved to receive only Municipal Waste under Part V of the Environmental Protection Act,**
- Storage of Subject Waste at a Waste Generation Facility: site requires generator registration under Section 3 of O.Reg. 347,
- Storage of Waste at a Waste Generation Facility: site that is exempt or excluded from generator registration requirements

and where such a waste disposal site would be a significant drinking water threat, it shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required to manage the activity so that it never becomes a significant drinking water threat.

#### **Revisions:**

SPA staff suggested removing this policy and removing sub threat categories from 2.04 and 2.05.'

### **2.04** Existing Waste Disposal Sites - Management

**Where an existing waste disposal site is in an area where this activity is a significant drinking water threat, the Provincial Ministry (MECP) shall ensure the Prescribed Instrument that governs the waste disposal site is applied to ensure that the waste disposal site ceases to be a significant drinking water threat.**

**Where any aspect of a waste disposal site is a significant drinking water threat and is not subject to an ECA, this activity is designated for the purposes of Section 58 of the Clean Water Act.**

To ensure any Existing establishment, operation, maintenance of a waste disposal site within the meaning of Part V of the Environment Protection Act, that is subject to an

Environmental Compliance Approval, ceases to be a significant drinking water threat, where this activity is a significant drinking water threat, the Ministry of the Environment, Conservation and Parks shall review, and where necessary, amend Environmental Compliance Approvals to incorporate appropriate terms and conditions that, when implemented, ensure the activity ceases to be a significant drinking water threat.

To ensure any Existing establishment, operation, maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act, that is not subject to an Environmental Compliance Approval, ceases to be a significant drinking water threat, where this activity is a significant drinking water threat, it shall be designated for the purpose of Section 58 of the Clean Water Act, 2006 and a Risk Management Plan shall be required.

**Revisions:** SPA staff suggested the bolded text be removed.

### **Policy 2.05** Future Waste Disposal Sites - Prohibition

**New or expanding (future) waste disposal sites as defined in Part V of the Environmental Protection Act are prohibited where they would be a significant drinking water threat in the applicable area, with the exception of the following waste disposal site threat subcategories:**

**Storage of Waste at a Waste Generation Facility: site that is exempt or excluded from generator registration requirements.**

**where this activity would be a significant drinking water threat future waste disposal sites shall be designated for the purposes of Section 57 of the Clean Water Act so that so that the activity ceases to be or never becomes a significant drinking**

**Where this activity is subject to Environmental Compliance Approvals (ECAs), the Province (MECP) shall prohibit this activity through the ECAs.**

To ensure any New establishment, operation, maintenance of a waste disposal site within the meaning of Part V of the Environment Protection Act, that requires an Environmental Compliance Approval, never becomes a significant drinking water threat, where this activity would be a significant drinking water threat, the Ministry of the Environment, Conservation and Parks shall prohibit this activity through the Environmental Compliance Approvals process.

To ensure any New establishment, operation, maintenance of a waste disposal site within the meaning of Part V of the Environment Protection Act, that does not require an Environmental Compliance Approval, never becomes a significant drinking water threat, where this activity would be a significant drinking water threat, this activity shall be designated for the purpose of Section 57 of the Clean Water Act, 2006 and shall be prohibited.

**Revisions:** SPA staff suggested the bolded text be removed.

### **Policy 2.05.1 Existing Waste Disposal Sites - Management**

Where a future waste disposal site does not require an Environmental Compliance Approval and comprises one of the following waste disposal site threat subcategories:

- Transfer/Processing Sites approved to receive Hazardous Waste or Liquid Industrial Waste,
- Transfer/Processing Site approved to receive only Municipal Waste under Part V of the Environmental Protection Act,
- Storage of Subject Waste at a Waste Generation Facility: site requires generator registration under Section 3 of O.Reg. 347,
- Storage of Waste at a Waste Generation Facility: site that is exempt or excluded from generator registration requirements

and where such a waste disposal site would be a significant drinking water threat, it shall be designated for the purpose of Section 58 of the Clean Water Act and a Risk Management Plan shall be required to manage the activity so that it never becomes a significant drinking water threat.

The requirements of the risk management plan may be based on Ministry of the Environment, Conservation and Parks tools and requirements for such activities, but may also include any modifications or additional requirements that are deemed necessary or appropriate by the Risk Management Official.

**Revisions:** SPA staff suggested this section be removed.

### **Oxford County Comments (Nitrate ICA)**

Oxford County applies SPP Volume II policies to threat activities within the county. MECP made comments specific to the consultant's reports MECP reviewed SPP Volume II to ensure policies remain current once an ICA has been approved. However, upon their review they found that policies, where necessary, will need to be reviewed and revised.

### **Recommendation:**

THAT the s.34 Early Engagement comments from MECP be received as information and recommend SPA staff to continue with addressing MECP comments and move towards the next phase of pre-consultation.

AND FURTHER direct SPA staff to remove the section in bold in policy 2.01

AND FURTHER direct SPA staff to remove all sub-threat categories from policy 2.04 and 2.05.

AND FURTHER direct SPA staff to meet with Oxford County to decide if the Nitrate ICA remains in this current s.34 package.

Moved by A. Powell -seconded by S. Levin

“RESOLVED that the THAT the s.34 Early Engagement comments from MECP be received as information and recommend SPA staff to continue with addressing MECP comments and move towards the next phase of pre-consultation. The SPA staff will remove the section in bold in policy 2.01, remove all sub-threat categories from policy 2.04 and 2.05.and will meet with Oxford County to decide if the Nitrate ICA remains in this current s.34 package.

CARRIED.

### **c) s.34 Petrolia Report**

Julie Welker provided the committee with a report on the Petrolia intake. The report includes the Technical Work done, summary of Current Intake. The intake is in Lake Huron and provides drinking water to 8 municipalities. It has reached the end of its useful service life and is within the IPZ-1 (7); IPZ-2 (6.3) with no significant threats.

The Town of Petrolia retained CIMA Canada Inc. to provide engineering services CIMA provided SPA staff with draft Vulnerability and Threat reports on November 13, 2024. The proposed intake will be constructed 15 m from existing intake and will extend approximately 370 m into Lake Huron (5 m further than the existing intake). It will be in a IPZ-1 (7); IPZ-2 (6.3), with no existing or new threats identified.

#### **Recommendation:**

THAT the Thames-Sydenham Source Protection Committee receives this report as information.

Moved by E. Morwood -seconded by J.Van Dorp

“RESOLVED THAT the Thames-Sydenham Source Protection Committee receive the s.34 Petrolia report as information and provide direction to Source Protection Authority staff to continue with the s.34 amendment process.”

CARRIED.

## **8) Information**

The items listed below were provided to the committee as a FYI:

### **8i. CELA report**

**8ii. Ending Long Term Water Advisories** <https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660>

**8iii. General information on Water Quality:**  
<https://www.publichealthontario.ca/en/Health-Topics/Environmental-Occupational-Health/Water-Quality>

**8.iv New Measures for Forever Chemicals**  
<https://www.fasken.com/en/knowledge/2024/09/new-measures-regulating-forever-chemicals-in-canada>

## **9) In Camera Session**

None.

## **10) Other Business**

None.

## **11) MECP Liaison Report Update**

Jennifer McKay, Manager of the Source Protection section of the MECP provided an update. She thanked J.Welker for showing the Annual Progress Report Results Summary table that was recently released that outlines the progress made to date. Three year Transfer Payment Agreements were signed. The MEPC will be reviewing over 60 amendments to the SPPs across the province. She noted the Ministry is doing their best to support everyone; templates have been provided to make the process more efficient and will allow information to be more easily translatable to assist in analyzing the data and in the decision making process. A lot of work is being done across the province.

## **12) Members Report**

*John Van Dorp*- reported on the project to control flooding and movement of nitrates down to the Thornton Wellfield in Oxford County, using wood chips on the land. M. Jauernig noted a drone will be used to capture the site and a presentation will be given to the SPC and the public when ready.

*Nathan VanBelois*- asked whether road salt is being reviewed. J. Welker advised the s.34 amendments will include a policy for Education & Outreach for salt application. Once approved, the staff will be initiating a campaign for application of road salt.

*Karleen Sirna*-noted she works for SGS and tests a lot of the water in our Source Protection Region. She enjoys coming to the meetings to learn about the policies and ongoing issues behind the science.

*Gary Martin*- asked why new subdivisions have not been going in Ridgetown and whether it relates to the water treatment. Ridgetown is on municipal well water. Highgate is now connected to Ridgetown. Wells will be decommissioned and new wells are being brought on line; they are waiting to see what the capacity is.

*Earl Morwood*- thanked the staff for all the work done for this meeting.

## **13) Adjournment**

There being no further business, the meeting was adjourned at **12:00 p.m.**

Moved by A.Powell -seconded by S. Levin

*“RESOLVED that the meeting be adjourned.”*

CARRIED.

PLEASE NOTE: The next SPC meeting is to be held in March.

