

DRINKING WATER SOURCE PROTECTION

Lakehead Source Protection Area

Protecting Our Water Resources

A GUIDE FOR SOURCE PROTECTION OF DRINKING WATER

Water is necessary for every aspect of our lives. In fact, try to picture a day without water - its difficult!! We are fortunate to have an abundance of healthy groundwater, lakes and rivers in Northern Ontario to use for our drinking water - but we must be careful not to take these natural resources for granted.

Protecting the quality and quantity of the water we have is an important part of Source Protection. Though Source Protection under the "Clean Water Act" is aimed at protecting Municipal residential drinking water, this guide provides information on how to protect drinking water in your community; whether you are on a Municipal or private system. By working together we can help ensure that our clean and abundant water resources remain that way for all of our present and future drinking water needs.



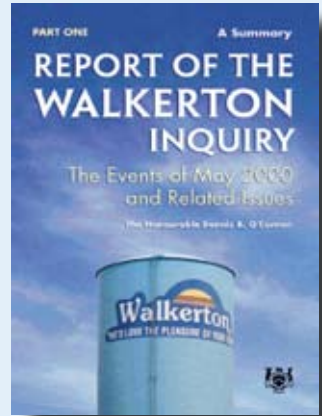
Lakehead Region Conservation Authority

Conserve Today.....For A Better Tomorrow

www.sourceprotection.net

Creation of the “Clean Water Act”

The “Clean Water Act” was passed in 2006 in response to the Walkerton tragedy when seven people died and more than 2,300 became ill as a result of a series of human and mechanical failures that allowed bacteria to enter into the Municipal water supply. Justice Dennis O’Connor was appointed Commissioner to lead a public inquiry to investigate the tragedy and provide advice on how similar events could be prevented in the future. In his report, Justice O’Connor recommended the development of a multi-barrier approach to protect Municipal residential drinking water in Ontario.



The “Clean Water Act” addresses Source Protection of untreated water from aquifers, lakes and rivers as the first step in a multi-barrier approach for Municipal residential drinking water systems through the development of local Source Protection Plans. Source Protection for private wells and drinking water systems are the responsibility of private landowners with direction from the Ministry of the Environment, the Ministry of Health and Long Term Care and District Health Units.

This Multi-Barrier Approach has five Parts:

- 💧 Protection of Source Water
- 💧 Adequate Water Treatment
- 💧 A Secure Water Distribution System
- 💧 Proper Monitoring and Warning Systems
- 💧 Well-thought out Responses to Adverse Conditions

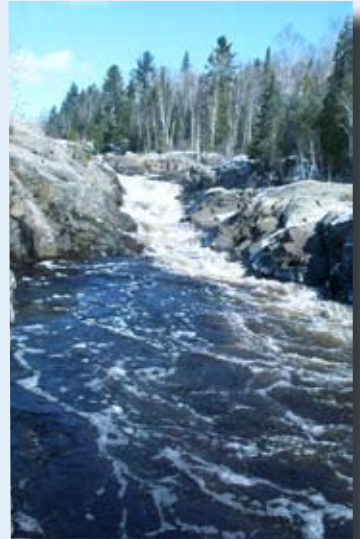


What is

Source Protection?

Source Protection is the risk management of untreated surface water and groundwater that supplies Municipal residential drinking water systems from contamination and overuse. Surface water sources are lakes, rivers, and streams. Aquifers and springs are considered groundwater sources. According to O'Connors Report, Source Protection of our water resources needs to be addressed differently than it has in the past to prevent tragedies like Walkerton from happening in the future.

The "Clean Water Act, 2006" legislated by the Government of Ontario regulates how Municipalities, Conservation Authorities, stakeholders and the public will work together to produce Source Protection Plans. Local Plans developed on a watershed basis will ensure the protection of Municipal residential drinking water sources across the Province. The Plan will examine land use and the impact activities in our region have on the sources of Municipal drinking water quality and quantity. Sound scientific research will guide a risk assessment of water resources in our region.

