

**4.0 million gallons of water per day** are pumped to Willmar's customers. The peak daily demand for water in 2016 was 5.7 million gallons. Willmar Municipal Utilities' production capacity is 7.9 million gallons of water per day.

## Source of Water

The City of Willmar provides drinking water to its residents from groundwater sources: 16 wells ranging from 133 to 347 feet deep, that draw water from the Quaternary Buried Artesian.

The water provided to customers may meet 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 online at [www.health.state.mn.us/divs/eh/water/swp/swa](http://www.health.state.mn.us/divs/eh/water/swp/swa).

Call (320) 235-4422 if you have questions about the City of Willmar drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water.

Visit our website at: [www.wmu.willmar.mn.us](http://www.wmu.willmar.mn.us)  
and find links to other websites with valuable information about water and its impact on our lives.

## Water-saving strategies for home lawns

*Sam Bauer, Extension Turfgrass Educator*

Water use in the home landscape is a hot topic— even in Minnesota. In the Twin Cities, on average three times more water is used during the summer than in the winter and much of this water is used outdoors. As urbanization increases and we continue to experience more extreme heat and drought, greater pressure is placed on our water resources. If you own an irrigation system or water your lawn with portable sprinklers, reduce your overall water use by implementing the following water-saving tips.

### Water-saving tips

#### Pay attention to the weather

During a Minnesota summer, we may see heavy periods of rainfall followed by extended drought. Homeowners with lawns should adjust irrigation practices accordingly. This means no longer relying on the "set it and forget it" irrigation schedule that is often programmed into automatic systems. Operating irrigation controllers in manual mode is one way to solve this issue: turn the controller on only when your lawn shows signs of drought.

#### Select lawn grasses that use less water and can tolerate drought

Whether you are establishing a new lawn or renovating an existing lawn, choice of grass species will impact irrigation requirements. Traditional grass species for Minnesota include Kentucky bluegrass, perennial ryegrass, fine fescue, and tall fescue. Fescue species offer the best drought tolerance. Fine fescues simply use less water, and tall fescue has a deep root system able to access more moisture.

### Adjust irrigation programs to conserve water

To encourage rooting and drought tolerance, lawns should be irrigated infrequently (one time or less per week) with a sufficient volume of water to wet soils to a depth of six inches, assuming no rainfall has occurred. Depending on your soil type, your lawn may only need as little as a half-inch of water. Set irrigation programs to water during the morning hours. Watering during the heat of the day reduces the amount of water absorbed by the soil and made available to plants.

### Audit your irrigation system

Auditing your irrigation system is a good step toward water conservation. Irrigation contractors will perform this service for you if you contract with them. There are three basic steps: 1) Check system components including sprinklers, valves and controllers; 2) Conduct a performance test; 3) Program the controller.

### Implement water saving technologies

Rain sensors connected to irrigation controllers are common water-saving devices. Over the past decade, "smart" irrigation controllers, soil moisture sensors and more efficient sprinklers have also been developed. Smart irrigation controllers save water by automatically adjusting irrigation programs based on water use estimates or stored historical data. Additionally, inexpensive (\$150 or less) soil moisture sensors can be purchased and embedded in the lawn. These sensors will not allow an irrigation system to run if soil moisture levels are adequate.

### Improve soils and lawn quality through good maintenance

Lawn care practices have a direct impact on irrigation requirements. High mowing heights (3 inches or greater) and proper fertilizer use will improve lawn quality and reduce irrigation requirements. Aeration of a lawn followed by top-dressing with quality compost can lessen compaction and add organic matter to soil. This will improve water infiltration in heavy soils as well as increase moisture-holding capacity of sandy soils that drain rapidly.

### Recycle water when possible

Recycling water for irrigation requires proper design of water storage and separate to supply the water to irrigation sprinklers. Professional contractors who have expertise in this area have designed these systems for large commercial buildings and sports complexes. For homeowners, rain barrels can be purchased from local municipalities and companies for the purpose of reusing rain water to irrigate landscape plants.

### Change expectations

Consider changing your lawn expectations to allow for temporary discoloration during drought periods. It is very rare to have extended droughts that completely compromise the integrity of a lawn.

