



The Corporation of the Town of Tecumseh

Public Works & Environmental Services

To: Mayor and Members of Council

From: Phil Bartnik, Director Public Works & Environmental Services

Date to Council: June 9, 2020

Report Number: PWES-2020-26

Subject: Source Protection Annual Program Report

Recommendations

It is recommended:

That Report No. PWES-2020-26 Source Protection Annual Program Report, **be received.**

Background

Source water is the water used (and treated) to supply communities with safe, clean drinking water. In the Essex Region, municipal drinking water comes from Lake Erie, Lake St. Clair and the Detroit River. There are eight municipal Water Treatment Plans (WTPs) that serve over 95% of the population in the Essex region. The remaining population, less than 5%, depend on groundwater or hauled water.

Drinking water source protection has been identified as the first line of defense in protecting drinking water. The Essex Region Source Protection Plan (SPP) is a local watershed-based plan developed by a Source Protection Committee in consultation with municipalities, community groups and residents. Following the Clean Water Act, 2006, the SPP contains policies to ensure that identified risks are prohibited, or managed in a way that protects our drinking water. Following an extensive process that included broad public input, the Essex Region SPP came into effect on October 1, 2015.

Essex Region Conservation Authority – Risk Management Services

The Essex Region SPP identified a number of Significant Drinking Water Threats (SDWT) including the storage of fuel. Municipalities with SDWTs needed to have a Risk Management Official (RMO) and Risk Management Inspectors (RMI) to implement the *Clean Water Act* Part IV policy tools identified in the Essex Region SPP.

The Essex Region Conservation Authority (ERCA) has been providing Risk Management Services to all of the municipalities within its jurisdiction, as allowed for by the *Clean Water Act 2006*, since October 1, 2015. These services include program development, *Clean Water Act 2006* Part IV tasks (risk management plans, prohibition and restricted land use), compliance monitoring and enforcement, site-specific risk assessment review, land use planning support, and monitoring and reporting.

Comments

Each year, ERCA develops an annual progress report that outlines the progress made toward implementing the policies in the Essex Region SPP, as required by the *Clean Water Act* and regulations. The 2019 Source Protection Annual Progress Report uses a Provincially approved template to summarize the progress made toward implementing the 50 policies contained in the Essex Region SPP from the time the SPP came into effect (October 1, 2015) up to December 31, 2019. The Source Protection Committee reviewed this report and associated data and assigned the progress the top rating of 'Progressing Well/On Target' as the majority of the source protection plan policies have been implemented and/or are in progress and on target to be fully implemented within the timeframe specified in the SPP.

The attached Source Protection Annual Progress Report highlights the actions taken from January 1 to December 31, 2019 (Attachment 1).

Progress on Source Protection Plan Implementation

A summary of tasks completed in 2019 is provided below.

1. Source Protection Plan Policies and Addressing Significant Risks

Of the 44 policies in the Essex Region SPP that address SDWTs, 25 are now fully implemented and 17 are in progress and on target to be fully implemented within the timeframe set out in the Essex Region SPP. Of the remaining two policies, one has been reviewed and it has been determined that no further action is required and one has not been addressed.

2. Municipal Progress: Addressing Risks on the Ground

All 11 municipalities in the Essex Region Source Protection Area (ERSPA) have vulnerable areas where SDWT policies apply. Municipalities are required to ensure 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 Town of Tecumseh is in the process of amending its Official Plan to conform with the policies in the Essex Region SPP, with completion expected in 2020.

3. Septic Inspections

Not applicable to the ERSPA.

4. Risk Management Plans (RMPs)

There have been no cases of non-compliance with the established RMPs. A total of 48 RMPs have been established since the SPP took effect and 44 remain outstanding. RMPs for all existing threats must be established by October 1, 2020.

5. Provincial Progress: Addressing Risks on the Ground

All of the existing Provincial Instruments (PI) (i.e. Compliance Approvals) were reviewed. Five of the total (38) were considered to be SDWTs where the PI was sufficient and no additional conditions were required to mitigate the SDWT. All of the identified existing threats have been addressed and there is a procedure in place to address any new threats. As a result, all of the policies that use PI in the Essex Region SPP are considered to be fully implemented. No new SDWTs were identified in 2019 that required a PI.

