

Protecting Drinking Water Sources in Lake Communities

*Little Silver and Rainbow Lakes POA
Source Water Protection*

Terry Rees
Consultant, FOCA

Your Voice for Waterfront Ontario



Our Purpose



Vision To sustain and enhance the cottage experience for generations.

Mission We empower and enable our members by being the leading provider of advocacy, resources, education, programs and services for Ontario cottagers.

Values

- Member-focused
- Collaborative
- Advocate
- Responsible Leader
- Knowledgeable
- Evidence-based



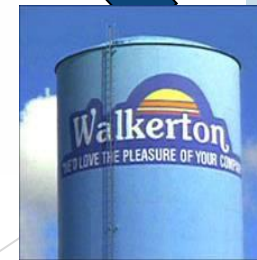
Source Water Protection Overview



Overview – Source Protection Program

Clean Water Act

Protect surface and groundwater sources from **contamination** and **overuse** (water quality and quantity) now and in the future.



“The first barrier to the contamination of drinking water involves protecting the sources of drinking water.”

[illegible]

Overview – Source Protection Region

Trent Conservation Coalition Source Protection Region:

- ▶ Multi-jurisdictional:
- ▶ 5 Counties, 32 municipalities, 4 First Nations, federal waterway
- ▶ Diverse Geography: Canadian Shield, bedrock, deep soils
- ▶ 3 major watershed groupings: Trent River, Lake Ontario, Bay of Quinte
- ▶ Land Use Diversity: agriculture, mining/aggregates, forestry, seasonal use (cottage country), urbanizing areas
- ▶ **35 municipal wells, 18 municipal surface water supplies**
- ▶ Over 50% of population on private wells or drawing from lakes and rivers

February 2022



Best practices for source water protection

Learn how to manage risks and identify actions that you can take to protect your drinking water source.

[Take our survey](#) to share your feedback on our best practices to protect sources of drinking water.

Get started

We want to help you protect water sources and drinking water systems that are not included in a [source protection plan](#) or aren't regulated by the *Clean Water Act*.

Protecting sources of drinking water is one part of Ontario's strategy to ensure drinking water safety, sustainable water use and water security for future generations. You can tailor an approach that works for you.

By proactively protecting drinking water sources you:

- protect human health and the environment
- avoid the high costs of either cleaning up a contaminated drinking water source or having to find a new source of drinking water
- reduce the cost of water treatment for some contaminants
- extend the life of your system's infrastructure
- make informed land use planning decisions
- increase public awareness and accountability of drinking water stewardship

Protecting Rural Drinking Water still (always) a topical conversation...

Based on the lessons learned in 2024 from “Phase 1 – Crego Lake”, in 2025 FOCA is working with 3 willing communities to volunteer to undertake a similar effort, with the assistance of a “Source Water Protection Concierge” (Terry Rees).

Lake Bernard POA (Sundridge)