# Thames-Sydenham and Region Drinking Water Source Protection Source Protection Committee Report

**Report #:** 7a

**Report to:** Chair and Thames-Sydenham and Region Source Protection Committee

**Prepared by:** Julie Welker

**Date:** March 21, 2025

**Re:** Thames-Sydenham and Region 2024 Annual Report

**THAT the SPC approve the SPC comments on the annual report as drafted and direct staff to submit those comments to the Source Protection Authorities for inclusion in the Thames-Sydenham and Region Annual Progress Report submission.**

## Purpose

To review the contents of the Thames-Sydenham and Region 2024 Annual Progress Report and provide written comments to the Source Protection Authorities about the extent to which, in the opinion of the Committee, the objectives set out in the source protection plan are being achieved by the measures described in the report.

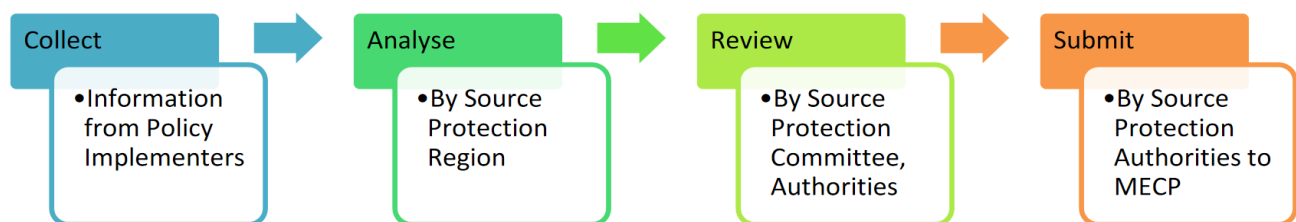
## Background

Staff analysed reports received on source protection plan policy implementation progress from implementing bodies. The 2024 Annual Progress Report is prepared accordingly, for review by the Thames-Sydenham and Region Source Protection Committee (TSR SPC) and Source Protection Authority Boards prior to submission to the Ministry of the Environment, Conservation and Parks (MECP).

## Report

As required by the Clean Water Act, the TSR Source Protection Region must prepare an annual progress report to demonstrate progress made in implementing policies that protect surface water and groundwater municipal drinking water sources in the region.

**Figure 1** provides a simplified overview of the comprehensive process.



## Figure 1: Source Protection Plan - Annual Progress Reporting at a Glance

Staff analysed information from implementing bodies, using the online Electronic Annual Reporting (EAR) tool. Municipalities, provincial ministries and Risk Management Officials are commended for their large effort in collecting pertinent data and information over the course of the year, to inform the annual progress reporting process to multiple source protection authorities overlapping political boundaries.


Reporting information is provided to MECP at the source protection region level, based on TSR SPR's analysis of hundreds of contributing data and information from policy implementers provided by February 1 every year. In turn, the MECP collects the detailed synthesized reports from Source Protection Authorities across Ontario by May 1 every year, and aggregates it to the provincial scale in the annual Chief Drinking Water Inspector's Report.

## Discussion

The theme, "achievement of source protection plan objectives" includes two report items that require Source Protection Committee (SPC) input: the first, the Committee's opinion on the extent to which objectives in the plan have been achieved during the reporting period and the second, comments to explain how the committee arrived at its opinion. TSR staff have reviewed all the information received from implementing bodies in preparation of the annual progress report and supplemental form and recommend the following responses:

### Report Item ID: 350

In the opinion of the Source Protection Committee (SPC), to what extent have the objectives of the SPP been achieved in this reporting period?

|   |   |
|---|---|
| <b>Progressing well/on target –</b><br>Majority of the source protection plan policies have been implemented and/or are progressing well. |  |
| <b>Satisfactory –</b><br>Some of the source protection plan policies have been implemented and/or are progressing well.                   |   |
| <b>Limited progress made –</b><br>A few of the source protection plan policies have been implemented and/or are progressing well.         |   |

### Report Item ID: 351

Please provide comments to explain how the SPC arrived at its opinion. Include a summary of any discussions that might have been had amongst the SPC members, especially where no consensus was reached.

December 31st, 2024 marked nine years since our Source Protection Plan first took effect. In that time significant progress has been made to implement the policies contained in the plan, and address the activities that were identified as posing a risk to

our municipal drinking water supplies. To date, 92% of the policies in the plan that address significant drinking water threats have been fully implemented, with the remaining 8% progressing well. An additional 15 Risk Management Plans were established over the reporting period bringing the Region's total Risk Management Plans to 116. Approximately 92% of the 1058 originally identified significant drinking water threats, along with those identified after the originally approved SPPs, have been successfully managed or eliminated. While there is still a considerable amount of work to do to address the remaining threats, the Thames-Sydenham and Region Source Protection Committee is pleased to see that policy implementation is moving steadily forward. For that reason, they believe that a ranking score of progressing well and on target is a fair assessment on our implementation progress.

### **Recommendation**

That the Source Protection Committee approves the SPC comments on the annual report as drafted and direct staff to submit those comments to the Source Protection Authorities for inclusion in the Thames-Sydenham and Region Annual Progress Report submission.



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Julie Welker

Coordinator, Source Water Protection

# Annual Progress Report

on Implementation of the Source Protection Plans for the  
Thames-Sydenham & Region Source Protection Areas

Reporting Period - January 1, 2024 to December 31, 2024

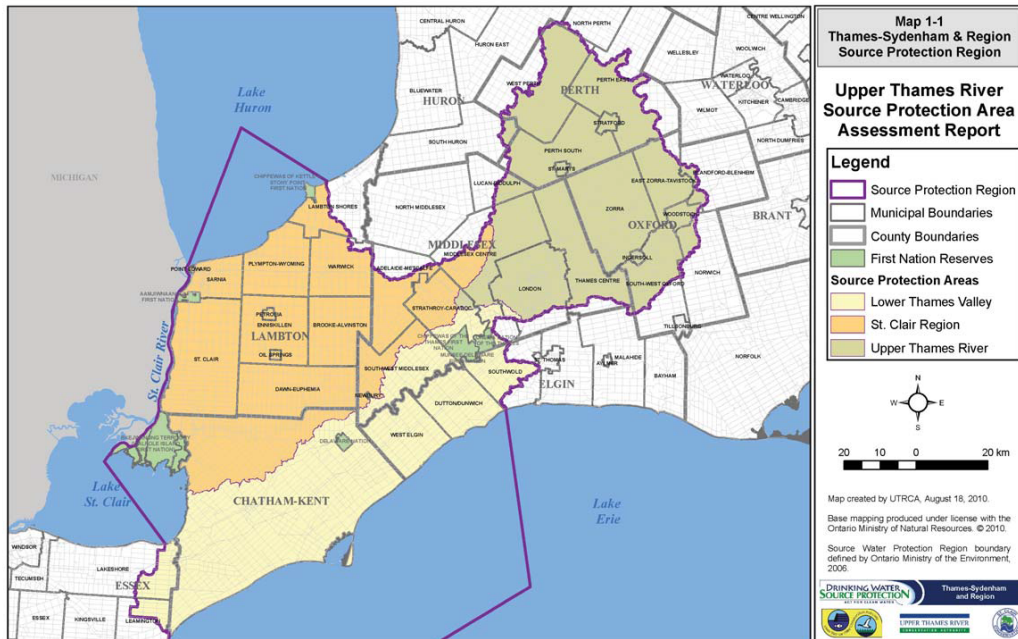
For more information about the drinking water source protection plan, visit  
[www.sourcewaterprotection.on.ca](http://www.sourcewaterprotection.on.ca)

# Source Protection Annual Progress Report

## I. Introduction

This annual progress report outlines the progress made in implementing our source protection plan for the Lower Thames Valley Source Protection Area, St. Clair Region Source Protection Area and Upper Thames River Source Protection Area, as required by the Clean Water Act and regulations. This is the seventh Annual Progress Report released since the Source Protection Plan took effect on December 31st, 2015, and it highlights the actions taken from January 1 to December 31, 2024.

Protecting the sources of our drinking water is the first step in a multi-barrier approach to safeguard the quality and quantity of our water supplies. The source protection plan is the culmination of extensive science-based assessment, research, consultation with the community, and collaboration with local stakeholders and the Province. When policies in the plan are implemented it ensures that activities carried out in the vicinity of municipal wells and lake-based intakes will not pose significant risk to those drinking water supplies.



## II. A message from your local Source Protection Committee

### **P : Progressing Well/On Target – The majority of the source protection plan policies have been implemented and/or are progressing.**

December 31st, 2024 marked nine years since our Source Protection Plan first took effect. In that time significant progress has been made to implement the policies contained in the plan, and address the activities that were identified as posing a risk to our municipal drinking water supplies. To date, 92% of the policies in the plan that address significant drinking water threats have been fully implemented, with the remaining 8% progressing well.

An additional 15 Risk Management Plans were established over the reporting period bringing the Region's total Risk Management Plans to 116.

Approximately 92% of the 1058 originally identified significant drinking water threats along with those that have been identified after the originally approved SPP have been successfully managed or eliminated. While there is still a considerable amount of work to do to address the remaining threats, the Thames-Sydenham and Region Source Protection Committee is pleased to see that policy implementation is moving steadily forward. For that reason, they believe that a ranking score of progressing well and on target is a fair assessment on our implementation progress.

### III. Our Watershed

To learn more, please read our assessment report(s) and source protection plan(s)

The Thames-Sydenham and Region is made up of the watersheds of Lower Thames Valley, the St. Clair Region, and the Upper Thames River.

