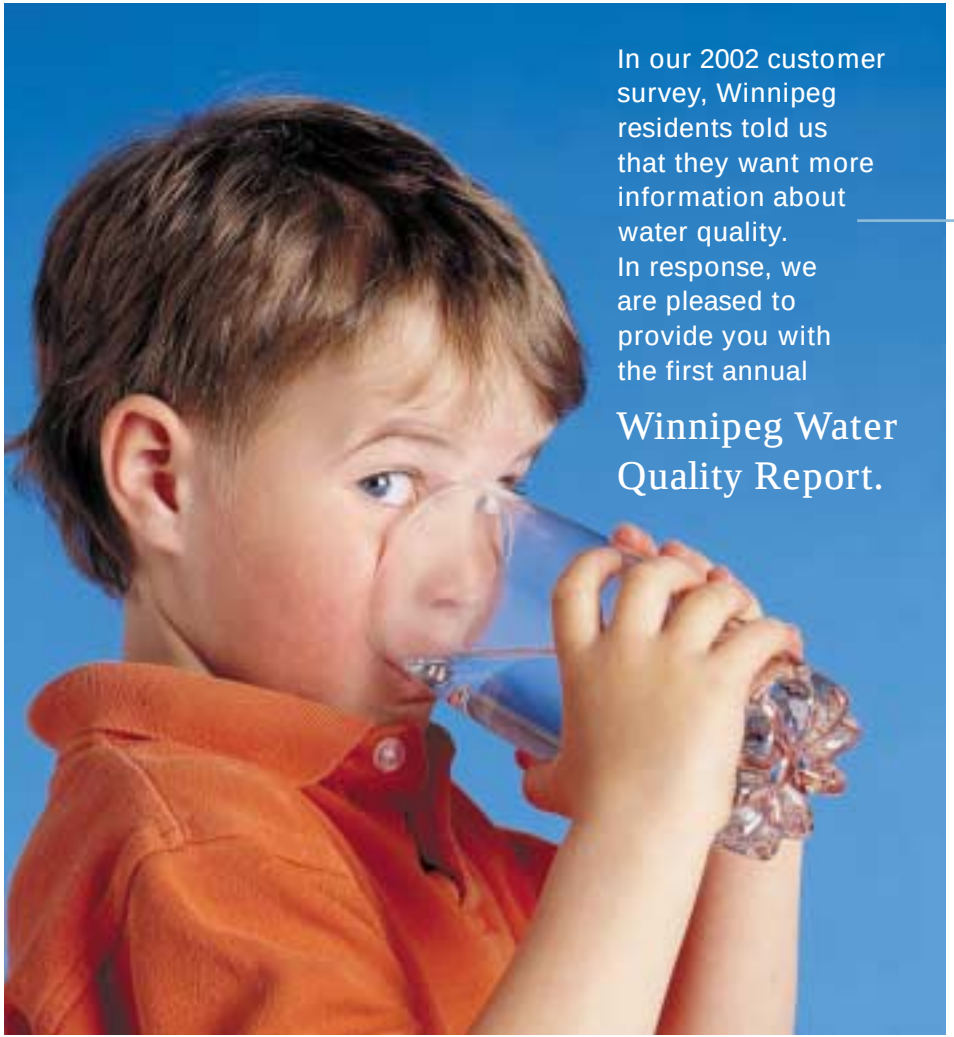
Winnipeg's Water

QUALITY REPORT

Winnipeg

Water and Waste Department



In our 2002 customer survey, Winnipeg residents told us that they want more information about water quality. In response, we are pleased to provide you with the first annual

Winnipeg Water Quality Report.

This report

- describes the actions that we take to ensure safe, reliable, high-quality drinking water
- provides information about the quality of our drinking water
- outlines the steps that we are taking to improve the taste and smell of our water and to make it even safer to drink

Where does our water come from?

We get our water from Shoal Lake, on the border between Manitoba and Ontario. Shoal Lake was chosen in 1912 because it was the best water supply for our city, and that is still true today. Water flows from Shoal Lake to Winnipeg by gravity through a 160 kilometre long aqueduct (concrete pipe). The water is stored in Deacon Reservoir, a large reservoir that can hold 8.8 billion litres, enough water to supply Winnipeg for about 20 days. Water passes from Deacon Reservoir to three smaller reservoirs and pumping stations in different areas of the city. Each day, we deliver an average of 225 million litres of water to approximately 270,000 Winnipeg households and businesses.