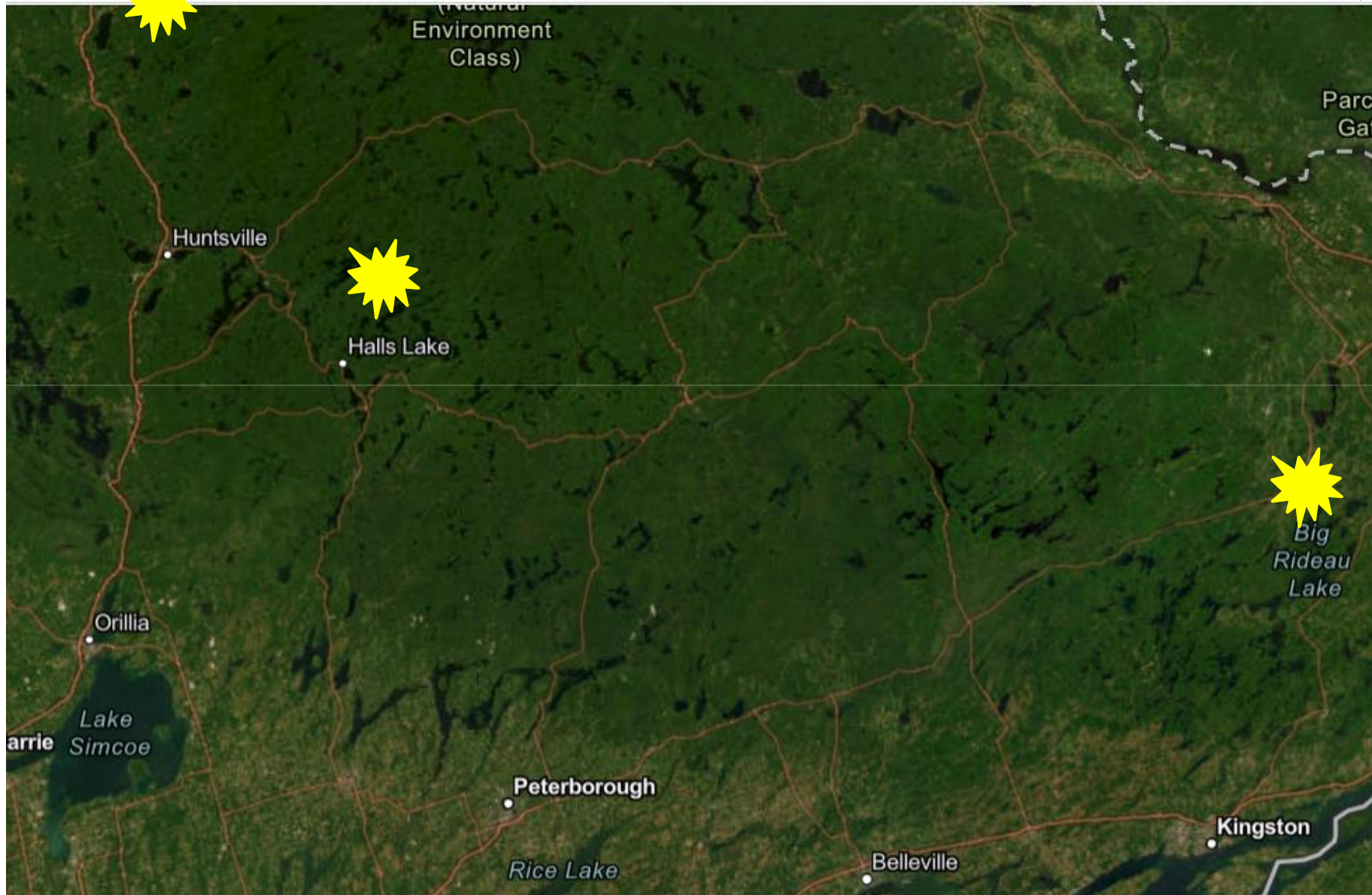
Little Silver and Rainbow Lakes POA (Tay Township)

Halls & Hawk Lakes POA (Algonquin Highlands)