The Lower Thames Valley Source Protection Area includes those lands draining into the Thames River from the community of Delaware to Lake St. Clair. It also includes the lands that drain into Lake Erie lying south of the lower Thames River watershed and a small triangle of land north of the mouth of the Thames draining directly into Lake St. Clair. This area includes most of the municipality of Chatham-Kent, the western portion of Elgin County, part of southwestern Middlesex County (including some of the City of London) and a portion of eastern Essex County. The Lower Thames Valley Source Protection Area also includes four First Nation reserves; the Chippewas of the Thames First Nation, Delaware Nation, Munsee-Deleware Nation and Oneida Nation of the Thames. Caldwell First Nation is also established in the area between Leamington and Rondeau Bay; however they currently do not have a reserve. The area covers approximately 3,274 square kilometres with a total watershed population (2001) of about 107,000.

The residents of the Lower Thames Valley Source Protection Area receive most of their municipal drinking water from Lake Erie through 3 intakes. The communities of Ridgetown and Highgate receive their drinking water from municipal wells. Some parts of the watershed within Essex County receive their municipal drinking water from intakes in Lake St. Clair. Although the drinking water for much of the population of the Lower Thames is supplied from municipal drinking water sources, some residents rely on water from private wells.

The St. Clair Region Source Protection Area includes the Sydenham River drainage basin and several smaller watersheds that drain to Lake Huron, the St. Clair River or Lake St. Clair. The Source Protection Area covers over 4,100 square kilometres and includes most of the County of Lambton, part of the Municipality of Chatham-Kent and part of the County of Middlesex with a total watershed population of 167,000. The area also includes three First Nation reserves; Chippewas of Kettle and Stoney Point, Aamjiwnaang, and Walpole Island First Nations. The residents of the St. Clair Region Source Protection Area receive most of their municipal drinking water from Lake Huron and the St. Clair River through 3 intakes. Parts of Middlesex County receive their municipally supplied drinking water from an intake in Lake Huron outside the Source Protection Region. There are no longer any communities in the St. Clair Region that receive drinking water from municipal wells. Although the drinking water for much of the population of the Lower Thames is supplied from municipal drinking water sources, some residents rely on water from private wells.

The Upper Thames River Source Protection Area includes all areas draining into the Thames River above the community of Delaware. This covers large parts of Oxford, Perth and Middlesex Counties including most of the City of London. Very small portions of Huron and Elgin Counties also drain into the upper Thames River. The area covers approximately 3,423 square kilometres with a total watershed population (2001) of about 472,000. There are no First Nations in the Upper Thames River Source Protection Area.

The residents of the Upper Thames River Source Protection Area receive their municipal drinking water from Lake Huron or Erie through 2 intakes in other Source Protection Areas. Many of the communities in Perth and Oxford Counties rely on groundwater for municipally supplied drinking water. Although the drinking water for much of the population of the Upper Thames is supplied from municipal drinking water sources, many rural residents rely on water from private wells.

## IV. At a Glance: Progress on Source Protection Plan Implementation

### 1. Source Protection Plan Policies

P : Progressing Well/On Target:

For the policies that address significant drinking water threats in the TSR Source Protection Plan, 96% have being fully implemented. Another 4% are currently in progress. Further progress was also made to implement the significant non-legally binding policies with 69% implemented and 31% with some progress made.

### 2. Municipal Progress: Addressing Risks on the Ground

P : Progressing Well/On Target:

26 municipalities in the Thames-Sydenham and Region (TSR) have vulnerable areas where significant drinking water threat policies apply. These municipalities are required to ensure that their planning and building decisions conform with the Thames-Sydenham and Region SPP, and must also ensure that their Official Plan (or their Upper Tier municipality) conforms with the SPP upon the next Planning Act review.

Of the 26 municipality, 17 must undertake a completion of a Official Plan. 10 of the municipalities in the TSR that have an official plan have completed their required Official Plan conformity exercises. Of the remaining 7 municipalities, 6 are in the process of amending their Official Plan, 1 has their OP under appeal.

### 3. Septic Inspections

P : Progressing Well/On Target: Under the Ontario Building Code, any on-site sewage system which has been identified as a significant drinking water threat is required to be inspected once every five years. In the Thames-Sydenham and Region there are seven municipalities which have on-site sewage systems that require mandatory inspection. Of those seven municipalities, six have completed all of the required inspections for 2024, while one municipality has not completed them due to dealing with further delays due to staffing turnover and staffing constraints. The municipality is re-evaluating the program and will make it a priority.

### 4. Risk Management Plans

P : Progressing Well/On Target

Fifteen new Risk Management Plans were agreed to in 2024, bringing the Region's total Risk Management Plans to 116.

Based on the responses provided by Risk Management Officials, 47 (Section 58)

Inspections were carried out in 2024 and 7 new RMPs are currently in-progress. None of which are in contravention or non-compliance.

## 5. Provincial Progress: Addressing Risks on the Ground

P : Progressing Well/On Target

Provincial ministries, including MECP, MNRF, MTO and OMAFA, are responsible for the implementation of source protection policies included in the Thames-Sydenham and Region Source Protection Plan. These ministries are reviewing previously issued provincial approvals (e.g., prescribed instruments such as environmental compliance approvals issued under the Environmental Protection Act), where they have been identified as a tool in our plan to address existing activities that pose a significant risk to sources of drinking water. The provincial approvals are being amended or revoked where necessary to conform with plan policies. The ministries have completed this for 100% of previously issued provincial approvals in our source protection region.

The above-noted Provincial Ministries have also established Standard Operating Policies to ensure that all new applications submitted for provincial approvals take into account the science generated through the Drinking Water Source Protection Program, and policies in the relevant source protection plan. Where necessary, new prescribed instruments are either being denied or issued with conditions added to ensure that the activity does not pose a significant threat to sources of drinking water.

## 6. Source Protection Awareness and Change in Behaviour

New, provincial standard road signs mark locations where well-used roads cross into zones where municipal drinking water sources are the most vulnerable to contamination. The road signs provide general public awareness about the sensitivity of the area. They will also alert first responders of the need to quickly inform the appropriate authorities so action can be taken to keep contaminants out of the public water treatment and distribution system. A total of 177 Drinking Water Protection Zone signs have been installed on roadways in the Thames-Sydenham Source Protection Region.

## 7. Source Protection Plan Policies: Summary of Delays

Incentive programs are not being considered by most organizations in the Thames-Sydenham Region as suggested by Policy 1.04 of the Source Protection Plan. If Provincial funding support were made available to help offset the costs of an incentive programs, more organizations would be open to the consideration of an incentive program.

Discretionary Septic System Maintenance Inspections programs targeting moderate and low septic system threats have not yet been considered by municipalities in the Thames-Sydenham and Region. Discretionary inspections are recommended in policy 3.01, and it should be noted that this is a non-legally binding policy. At this point in time, municipalities have been focusing on the mandatory septic inspections as required for septic systems that pose a significant threat to drinking water. More consideration will be given to discretionary inspections once the mandatory inspections are complete.

## 8. Source Water Quality: Monitoring and Actions

### Nitrogen at the Woodstock Well System

Nitrate occurs in the Thornton wellfield and Tabor wellfield of the Woodstock Drinking Water System. Nitrate levels are routinely above half of the treated water maximum allowable concentration (MAC) of 10 mg/L. Anthropogenic activities associated with agriculture, residential development and wetlands are known sources of nitrate in groundwater. Nitrates were therefore identified as an issue for both the Thornton and Tabor wellfields. An analysis of the nitrate levels in some of the wells for the Thornton wellfield revealed that nitrate levels may be leveling off or decreasing. Additional monitoring was recommended to determine whether an Issue Contributing Area (ICA) was required at the Thornton wellfield. Levels at the Tabor wellfield were significantly lower than those seen in the Thornton wellfield, but appeared to be trending upwards. The wellfield contains two highly productive wells that are a main supply of water to the system. An ICA was therefore delineated for the Tabor wellfield.

The County will be moving forward with delineating a Nitrate Issue Contributing Area for the Thornton wellfields.

## 9. Science-based Assessment Reports: Work Plans

No work plans were required to be implemented for our assessment reports.

## 10. More from the Watershed

To learn more about our source protection region, visit our Homepage:  
<https://www.sourcewaterprotection.on.ca/>

# Thames-Sydenham and Region Drinking Water Source Protection Source Protection Committee Report

**Report #:** 7b

**Report to:** Chair and Thames-Sydenham and Region Source Protection Committee

**Prepared by:** Julie Welker

**Date:** March 21, 2025

**Re: s.34 Pre-Consultation Comments**

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**THAT the SPC approve the s.34 Pre-Consultation comments and responses, including new draft policies.**

## Summary

SPA staff consulted with implementing bodies (e.g., government bodies, municipalities and others that will implement the plan policies) to seek feedback on proposed amendments to the Assessment Reports and Source Protection Plan Volume III.

## Report

Section 34 of the *Clean Water Act, 2006* allows locally initiated amendments of the Assessment Report and Source Protection Plan. This is a prescriptive process with extensive consultation and a requirement for council endorsement from affected municipalities.