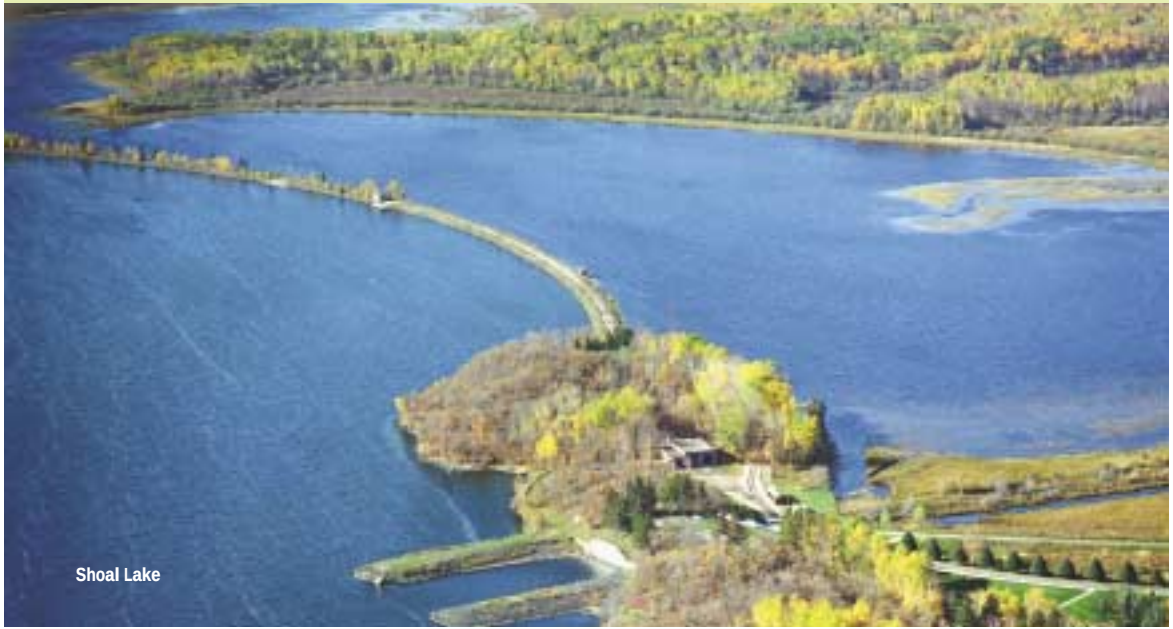
Is drinking water quality regulated?

Yes. Manitoba Health and Manitoba Conservation regulate the safety of our drinking water using *Guidelines for Canadian Drinking Water Quality.* These guidelines, published by Health Canada, recommend limits for substances and conditions affecting drinking water quality. A panel of experts, including a representative from our province, keeps these guidelines up-to-date.

Could a Walkerton tragedy happen in Winnipeg?

We are doing everything possible to make sure that a Walkerton tragedy never happens in Winnipeg. In June 2000, the water supply in the town of Walkerton, Ontario, was contaminated with *E. coli* bacteria. Walkerton draws its water from wells. One well was contaminated with *E. coli* from a local farm during a severe rainstorm. The water from the wells had not been properly disinfected with chlorine, which kills *E. coli.* Nor was the water properly tested.

Winnipeg has not had an outbreak of waterborne disease since the Shoal Lake Aqueduct began operating in 1919.



Shoal Lake

We take the following steps to keep our water safe:

- We work with the First Nation communities in the Shoal Lake area, the federal government, and the provincial governments of Manitoba and Ontario to make sure that development in the area does not affect water quality.
- We add chlorine as a disinfectant to kill harmful bacteria, such as *E. coli* and other micro-organisms. Chlorine is the most widely used drinking water disinfectant in North America, and has been used for more than a hundred years. We add chlorine at three different places before the water reaches your home or business – Shoal Lake, Deacon Reservoir, and the pumping station that serves your neighbourhood. We have to maintain an adequate chlorine level at every customer tap to ensure the safety of the water and to meet provincial regulations.
- We rigorously test the water. Laboratory staff use approved test methods and have backgrounds in chemistry, science, microbiology, and engineering.

