

# Assessing Our Water Sources: Protecting Our Drinking Water



## *Did you know that ...*

- An Assessment of risks to all municipal drinking water sources in your region is available?
- Potential threats to municipal water are being mapped?
- Your activities might affect the quality of water you drink?
- Plans will be put in place to lessen the risks and you have an opportunity to participate in this process!

*.... Open this guide for more information*



## What is *Source Water Protection*?

Coming out of Walkerton's tragedy with contaminated water in May of 2000, the Ontario government passed the *Clean Water Act* into law. The Act aims to protect municipal drinking water in the province with a multi-barrier approach, starting with Source Water Protection. Having scientific information about our water sources is an essential part of this legislation.

One of the most critical aspects of the Source Protection process is the Assessment Report. This report tells us where our drinking water sources are located, as well as what people are doing, or have done, near them. This allows us to determine if there is a threat to the source of municipal drinking water that might contaminate, or reduce the supply of drinking water. In 2012, Source Protection Plans will be put into place to mitigate activities or conditions which are found to be threats to municipal drinking water.



The multi-barrier approach to Clean Water:



The province is divided into 19 Source Protection Regions, each with a Source Protection Committee to oversee the development of Source Protection plans. You live in the **South Georgian Bay-Lake Simcoe Source Protection Region** (SGBLS). It is one of the largest in Ontario with a surface area of more than 10,000 km<sup>2</sup>. It is made up of 4 watersheds and 52 municipalities.

## What does *it mean for you?*

Source protection planning will affect everyone differently:

- First of all, it will ensure municipal sources of drinking water are protected and communities will have a healthy source of water now and for the future.
- Depending on where you live, the activities and conditions on your land, you may be affected to a greater degree than other people.
- If you live within an Intake Protection Zone, a Wellhead Protection Area, a Highly Vulnerable Aquifer or Significant Recharge Area and there are activities or conditions on your property that pose a significant threat to drinking water, you will be affected by having to lessen the threat, or eliminate it altogether.

- **The South Georgian Bay Lake Simcoe Source Protection Region has approximately 290 wellheads and 15 surface water intakes – the most of any region!**
- **There are approximately 700,000 people who live in the Region.**

In order to properly protect drinking water, we need different kinds of data to understand what is going on in the surrounding watershed - both above ground as surface water and below ground as groundwater. It is also important to understand how and where surface water and groundwater interact as these are vulnerable areas that need special protection. Identifying these vulnerable areas, and the potential threats within these areas, is what the **Assessment Report** is all about.

The Assessment Report will identify activities that pose risks to source water supplies. Are you in a vulnerable area? Find out at [www.ourwatershed.ca](http://www.ourwatershed.ca).

## Parts of The Assessment Report:

### *Characterization of the Watershed:*

The introductory part of the Assessment Report is an overview of the watershed. It answers questions such as: What is the land's surface like? Where are the rivers and wetlands? Where are the roads? Where are the drinking water systems? Where do people live?

### *Water Budget:*

A water budget looks at how much water enters a watershed, how much water is stored and how much water leaves. This information helps determine how much water is available for human uses, while ensuring there is still enough left for natural processes.

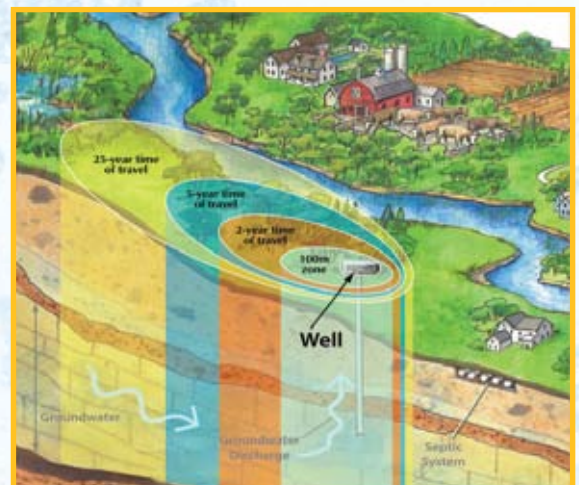
### *Vulnerability Analysis:*

Since we get municipal water from both groundwater (wells) and surface water sources (lakes and rivers), the area around these intakes needs to be mapped as any activity in these sensitive areas has more impact than outside the area. A **wellhead protection area (WHPA)** is the area around a wellhead where land use activities have the greatest potential to affect the quality of water that flows into the well. Similarly, protecting the area around a surface water intake, known as an **intake protection zone, or IPZ**, is equally important. The image to the right shows the WHPA around a wellhead.

There are two other vulnerable areas: **significant groundwater recharge areas** (where where precipitation is proportionally more likely to recharge aquifers), and **highly vulnerable aquifers** (those that are less protected from surface contamination). These are important landscape features that contribute to the quality and quantity of our water.

### *Drinking Water Quality Threats Analysis:*

This section of the Assessment Report determines where the potential threats to drinking water are. Generally, the closer a threat is to a water source, the riskier it becomes, but it also depends on the type of activity. The formula to calculate the **risk score** consists of taking the hazard rating of the threat (on a 10-point scale) and multiplying it by the vulnerability of the water source (on a 10-point scale). Anything over an 80 is a significant threat.



#### **Example of a WHPA**

The closer you are to a water source, the more impact your land use activities may have on drinking water supplies.

## What are *drinking water threats*?

There are 21 different types of threats to drinking water under the *Clean Water Act*. They include:

- Waste disposal sites
- Sewage systems (including septic)
- Agricultural and non-agricultural source material applied to land, stored, handled or managed
- Commercial fertilizer applied, handled or stored
- Pesticides applied to land, handled or stored
- Road salt applied, handled or stored
- Snow stored
- Fuel handled or stored
- Activities taking water from an aquifer (groundwater) or surface water body (lake or river)
- Activities reducing recharge of an aquifer's underground water sources (e.g., pavement)
- Livestock grazing, pasturing, outdoor confinement areas and farm-animal yards
- Organic solvents handled or stored
- The handling and storage of a dense non-aqueous phase liquid (DNAPL) (e.g., oil & solvents)
- Chemicals used in the de-icing of aircraft



## What *happens next*?

The public has an opportunity to comment on the proposed draft Assessment Report before it is submitted for approval. Check our website at [www.ourwatershed.ca](http://www.ourwatershed.ca) for dates and times of open houses, or to read the Assessment Report. After the Assessment Report is approved by the Ontario Ministry of the Environment, Source Protection Committees have 2 years to develop Source Protection Plans which will outline how activities which have been defined as threats can be mitigated.

## Funding *available for Landowners*:

Through the Ontario Drinking Water Stewardship Program, there is funding available for landowners who live near municipal sources of water. Contact the stewardship coordinator at 1-800-465-0437 to find out if you qualify

**The Drinking Water Source Protection process is an open and public one. Public consultations are held at every step of the process. To see when the next public consultation is, go to [www.ourwatershed.ca](http://www.ourwatershed.ca) or call 1-800-465-0437.**

1-800-465-0437  
[www.ourwatershed.ca](http://www.ourwatershed.ca)



Lake Simcoe  
Region  
Conservation  
Authority



South Georgian Bay  
Lake Simcoe  
Source Protection  
Region