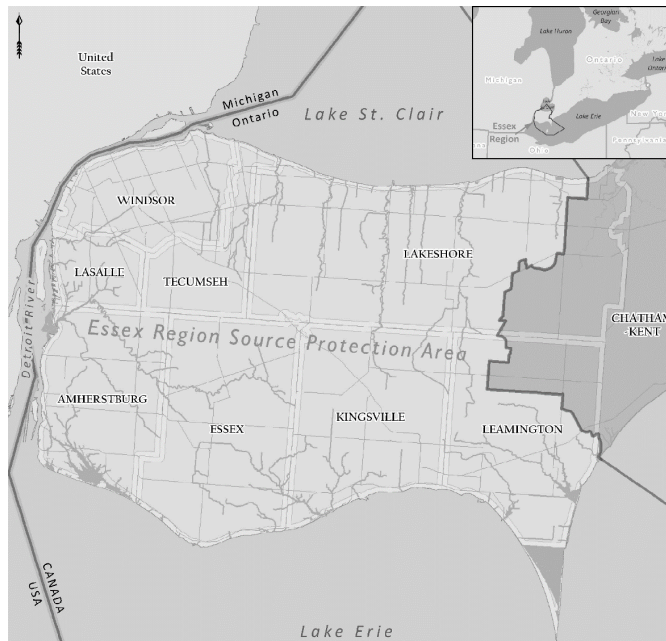


2023 ERSPA Source Protection Annual Progress Report | 1 May 2024

I. Introduction

This annual progress report outlines the progress made toward implementing the policies in the Essex Region Source Protection Plan (SPP) for the Essex Region Source Protection Area (ERSPA), as required by the *Clean Water Act* and its Regulations. Our policies work by either eliminating or managing activities that could be considered a threat to our sources of drinking water and are based on the foundational knowledge that the actions we take on land have an impact on our local waterways and ultimately our sources of drinking water. Following an extensive process that included broad public input, the Essex Region SPP came into effect on October 1, 2015. This report highlights progress made toward implementation up to December 31, 2023, and highlights the actions taken from January 1 to December 31, 2023.



Scoring for certain elements of the Annual Progress Reports is based on the following:

Progressing Well/On Target (P) – Most of the policies have been implemented &/or are progressing.

Satisfactory (S) – Some of the policies have been implemented and/or are progressing.

Limited progress (L) – A few of policies have been implemented and/or are progressing.

II. A message from your local Source Protection Committee

P – Progressing Well

The Essex Region Source Protection Committee has reviewed this report and once again it is our unanimous opinion that implementation of the policies in the Essex Region Source Protection Plan is progressing well.

The one area that seems to have reached a stalemate is the section that requires specific action by municipalities. The Committee is aware of the challenges that continue to delay the completion of the required review of Official Plan (OP) and Zoning By-Law documents that govern development. Various changes by the province to the governing laws by which the municipalities must conform have exacerbated their ability to produce and approve new OP and Zoning by-laws as quickly as we might like. The Committee suggests that, rather than waiting for the full review of existing documents to be completed, they see their way to adopt amendments that will be included in the final production of their fully updated documents. We are given to understand that the required amendment that would accomplish conformity with the Source Protection Plan is not onerous and has been adopted in new documents that have been finalized by other municipalities. The Committee also encourages SPA staff to offer their suggestions in this regard. Those municipalities that have not completed the required review exercise should be able to come into compliance with the requirement to incorporate Source Water Protection into their planning documents with this method. The Committee also feels that the Chair and SPA staff should appear before each of the elected council's members to put forward this suggestion.

Although the blue-green algae issue made it through another year at a somewhat lower severity than we have witnessed in previous years, the Committee is of the opinion that Source Protection staff should continue to monitor the ingredients that contribute to the annual occurrence of Harmful Algal Blooms. The Committee has been made aware that funding for some programs that support work on the ground (monitoring and stewardship) was discontinued in 2023, and that consistent and uninterrupted data and relationships are being lost. If we are not able to track conditions in the local environment our hands will be tied in making informed decisions regarding the efficacy of our Source Protection Program. Further, stewardship activities provide frontline interactions to encourage uptake of activities that will reduce nutrient loss to the environment. We encourage various funding sources to reconsider abandoning these programs.