Source Protection Authority staff submitted a Section 34 amendment package to Ministry of Environment, Conservation and Parks on October 21, 2024. This package includes:

- Amended Policies because of the 2021 Technical Rules Update
- LAWSS Secondary Intake technical work

Initial engagement with the Ministry of Environment, Conservation and Parks began in the fall of 2024. After addressing the ministry's comments, the SPA staff progressed to the pre-consultation phase. This phase started on January 7, 2025, and lasted for 30 days, concluding on February 4, 2025. Comments gathered during this period are detailed in **Appendix A**, with a high-level summary provided in **Table 2**. This summary includes follow-up policy suggestions based on the feedback received. Once all comments have been addressed and council resolutions from the affected

municipalities have been received, the SPA staff will proceed to the final phase of public consultation. The timelines for each phase are outlined in **Table 1**.

**Table 1** Anticipated timelines for the Thames-Sydenham s.34 amendment package

| Project                    | Early Engagement | Pre-Consultation     | Council Resolution          | Public Consultation | Submission          |
|----------------------------|------------------|----------------------|-----------------------------|---------------------|---------------------|
| Amended Policies/<br>LAWSS | Oct/Nov 2024     | Jan.7-Feb.4,<br>2025 | End of<br>February,<br>2025 | April 1-<br>May1?   | To be<br>determined |

**Table 2** Summary of Comments through pre-consultation.

| No | Implementer  | Comment  | Outcome  |
|----|--------------|--|--|
| 1  | OMAFRA       | POW is not a NASM and cannot be regulated in a NASM Plan. POW would not be allowed to be stored in a Permanent Nutrient Storage facility regulated under the NMA. Any storage used for POW would likely require approval outside of the NMA.     | SPA staff drafted standalone POW Policy for SPC review and approval                          |
| 2  | MECP         | <b>Policy 2.08</b> Future Stormwater Management Facilities - comment on whether these features need to go through a CLI-ECA or an ECA.<br><br><b>Policies 4.04,4.05,4.10</b> - Has the SPC considered to include Intake protection zones 1 to 3? | SPA staff drafted standalone CLI-ECA policy and included IPZs into policies 4.04, 4.05, 4.10 |
| 3  | Chatham-Kent | Concern over <b>Policy 2.26</b> Application of Commercial Fertilizers - Prohibition  | Invited municipality to be a delegate at March 21 SPC meeting.                               |

## **A. Suggested Processed Organic Waste Policies**

The 2021 Technical Rules update introduces Processed Organic Waste (POW) as a new sub-threat under Threat #1: “The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act”.

### **What is Processed Organic Waste (POW):**

- POW refers to the organic waste residue remaining after sewage treatment plant processing.
- It is similar to Category 3 non-agricultural source material (NASM).

### **Regulatory Frameworks for POW:**

1. Environmental Compliance Approval (ECA):  
Under the EPA, the land application and storage of POW are subject to an ECA when applied to non-agricultural land.
2. Nutrient Management Act (NMA):  
When POW is applied to agricultural land as NASM, its land application and storage are governed by the NMA.

### **Sub-Threats created for POW:**

**1.2 Application of Processed Organic Waste to Land:** This sub-threat involves the land application of POW, and its risks are assessed based on the managed land area and livestock density in the region.

**1.9 Storage of Processed Organic Waste or Waste Biomass:** This sub-threat focuses on the storage of POW. Under the new guidance, if POW is stored on an agricultural property and does not meet Category 3 land application requirements under the NMA, storage and disposal would then be subject to the EPA. POW can either be disposed of in municipal landfills or applied to sites that are not municipal landfills.

### **Ontario Ministry of Agriculture, Food and AgriBusiness (OMAFRA) Comments:**

Previously, POW was drafted under a Non-Agricultural Source Material (NASM) policy but through the pre-consultation phase, OMAFRA stated that POW is not a NASM and cannot be regulated in a NASM plan and therefore should have its own policy. See below.

|                                |  |  |
|--------------------------------|--|--|
| <p><b>2.05.1</b><br/>Waste</p> | <p><b>Application of Processed Organic Waste to Land – Prohibition</b></p> <p>To reduce the risk to municipal drinking water sources from the application of processed organic waste (POW), this activity shall be prohibited where it is or would be a significant drinking water threat. Where this activity is subject to Environmental Compliance Approvals (ECAs), the Province (MECP) shall prohibit this activity through the ECAs. Any Prescribed Instruments related to the Application of POW that is created, or amended, shall be consistent with this policy.</p>                   | <p>Existing<br/>Future<br/>Significant<br/>WHPA-A (10)<br/>WHPA-B (10)<br/>IPZ-1 (9, 8)<br/>Conform with<br/>MECP<br/>Pr Instrument<br/>Prohibit</p> |
| <p><b>2.05.2</b><br/>Waste</p> | <p><b>Existing Storage of Processed Organic Waste or Waste Biomass– Management</b></p> <p>To reduce the risk to municipal drinking water sources from the handling and storage processed organic waste (POW), this activity shall be managed where it is a significant drinking water threat. Where this activity is subject to Environmental Compliance Approvals (ECAs), the Province (MECP) shall manage this activity through the ECAs. Any Prescribed Instruments related to the Application of POW that is created, or amended, shall be consistent with this policy.</p>                  | <p>Existing<br/>Significant<br/>WHPA-A (10)<br/>WHPA-B (10)<br/>IPZ-1 (9,8)<br/>Conform with<br/>MECP<br/>Pr Instrument<br/>Manage</p>               |
| <p><b>2.05.3</b><br/>Waste</p> | <p><b>Future Storage of Processed Organic Waste or Waste Biomass – Prohibition</b></p> <p>To reduce the risk to municipal drinking water sources from the future handling and storage of processed organic waste (POW), this activity shall be prohibited where it would be a significant drinking water threat.</p> <p>Where this activity is subject to Environmental Compliance Approvals (ECAs), the Province (MECP) shall prohibit this activity through the ECAs.</p> <p>Any Prescribed Instrument related to future POW Storage that is created shall be consistent with this policy.</p> | <p>Future<br/>Significant<br/>WHPA-A (10)<br/>WHPA-B (10)<br/>IPZ-1 (9,8)<br/>Conform with<br/>MECP<br/>Pr Instrument<br/>Prohibit</p>               |

## **B. Suggested Consolidated Linear Infrastructure Environmental Compliance Approval Policy**

### **What is Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI-ECA):**

- In December 2023, MECP introduced a new approach to sewage works. CLI-ECAs have replaced existing pipe-by-pipe approvals (ECAs) for municipal sewage works by consolidating approvals for linear infrastructure into a system-wide permission with modern terms and conditions.
- The intent was to improve consistency & Environmental Protection, Streamline the approvals process and create a holistic picture of sewage works.
- CLI-ECAs are issued to municipalities. They include conditions that authorize these municipalities and prescribed persons (such as developers) to make changes to the system when requirements in the CLI-ECA are met.

### **Regulatory Framework for CLI-ECAs:**

- CLI-ECAs are issued under the *Environmental Protection Act* to fulfill requirements in s.53 of the *Ontario Water Resources Act*.
- Prescribed persons are defined under Ontario Regulation 208/19, *Environmental Compliance Approval in Respect to Sewage Works*. They are identified as having an agreement with a municipality under the *Planning Act* or the *Development Charges Act*.

### **Sub-Threats included in CLI-ECAs:**

2.3 Storm Water Management Facilities and Drainage Systems: Outfall from a Storm Water Management Facility or Storm Water Drainage System

2.4 Storm Water Management Facility and Drainage Systems: Storm Water Infiltration Facility

2.5 Wastewater Collection Facilities and Associated Parts: Sanitary Sewers

2.6 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.

2.7 Wastewater Collection Facilities and Associated Parts: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel.

**MECP’s comments through pre-consultation:**

- Please be reminded that the administrative process for the screening of CLI-ECA and individual ECAs is different
- CLI-ECA conditions require the municipality to undertake the evaluation of the proposed works to determine whether they are a significant drinking water threat activity and to determine what source protection plan policies may apply
- For stormwater management facilities that exceed the limits of preauthorization, or for those that are not part of the CLI-ECA program, an ECA application is still required.

**SPA staff recommendation for new policy:**

It is SPA staffs understanding that ECAs may still apply to some of the sewage works based on a certain threshold. Therefore, it was decided to have a standalone CLI-ECA policy for municipalities to close any gaps.

|                                 |  |   |
|---------------------------------|--|---|
| <p><b>2.08.1</b><br/>Sewage</p> | <p><b>Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA)</b></p> <p>To ensure that any Existing or Future:</p> <ul style="list-style-type: none"> <li>• sanitary sewer</li> <li>• outfall of a combined sewer outflow (CSO) or a sanitary sewer overflow (SSO) from a manhole or wet well</li> <li>• sewage pumping station or lift station wet well, a holding tank or a tunnel</li> <li>• outfall from a storm water management facility or storm water drainage system; or</li> <li>• storm water infiltration facility</li> </ul> <p>that qualify for Consolidated Linear Infrastructure (CLI-ECA) preauthorization ceases to be, or never become, significant drinking water threats, where these activities are, or would be, significant drinking water threats, the municipality shall adhere to the terms and conditions incorporated into the CLI-ECA to protect drinking water sources.</p> | <p>Existing<br/>Future</p> <p>WHPA-A (10)<br/>WHPA-B (10)<br/>IPZ-1 (9,8)<br/>Municipality<br/>Specify Action</p> |
|---------------------------------|--|---|

**C. Discussion for policy 4.04, 4.05 and 4.10**

**MECP’s comments as part of Pre-Consultation:**

For policies 4.04, 4.05, 4.10, review and confirm if these policies should also apply to intake protection zones 1 to 3. It is not clear if this item was considered by the Source Protection Committee.