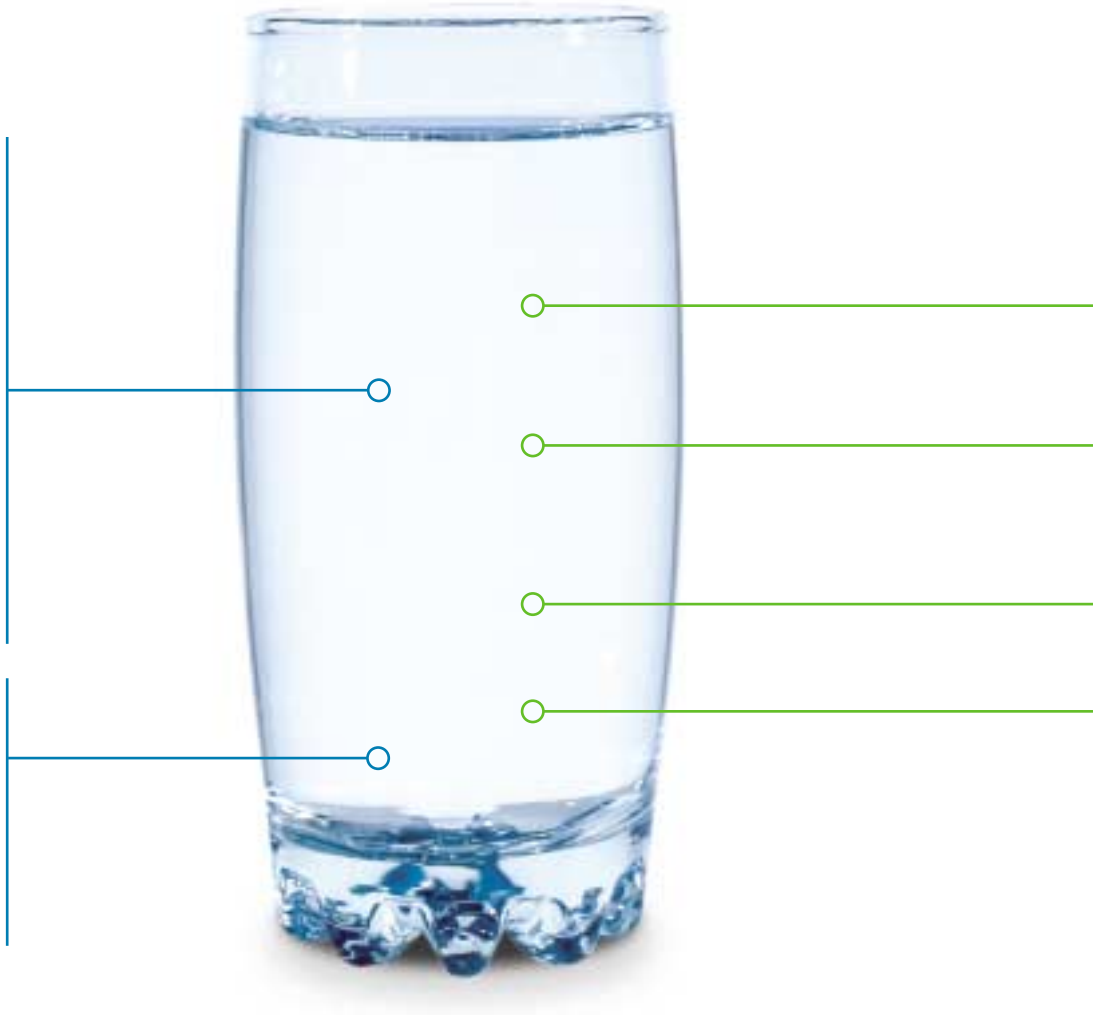
Is anything other than chlorine added to the water?

We add orthophosphate to form a protective coating inside water pipes. This coating helps reduce corrosion that may add lead to tap water. Lead enters drinking water mainly as a result of the corrosion, or gradual wearing away, of plumbing materials that contain lead. This includes service pipes made of lead that carry water from water mains to individual buildings. We started this Lead Control Program in June 2000.

