



2014 Water Quality Report

The City of Winona is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2013. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. Call Bob Dunn at the Winona Water Department at 507-457-8270 if you have questions about the City of Winona drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.



Part of the Westfield Filter Plant renovation

No contaminants were detected at levels that violated federal drinking water standards.

We take pride in our efforts as we provide our community with a trustworthy supply of high-quality water. Although this report is federally mandated to be delivered along with water bills, we go above and beyond what is mandated to ensure that everyone who uses Winona's water has access to the good news about our water.

Winona's Water Source

The City of Winona provides drinking water to its residents from a groundwater source: eight wells ranging from 489 to 1077 feet deep that draw water from the Mt. Simon and Eau Claire-Mt. Simon aquifers.

The water provided to customers meets drinking water standards, but the Minnesota Department of Health has also made a determination

as to how vulnerable the source of water may be to future contamination incidents. 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.

City of Winona Water Treatment and Distribution

Well #20 was drilled and put in operation in 2009. The City of Winona is updating the Wellhead Protection Plan and the final plan will be completed in 2014



All of Winona's drinking water is filtered groundwater. Winona began using filtration with the construction of the Westfield Water Plant in the late 1950s. In 1969, the Johnson Street Plant began utilizing modern filters as well. Today, Winona's drinking water is treated and delivered with the help of three treatment plants with an elevated storage capacity of 4.4 million gallons, over 1,400 valves, 1,516 fire hydrants, and 118.5 miles of water mains!

If you would like to learn more about our history, or for a clickable link to this 2014 Water Quality Report, we encourage you to visit: <http://www.cityofwinona.com/city-services/public-works/water-plant>.

Compliance with National Primary Drinking Water Regulations

The sources of drinking water (both tap water 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.

Contaminants that may be present in source water include: *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban stormwater 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 contaminants*, 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 contaminants*, 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 contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

City of Winona Utility News

In 2013, the Water Department took the Westfield Filter Plant out of service for three months in order to do maintenance to the filters. Gridor Construction Company was the low bidder on the rehab project that we designed for the two filters. In 1993, the old gravity filters were replaced with two "Tonka" brand pressure filters with "Ironman" filter media in them. Samples of this media were taken at different intervals over the years and the media was showing signs of wearing down and losing its effectiveness to filter the water. The life expectancy at the time of installation was 15 to 20 years and it would have been fine for a few more years if left in place but we felt that after 20 years, it was time to renew the media and verify the integrity of the filter vessels.



The project consisted of removal of all the media and support gravel in order to see the condition of the nozzles and air piping in each of the five cells in each of the two vessels. Once the media was removed, the interior was sandblasted and painted in order to be assured of another 20 years of service from these vessels. New nozzles were installed at the common under-drain portion of each cell. After new support gravel and filter media were installed, the vessels were "charged" with Potassium Permanganate to help in the filter of the water, then put back on-line the first part of May 2013. The total cost for this project as \$205,000 which was well below the estimate of \$250,000.





Report Results:

As seen in the table below, no contaminants were detected at levels that violate federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table below shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2013. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.)

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range 2013	Average/Result*	
Alpha Emitters (pCi/l) (04/10/2012)	0	15.4	N/A	3.3	Erosion of natural deposits.
Barium (ppm) (09/22/2011)	2	2	N/A	.03	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Combined Radium (pCi/l) (04/10/2012)	0	5.4	N/A	4.2	Erosion of natural deposits.
Fluoride (ppm)	4	4	1.1-1.4	1.25	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)	0	60	nd-7.6	6.65	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)	10.4	10.4	nd-.08	.08	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)	0	80	nd-15.8	11.85	By-product of drinking water disinfection.
Total Coliform Bacteria	0 present	>1 present	N/A	1 [†]	Naturally present in the environment.

*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.

[†]Follow-up sampling showed no contamination present.

Contaminant (units)	MRDLG	MRDL	****	*****	Typical Source of Contaminant
Chlorine (ppm)	4	4	.3-.8	.58	Water additive used to control microbes.

****Highest and Lowest Monthly Average.

*****Highest Quarterly Average.

Contaminant (units)	MCLG	AL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	.11	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	0	15	2	0 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.

Key to abbreviations:

MCLG: Maximum Contaminant Level Goal. The level of a contaminant 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 of a contaminant that is 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 contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow.

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.

pCi/l: PicoCuries per liter (a measure of radioactivity).

ppm: Parts per million, which can also be expressed as milligrams per liter (mg/l).

ppb: Parts per billion, which can also be expressed as micrograms per liter (µg/l).

nd: No Detection.

N/A: Not Applicable (does not apply).

Lead in Drinking Water

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 materials and components associated with service lines and home plumbing. City of Winona 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 <http://www.epa.gov/safewater/lead>.

Water Monitoring Assures Safety

Monitoring may have been done for additional contaminants that do not have MCLs established for them and are not required to be monitored under the Safe Drinking Water Act. Results may be available by calling 651-201-4700 or 1-800-818-9318 during normal business hours.

Monitoring for unregulated contaminants as required by U.S. Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2013. Results of the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651/201-4656.

Some people may be more vulnerable to contaminants 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