**SPA Staff recommendation:**

SPA staff recognize that there may be very few instances where the following policies could apply to IPZs but felt it wouldn't hurt to include them in these policies and it could close any potential gaps.

|                    |  |  |
|--------------------|--|--|
| <p><b>4.04</b></p> | <p><b>Professional Standards Maintained for Well Drillers – (MECP)</b></p> <p>To reduce the risk to municipal drinking water sources from transport pathways located within vulnerable areas, the Province (MECP) shall consider placing a greater focus on the enforcement of standards and requirements for wells to be installed by licensed installers and decommissioned according to applicable standards by qualified individuals.</p>  | <p>WHPA-A<br/>WHPA-B<br/>WHPA-C<br/>WHPA-D<br/><b>IPZ 1-3</b></p> <p>Strategic<br/>MECP<br/>Specify Action</p>         |
| <p><b>4.05</b></p> | <p><b>Transport Pathway Policy - Municipal</b></p> <p>To reduce the potential for transport pathways to increase the risk to municipal drinking water sources, municipalities should consider:</p> <ul style="list-style-type: none"> <li>a) including, as a condition for approval on relevant development applications, a record of the decommissioning of unused wells in accordance with O. Reg. 903 of the Ontario Water Resources Act (OWRA);</li> <li>b) the development of municipal by-laws to restrict private wells and septic systems where prescribed drinking water threats would be significant and municipal servicing is in place to provide an option for water and sewage other than the creation of potential transport pathways. The municipality, in consultation with the Risk Management Official, shall be responsible for determining exceptions to these by-laws; and</li> <li>c) encouraging landowners to improve their wells to meet standards including making landowners aware of any financial incentives which may be available to assist them. If the landowner fails to take appropriate action, the Municipality should draw this deficiency to the attention of the MECP to enforce the standards under O. Reg. 903 of OWRA or other regulations where applicable. In drawing this deficiency to the attention of the MECP, they should indicate that the deficiency is occurring in a Wellhead Protection Area (WHPA) and therefore may be increasing the risk to a municipal drinking water source.</li> </ul> | <p>WHPA-A<br/>WHPA-B<br/>WHPA-C<br/>WHPA-D<br/><b>IPZ 1-3</b></p> <p>Strategic<br/>Municipality<br/>Specify Action</p> |
| <p><b>4.10</b></p> | <p><b>Provincial Well Inspection</b></p> <p>The MECP 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 <i>Ontario Water Resources Act</i>, R.S.O., 1990, c). 40].</p> <p>The program analysis should consider:</p>   | <p>WHPA-A<br/>WHPA-B<br/>WHPA-C<br/>WHPA-D<br/><b>IPZ 1-3</b></p> <p>Strategic<br/>MECP<br/>Specify Action</p>         |

|  |  |  |
|--|--|--|
|  | <ul style="list-style-type: none"><li>• Increased MECP field presence with well contractors</li><li>• Complaint response prioritization where the presence of a transport pathway would endanger sources of municipal drinking water,</li><li>• Focusing resources in areas where improperly constructed, maintained or abandoned wells may increase the potential threat to municipal drinking water sources.</li></ul> |  |
|--|--|--|

**Recommendation**

**THAT the SPC approve the s.34 Pre-Consultation comments and responses, including new draft policies.**



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Julie Welker  
Coordinator, Source Water Protection

### Comments received during Pre-Consultation

| # | Implementor    | Consultation Date | Method of Consultation | Method of comment    | Comments  | Our response  |
|---|----------------|-------------------|------------------------|----------------------|---|---|
| 1 | City of Sarnia | Jan. 7, 2025      | Letters via email      | Phone call           | Called to ask about the back-up intake since they had no knowledge of the secondary intake.   | We explained that this intake was never captured in the AR and we were also unaware of it. We explained further that LAWSS hired a consultant to do the modeling work and this has been included in the s.34 Amendment Package. |
| 2 | Thames Centre  | Jan. 7, 2025      | Letters via email      | Phone call           | Asked to present to council for council resolutions   | We agreed to present to council.  |
| 3 | Chatham-Kent   | Jan. 7, 2025      | Letters via email      | Email                | <p>Comment: In the change log, the edit changes the designation to S. 59, whereas in SPP Volume III tracked changes this is changed to S. 57. (I think this is just a typo in the log).</p> <p>Question: I am confused about 2.26 and 2.26.1 in SPP Volume III. Have there been issues on the ground in Chatham-Kent regarding the application of nitrogen based fertilizer, and will this prohibition apply to the Ridgetown Wells (WHPA-A specifically) or anywhere else? How is it determined if the application 'would be a significant drinking water threat'?</p> <p>Comment: I have spoke with Public Utilities staff regarding the Colby well. I have learned that representatives of the Kent Federation of Agriculture have engaged on this issue in the past. Given that the KFA is a well recognized stakeholder in Chatham-Kent, I will need additional time to consider the situation before finalizing a report to Council. The provisions of the Clean Water Act under S.34(3) are challenging.</p> | <p>Comment: Make the change in the log. Question: Had a long chat via phone about these policies and have provided clarity. Invited municipality to be a deletate at the next SPC meeting if still had concerns.</p>            |
| 4 | Perth East     | Jan. 8, 2025      | Letters via email      | Email                | CAO asking how these changes specifically impact his municipalities.  | We provided an explanation that there will be no impact to existing activities but could for future activities and explained in general terms the changes to the technical rules.   |
| 5 | OMAF           | 13-Jan-25         | Letters via email      | Email                | POW is not a NASM and cannot be regulated in a NASM Plan. POW would not be allowed to be stored in a Permanent Nutrient Storage facility regulated under the NMA. Any storage used for POW would likely require an approval outside of the NMA.   | Thanked them for the clarification. Will need to draft a standalone policy for POWs.  |
| 7 | West Perth     | 03-Feb-25         | Letters via email      | Email                | Questions around Policy 2.26: 1. Is this an area wide consideration?; 2. At what point is such a 'prohibition' enacted; 3. What criteria are used and who makes this decision?; 4. What ag industry input was provided?; 5. Why are standard 4R management principles no longer deemed sufficient? 6. What issues was this creating with RMOs?  | After answering these questions, they explained that they thought this policy was going to affect the entire region and was happy to know it would only affect WHPA-As.   |
| 8 | MECP           | 04-Feb-25         | Letters via email      | Email and Phone call | <p><b>Assessment Report Comments:</b></p> <p>i) Minor editing changes (Update related sections to reflect the 2021 updates, Remove WHPA-F, Remove Rule 140.1, update language on WHPA-Es);</p> <p>ii) Update Ontario Drinking Water Quality Standard tables</p>   | Changes were made as suggested  |

|   |      |           |                   |                      |  |   |
|---|------|-----------|-------------------|----------------------|--|---|
| 9 | MECP | 04-Feb-25 | Letters via email | Email and Phone call | <p><b>Source Protection Plan Comments:</b></p> <p>i) Minor editing changes</p> <p>ii) <b>Policy 2.08</b> Future Stormwater Management Facilities - comment on whether these features need to go through a CLI-ECA or a ECA.</p> <p>iii) <b>Policy 2.11</b> Future Sewage Discharge and 2.13 Future Sewage Storage - consider adding in exemptions into policy iv)</p> <p><b>Policy 2.30</b> Application of Pesticides - consider seperating out the policy so it reads as one for prohibition and one as management v)</p> <p><b>Policies 4.04,4.05,4.10</b> - Has the SPC considered to include Intake protection zones 1 to 3?</p> | <p>1. Created a stand-alone CLI-ECA policy</p> <p>2. SPC needs to discuss Policy 2.08, 4.04, 4.05, 4.10</p> <p>3. SPA updated Policy naming convention to align with 2021 Technical Rules</p> <p>4. SPA staff discussed policy 2.11 and decided to maintain the policy as is to align with the SPC's past opinion to keep policies generic.</p> <p>5. SPA staff discussed policy 2.30 along with Risk Management Officials. This policy is clear to the users and presents no challenges.</p> |
|---|------|-----------|-------------------|----------------------|--|---|

# New phosphorus reduction program receives \$17.41 million from Canada Water Agency

Reading Time: 2 minutes

Published: November 14, 2024

[Crops](#), [News](#)



A new funding program is available for landowners looking to introduce or expand agricultural best management practices (BMPs) on their properties. The Thames River Phosphorus Reduction Program promotes the adoption of a variety of BMPs that are proven to reduce losses of phosphorus from agricultural lands.

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These practices not only improve the water quality of the Thames River and downstream waterways, but they can also have a positive impact on soil health and agricultural production.

Canada Water Agency has committed \$17.41 million over four years to support the Thames River Phosphorus Reduction Program, which will be administered by the the Upper Thames River Conservation Authority (UTRCA).