We add orthophosphate in small amounts in the form of food-grade phosphoric acid, which is found in many popular food products, such as soft drinks. You would need to drink more than 100 glasses of tap water to get the same amount of phosphoric acid that you would get in a glass of most colas.

We add fluoride according to the Provincial Fluoridation Program guidelines at a level that helps prevent tooth decay and won't harm health.

Many health-related organizations, such as the Canadian Dental Association, the Canadian Medical Association, and the World Health Organization, recommend adding fluoride to drinking water to prevent tooth decay.



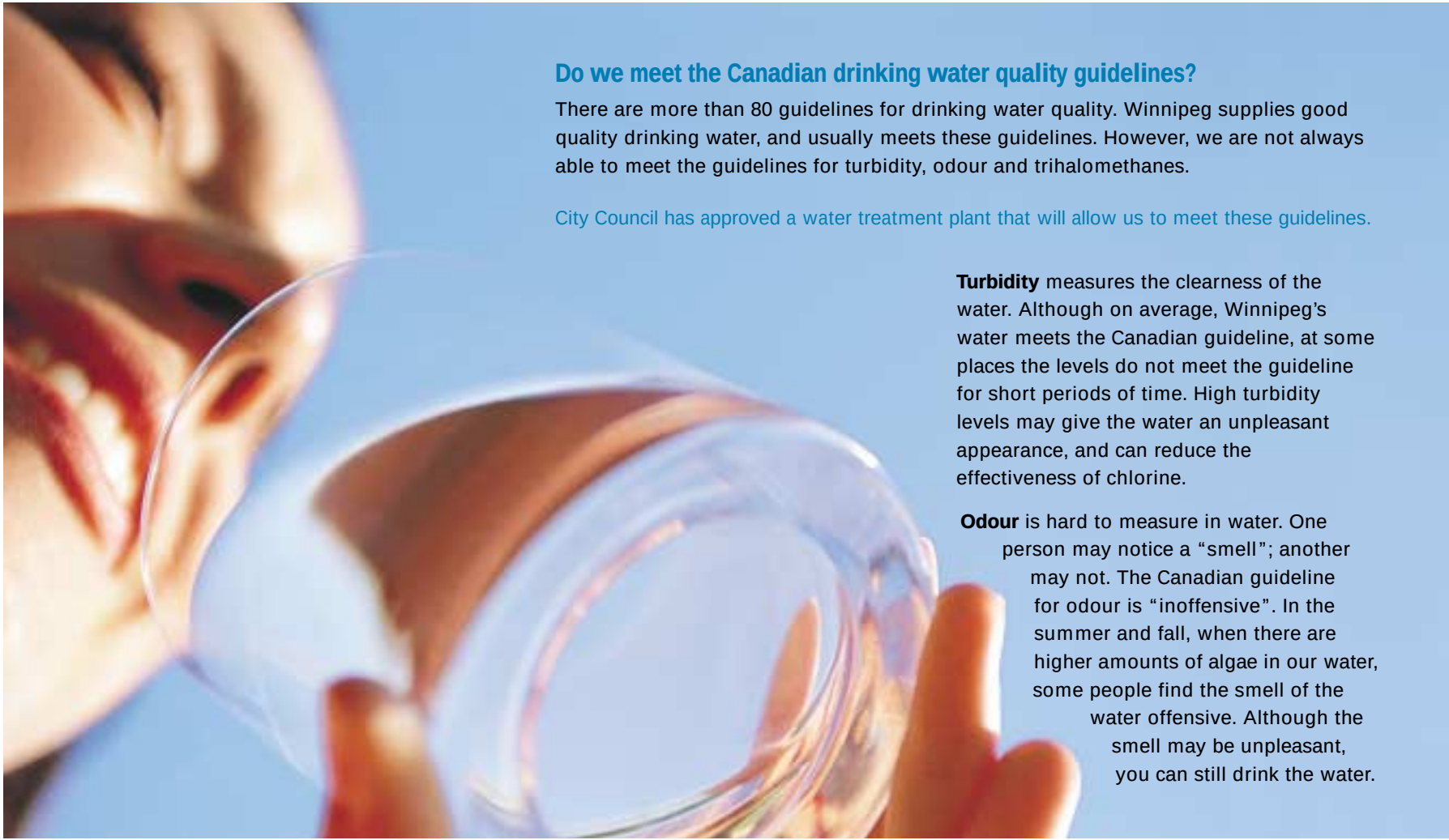
What tests do we do?