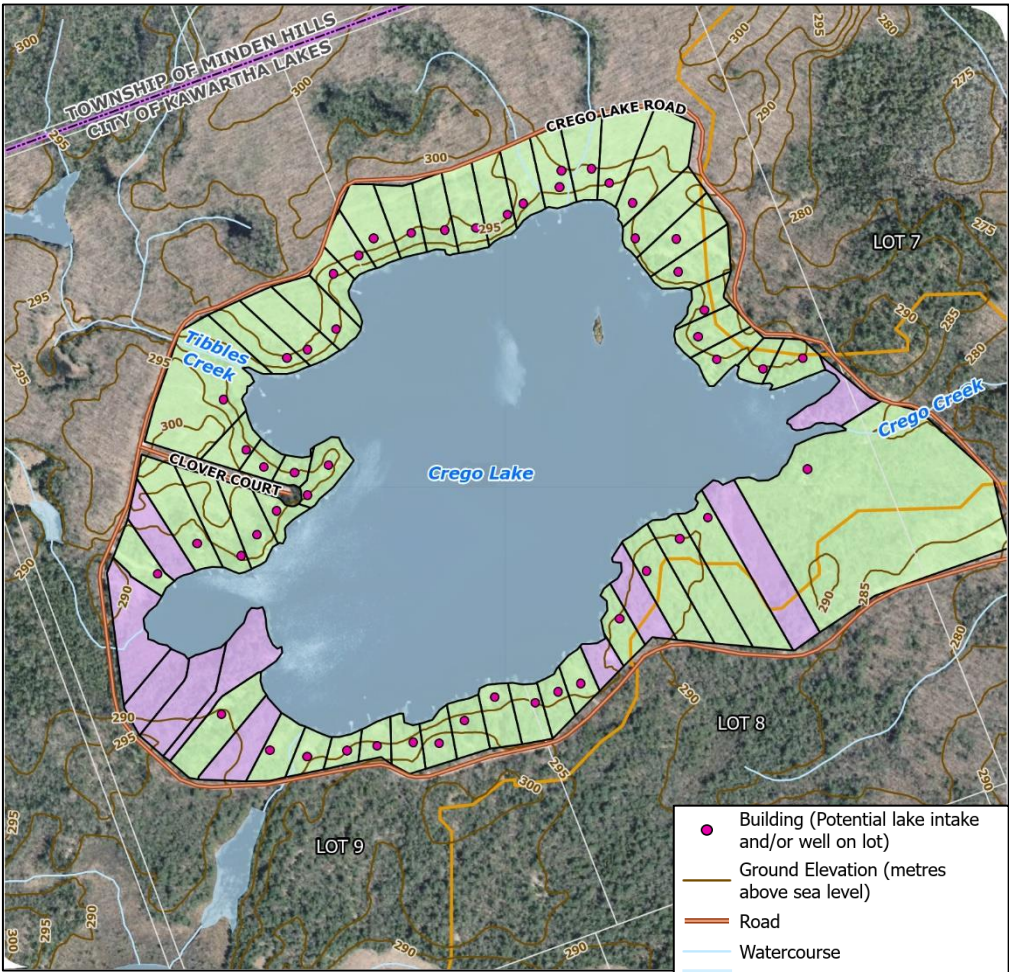
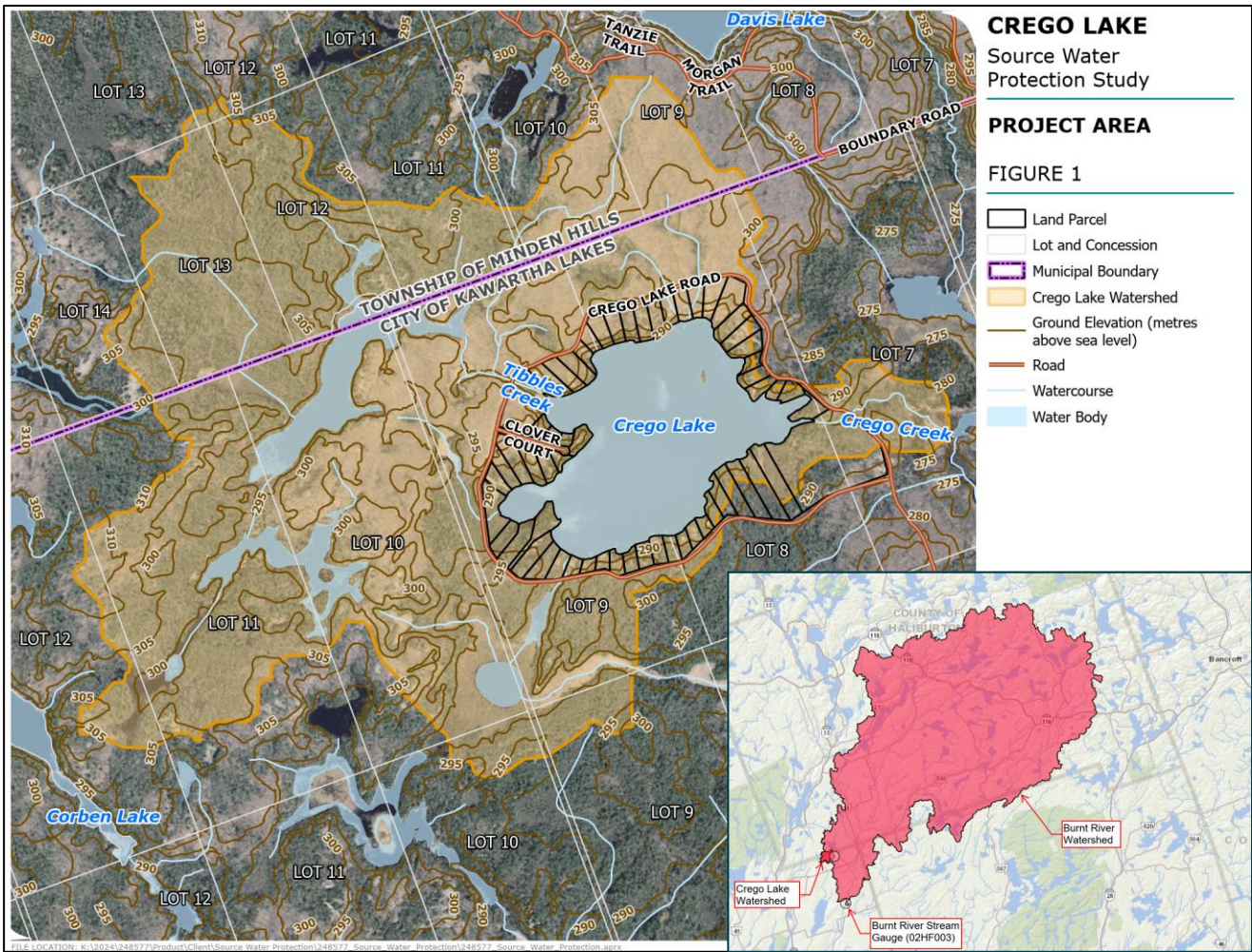
This will be a guided, community-led effort, whereby the local association and interested volunteers will utilize the principles and process outlined in the BMP to

- a) deliver a Source Water Protection Plan for their local community, and ultimately:
- b) inform the development of a plain language “roadmap” for other communities to follow to identify local drinking water risks and develop their own source water protection action plan.