UTRCA said in a release the funding will help address environmental challenges impacting water quality in the Great Lakes and the health of its ecosystem, including the issue of phosphorus loading.

In 2022, phosphorus loading from Canada to Lake Erie reached 2,091 tonnes, with approximately 53 per cent of phosphorus in the Huron-Erie corridor – encompassing the Thames

River – originating from non-point sources. UTRCA said this program is an essential step in reducing phosphorus levels and protecting freshwater resources.

“While overall water quality has remained stable across the subwatersheds, as indicated by the UTRCA Watershed Report Cards, there is still significant room for improvement to reduce phosphorus loading within the Thames River,” said Tatianna Lozier, stewardship services coordinator with UTRCA.

This program will aim to reduce phosphorus from the highest contributing areas of the watershed through strategic conservation planning while encouraging broad scale adoption of practices to achieve reductions across the watershed. Several BMPs will be eligible for funding over the next four years, including cover crops, soil testing, crop nutrient planning, erosion control structures, and subsurface fertilizer placement or prescription applications of phosphorus-based fertilizers and manure.

“There is a long history of conservation efforts across public and private lands, including agricultural properties. Between 2016 and 2020, over 200 Best Management Practice (BMP) projects were successfully implemented through the ongoing Clean Water Program, laying a strong foundation for future progress,” said Lozier. “The Thames River Phosphorus Reduction Program will build on this success and further enhance our impact.”

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To learn more and apply for funding, visit the Thames River Phosphorus Reduction Program [web page](#) or contact Tatianna Lozier at [loziert@thamesriver.on.ca](mailto:loziert@thamesriver.on.ca) / 519-451-2800 extension 233.

# Housing-Enabling Water Systems Fund Projects

January 27, 2025

The Ontario government is investing \$325 million in critical water infrastructure projects to help build up to 107,000 new homes across the province. The funding is being delivered through the [Housing-Enabling Water Systems Fund](#) (HEWSF), which helps municipalities build, repair, rehabilitate and expand critical drinking water, wastewater and stormwater infrastructure.

Through the second intake of HEWSF, the government is supporting the following 23 water infrastructure projects across the province:

| <b>Municipality Name</b>            | <b>Project Title*</b>                              | <b>Provincial Funding</b> |
|-------------------------------------|--|---------------------------|
| City of Dryden                      | Van Horne Landing Subdivision Site Servicing       | \$3,000,592               |
| City of Elliot Lake                 | Housing with Wastewater Treatment Improvements     | \$2,757,486               |
| City of Kingston                    | Williamsville Core Water Infrastructure Renewal    | \$6,994,035               |
| City of Pickering                   | Krosno Creek Culvert Replacements                  | \$5,110,000               |
| City of Timmins                     | Melrose Heights Subdivision (MHS) Expansion        | \$9,198,000               |
| Corporation of the Town of Perth    | Capacity Expansion for the Perth Wastewater Lagoon | \$2,952,850               |
| Corporation of the Town of Prescott | Tri-Municipal Water and Wastewater Shared Services | \$23,928,200              |
| Haldimand County                    | Highway 6 Water Main Twinning to Hagersville       | \$10,526,600              |
| Municipality of Brighton            | Wastewater Treatment System Upgrade & Expansion    | \$34,978,397              |
| Municipality of Machin              | Rehabilitation of Machin's Water Treatment Plant   | \$111,598                 |

|                                    |  |              |
|------------------------------------|--|--------------|
| Regional Municipality of Halton    | Expansion of the Oakville Water Treatment Plant      | \$20,812,700 |
| The City of Barrie                 | New Huronia and McKay Trunk Sewer and Watermain      | \$34,973,624 |
| The City of Temiskaming Shores     | McKelvie St./Baker Ave. Infrastructure Extension     | \$7,402,570  |
| The Municipality of McDougall      | Replacement of Septic System- Crawford Subdivision   | \$1,587,750  |
| The Municipality of West Nipissing | Upgrade of Bourgault Street Water Sanitary Storm     | \$754,637    |
| The Township of Blind River        | New Pump Station for Lake Huron Water Connection     | \$5,110,000  |
| The Township of North Glengarry    | Alexandria Lagoon Expansion                          | \$28,543,000 |
| The Township of Southgate          | Dundalk Waste Water Treatment Facility Upgrade       | \$3,462,139  |
| The Township of Springwater        | Midhurst Valley WWTP Expansion                       | \$34,971,875 |
| The Township of West Lincoln       | Rehab of Sewer and Watermain - West St. and Wade Rd. | \$3,969,375  |
| Town of Erin                       | Extension and replacement of municipal services      | \$29,473,750 |
| Town of Parry Sound                | Upgrades to SPS#2 and Associated Infrastructure      | \$13,094,375 |
| Township of Clearview              | Stayner Water Well Field, Pumping Station & Mains    | \$35,000,000 |

\*Project details are subject to change.

## British Columbia

Forever chemicals are everywhere. These burnt wood chips could help change that

Used in many household products, some highly toxic PFAS take a thousand years to break down

[Darius Mahdavi](#) · CBC News · Posted: Sep 21, 2024 8:00 AM EDT | Last Updated: September 21, 2024



Researchers say these burnt wood chips could help eliminate forever chemicals in contaminated drinking water. (Hunter Soo/CBC)

Forever chemicals are everywhere, from cookware to cosmetics to clothes to carpets. For decades, they've been building up in the environment and our water – and in our bodies.

Now Canadian researchers say they have developed a practical way to remove the toxic compounds from our drinking water.

"There's no natural way for this thing to break down," said Johan Foster, an associate professor of chemical and biological engineering in the University of British Columbia's Faculty of Applied Science and the senior researcher on the team that developed the technology.

"They have found [forever chemicals] in everything from glaciers to mountain lakes to killer whales."

- ['Forever chemicals' found in Canadians' blood samples: report](#)
- [Does your makeup contain 'forever chemicals'?](#)

But by soaking wood chips in an iron chloride solution, then burning them at a high temperature, Foster's team was able to produce a new type of activated carbon that can capture and destroy forever chemicals.

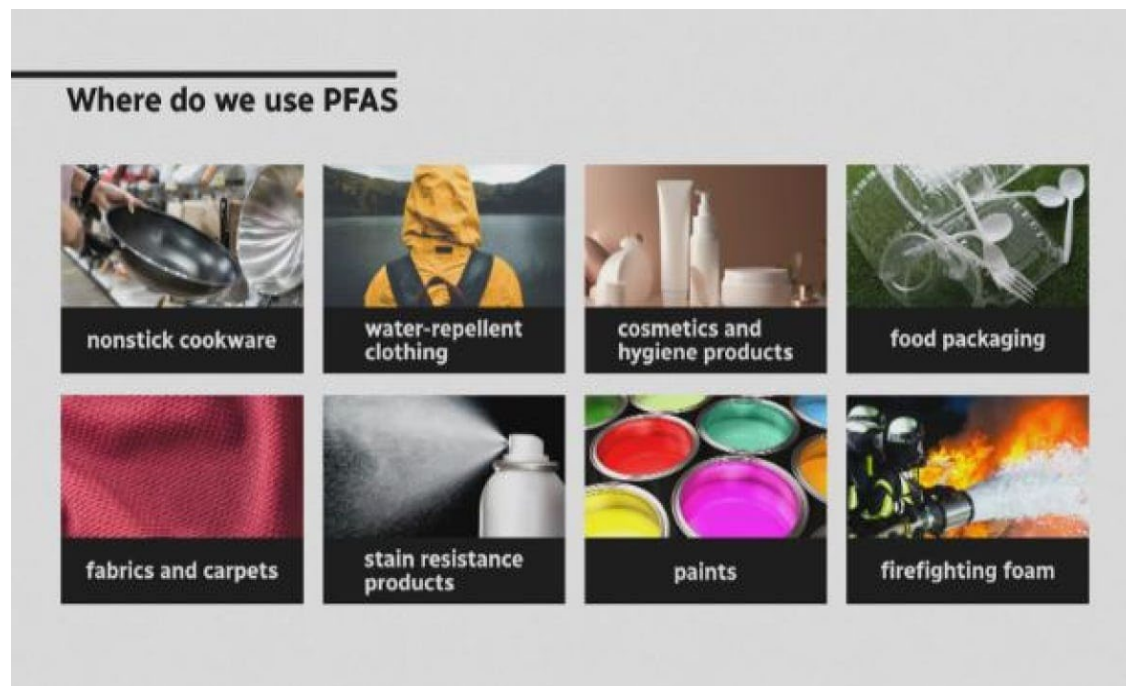
"We are purifying the water," said Pani Rostami, a UBC master's student who is working on the project. "We are turning something that is very bad for the environment, a pollutant, to something that is causing no harm."

The [results by UBC researchers were recently reported](#) in a peer-reviewed paper in *Nature Communications Engineering*.

## Widespread use, widespread problem

Since the 1950s, forever chemicals have been used in a wide variety of household products and industrial processes for their water-repellent and stain-resistant qualities.

The term "forever chemicals" refers to a group of over 10,000 distinct synthetic compounds, formally classified as per- and polyfluoroalkyl substances (PFAS).



Despite bans on a handful of specific forever chemicals in Canada, many common products still contain PFAS. (CBC)

They are nearly impossible to break down through conventional methods, and have been building up in the environment for decades.

