

Ministry of Health

Small Drinking Water Systems under the *Health Protection and Promotion Act*

Source Water

Working Together to Safeguard our Health

This fact sheet provides basic information. It must not take the place of medical advice, diagnosis or treatment. Talk to a health care professional about any health concerns you have, and before you make any changes to your diet, lifestyle or treatment.

Small drinking water systems in Ontario

The Ministry of Health has oversight of small drinking water systems in Ontario. This fact sheet is to help you become familiar with Ontario's small drinking water system legislation, Ontario Regulation 319/08 (Small Drinking Water Systems) made under the *Health Protection and Promotion Act*. Under this law, you are required to provide users with safe drinking water at all times.

What you need to know about the source water you choose

The ongoing quality of the water you provide to your users is largely dependent on the source water supply and the operational process of your small drinking water system.

The simplest way to protect the quality of the drinking water provided by your small drinking water system is to apply a multi-barrier approach.

The first step in the multi-barrier approach is the type and protection of the source water. There are three basic types of source water commonly used by a small drinking water system. These are:

Secure ground water systems

A secure ground water system is a well system that is designed and maintained in accordance with Ontario Regulation 903 (Wells) under the *Ontario Water Resources Act*.

Important considerations are that the well is a safe distance from any pollution source, has a water-tight casing to over 6 metres in depth and is otherwise protected from surface water contamination.

Non-secure ground water systems

A non-secure groundwater system is a well or other groundwater collection system that is not a safe distance from pollution sources or is not designed or constructed to prevent contamination by surface water.

Surface water systems

A surface water system is any system that draws water from surface water or a system that may be contaminated by surface water.

Protect Your Water Source

Protect the source(s) of the drinking water from contamination and overuse to support the provision of safe, clean drinking water.

Preventing drinking water contamination at the source can be accomplished by identifying contaminants of concern and reducing or eliminating them.

Factors that affect source water quality:

- Rainfall and snow melt
- Ground slope towards well
- Natural chemical content in soil or rock
- Wildlife activity
- Agricultural runoff
- Pets or farm animal activity

- Private sewage disposal systems
- Mining, industrial discharges
- Wastewater discharges
- Chemical spills or releases
- Combined sewer overflows

Source water protection for secure groundwater

A secure ground water system without treatment may be capable of providing safe water. If no treatment is provided, ensuring the safety of the water is limited to source water protection and routine surveillance activities.

- Ensure that the well is constructed and maintained in such a manner as to prevent possible contamination from entering the well;
- Ensure that potential sources of contamination (e.g., septic systems, manure storage or chemical usage) are kept safely away from the well;
- Routinely check on the construction of the well and ensure the well is maintained in a safe and sanitary manner; and
- Conduct additional sampling and testing if there is a possible threat to the quality of the well water.

Source water protection for non-secure groundwater

A non-secure groundwater source will require disinfection, at a minimum, to be used for drinking water. This type of water supply has a greater potential for becoming contaminated. The treatment equipment must be constructed, checked and maintained to ensure proper operation.

- Ensure that the well is constructed and maintained in a manner that prevents contamination that would require filtration;
- Ensure that the well is protected from any potential source of contamination (e.g., septic systems, manure storage or chemical usage);
- Ensure that the treatment system is always operating in such a manner as to provide safe water;
- Conduct additional sampling and testing where there is a possible threat to the quality of the well water; and

- Maintain a level of surveillance of the source water, surrounding area and treatment system suitable to the complexity of the system by scheduling frequent sampling, testing and routine maintenance checks.

Source water protection for surface water

A surface water system (which may also include a groundwater system that is contaminated by surface water) requires both filtration to physically remove microbes that are not killed by disinfection and disinfection to kill bacteria and viruses.

- Ensure that the treatment system is capable of providing the level of treatment necessary to properly remove and disinfect micro-organisms;
- Ensure that potential contamination that could overburden the treatment system does not enter the drinking water intake;
- Ensure that the treatment system is always operating in such a manner as to provide safe water;
- Conduct additional sampling and testing if there is a possible threat to the quality of the well water; and
- Maintain a level of surveillance on the source water, surrounding area and treatment system suitable to the complexity of the system by scheduling frequent sampling, testing and routine maintenance checks.

The information above provides basic treatment information and should be directive issued for your small drinking water system.

Sampling and testing

To determine the ongoing quality of your drinking water, owners and operators of small drinking water systems should:

- Take routine water samples and test regularly for the presence of total coliforms and *Escherichia coli* (*E. coli*) bacteria at a licensed lab.

- Perform routine maintenance checks to verify proper operation of your treatment system (i.e., such as daily monitoring of free available chlorine and turbidity levels).

Where can I find additional information?

Please remember...

This fact sheet is only a summary of your responsibilities as the owner or operator of a small drinking water system and is not a substitute for legal advice.

For a more complete understanding of your legal responsibilities as an owner or operator, refer to Ontario Regulation 319/08 (Small Drinking Water Systems) or any directives issued on your system.

In addition, you should become familiar with the procedure documents produced to help you efficiently operate a small drinking water system:

- *Procedure for Disinfection of Drinking Water in Ontario:*
www.ontario.ca/page/procedure-disinfection-drinking-water-ontario
- *Procedure for Corrective Action for Small Drinking Water Systems that are Not Currently Using Chlorine* [Consult your local public health unit for this resource.]

You may also find additional information on the following Ontario ministry websites:

Acts and Regulations: www.ontario.ca/laws

- Ontario Regulation 319/08: www.ontario.ca/laws/regulation/080319

Ministry of Health: www.ontario.ca/health

- Current list of local public health units:
www.ontario.ca/page/public-health-unit-locations

Ministry of the Environment, Conservation and Parks:

www.ontario.ca/page/ministry-environment-conservation-parks

- Current list of licensed laboratories: www.ontario.ca/page/list-licensed-laboratories

Ministry of Agriculture, Food and Rural Affairs: www.ontario.ca/page/ministry-agriculture-food-and-rural-affairs