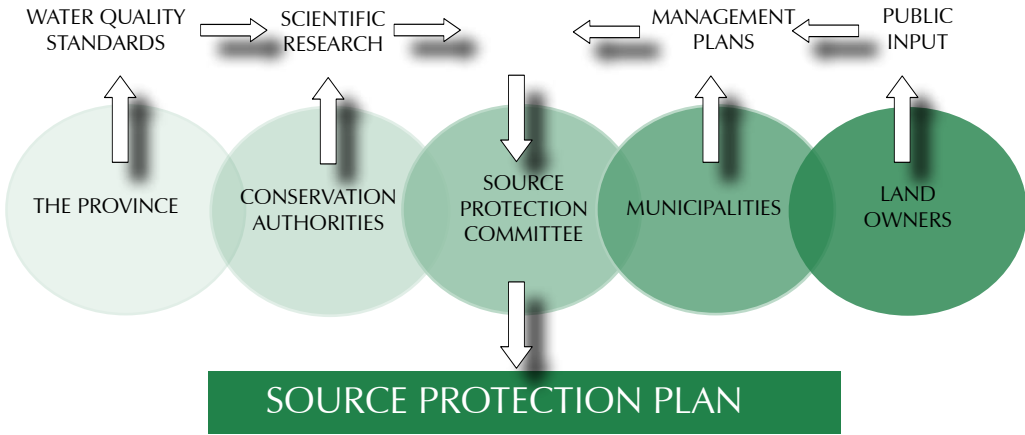


Once we have a better understanding of what is occurring in the Source Protection Area from a scientific standpoint, we will have insight of how best to protect it. Source Protection Plans will help to safeguard our Municipal residential drinking water resources for present and future use.

The Source Protection Plan will:

- ☛ *Safeguard our health and the health of our families.*
- ☛ *Ensure that enough safe, clean drinking water is available for ourselves and the environment.*
- ☛ *Protect current and future sources of Municipal drinking water.*

Who is Involved In Source Protection?



Landowners

Are responsible for private property maintenance and the prevention of pollutants from private wells, septic systems and other sources from entering into local water resources.

Municipalities

Oversee land use plans and growth strategies as well as design and operate water and sewage plants. Municipalities will also have the responsibility to negotiate site-specific risk management plans with landowners where they are necessary.

Source Protection Committee

Guide the development of the Source Protection Plan in conjunction with Municipalities, property owners and other stakeholders to protect Municipal drinking water quality and quantity.

Conservation Authorities

Provide technical and planning support to Municipal partners and the Source Protection Committee. Conservation Authorities also protect sensitive environmental areas and promote environmental education, best management plans and early actions for conservation.

The Province

The Province provides funding to Conservation Authorities for Source Protection Plans and approves the plans once they are complete. The Province issues permits to take water and Certificates of Approval for water and waste water plants. The Province also conducts research and sets water quality standards.

Source Protection

In The Lakehead Watershed

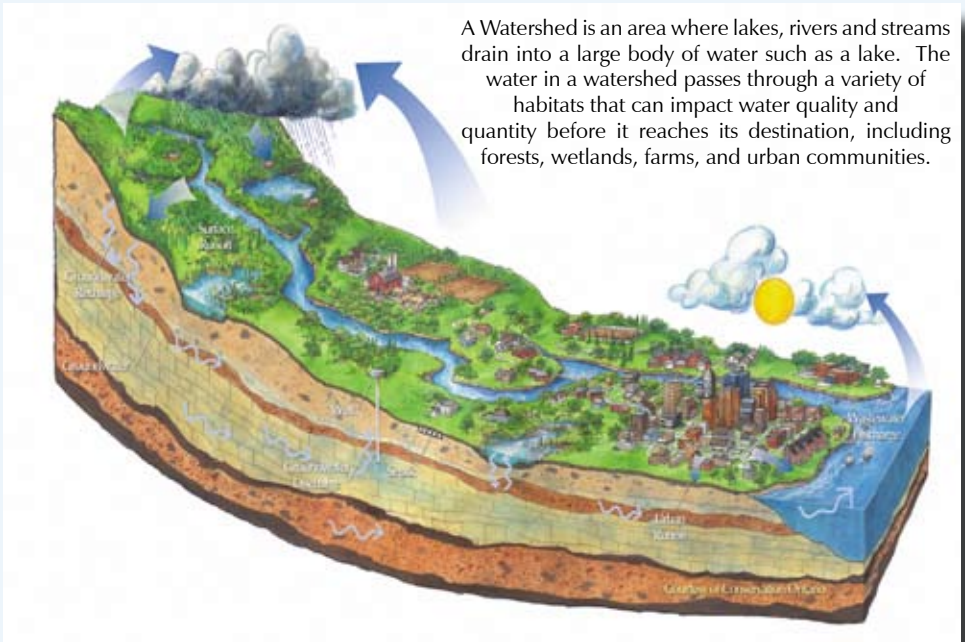
Lakehead Region Conservation Authority has been identifying water protection issues, assessing risks to drinking water, rating these risks and helping with setting priorities for Municipal residential drinking water within the Lakehead Source Protection Area.

Unlike Southern Ontario, the Lakehead Source Protection Area has fewer Municipal water systems due to the large expanse of rural property in Northern Ontario. The Source Protection Plan for the Lakehead Source Protection Area is aimed at protecting the sources of Municipal residential drinking water for the systems that supply the City of Thunder Bay and Rosslyn Village in the Municipality of Oliver Paipoonge. However, many of the same practices to protect Municipal drinking water can also be applied by property owners with private drinking water systems. We share some of the best water in Ontario and should work together to protect these resources.