"It doesn't break down in the body, just sunlight is not going to break it down," said Foster. "So it just accumulates. It accumulates in the environment, in the water or in the human body."



Johan Foster, right, explains how the new method of destroying forever chemicals could one day help remove the toxic substances from drinking water supplies. (Hunter Soo/CBC)

PFAS are bioaccumulative, which means they're absorbed by living organisms faster than the body can break them down and excrete them.

"It's in all of us," said Jane Fowler, an assistant professor of environmental microbiology at Simon Fraser University. "We can detect it in all of our blood samples and breast milk and that kind of thing."

## **The forever chemical dilemma**

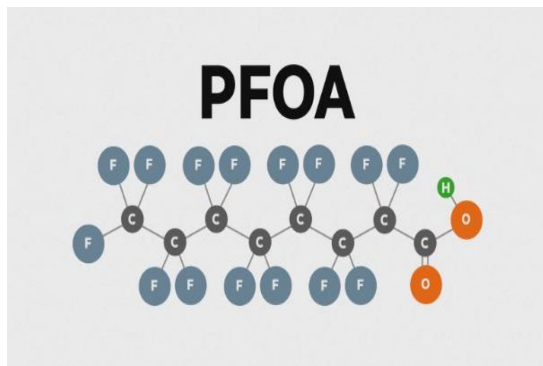
Foster says forever chemicals have a unique and extremely stable chemical composition.

"It becomes very, very difficult to degrade because of that carbon-fluorine bond," said Foster. "It's a fantastic, strong bond, which makes it a great chemical, but also a forever chemical."

Carbon-fluorine bonds are among the strongest known to chemistry – and PFAS can have dozens of them. This makes them extremely hard to break down.

Under normal conditions, breaking the strong bonds within a PFAS molecule requires lots of energy, making destruction impractical.

"You heat [PFAS-contaminated water] to 370 C under a lot of pressure and they will start to degrade," said Foster. "But the problem in drinking water specifically, [PFAS are] in such small quantities that heating all of your drinking water to that temperature is just unrealistic."



PFAS can have dozens of strong carbon-fluorine (C-F) bonds. PFOA, long one of the most widely used PFAS molecules, is now tightly restricted in Canada. (CBC) Currently, the only option for treatment facilities to remove PFAS from drinking water is to capture them using [technologies like activated carbon or ion exchange](#).

"Those technologies remove the PFAS and trap it from the drinking water supply, but don't eliminate the problem," said Inder Singh, director of quality control for Metro Vancouver water services.

"Because of the insidious nature of PFAS compounds, they are then simply discharged back into the environment."

## Trap and destroy

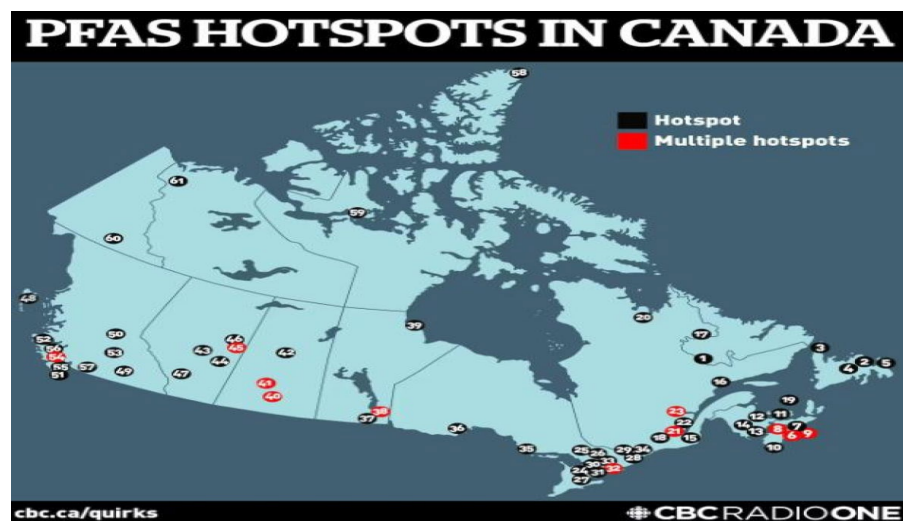
The new method developed at UBC aims to capture and eliminate PFAS with no major energy inputs required.

"It brings in two technologies," said Upal Ghosh, a professor from the Dept. of Chemical Engineering at University of Maryland, Baltimore County.

"I'm excited to see those efforts going on ... we want to have the capability to break down these compounds in the long term."

Essentially, the iron-soaked, burnt wood chips – or "biochar" – act as a more effective form of activated carbon, grabbing PFAS molecules out of the water. The iron then acts as a catalyst, making it easier to snap those strong carbon-fluorine bonds.

"The PFAS compound attaches to the catalyst and then a reaction basically degrades it into smaller and smaller innocuous compounds that won't affect the human body," said Foster.



A map showing PFAS hotspots in Canada. (CBC)

When ground into a powder, the material was able to destroy over 85 per cent of perfluorooctanoic acid (PFOA), a common type of PFAS, within three hours. These results were collected under low levels of ultraviolet light to simulate ambient sunlight, but the reaction is only slightly less efficient in the dark.

"I think it's promising," said Fowler. "Not only can they pull it out of the water, they can also start degrading those PFAS molecules so that they're not just creating a new waste product."

The team is now looking to scale up their operation. They have found an industrial partner in the B.C. Interior to help produce the biochar, Foster said.

## Health Canada makes 'rare' move to address PFAS

In a rare move last month, Health Canada published [new, stricter objectives for PFAS levels in drinking water](#). Though non-binding, it marks a shift in policy from regulating each type of PFAS individually to addressing them as a group.

It follows the issuance of strict regulations in places like the [United States](#) and [European Union](#).

Those new objectives are meant to supplement Health Canada's official guidelines, issued in 2018 and 2019, which focus on only a handful of individual PFAS molecules.

Those guidelines call for provinces and territories, which regulate drinking water quality, to limit levels of PFOS – a common type of PFAS – to 600 nanograms per litre. That is 150 times higher than the new U.S. regulation of just four nanograms per litre.

"In rare instances, and PFAS was one of those, the science is moving very, very fast," said Stephanie McFadyen, research manager of the water quality program at Health Canada.

Vancouver researchers say they've found a way to destroy highly resistant PFAS, also known as 'forever chemicals,' with a new technology that removes them from drinking water before they end up in the environment — and our bodies.

McFadyen said the objectives are meant to communicate that new evidence to the provinces and territories while Health Canada continues to develop new guidelines – a process that typically takes four to seven years.

"So to not act, well, give the appearance anyway, of not acting ... did not seem like a reasonable approach."

McFadyen emphasized that part of the problem has been a lack of data. Few municipalities have been regularly testing for PFAS in drinking water, though she said that is starting to change. In the meantime, Health Canada has relied on academic studies.

For instance, [one study looking at tap water in Quebec](#) found PFAS in 99.3 per cent of samples.

"It took everybody by surprise, I think," said McFadyen. "It's in everything and everywhere ... I think probably, maybe only plastics compare to the scale of the problem."

## **Dozens of hot spots across Canada**

In Canada, most [PFAS hot spots](#) are either in industrial areas, where they have been widely used, or around airports and Canadian Armed Forces bases.

"Anywhere where there's been firefighting training and they've used these firefighting foams," explained Fowler. "They used it in really high concentrations in those types of foams until fairly recently."

|   |   |
|---|---|
| <b>NEWFOUNDLAND</b>                                     | 33 London Airport                               |
| 1 Wabush Airport  | 34 Ottawa Airport                               |
| 2 Gander Airport  | 35 Sault Ste Marie Airport                      |
| 3 St. Anthony Airport                                   | 36 Thunder Bay Airport                          |
| 4 CFB Gander / 9 Wing Royal Canadian Air Force          | <b>MANITOBA</b>                                 |
| 5 St. John's Airport                                    | 37 Winnipeg Airport                             |
| <b>NOVA SCOTIA</b>                                      | 38 17 Wing Royal Canadian Air Force             |
| 6 CFB Halifax   | 39 Churchill Airport                            |
| 7 Halifax Airport                                       | <b>SASKATCHEWAN</b>                             |
| 8 CFB Greenwood / 14 Wing Royal Canadian Air Force      | 40 15 Wing Royal Canadian Air Force             |
| 9 CFB Shearwater / 12 Wing Shearwater                   | 41 15 Wing Detachment Royal Canadian Air Force  |
| 10 Canadian Forces Station Barrington                   | 42 La Ronge Airport                             |
| <b>PEI</b>  | <b>ALBERTA</b>                                  |
| 11 Charlottetown Airport                                | 43 CFB Edmonton                                 |
| <b>NEW BRUNSWICK</b>                                    | 44 CFB Wainwright                               |
| 12 Moncton Airport                                      | 45 4 Wing Royal Canadian Air Force              |
| 13 Saint John Airport                                   | 46 Crash site                                   |
| 14 Fredericton Airport                                  | 47 Calgary Airport                              |
| <b>QUEBEC</b>   | <b>BRITISH COLUMBIA</b>                         |
| 15 Firefighting activity                                | 48 Sandspit Airport                             |
| 16 Sept-Îles Airport                                    | 49 Penticton Airport                            |
| 17 Schefferville Airport                                | 50 Prince George Airport                        |
| 18 Montreal Mirabel Airport                             | 51 Victoria Airport                             |
| 19 Îles-de-la-Madeleine Airport                         | 52 Port Hardy Airport                           |
| 20 Kuujuaq Airport                                      | 53 Williams Lake Airport                        |
| 21 Munitions Experimental Test Centre                   | 54 CFB Comox / 19 Wing Royal Canadian Air Force |
| 22 CFB Valcartier                                       | 55 CFB Esquimalt                                |
| 23 CFB Bagotville / 3 Wing Royal Canadian Air Force     | 56 Campbell River Airport                       |
| <b>ONTARIO</b>  | 57 Abbotsford Airport                           |
| 24 Toronto Pearson Airport                              | <b>NUNAVUT</b>                                  |
| 25 North Bay Airport                                    | 58 Canadian Forces Station Alert                |
| 26 22 Wing Royal Canadian Air Force                     | 59 Cambridge Bay Airport                        |
| 27 Hamilton Airport                                     | <b>YUKON</b>                                    |
| 28 Firefighting activity                                | 60 Watson Lake Airport                          |
| 29 National Research Council's National Fire Laboratory | <b>NORTHWEST TERRITORIES</b>                    |
| 30 CFB Borden   | 61 Inuvik Airport                               |
| 31 Bear Creek, Nottawasaga River, Pine River            |   |
| 32 CFB Trenton / 8 Wing Royal Canadian Air Force        |   |

