

How do I know if my well water is safe from bacterial contamination?

To be safe for drinking, your well water's bacteriological, chemical and physical parameters should meet the Guidelines for Canadian Drinking Water Quality. This fact sheet addresses the bacterial safety of drinking water. For information with respect to the other drinking water parameters of importance in your area please contact your local Manitoba Conservation Office.

Manitoba has an abundance of good quality groundwater. Under certain conditions, bacteria may be introduced into the groundwater and wells. Most of the time, the presence of these "germs" does not cause serious illness. However, in some cases, people can become very ill from drinking contaminated water. For example, *E. coli* O157 is a specific type of bacteria that can cause severe illness as well as death. Although water has never been identified as a cause of *E. coli* O157 infection in Manitoba, a recent large outbreak in Walkerton, Ontario has alerted all Canadians to this possibility. To minimize the risk of this and other illnesses that can be caused by contaminated water, all well users should check that their well is safe from sources of contamination. In addition, bacteriological testing should be carried out regularly.

It is recommended that a water sample be submitted for bacterial analysis *at least once a year*.

Well water should also be tested:

- after well servicing;
- whenever a change in taste, odour or colour is noticed;
- whenever you suspect illness may be caused by the water; or
- whenever the risk of contamination increases due to changes in environmental conditions. These may include heavy rains and run off, flooding, a change in the surrounding land use, or an extended dry spell.

What are the risk factors for wells?

Although any water system can become contaminated, one or more of the following factors or conditions can increase the risk:

- groundwater sources which may be open to the surface because of shallowness and/or being covered by water permeable surface materials such as sand and gravel. These include sources covered by less than six meters of glacial till, clay, clayey shale or other non-water-tight materials (this information is available from your well log);
- wells located in pits or depressions;
- well casings that are not sealed or do not extend 30 cm above ground, or casings that are rusted;
- wells close to unsealed abandoned wells;
- wells close (within 30 meters) to septic tanks or fields, barns, feed lots, sink holes or quarries;
- wells or groundwater sources affected by changes in environmental conditions such as floods or heavy rains or an extended dry spell;
- wells with a history of contamination problems.

How can I prevent contamination of the well?

In addition to annual visual inspections, a number of basic steps should be undertaken to prevent potential problem areas.

Drainage problems around wells: If runoff water accumulates around the well, it will often seep downward through the coarse soil around the well casing and enter the groundwater. To prevent this problem, the area around the well should be built up with good clay soil and sloped away from the well. Pipeline trenches to the well should also be mounded with dirt or clay. In addition, the well casing should extend above the ground to allow for proper sloping of the site.

Well lids or caps: Well lids or caps should be tight to shed water and prevent bugs, mice or other creatures from entering your well.

Well casing/cribbing: Many small creatures can enter a well through small openings if they are not properly sealed above water level. Should you notice heavy rusting or cracking, corrective steps should be taken. Openings for electrical conduits entering the well should be properly sealed.

Trees: Tree roots can enter a well, seeking moisture through cracks or joints, thus giving dirt and bacteria a pathway to enter the well. Ensure that trees are at least 15m (50 feet) from your well.

Abandoned wells: Abandoned or unused wells are a major source of contamination and are a hazard to public safety. They should be properly sealed.

Proximity to septic fields, etc.: If your well is close to septic tanks/fields, barns, feed lots, rock outcropping, sink holes, quarries, etc., there is a higher possibility of contamination of your well water.

Drinking Water Fact Sheets

How Do I Know If My Well Water Is Safe from Bacterial Contamination?

How Do I Test My Well Water for Bacterial Contamination?

What Do I Do When a Boil Water Advisory Is Issued?

How Do I Disinfect My Well?

Guidelines for Food Establishments During a Boil Water Advisory

Where can I get more information?

For further information on well water safety, please contact the nearest office of Manitoba Conservation or the Manitoba Water Services Board at the numbers listed on this fact sheet, or call Health Links at 788-8200 or 1-888-315-9257.

Manitoba Conservation

Winnipeg 204-945-0675
Fax 204-945-1211

Brandon 204-726-6064
Fax 204-726-6567

Virden 204-748-2321
Fax 204-748-2388

Steinbach 204-346-6060
Fax 204-326-2472

Selkirk 204-785-5030
Fax 204-785-5024

Lac du Bonnet 204-345-1447
Fax 204-345-1415

Flin Flon 204-687-1625
Fax 204-687-1623

The Pas 204-627-8307
Fax 204-623-1773

Killarney 204-523-5285
Fax 204-523-4626

Dauphin 204-622-2030
Fax 204-622-2306

Swan River 204-734-3436
Fax 204-734-5151

Winkler 204-325-1750
Fax 204-325-1758

Portage
la Prairie 204-239-3188
Fax 204-239-3185

Thompson 204-677-6704
Fax 204-677-6652

The Manitoba Water Services Board

Brandon 204-726-6079
Fax 204-726-6290

Dauphin 204-622-2116
Fax 204-622-2298

Beausejour 204-268-6059
Fax 204-268-6060

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Information Compiled by the Drinking Water
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