What If I Am Not On A Municipal System?

Municipal and private drinking water systems obtain their water from many of the same sources within a Watershed. Source Protection of Municipal residential drinking water and drinking water from private wells and systems are managed differently. The “Clean Water Act” is legislated to guide Source Protection Plans for protecting sources of Municipal residential drinking water. The Ministry of the Environment has jurisdiction over private drinking water systems under the “Safe Drinking Water Act” and the Ministry of Health and Long Term Care and local Health Units have additional authority through the “Health Protection and Promotion Act”. Ultimately we all depend on the same water sources and it is within everyone’s best interest to protect source water so that both rural and urban homes can share clean and abundant water resources.



Everyone lives downstream from someone else - therefore protecting Source Water is in all of our best interest to ensure that we all have access to clean and abundant drinking water.

Participation is Key to Protecting our Water Resources

We all have a role to play in helping to protect our Source Water. The least costly way to protect water is to prevent water pollution and overuse from occurring in the first place. If we can keep water clean as it flows through our watershed, we will benefit both our health, our quality of life and reduce costs for water treatment in the future.



Source Water Protection begins with each of us taking responsibility to protect our local water resources within the Lake Superior Watershed. How we choose to live has a huge impact on our environment, and safeguarding water quality and quantity begins with how we use water within our homes and on our properties.



Our greatest tool in protecting water quality and quantity is taking responsibility for our actions.

The TOP 10 Things You Can Do To Protect

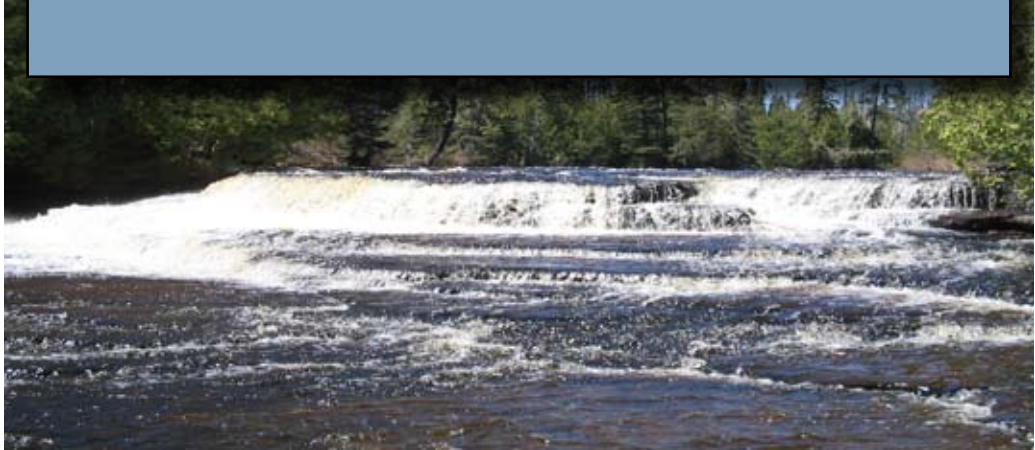
Water *Quantity and Quality* In Your Yard

1. Use a rain barrel - to capture water from your downspout and use this water for your lawn and garden.
2. Use a broom to clean your driveway - not your garden hose.
3. Plant native plants and grasses that are heat and drought resistant, require less water and care and are cheaper to maintain.
4. Take care when refueling gas tanks - and avoid spilling fuel onto the ground. One litre of gas or oil can contaminate a million litres of groundwater!
5. Water your lawn only as much as is needed - about 2-3 centimetres per week - be careful not to water paved surfaces!
6. Consider using interlocking paving stones - for your walkways and patios to minimize runoff and maximize water retention in the soil.
7. Clean up pet waste - which contains nutrients and pathogens that can run into storm drains or open wells during a rain storm.
8. Prevent pollutants from entering into runoff - by reducing or eliminating the use of pesticides, fertilizers and by not over-watering your lawn.
9. Take your car to commercial car washes - automated car washes use 50% less water than washing your car in your driveway and soap and pollutants are prevented from entering into storm sewers.
10. Use sand instead of road salt - to de-ice your walkway and driveway during the winter.



The TOP 10 Things You Can Do To Protect *Water Quantity and Quality In Your House*

1. Take shorter showers - a ten-minute shower can use up to 300 litres of water!
2. Turn off the tap when you brush your teeth.
3. Plug and fill the sink when you wash your face or wash the dishes.
4. Use water efficient shower heads, taps and toilets. A low flush toilet can save 45,000 litres of water a year! A weighted plastic water bottle filled with water at the bottom of your toilet tank provides an inexpensive alternative to low-flush toilets.
5. Use a faucet aerator - which brakes the flowing water into small droplets and increases water pressure while reducing the amount of water you use by as much as 60%!
6. Detect and repair leaks in pipes, toilets and taps around your home.
7. Only run washing machines and dishwashers when they are full - and choose shorter cycles.
8. Dispose of hazardous waste properly. Take any household chemicals such as paint, cleaners, pesticides and medical prescriptions to your local hazardous waste facility.
9. Use non-toxic products for cleaning - and environmentally friendly soaps, shampoos and personal health care products.
10. Keep water in your fridge - instead of running the tap until the water is cold.