2025 Pilot Communities



Crego Lake Setting – and an example of the maps produced by the consultant



The Kinmount (municipal) system

DRINKING WATER SOURCE PROTECTION

ACT FOR CLEAN WATER

Kinmount

Municipal Drinking Water System

The Kinmount Municipal Drinking Water System is 1 of 63 municipal residential drinking water systems in the Trent Conservation Coalition Source Protection Region, and 1 of 22 such systems in the Kawartha-Haliburton Source Protection Area.

On January 3, 2015, policies set out in the Trent Source Protection Plan came into effect to better protect the source water for the municipal drinking water system by reducing or eliminating significant threat(s) associated with certain land based activities. The Plan was developed under the Clean Water Act in response to the Tallentire Inquiry.

A drinking water threat is a land-based activity that can impact the quality of a municipal drinking water source (due to a spill or leak). Significant drinking water threat activities can only occur in vulnerable areas such as the Intake Protection Zone for this municipal drinking water system (shown on right and on reverse). Plan policies are intended to reduce or minimise the significant threat posed by such activities.

Types of Drinking Water Threats

- ✓ Waste
- ✓ Sewerage/Septics
- ✓ Livestock
- ✓ Snow storage
- ✓ Other chemicals

- ✓ Pesticides
- ✓ Fertilisers
- ✓ Nutrients
- ✓ Fuel





Water Source	Burnt River
Governed by	City of Kawartha Lakes
Operating Authority	Ontario Clean Water Agency
Estimated Population	300 (approximate)
Annual Pumping Rate	85 cubic metres (average)
Intake Number & Size	1 intake (300 millimetres in diameter)
Intake Classification	Type 2 (protected by a water impoundment structure)
Treatment System	Full conventional treatment process (coagulation, flocculation, sedimentation, filtration and disinfection)

To learn more about your drinking water visit www.kj.kawartha.org/SourceProtection


Kawartha-Haliburton Source Protection Area

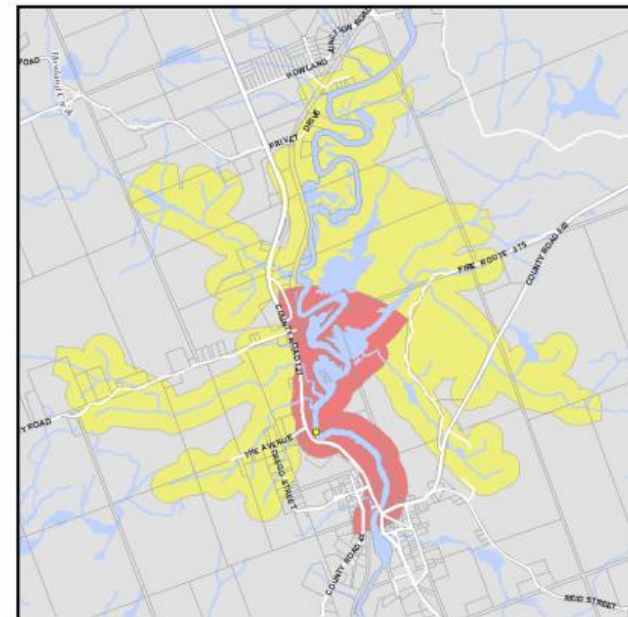
June 2016

Intake Protection Zone

Kinmount Municipal Drinking Water System

Drinking water threats can only occur in the **Intake Protection Zone shown below** and as illustrated on the Policy Applicability Map included in the Trent Source Protection Plan. The location, scale and nature of an activity determine if it poses a low, moderate or *significant* threat to the municipal drinking water source. Policies in the Trent Source Protection Plan only apply to *significant* drinking water threats.

-  Contaminants may reach the surface water intake (●) in under 2 hours if spilled or leaked in this area.
 Contaminants may reach the surface water intake (●) in 2 hours or more if spilled or leaked in this area.