The legend for the map showing PFAS hotspots in Canada. (CBC)



Inder Singh is the director of quality control for Metro Vancouver water services. (Martin Diotte/CBC)

Many of these hot spots were [highlighted in a CBC investigation](#) in 2020.

Several Canadian cities have also made headlines in recent years due to high levels of PFAS in their drinking water.

- [Quebec cities urge government to limit 'forever chemicals' in rivers](#)

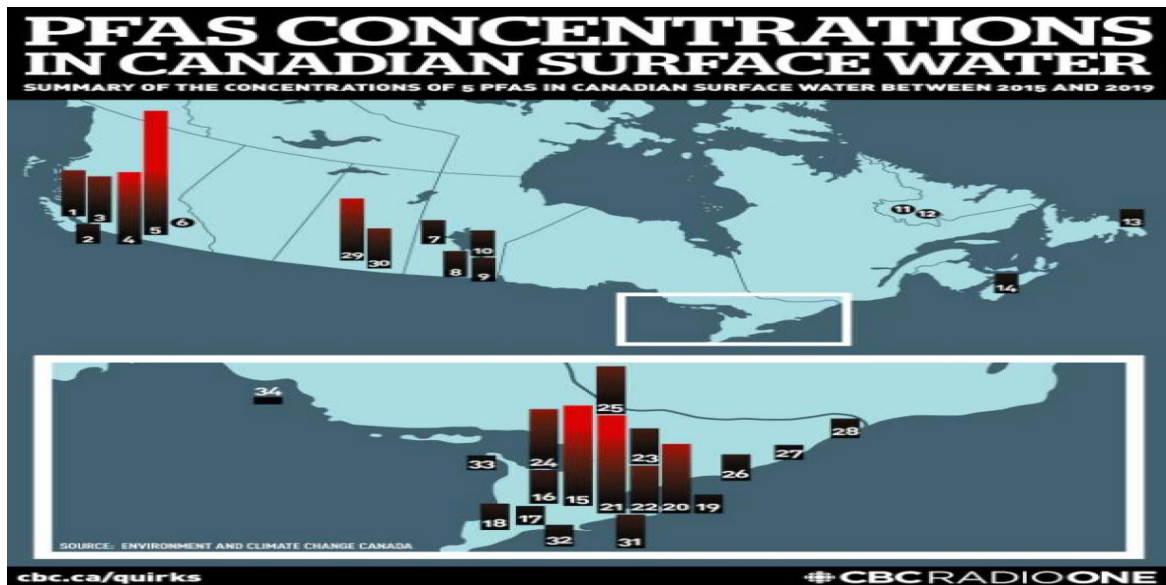
- [North Bay, Ont., and DND move to remediate 'forever chemicals' site that contaminated drinking water](#)

McFadyen with Health Canada said that when it comes to drinking-water sources, almost all communities can be affected. Groundwater tends to be the most susceptible, but surface water can also experience contamination.

## Metro Vancouver's 'unique' drinking water

In Metro Vancouver, however, drinking water comes from protected mountain reservoirs.

"Metro Vancouver's drinking water is quite unique... there's no industry, no commercial operation," said Singh at the Seymour-Capilano water treatment plant in North Vancouver. "So the only source of PFAS contaminants would be airborne transport. And unless there's some specific industry that's going to be putting that into the atmosphere, the risk is minimal."



A map showing PFAS concentrations in Canadian surface water. (CBC)


Since Metro Vancouver started biannual testing for PFAS, [levels have consistently been below detection limits](#).

Singh said that as long as those levels remain that low, there is little reason for Metro Vancouver to implement this kind of PFAS removal technology – but also acknowledged that the science is changing quickly, and the district has to be ready to change with it.

"It's a public safety, public health issue, and any prudent public utility will be responsive to those regulations and meeting those requirements."

| SiteName                                     | Median sum of five PFAS (ng/L) | SiteName  | Median sum of five PFAS (ng/L) |
|--|--------------------------------|---|--------------------------------|
| 1 Still Creek                                | 23                             | 18 Thames River at Kilworth                               | 11                             |
| 2 Brunette River at Canfor Avenue            | 9.8                            | 19 Niagara-on-the-lake lighthouse                         | 7.8                            |
| 3 Still Creek upstream                       | 23                             | 20 Dick's Creek - St. Catharines                          | 29                             |
| 4 Mill Creek (lower)                         | 36                             | 21 Hamilton Harbour-914                                   | 41                             |
| 5 Mill Creek (middle)                        | 62                             | 22 Hamilton Harbour-926                                   | 20                             |
| 6 Mill Creek (reference)                     | *                              | 23 Highland Creek   | 15                             |
| 7 Red River-Selkirk                          | 12                             | 24 Mimico Creek   | 25                             |
| 8 Red River-Selkirk (down)                   | 13                             | 25 Taylor Creek   | 20                             |
| 9 Red River-Winnipeg: At Chief Peguis Bridge | 12                             | 26 St. Lawrence River (south Channel)                     | 11                             |
| 10 Red River-Emerson                         | 13                             | 27 St. Lawrence River, Lavaltrie's water filtration plant | 6.2                            |
| 11 Saint John River upstream                 | *                              | 28 St. Lawrence River, Lévis's water filtration plant     | 8.2                            |
| 12 Saint John River downstream               | *                              | 29 Wascana Creek (down)                                   | 31                             |
| 13 Waterford River                           | 8.9                            | 30 Wascana Creek (up)                                     | 20                             |
| 14 Little Sackville River                    | 9.9                            | 31 Lake Ontario   | 14                             |
| 15 Grand River at Bridgeport bridge          | 4.2                            | 32 Lake Erie  | 9.1                            |
| 16 Grand River at Fountain Street            | 14                             | 33 Lake Huron/Georgian Bay                                | 6.2                            |
| 17 Thames River at Highland                  | 8                              | 34 Lake Superior  | 3.1                            |

**THE CONCENTRATIONS ARE THE MEDIAN (50TH PERCENTILE) ACROSS ALL SAMPLING PERIODS**  
**THE PFAS INCLUDED IN THE SUM ARE: PFBA, PFHXA, PFOA, PFNA, AND PFOS**  
**\* INDICATES THAT THE MEDIAN VALUE WAS BELOW THE LABORATORY DETECTION LIMIT**

cbc.ca/quirks 

The legend for the map showing PFAS concentrations in surface water in Canada. (CBC)

**ABOUT THE AUTHOR**

[Darius Mahdavi](#) Science communicator

Darius Mahdavi is the science specialist for CBC News Network and CBC British Columbia, based in Vancouver. He's worked as a researcher and earned a degree in conservation biology and immunology from the University of Toronto. From quirky research to essential climate news to fun facts, he covers all things science. You can hear his daily science segments on the B.C. afternoon radio shows, or watch him nightly on Canada Tonight and CBC Vancouver News. If you have a science or climate question, reach out at [darius.mahdavi@cbc.ca](mailto:darius.mahdavi@cbc.ca).

*With files from Georgie Smyth and Quirks and Quarks*

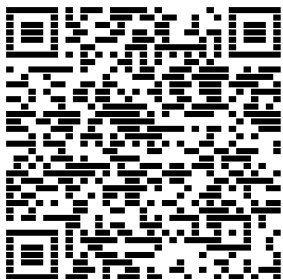
# How To Protect Your Water

- Test Your drinking water regularly.
- Inspect your septic system annually.
- Use eco-friendly alternatives to household cleaners and road salts.
- Store fuel tanks with drip trays underneath to prevent spills.
- Dispose of hazardous waste properly.



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- How to fill out the form.
- Where to drop off your sample.
- How to understand your results.
- How to protect your well water.

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[www.protectingourwater.ca](http://www.protectingourwater.ca)