We test our water each step of the way, from Shoal Lake to the tap. Our testing program includes over 46 different types of tests at over 70 different places throughout the year. Because water quality is so important, we do more testing than the provincial government requires. Here are some water test facts:

- We test for chlorine at the 3 pumping stations, 24 hours a day, 365 days a year. We test the chlorine levels at other places, such as water mains, every week from spring to fall and every 2 weeks at other times.
- We take weekly samples for bacteria at over 60 places throughout the system and test them according to provincial regulations. Each year, we test more than 3,100 water samples for bacteria – this is 70% more samples than required. Test results for our water have always been within the acceptable range for bacteria. A local nationally accredited laboratory conducts the bacteria tests.
- We test at least monthly for the microscopic parasites, *Cryptosporidium* (crip-toe-spor-ID-ee-um) and *Giardia* (GEE-ar-dee-ah), even though there is no requirement for this type of testing. These parasites are found in most rivers and lakes. A laboratory recognized internationally as expert in the study of parasites tests our water samples for *Cryptosporidium* and *Giardia*.
- We test tap water for lead from a sample group of houses every month to make sure that the Lead Control Program is effective.

We send all test results to the Province. We immediately report results that might affect public health to the Winnipeg Regional Health Authority's Medical Officer of Health.

For detailed information on our test results, visit our web site at **www.city.winnipeg.mb.ca/waterandwaste/water_quality.stm**



Do we meet the Canadian drinking water quality guidelines?

There are more than 80 guidelines for drinking water quality. Winnipeg supplies good quality drinking water, and usually meets these guidelines. However, we are not always able to meet the guidelines for turbidity, odour and trihalomethanes.

City Council has approved a water treatment plant that will allow us to meet these guidelines.

Turbidity measures the clearness of the water. Although on average, Winnipeg's water meets the Canadian guideline, at some places the levels do not meet the guideline for short periods of time. High turbidity levels may give the water an unpleasant appearance, and can reduce the effectiveness of chlorine.

Odour is hard to measure in water. One person may notice a "smell"; another may not. The Canadian guideline for odour is "inoffensive". In the summer and fall, when there are higher amounts of algae in our water, some people find the smell of the water offensive. Although the smell may be unpleasant, you can still drink the water.

Trihalomethanes (THMs) are formed when chlorine reacts with naturally occurring organic matter (e.g., vegetation) in the water. Several research studies show a possible link between high levels of THMs and cancer, and between high levels of THMs and problems during pregnancy. Although, so far, there is no conclusive evidence that THMs have serious health effects on humans, water suppliers are trying to keep THMs as low as possible. On average, the THM levels in Winnipeg's water are just slightly above the Canadian guideline, and we are taking steps to reduce them.

Drinking water is disinfected with chlorine to kill bacteria and viruses that can cause serious illness and death. The chlorination of drinking water has virtually eliminated typhoid fever, cholera, and many other waterborne diseases from the western world. Without adequate disinfection, the health risks from micro-organisms far outweigh the risks from THMs.

Water filters and other home water treatment devices with this certification on their label can reduce THMs: *ANSI/NSF Standard No. 53 for the reduction of trihalomethanes.*

When will the water treatment plant be ready?

City Council approved the construction of a water treatment plant to be operating in 2006. Health Canada recommends treating water using a multi-barrier approach, or a series of treatment steps. Our treatment plant will include multi-barriers against contaminants in the water and will

- reduce the levels of trihalomethanes
- protect against potential health risks such as *Cryptosporidium* and *Giardia*
- improve the taste, smell and appearance of our water
- meet changing drinking water guidelines

In the meantime, we have been studying new water treatment technologies. City Council will review this research and decide on the best treatment steps for Winnipeg's water.

Water rates will not be increased to pay for the water treatment plant.

Deacon Reservoir – Future site of Winnipeg's water treatment plant

Frequently Asked Questions

Why can I taste or smell chlorine in my water?