► <https://trentsourceprotection.on.ca/images/our-watersheds/kawartha-haliburton/Kinmount.pdf>

Water Quality Concerns from Survey – results we can gather from a resident survey

- xx% are concerned with future water quality risks to your Lake
- xx% have concerns with sustainability of well water or water quality
- Main issues identified
- Specific local concerns



Community Water Supply – Wells and Lake Intakes (to determine sources/risks)



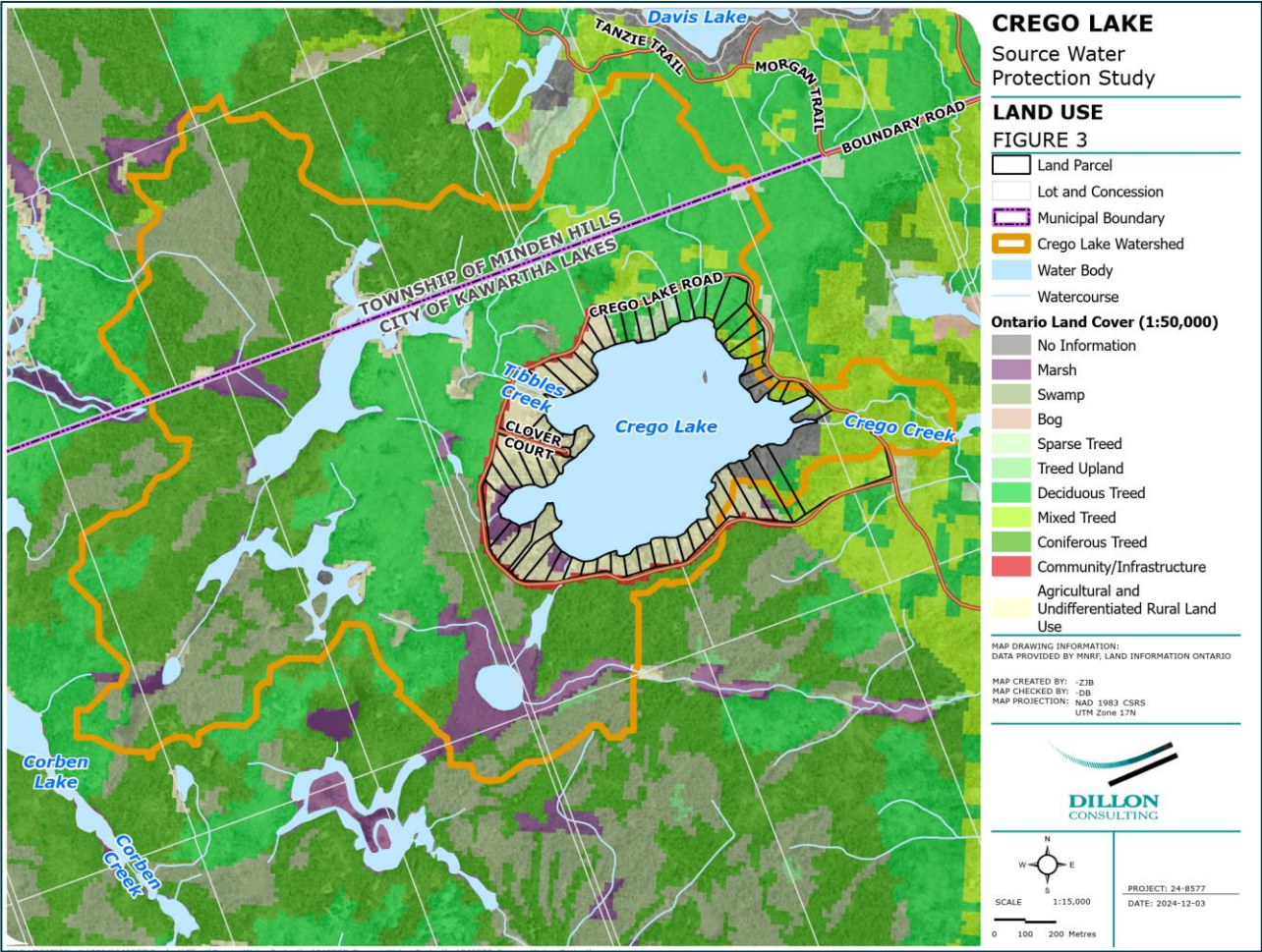
WELLS (Used by xx% of Survey Responses)

- Review of Provincial Well Records can indicate % that are constructed to current standards
- Some stats on wells might include well depths, averages
- Average pumping rates
- Well water uses: x% use water for drinking, x% for non-potable use

Lake Intakes (Used by xx% of Survey Responses)