III. Our Watershed

The Essex Region Source Protection Area (ERSPA) is approximately 1681 km² and coincides with the watershed boundaries of the Essex Region Conservation Authority (ERCA). The ERSPA is comprised of 28 smaller sub-watersheds, flowing northward into Lake St. Clair, westward into the Detroit River, or southward into Lake Erie. The area predominantly consists of a flat clay plain with the exception of some sandy areas, primarily in the southern portion of the Region. The predominant land use in the watershed is agriculture, due to the region's excellent farmland and growing conditions.

Municipal drinking water supplies in the Essex Region Watershed are drawn from surface water intakes in the Great Lakes system - Lake Erie, Lake St. Clair and the Detroit River. There are seven municipal Water Treatment Plants (WTPs) in the ERSPA, and one WTP outside of the ERSPA in Wheatley serving part of the Municipality of Leamington. Stoney Point and Lakeshore (Belle River) WTPs have their water intakes located in Lake St. Clair; the A. H. Weeks (Windsor) and Amherstburg WTPs have their intakes in the Detroit River; and the Harrow-Colchester South, Union, Pelee Island West Shore and the Wheatley WTPs have their intakes in Lake Erie. These municipal WTPs serve over 95 percent of the population in the ERSPA. The remaining population, less than five percent, depends on groundwater or hauled water.

In the ERSPA, the handling and storage of large volumes of liquid fuel (>15,000 L) was identified as a significant drinking water threat (SDWT). Modeling exercises showed that a spill of this volume of fuel close to any body of water could result in contamination of the source water at our drinking water intakes. This resulted in the delineation of an extensive Event Based Area (EBA) in which large volumes of fuel are considered a threat to our drinking water. To mitigate these threats, Risk Management Plans (RMPs) that show actions are being taken to prevent spills are required to be established in consultation with a Risk Management Official.

To learn more about Source Protection in the Essex Region, please visit our website:
<https://essexregionconservation.ca/source-water-protection/>

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

1. Source Protection Plan Policies and Addressing Significant Risks

P – Progressing Well

Of the 44 policies in the Essex Region SPP that address SDWTs, 38 (86%) are fully implemented and 4 (9%) are considered to be in progress. The remaining two policies have been reviewed and it has been determined that no further action is required.

Three (3) in progress policies use s.58 (risk management plans) in specific vulnerable areas to manage SDWTs. The RMO has conducted a review and has not encountered any existing SDWTs. However, these policies have been challenging to implement and the policy approaches will be reviewed in the next Source Protection Plan update. Any new potential SDWTs are captured during the s.59 screening process. One (1) in progress policy requires Windsor, Lakeshore and Amherstburg to prohibit sewage treatment tanks in IPZ-1s. This policy is implemented in Windsor and Lakeshore and will be included in Amherstburg's next Official Plan update. Importantly, this activity is also prohibited using a Prescribed Instrument policy and there are no existing threats.

2. Municipal Progress: Addressing Risks on the Ground

L – Limited Progress

All of the 11 municipalities in the ERSPA have vulnerable areas where SDWT policies apply. Municipalities are required to ensure that their planning and building decisions conform with the Essex Region SPP and must also ensure that their Official Plan conforms with the SPP upon the next Planning Act review.

The County of Essex, Town of Essex, LaSalle, Tecumseh and Kingsville have completed their required Official Plan (OP) conformity exercises. The remaining municipalities (6 of 11) are in the process of amending their OPs and have been for several years. ERSPA staff have reviewed some draft OP revisions, in some cases multiple times. With the advent of Bill 23 and the delay in the release of the Provincial Direction and Provincial Policy Statement 2023, OP revisions are likely to be further delayed and it is unknown when they will be complete. Importantly, the overall status of OP revisions is minimally changed from the previous annual report with limited progress since the Essex Region SPP came into effect. For these reasons, the Committee unanimously choose to lower the score on Municipal Progress in 2022 and with minimal progress in 2023, it was the Committee's unanimous decision to retain the score of 'L – Limited Progress'. The Committee encourages municipalities to provide a target date by which the necessary information to bring their OPs into conformity with the Essex Region SPP will be incorporated either through a complete update or Official Plan Amendment.

All lower tier municipalities are responsible for day-to-day land use planning and building permit decisions and have integrated source protection requirements to ensure that their planning and building decisions conform with the policies in the Essex Region SPP. Municipalities are encouraged to review this process annually to ensure its use and efficacy. The Essex Region Conservation Authority has been delegated by all of these municipalities to implement Part IV policies on their behalf. At the request of municipalities, ERSPA will deliver additional training to municipal staff in 2024.

