



Consumer Confidence Report 2011

Water Quality

"Our Utility Department is committed to ensure that Waconia's drinking water meets all state and federal regulations" says Doug Bode, Water Utilities Superintendent.

Waconia water plant staff are continually testing the City's drinking water to ensure its safety, purity, and taste. Each month, separate sites in the water distribution system are tested for coliform bacteria, iron, chlorine and fluoride levels. The State Health Department also conducts testing of Waconia's drinking water for the substances listed in this report.

The City of Waconia is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2011. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.

The City of Waconia takes pride in providing a high level of water quality and customer service and in having one of the most qualified, experienced and dedicated water plant staffs in Minnesota. Waconia hires only State certified operators and the staff receives extensive training in operations and measurement of water quality. Waconia provides free services to residents, such as on-site leak detection for consumers with high monthly water bills and advice for residents with concerns about the water quality in their homes. The City's goal is for every utility employee to serve the public and provide excellent customer service.

City of Waconia
Public Services Department-
Utility Division
310 East 10th Street
Waconia, MN 55387
952-442-2615
Email:
publicservices@waconia.org
Website:
www.waconia.org
EPA Safe Drinking Water Hotline
1-800-426-4791
Minnesota Department of Health
651-201-4700

Sources of water

The City of Waconia provides drinking water to its residents from a groundwater source: six wells ranging from 354 to 735 feet deep, that draw water from the Quaternary Buried Artesian and Mt. Simon aquifers. There are a number of advantages to an underground water supply. Communities with underground wells are able to avoid the Cryptosporidium and Giardi micro-organisms, which can contaminate surface water supplies and cause intestinal disorders.

The Minnesota Department of Health has determined that the sources used to supply your drinking water is not particularly susceptible to contamination. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it on line at www.health.state.mn.us/divs/eh/water/swp/swa.

Substances detected in Waconia's water in 2011

The results contained in the following table indicate an exceedance of a federal standard. However, some substances were detected in trace amounts that were below legal limits. The table that follows shows the substances that were detected in trace amounts last year. Some substances are sampled less frequently than once a year; as a result not all substances were sampled for in 2011. If any of these substances were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.

Regulated substances controlled prior to distribution

Substance (units)	MCLG	MCL	Level Found Range (2011)	Average /Result*	Typical Source
Alpha Emitters (pCi/l)	0	15.4	4.5-13	7.27	Erosion of natural deposits.
Arsenic (ppb) (10/28/2010)	0	10	N/A	2.06	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm) (10/28/2010)	2	2	N/A	.06	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Combined Radium (pCi/l)	0	5.4	nd-7.3	4.47	Erosion of natural deposits.
Fluoride (ppm)	4	4	1.2-1.3	1.23	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Haloacetic Acids (HAA5) (ppb) (08/24/2010)	0	60	N/A	2.7	By-product of drinking water disinfection.
TTHM (Total trihalomethanes) (ppb) (08/24/2010)	0	80	N/A	2.31	By-product of drinking water disinfection.

*This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from previous year.

Substance (units)	MRDLG	MRDL	****	*****	Typical Source
Chlorine (ppm)	4	4	.1-1.5	.42	Water additive used to control microbes.

Special notice for vulnerable persons

Some people may be more vulnerable to substances found in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial substances are available from the Safe Drinking Water Hotline (1-800-426-4791).



Key to chart

MCLG: Maximum contaminant level goal. The concentration of a substance in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL: Maximum contaminant level. The highest level allowed in drinking water. **MCLs** are set as close to the MCLGs as feasible using the best available treatment technology.
MRDL: Maximum Residual Disinfectant Level. **MRDLG:** Maximum Residual Disinfectant Level Goal.
AL: Action Level. The concentration of a substance which, if exceeded, triggers treatment methods or other requirements that the utility must follow.
PPB: Parts per billion, which can also be expressed as micrograms per liter (mg/l).
PPM: Parts per million, which can also be expressed as milligrams per liter (mg/l).
PCi/l: PicoCuries per liter (a measure of radioactivity).
ND: No detection.
90th Percentile Level: This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which 10 samples were taken, the 90th percentile level is determined by disregarding the highest result, which represents 10 percent of the samples) Note: In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th percentile level.
N/A: Not applicable (Does not apply).

*This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year.

****Highest and lowest monthly average *****Highest quarterly average

Regulated substances controlled at the consumer's tap

Substance (units)	MCLG	AL	90% Level	# sites over AL	Typical Source
Copper (ppm)	1.3	1.3	1.1	0 out of 20	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	0	15	20.2 ☒	3 out of 20	Corrosion of household plumbing systems; Erosion of natural deposits

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from material and components associated with service lines and home plumbing. The City of Waconia is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

☒ We are in exceedance of the action level for lead. In response to this issue, we performed a corrosion control study and/or have taken actions to make the water less likely to absorb materials such as lead from your plumbing. We are also performing a regular program of public education to inform residents of steps they can take to reduce their exposure to lead in water.