Many people are able to taste or smell extremely low concentrations of chlorine in water and may be able to detect the levels in our water system. We have to maintain an adequate chlorine level at every customer tap to ensure the safety of the water and to meet regulations. If you live close to one of the places where we add chlorine, you will have more chlorine in your water than someone farther away. An easy way to get rid of the chlorine taste and smell is to fill a container of water and keep it in the fridge for drinking. Much of the chlorine will leave the water overnight. Cold water also tastes and smells better than water at room temperature. You will also save water since you don't have to run the tap until the water feels cold every time you want a drink.

Why does my water sometimes look dirty?

Usually when water looks dirty, it's because of changes in the direction that the water flows in the pipes (e.g., due to a water main break). Sediment at the bottom of the pipes gets stirred up and causes dirty water. You should wait until the water is clear before you drink it. If the water is dirty, we also recommend that you wait until the water runs clear, before doing laundry or using the dishwasher.

Why is my water cloudy once in a while?

Water is cloudy when air gets in it and makes tiny bubbles. The bubbles are harmless and will disappear if you let the water sit in a glass for a few minutes. Cloudiness appears more often in the winter when the water is cold.

Why does my water sometimes smell musty?

Algae are plants that live in lakes and other bodies of water. Shoal Lake always contains various types of algae. When conditions are favourable, usually in the summer, the algae can grow in abundance, in what is called an "algae bloom". The algae produce substances that can give our water an unpleasant taste or smell, often described as musty. You can continue to use the water, and there is no need to take special precautions.

Frequently Asked Questions

Can I drink tap water if I have a special health concern?

You should ask your doctor this question if you have an extremely weak immune system. This includes

- people with HIV/AIDS
- people with cancer
- people with genetically weakened immune systems
- transplant and other patients taking immunosuppressive drugs

The risk of *Cryptosporidium* in Winnipeg's water is very low. However, people with extremely weak immune systems should ask their doctor if they should take the precaution of boiling their drinking water vigorously for one minute. Boiling kills *Cryptosporidium*. The general public does not have to boil their drinking water.

Can I use hot water from the tap for drinking and preparing foods?

We recommend that you use only cold water for drinking and preparing foods. If you need hot water for cooking and drinking, draw water from the cold tap and heat it. Hot tap water can contain higher levels of metals, such as copper, because metals in water pipes and plumbing fixtures dissolve more easily in hot water.

Where can I get information on bottled water?

Bottled water is regulated differently from municipal drinking water. It is regulated as a food by the Canadian Food Inspection Agency. For information on bottled water, visit these web sites:

www.inspection.gc.ca/english/corpaffr/foodfacts/bottwate.shtml
www.hc-sc.gc.ca/food-aliment/mh-dm/mhe-dme/e_faqs_bottle_water_eng.html

If you have any questions about a specific bottled water product, call the Canadian Food Inspection Agency at **983-5492.**

A four-litre jug of tap water costs less than a penny!

Frequently Asked Questions

Where can I get information on water filters?

For information on water filters and other home water treatment devices, you can call the NSF International free hotline at **1-877-867-3435** or visit these web sites:

www.hc-sc.gc.ca/ehp/ehd/bch/water_quality/faq_dwtd.htm
www.nsf.org

If you want to buy a water treatment device, Health Canada strongly recommends that you buy one certified by ANSI/NSF. Many of the water treatment devices that are on the market can help improve the taste, odour and colour of the water. Some products will reduce or remove things like *Cryptosporidium* and trihalomethanes.

Follow the manufacturer's instructions for taking care of your water treatment device. Replace filters when recommended. A filter that is not working properly could produce unsafe water.

Where can I get more detailed information on water quality?

Visit the Health Canada website at **www.hc-sc.gc.ca/waterquality**

Where can I get more information on Winnipeg's water?

Call our Customer Service Centre at **986-5858** or visit our web site at **www.city.winnipeg.mb.ca/waterandwaste/water_quality.stm** for information and test results on Winnipeg's water, or for copies of the following brochures:

- Winnipeg's Water – Our Most Essential Resource
- Improving Winnipeg's Water (Lead Control Program)
- The Facts about *Cryptosporidium* and the Winnipeg Water Supply
- Should Winnipeg Build a Water Treatment Plant?

We will inform Winnipeg residents immediately if there is ever a water quality problem that could affect public health.

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