### Design landscapes for water conservation

Choose plants that are well-suited to your site including drought-tolerant plants for dry areas. Mulch garden beds to retain soil moisture and reduce weeds. Retain water on-site using rain barrels, raingardens, and planted slopes.



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City of Willmar

2016 DRINKING WATER REPORT

The City of Willmar is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2016. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources.



## 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).

**ppb – Parts per billion**, which can also be expressed as micrograms per liter (ug/l).

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

**nd – No Detection.**

**N/A – Not Applicable.**

## En Español

Información importante. Si no la entiende, haga que alguien se la traduzca ahora.

## Somali

Warbixintani waxay ka kooban tahay macluumaad muhiim ah. Tarjumo ama waydii qof fahmahaya.

## Results of Monitoring

No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table that follows shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once per year; as a result, not all contaminants were sampled for in 2016. 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.)

### REGULATED AT THE TREATMENT PLANT

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2016)	Average/Result*	
Fluoride (ppm)	4.0	4.0	.52-.67	.69	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.

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

**What's behind the curtain?** Starting the second week in June, a crew will begin work on the Willmar Avenue water tower. A containment curtain (picture at right) will be set up around the tower to trap dust, debris and paint while the tower is sandblasted, repaired and painted inside and out. The containment curtain is like a big sail and may be put up and taken down several times throughout a day depending on wind. After the first coat of paint is on the exterior, the containment curtain will be permanently removed. The tower will be repainted in the same color and the project will take about two months to finish. The last time this tower was repainted was in 1988.

The Willmar Avenue tower holds 300,000 gallons of water and is one of three towers serving the city of Willmar. Willmar Municipal Utilities customers should not notice any difference in water pressure during this project.



Containment Curtain



Water main replacement on 22nd St. SW



Water main replacement, 22nd St. SW

**CUSTOMER INPUT WELCOME** If you are interested in learning more about the water system and water quality, or participating in the decision-making process, there are opportunities available. Questions about water quality can be answered by calling our Water Department office at 320-235-4422. Inquiries about public participation and policy decisions can be made by calling the General Manager at 320-235-4422. The Willmar Municipal Utilities Commission meets at 11:45 a.m. on the second and fourth Mondays of each month at the Willmar Municipal Utilities office, 700 Litchfield Avenue SW. Commission meetings are open to the public. Our web site address is [www.wmu.willmar.mn.us](http://www.wmu.willmar.mn.us).

## 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 can 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 the 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 – 800-426-4791.

**PLEASE NOTE:** 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* are available from the Safe Drinking Water Hotline at – 800-426-4791.

### REGULATED IN THE DISTRIBUTION SYSTEM

Contaminant (units)	MCLG	MCL	Level Found		Typical Source of Contaminant
			Range (2016)	Average/Result*	
Arsenic (ppb)	0	10	N/A	1.2	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (pm)	2	2	N/A	.28	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Combined Radium (pCi/l)	0	5.4	N/A	1.6	Erosion of natural deposits.
TTHM (Total trihalomethanes) (ppb)	0	80.0	1.6-1.9	1.9	By-product of drinking water disinfection.
(Haloacetic Acids) HAA5 (ppb)	0	60.0	3.4-6.9	6	By-product of drinking water disinfection.
Nitrate (as Nitrogen) (ppm)	10.4	10.4	nd-.07	.07	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Contaminant (units)	MRDLG	MRDL	Level Found		Typical Source of Contaminant
			****	*****	
Chlorine (ppm)	4	4	.7-1	.91	Water additive used to control microbes.

\*\*\*\*Highest and Lowest Monthly Results.  
\*\*\*\*\*Highest Quarterly Average.

### REGULATED AT THE CUSTOMER'S TAP

Contaminant (units)	MCLG	MCL	90% Level	# sites over AL	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	1.55★	4 out of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	0	15	3.8	2 out of 30	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 materials and components associated with service lines and home plumbing. City of Willmar 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>.

★ We are in exceedance of the action level for copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor. 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 copper from your plumbing.

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.