Unregulated substances**

Substance (units)	Level Found Range Average (2011) /Result*	Typical Source
Sodium (ppm) (03/24/2009)	N/A- 57	Erosion of natural deposits.
Sulfate (ppm) (03/24/2009)	N/A-108	Erosion of natural deposits.

**Some substances do not have maximum substance levels MCL established for them. These "unregulated substances" are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated substance are found, the response is the same as if an MCL has been exceeded; the water utility must inform its customers and take corrective actions.

Compliance with National Primary Drinking Water Regulations

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Substances that may be present in source water include:

- **Microbial substances**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic substances**, such as salts and metals, which can be naturally-occurring or result from urban storm- water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical substances**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive substances**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain substances in water provided by public water systems. Food & Drug Administration regulations establish limits for substances in bottled water which must provide the same protection for public health. Drinking water, including bottle water, may reasonably be expected to contain at least small amounts of some substances. The presence of substances does not necessarily indicate that water poses a health risk. More information about substances and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

What is Groundwater?

Simply put, groundwater is moisture that is stored in the earth. It may have started out as rain, snow, hail or sleet that soaked into the ground and saturated the soil. The soil acts kind of like a giant sponge -- the groundwater occupies the spaces between the soil particles. Groundwater is important because we use it for drinking, as well as watering crops. An aquifer is an area that holds a great deal of water.

The Water Cycle

Groundwater is not stationary -- it is part of the water cycle. The water cycle is a continuous loop. The sun drives the water cycle by heating the water in the Earth's oceans. Some of this water evaporates into air and forms into clouds. Clouds generate precipitation. Precipitation that falls onto land becomes surface runoff or soaks into the soil where it replenishes groundwater and aquifers. Some groundwater is close to the surface where it seeps back into lakes, rivers or streams. Other times, springs release groundwater or people pump it out of the ground. Unfortunately, this means that pollution can move through the water cycle, too.

How Groundwater Gets Polluted

Pollution reaches groundwater in several ways. Rainwater and runoff may contact contaminated soil while filtering down into groundwater. Some liquid hazardous substances, like fuel residues, solvents and other chemicals, can filter down through soil and rock and into groundwater as well. Some oily substances don't mix with the water but instead remain pooled on top, acting as a long-term contaminant. Natural substances can contaminate groundwater.

Visit
www.drinktap.org for
more information

Prevent Water Pollution-Protect Ground Water

Most groundwater starts out as rain; therefore, pollution prevention equals water protection. Some specific ways that you can protect groundwater include:

- **Use pesticides and fertilizers sparingly.** Buy phosphorus-free lawn fertilizer and apply at recommended rate. Late summer is the best time. Don't fertilize before a storm and never apply to frozen ground.
- **Keep soil, leaves, and lawn clippings out of the street.** Compost yard waste or dispose of at the City's compost site (see www.waconia.org for scheduled times)
- **Dispose of hazardous household waste (HHW) properly.** Don't dump HHW down drains, toilets or on the ground. Carver County Environmental Center will accept most household hazardous waste from Carver County residents. (Call 952-361-1835 for more information.)
- **Maintain your car to prevent leaking fluids.** Don't use water to wash away fluids. Clean up drips with an absorbent like kitty litter or sawdust and properly dispose of the contaminated absorbent.
- **Conserve water by turning off the tap when running water is not necessary.** This helps prevent water shortages and reduces the amount of contaminated water that needs treatment

For more information about Waconia's drinking water or for information about opportunities for public participation in decisions that may affect the quality of water, please contact the Public Utilities Department at 952-442-2615.

The Truth about Tap

→According to the Container Recycling Institute, consumers are spending upward of \$100 billion a year on bottled water.

→Bottled water costs as much as \$10 per gallon, Waconia's water costs just \$.0024 per gallon.

→Water bottles clog landfills and consume energy in their manufacture.

→Tap water creates less pollution and uses far less energy and natural resources than transporting and manufacturing of plastic water bottles.

→In the US, 90% of the plastic water bottles end up as either garbage or litter.

→Many people cite the quality of water as the main reason they purchase bottle water, but many experts say tap water is better regulated than bottled water. Waconia's water is tested, and the results are made available to the public. That is not the case with bottled water.



The above steps may seem to insignificant to ever contribute in reducing water pollution. But just imagine: even if 10 families (four members each) follow these steps, we will have almost 50 less plastic bottles contributing to pollution. That is quite a number, don't you think? If we all decide to share the responsibility, we can all come together and make a big difference!

Tap water – good for you, good for the environment.