3. Septic Inspections

Not applicable to the ERSPA. There are currently no policies in the Essex Region SPP that require mandatory septic inspections. However, the Committee notes that high levels of *E.coli* remain a concern for our local waterways and beaches. Landowners are encouraged to have their septic systems inspected and maintained regularly.

4. Risk Management Plans

P - Progressing Well

As of January 2019, threat verification inspections were carried out in accordance with the *Clean Water Act* by the RMO/I for all 384 existing properties originally identified in the ERSPA's Assessment Report to determine whether or not existing activities met the criteria to be considered a SDWT (the handling & storage of fuel). Of these, 96 were identified to be SDWTs. As of 2022, RMPs were established for all 96 existing threats.

Four (4) s.59 applications were reviewed in 2023 resulting in three (3) RMPs being established for new fuel threats. Since the SPP took affect, 21 RMPs have been established through the s.59 process for new threats. To date, all of the RMPs established for new fuel tanks have been for greenhouse construction and crude oil and brine operations. There have not been any applications reviewed for the other Part IV policies applicable to Lakeshore IPZ-1, Windsor IPZ-1, Windsor IPZ-2 and Amherstburg IPZ-1.

In 2022, the RMO began conducting compliance reviews for individuals with existing Risk Management Plans issued under a s.58 (existing threats). Due to staffing changes, compliance reviews were not conducted in 2023. Please refer to the supplementary Part IV 2022 Risk Management Services Report for further information and details.

5. Provincial Progress: Addressing Risks on the Ground

P – Progressing Well

The Essex Region SPP includes 17 policies that use Provincial Instruments (Environmental Compliance Approvals) to address SDWTs. Screening for future threats became mandatory the date the SPP came into effect (October 1, 2015). Our policies set out a timeline of 5 years (October 1, 2020) to review and make necessary changes to previously issued PIs to address existing SDWTs, this work was completed in 2018. Ontario Ministries screen new applications and amend Prescribed Instruments as needed to address any new SDWTs. As a result of this work, all of the policies that use Provincial Instruments in the Essex Region SPP are fully implemented.

As of December 2018, all 38 of the existing PIs were reviewed. Five of these were considered to be SDWTs where the PI was sufficient and no additional conditions were required to mitigate the SDWT. In 2023, no new applications for SDWTs were reviewed by Provincial Ministries in vulnerable areas of the Essex Region. Since 2016, 37 new applications for PIs have been reviewed in the ERSPA. No new SDWTs have been identified through this process.

6. Source Protection Awareness and Change in Behaviour

Road signs have been installed across the ERSPA as part of a provincial awareness initiative. The Ontario Ministry of Transportation (MTO) installed signs five signs in the Essex Region on Hwy 401, Hwy 77 and Hwy 3. Municipalities coordinated installation of more than 60 signs on local municipal and county roads. Signs continue to be replaced as needed.

These road signs identify sections of road where accidental spills could contaminate our sources of drinking water. As part of the Essex Region Source Protection Plan implementation, emergency responders have been notified about these zones so that our sources of drinking water can be protected in the event of a spill. The use of standardized signs throughout Ontario will help to raise public awareness about the importance of protecting our local sources of drinking water.

The main risk to drinking water in our local area is the handling and storage of liquid fuel. If a spill is observed, residents are advised to contact the Spills Action Center at 1-800-268-6060. To learn more about these road signs in the Essex Region, check out our video!

<https://www.youtube.com/watch?v=MwO3V1zsUAs>

7. Source Protection Plan Policies: Summary of Delay

There have been no significant delays in the implementation of the Essex Region Source Protection Plan.

8. Source Water Quality: Monitoring and Actions

Harmful algal blooms (HABs) are an annual occurrence in Lake Erie and Lake St. Clair. HABs are formed by blue-green algae (or cyanobacteria) that produce a neurotoxin called microcystin, which is a parameter listed on Schedule 2 of the Ontario Drinking Water Quality Standards. The Essex Region SPC determined that microcystin was a drinking water issue for Lake Erie intakes in 2014. The data were reviewed for all of the intakes in the Essex Region in 2023, including those in Lake St. Clair, the Detroit River and Lake Erie. The SPC has determined that microcystin is a drinking water issue for all intakes based on that review. The SPP and Assessment Report will be updated accordingly.