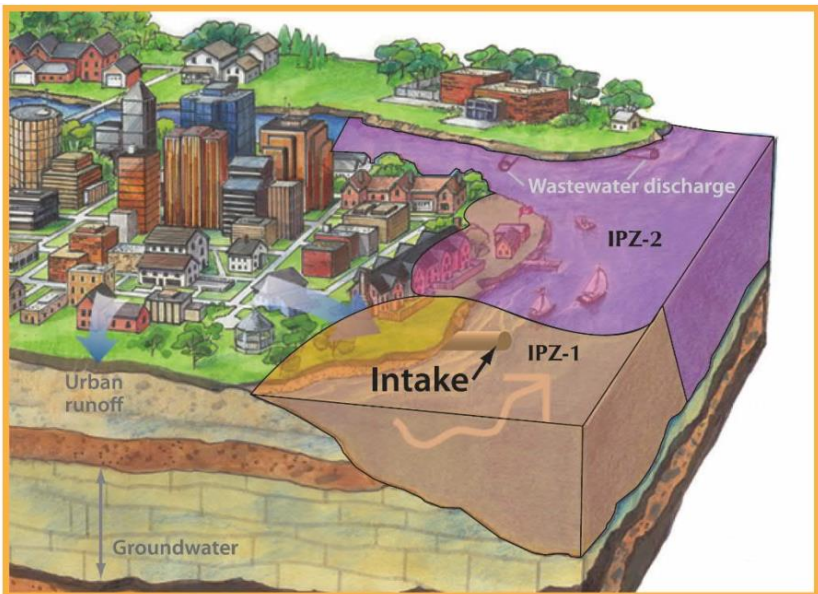
- Information from surveys can help determine
- Distance of intakes from shore
- Depth of intakes depth
- xx% use water for drinking, xx% only for non-potable use

EXAMPLE lake Setting (Setting the context: *surrounding land uses*)