6. Source Protection Awareness and Change in Behaviour

Road signs have been installed across the ERSPA as part of a provincial awareness initiative. These signs identify sections of road where accidental spills could contaminate our sources of drinking water. The use of a standardized sign throughout Ontario will help to raise public awareness about the importance of protecting our local sources of drinking water. In total, there are 62 signs located across the region, three of which were installed in 2019.

As part of the Essex Region SPP implementation, emergency responders have been notified about these zones so that the sources of drinking water can be protected in the event of a spill. The main risk to drinking water in the local area is liquid fuel spills.

7. Source Protection Plan Policies: Summary of Delay

All policies in the Essex Region SPP are on track to be fully implemented by the dates specified in the Plan.

8. Source Water Quality: Monitoring and Action

Harmful algal blooms (HABs) are an annual occurrence in the nearshore areas of Lake St. Clair and Lake Erie. HABs in Lake Erie have increased in size and severity in recent years. The organisms that cause HABs are cyanobacteria, also known as blue-green algae (i.e. microcystis) that produce toxins (i.e. microcystins), which can be harmful to human health. Microcystin-LR (a specific congener of microcystin) was identified as a drinking water issue for Lake Erie intakes in the ERSPA.

All of the ERSPA's Water Treatment Plants conduct weekly monitoring of raw and treated water. During a HAB, sampling frequency increases to daily. The maximum allowable concentration for drinking water for total microcystins in our source water is 1.5 ug/L. If concentrations are above this value, the WTPs must implement additional treatment measures.

The National Oceanic and Atmospheric Administration (NOAA) tracks spring total bioavailable phosphorus loads to create a prediction of HAB severity in Lake Erie. NOAA also tracks the HAB throughout the season to report on actual observed severity.

In 2019, the Essex Region did not observe much of a bloom on the shores of Lake Erie as strong flow from the Detroit River acted as a barrier to keep the nutrient and bloom rich water in the southern portion of the western basin. Pelee Island did have some bloom events, but nothing out of the ordinary to report. Lake St. Clair had a substantial bloom in late August causing the WTPs to report high levels of microcystin, which required additional source water treatment measures.

The Canadian and Ontario governments and the United States federal and state governments released Domestic Action Plans that will lead to the target of 40% reduction of phosphorus to Lake Erie. ERCA is committed to implementing relevant actions to reduce phosphorous in our region. ERSPA and ERCA staff are key partners in several projects, conduct research and monitoring and have fully integrated information related to phosphorus and HABs into their education and outreach programs. HABs are a persistent problem in Lake Erie and Lake St. Clair and it will take several years of international effort to see marked improvements.

9. More from the Watershed

In 2019, RMO/I recorded several instances where the implementation of Risk Management Plans have led to upgrades and the servicing of fuel storage tanks and decommissioned and/or removal of unused fuel oil storage tanks.

A copy of the Essex Region SPP is appended as Attachment 2 to this report.

Consultations

Essex Region Conservation Authority

Financial Implications

There are no financial implications arising from this report.

Link to Strategic Priorities

Applicable	2019-22 Strategic Priorities
<input type="checkbox"/>	Make the Town of Tecumseh an even better place to live, work and invest through a shared vision for our residents and newcomers.
<input checked="" type="checkbox"/>	Ensure that Tecumseh's current and future growth is built upon the principles of sustainability and strategic decision-making.
<input checked="" type="checkbox"/>	Integrate the principles of health and wellness into all of Tecumseh's plans and priorities.
<input checked="" type="checkbox"/>	Steward the Town's "continuous improvement" approach to municipal service delivery to residents and businesses.
<input checked="" type="checkbox"/>	Demonstrate the Town's leadership role in the community by promoting good governance and community engagement, by bringing together organizations serving the Town and the region to pursue common goals.

Communications

Not applicable ☒

Website ☐

Social Media ☐

News Release ☐

Local Newspaper ☐

This report has been reviewed by Senior Administration as indicated below and recommended for submission by the Chief Administrative Officer.

Prepared by:

Cheryl Curran, BES
Project Technician

Reviewed by:

Brad Dupuis, C. Tech.
Manager Water & Wastewater Services, O.R.O.

Reviewed by:

Phil Bartnik, P.Eng.
Director Public Works & Environmental Services

Recommended by:

Margaret Misek-Evans, MCIP, RPP
Chief Administrative Officer

Attachment Number	Attachment Name
1	Source Protection Annual Progress Report
2	Essex Region Source Protection Area Approved Source Protection Plan