Each fall, NOAA releases a final seasonal assessment for the severity of the Lake Erie HAB. The severity index ranges from zero to 10 and indicates the amount of bloom biomass over the peak 30 days of the bloom. These models are not currently able to predict nor report on the toxicity of the bloom. In 2023, the Lake Erie HAB received a score of 5.3, making it a moderately severe bloom but less severe than 2022. It is not yet possible to declare any trend in bloom severity, nor to determine whether on-the-ground actions are responsible for lowering bloom severity. Importantly, peak bloom periods are now longer. In 2010 the peak bloom period was 10 days, in 2022 it was 20-30 days.

The Source Protection Plan includes a policy to continue monitoring for phosphorus and microcystin, and a regional education and outreach policy for phosphorus, microcystin as a drinking water issue, and algae blooms in general. ERCA continues to be a leader in phosphorus monitoring and has integrated HABs into educational programs directed at a variety of target audiences. Unfortunately, in 2023, many of the funding streams that ERCA has relied upon for monitoring were not available. This resulted in a significant decrease in the number of samples taken and the number of sites monitored. Additionally, there were fewer opportunities to participate in outreach events. At the end of 2023, ERCA's Agricultural Stewardship program was put on hold unless or until additional sources of funding become available. At the time of this writing, there are new grants in place or pending that will re-instate some monitoring programs in 2024, but outreach and stewardship are still uncertain.

In 2023, ERCA published two important reports. The [Kingsville Leamington Nutrient Project](#) report uses 10 years of data (2012 – 2022) to explore trends and patterns in greenhouse and non-greenhouse influenced streams. The report uses multiple lines of evidence and shows that nutrient concentrations are higher in greenhouse-influenced streams. Importantly, concentrations are increasing in streams with newly built greenhouses. ERCA is working with Provincial and Federal agencies on next steps for monitoring and mitigation. The [Essex Region Phosphorus Management Plan](#) describes the status of phosphorus concentrations in local waterbodies, identifies sources of phosphorus in the Essex Region as well as knowledge gaps, and reduction strategies. It includes a list of Action Items that are intended to be a living document, updated as actions are completed and/or new actions identified.

9. Science-based Assessment Reports: Work Plans

The Essex Region SPA continues to make progress towards completing our s.36 update with a goal of finalizing the update by the end of 2024. The formal consultation process on new and amended policies will begin mid-2024. This process is about a year delayed in part due to the late release of the 2021 Director Technical Rules by the MECP, which were required to prepare new policies and updates to the majority of the existing policies in the Source Protection Plan. Staffing shortages and increased workload in other areas has also contributed to this delay.

10. More from the Watershed

Each year, Implementing Bodies are invited to include any success stories related to Source Water Protection through the Annual Reporting process. The SPC has chosen to highlight the actions taken by our municipalities that help meet the goals of Source Water Protection. Since 2019, several of our municipalities have declared a climate emergency and some have approved Climate Change Adaptation Plans that include actions that will also protect water quality through the reduction and/or mitigation of flooding and erosion. Many municipalities have subsidy programs that provide support for downspout disconnection and rain barrels to mitigate high flow events and backflow valves to prevent basement flooding. Municipalities are also updating sewer master plans with the inclusion and encouragement of riparian buffers, and planning for future flood mitigation. Community events like beach clean ups and tree plantings are supported. Municipalities are also examining their own internal processes and updating standard operating procedures for things like road salt application, sediment control during construction, stormwater management, fire fighting, spill containment, and incorporating low impact design where possible. While our municipalities are behind in updating their Official Plans, they have been taking clear actions to protect the environment, which in turn protects our sources of drinking water. The SPC wishes to acknowledge these actions and encourage our municipalities to continue down this path, especially in light of rising development pressures.

To learn more about our source protection region/area, visit our homepage:
<https://essexregionconservation.ca/source-water-protection/>



Have you seen this Drinking Water Protection sign?

These signs are appearing across Ontario to raise awareness about the vulnerability of our municipal drinking water sources. Governments at the local and provincial level placed signs along roadways where a pollution spill could have a negative impact on our drinking water sources. The main risk to drinking water in the Essex Region Source Protection Area is the handling and storing of liquid fuel. These signs indicate areas where a spill of a large volume of liquid fuel could impact one of our drinking water intakes. If a spill is identified or if you observe what you suspect to be a harmful algal bloom (classic description is that it looks like green paint and often has a white/yellow scum on top), residents should contact the Spills Action Centre at 1-800-268-6060 or online: [Spills Action Centre](#)