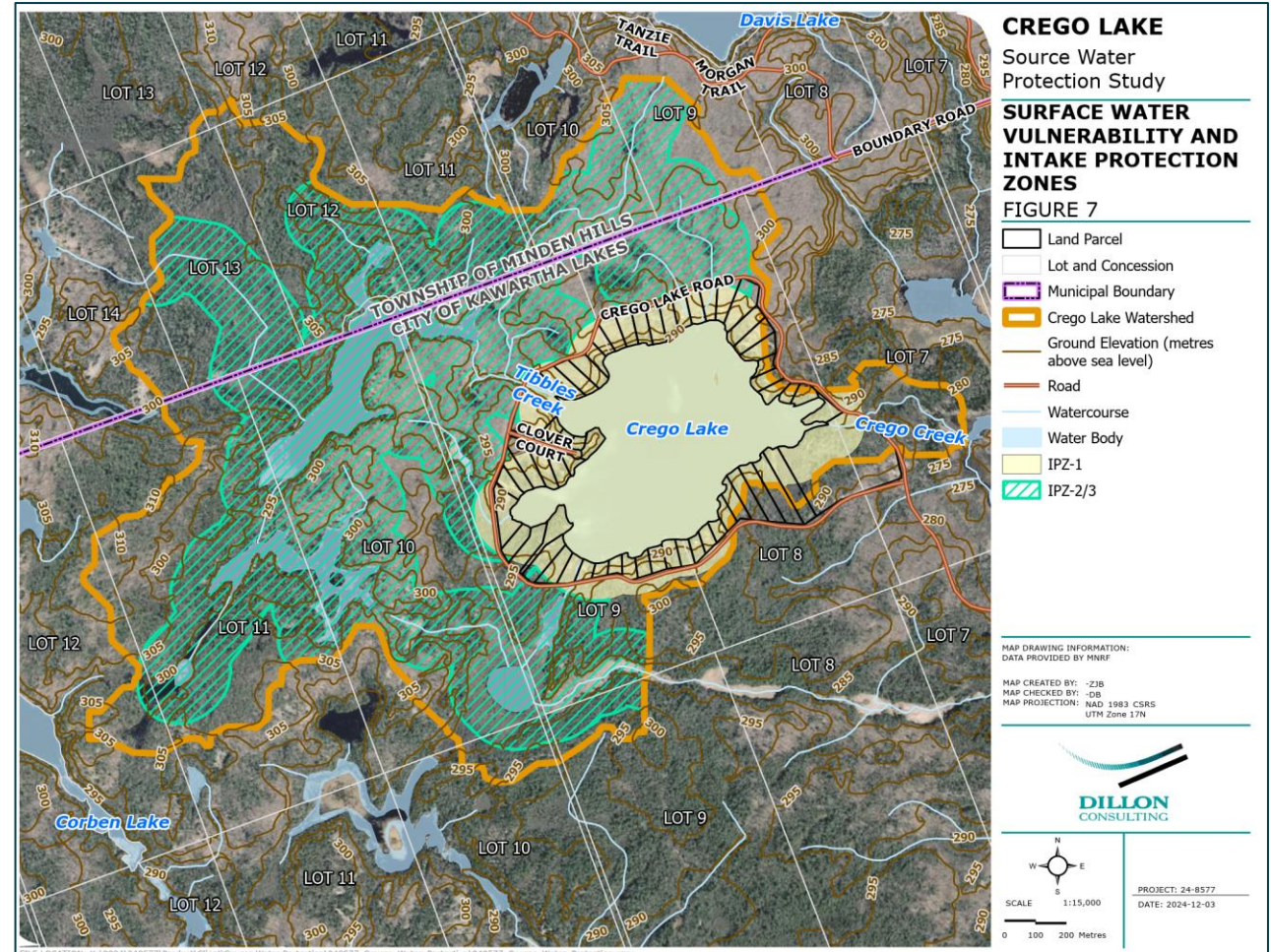


EXAMPLE Water Supply Intake Vulnerability Zones *using subwatershed mapping*

- Intake Protection Zones (IPZ)
- **IPZ-1:** 1Km radius around well + 120 m land setback = Most vulnerable area
- **IPZ-2:** Upflow Creeks + 120 m land setback



Generic Intake Protection Zone 1 and 2 (Source – Conservation Ontario)



Drinking Water Threats within the Lake Community



EXAMPLES / IDENTIFIED THREATS:

- Septic Systems
- Heating Oil Storage/Handling
- Fertilizer/Pesticide Use
- Chemical Storage
- De-Icing Salt

What

- WHAT is the threat?

Why

- WHY is it a threat?

At Crego Lake

- HOW is this relevant to Crego Lake?

EXAMPLE: Action Items



Crego Lake (inlet Tibbles Creek)

Apply Best Practices - Source Water Protection Crego Lake

Action Category	EXAMPLE: Summary of Action Recommendation
General	<ul style="list-style-type: none"> • Collaboration between the Kinmount Parks Estates Association (KPEA) & the Kawartha Haliburton Source Protection Area (KHSPA) to establish a working group focused on private drinking water systems within the Crego Lake Community. • KPEA could develop a water-quality threats self-assessment tool for residents.
Education & BMPs	<ul style="list-style-type: none"> • KPEA community education and promotion of best practices for the protection of drinking water.
Water Well Maintenance	<ul style="list-style-type: none"> • Property owners with water wells could have them inspected by a licensed well driller who can recommend necessary upgrades (where needed) to meet provincial standards and reduce contamination risk.
Septic Systems	<ul style="list-style-type: none"> • Inspection of septic systems every 5 years by a licensed technician to ensure proper function. • Encourage property owners to upgrade their septic systems to newer technology that reduces the production of phosphorus to help protect the lake.
Actions Associated with Drinking Water Treatment and Monitoring	<ul style="list-style-type: none"> • Recommend residents regularly (min 2x/year for drilled wells) test their drinking water for E. Coli and Total Coliforms through local public health lab. Optional testing to consider may include testing for nitrates (private lab). • Consider installing home water quality treatment systems to remove harmful bacteria that may cause illness if you use lake/well water as potable water supply.
Actions Associated with Future Development	<ul style="list-style-type: none"> • The KPEA could engage municipalities to monitor development proposals that could impact Crego Lake's water quality or the surface water features that discharge into Crego Lake. • KPEA could participate in Official Plan reviews to ensure policies support best practices for protecting Crego Lake's water quality.

Delivering a guide to SWP at the Lake “2.0”

Based on the lessons learned from “Phase 1” in 2025 FOCA is engaged with 3 willing communities to volunteer to undertake a similar effort, with the assistance of a “Source Water Protection Concierge”.