Tips to Protect and Maintain Your Private Well

Most residents of Northern Ontario rely on groundwater wells to provide clean drinking water when Municipal drinking water is not available. It is up to landowners to protect their private water supply through their own well maintenance to prevent contamination. Wells must be constructed to provincial standards and require regular testing. A properly maintained well will protect your family's health, improve source water health and could also increase your property value!



Inside Your Well

- 💧 Test your well regularly for impurities (once a year).
- 💧 Make sure that a commercially manufactured well cap or seal is securely in place and has no cracks or holes to prevent animals and debris from entering your well.
- 💧 Inspect the inside well with a flashlight once a year.
- 💧 Look and listen for signs of surface water seeping or running freely into the well (stains on well casing or seepage through cracks).
- 💧 Disinfect the well and plumbing with a chlorine solution after doing any work inside the well.
- 💧 Check the condition of well vents (look for flaws or cracks in the vent tubing - make sure the fine-mesh screen is in place).

Outside Your Well

- 💧 Know exactly where your well is located and keep potential contamination sources and activities away from any wells nearby (i.e. chemicals such as pesticides, fertilizers, fuels, animal and kitchen waste).
- 💧 Mound up the ground around well casings.
- 💧 Keep a permanent grass buffer at least 3 metres around the well and do not build structures on or around your well casing.
- 💧 Watch for ground settling or water pooling around the outside of the well casing (this could indicate that surface water could be accessing your well).

Tips to Protect and Maintain Your Septic System

Many rural homes and camps use a septic system - a sewage treatment system that consists of a tank and a leaching or tile bed. Like any other household equipment, proper maintenance will allow your septic system to last a long time, providing a safe and reliable way to treat household wastewater. Improper maintenance can endanger the health of your family, the local environment and nearby source water and result in expensive replacement costs - up to \$25,000!



Maintain your Septic System

- 💧 Know the location of your tank and leaching bed.
- 💧 Pump out your septic tank as needed (generally every 3-5 years).
- 💧 Install an effluent filter to prevent solids from entering and clogging the leaching bed - its a cheap way to prevent costly tile bed repairs.
- 💧 Keep records of pumping, maintenance and repair.
- 💧 Make family and visitors aware of your septic system and its proper use.
- 💧 Keep trees and shrubs away from the leaching bed.

Protecting Your Septic System

- 💧 Avoid putting food, compost or grease down the drain.
- 💧 Keep household items such as dental floss, feminine hygiene products, kitty litter, washing machine lint and other items out of your system.
- 💧 Conserve water and try to spread water use over the course of the week - including laundry.
- 💧 Avoid excessive use of anti-bacterial soaps, bleaches and harsh cleaning products.
- 💧 Protect your sewage system - avoid driving over it and do no construct anything (e.g. pools, driveways and sheds) on or near any part of the tank or bed.
- 💧 Avoid putting paints, solvents, pesticides and other toxic chemicals in your system; use recycling or hazardous waste collection programs.

For More Information On Protecting Source Water

More information can be found on the following websites:

Watershed Management - Lakehead Region Conservation Authority
www.lakeheadca.com

If you are on a Municipal Drinking Water System:

Source Protection at Lakehead Region Conservation Authority
www.sourceprotection.net

“Clean Water Act” - Ministry of the Environment
www.ene.gov.on.ca/en/water/cleanwater/

Information on drinking water and the “Clean Water Act”
www.ontario.ca/ONT/portal51/drinkingwater

Conservation Ontario
www.conservation-ontario.on.ca

If you are on a Private Drinking Water System:

Information on drinking water and the “Safe Drinking Water Act”
www.ontario.ca/ONT/portal51/drinkingwater

Information on Septic Systems at Ontario Rural Wastewater Center:
www.orwc.uoguelph.ca

Ministry of the Environment Directory of Licensed Well Contractors
<http://209.47.226.245>

Thunder Bay District Health Unit www.tbdhu.com

Well Wise - Resources and Research for Well Owners
www.wellwise.ca

Well Aware - A guide to caring for your well www.wellaware.ca

Lakehead Region Conservation Authority
P.O. Box 10427, 130 Conservation Road
Thunder Bay, Ontario, P7B 6T8
Email: info@lakeheadca.com
www.lakeheadca.com 1-807-344-5857

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