This will be a guided, community-led effort, whereby the local association and interested volunteers will utilize the principles and process outlined in the BMP to

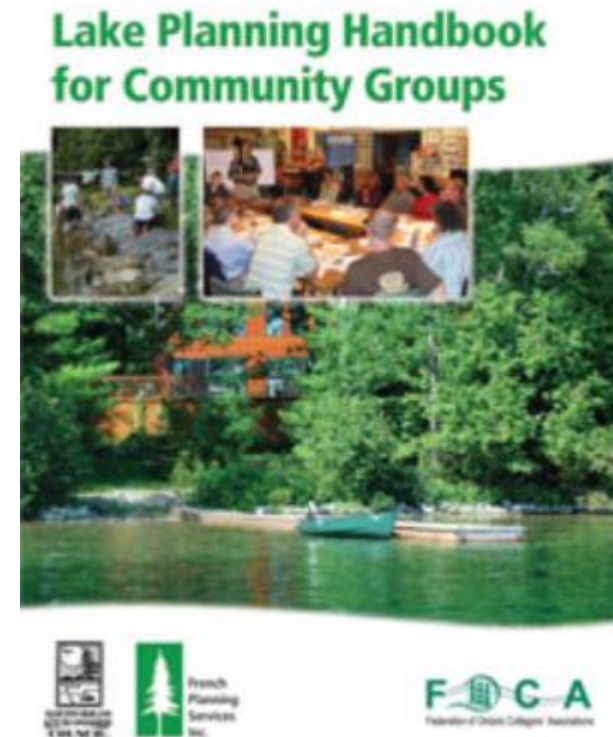
- a) deliver a Source Water Protection Plan for their local community, and ultimately
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Delivering a guide to SWP (“2.0”) at the Lake

May 2025	Establish a commitment within the community + sign contract with FOCA
June 2025	<p>Hold an initial community meeting to review the project and seek community commitment (to the project, and the outcomes)</p> <p>Local press releases</p>
Summer 2025	<p>Survey local residents to better understand how and where local residents source their drinking water;</p> <p>Research (online, public or other) data sources to compile the background for determining risks</p>
Fall 2025	<p>Work with the concierge:</p> <ul style="list-style-type: none">• to develop a map-based risk map and inventory of drinking water threats.• Meet with the community to review and present findings• Help document the process in a case study to be shared with other rural or northern communities• Post-project survey

Coming Soon...

A new edition of the FOCA Lake Planning Handbook, featuring a new chapter on “Source Water Protection at the Lake”



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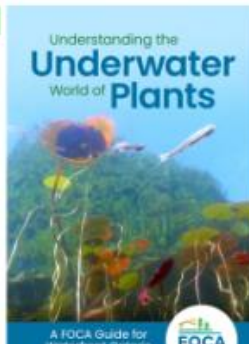
FOCA has hundreds of pages of rural waterfront resources! Search any topic:



Publications & Videos

Access digital copies of FOCA's newsletters, reports, brochures and video productions below. Also get up-to-date on current events by reading our monthly e-news, the [FOCA E!ert](#). **Please share these resources with others!**

Latest Releases:



FOCA Guide: [Understanding Aquatic Plants in Ontario](#) (PDF, 92 pages, 9 MB download) – Do you know what's living in your lake? FOCA is often asked "What's this 'weed' in my water?" This guide was created to help you answer that question on your own Ontario waterfront. It includes chapters on:

- **plant ecology** and their role in the ecosystem
- **plant IDs** including descriptions, photos and illustrations of common aquatic plants in Ontario; we included a section on

WHAT'S UPCOMING IN 2025

**Lake
Planning
Handbook
2nd Edition**

**Lake Partner
Program
Water
Quality
Testing**

**Lake
Stewards
Magazine**

**Coming July*

**FOCA Fall
Seminar**

**November*

**Member
Advisory
Groups**

**New!*

**Meetings with
Dignitaries,
Ministers,
Mayors, Party
Leaders**

Sustaining and enhancing the cottage experience by being the leading provider of advocacy, resources, education, programs and services for Ontario cottagers.

Questions?

Contact info@foca.on.ca for more information

Assessment Report *describing threats as identified in the CWA, 2006*

Prescribed Drinking Water Threats

1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the *Environmental Protection Act*.
2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
3. The application of agricultural source material to land.
4. The storage of agricultural source material.
5. The management of agricultural source material.
6. The application of non-agricultural source material to land.
7. The handling and storage of non-agricultural source material.
8. The application of commercial fertilizer to land.
9. The handling and storage of commercial fertilizer.
10. The application of pesticide to land.

Assessment Report *describing threats as identified in the CWA, 2006*

Prescribed Drinking Water Threats

11. The handling and storage of pesticide.
12. The application of road salt.
13. The handling and storage of road salt.
14. The storage of snow.
15. The handling and storage of fuel.
16. The handling and storage of a dense non-aqueous phase liquid.
17. The handling and storage of an organic solvent.
18. The management of runoff that contains chemicals used in the de-icing of aircraft.
19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
20. An activity that reduces the recharge of an aquifer.
21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
22. The establishment and operation of a liquid hydrocarbon pipeline. O. Reg. 385/08, s. 3; O. Reg. 206/18, s. 1.