

Presented By



ANNUAL
**WATER
QUALITY
REPORT**

WATER TESTING PERFORMED IN 2017

Quality First

Once again, we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Water treatment is a complex, time-consuming process.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The West Des Moines Water Works Board of Trustees typically meets at 4 p.m. on the 3rd Monday of each month. Meetings are held at the A.C. Ward Municipal Water Treatment Plant, 1505 Railroad Avenue, West Des Moines, Iowa. Check www.wdmww.com for the most up-to-date meeting schedule.

Important Health Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some

of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Lead in Home Plumbing

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. We are 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/lead.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the United States. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

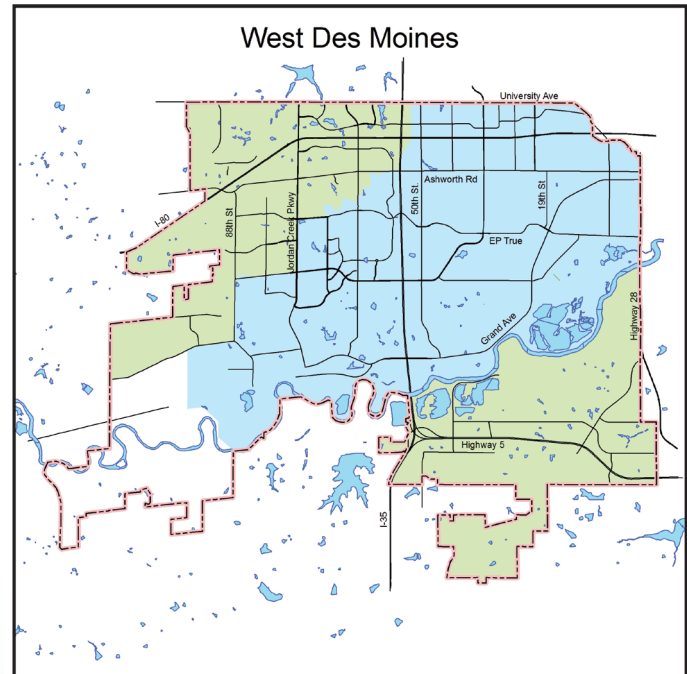
Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



West Des Moines water customers in the NW and SE portion of the city, noted in green, receive purchased water from the Des Moines Water Works. Areas in blue receive water produced from West Des Moines Water Works A.C. Ward Water Treatment Plant.

Where Does My Water Come From?

West Des Moines Water Works obtains a portion of its water from 19 shallow wells (all between 40 and 50 feet deep) that draw water from the Raccoon River Alluvial Aquifer. Water is also obtained from four wells drilled into the much deeper Jordan Aquifer (2,500 feet deep). In addition, some West Des Moines water is purchased from the Des Moines Water Works (DMWW). This is treated and purified water from the Raccoon and Des Moines Rivers and in certain locations blended with treated water from the West Des Moines Water Works. Approximately 4,500 West Des Moines Water Works customers (see map) receive their water solely from the Des Moines Water Works.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Mitch Pinkerton, Water Production Manager, at (515) 222-3465.

Source Water Assessment

West Des Moines Water Works obtains its water from the sand and gravel of the Alluvial aquifer. The Alluvial aquifer was determined to be highly susceptible to contamination because the characteristics of the aquifer and overlying materials provide little protection from contamination at the land surface. The Alluvial wells are highly susceptible to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

West Des Moines Water Works obtains its water from the sandstone and dolomite of the Cambrian-Ordovician Aquifer. The Cambrian-Ordovician aquifer was determined to have low susceptibility to contamination because the characteristics of the aquifer and overlying materials provide natural protection from contaminants at the land surface. The Cambrian-Ordovician wells will have low susceptibility to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

Des Moines Water Works obtains water from one or more surface waters. Surface water sources are susceptible to sources of contamination or pollution within the Raccoon and Des Moines River watersheds. The lab test results for both utilities are listed in this report.

A detailed evaluation of our source water and purchased water was completed by the Iowa Department of Natural Resources, and is available from the Water Operator at (515) 222-3465.

West Des Moines Water Works obtains some of its water from another public water supply. It is a consecutive water supply, where an originating parent supply provides drinking water to one or more downstream supplies.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully tried to convince us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their website at <https://goo.gl/Jxb6xG>.

BY THE NUMBERS



The number of gallons of water produced daily by public water systems in the U.S. **34 BILLION**

1
MILLION

The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

300

The number of Americans who receive water from a public water system.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Regulated Substances																	
				West Des Moines Water Works A.C. Ward Municipal Water Treatment Plant		Des Moines Water Works McMullen Plant		Des Moines Water Works Fleur Drive Plant		LP Moon ASR Well		McMullen Plant ASR Well		Des Moines Water Works			
Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Amount Detected	Range Low-High	Violation	Typical Source
Chlorine (ppm)	2017	[4]	[4]	1	0.23–1.77	NA	NA	NA	NA	NA	NA	NA	NA	0.9	0.2–1.34	No	Water additive used to control microbes
Combined Radium (pCi/L)	2017	5	0	2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits
Haloacetic Acids [HAA] (ppb)	2017	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	0.92	NA	8.1	0.34–8.1	8.14	0.41–8.14	7.26	2.81–7.26	7.78	0.57–7.78	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	45	NA	No	By-product of drinking water disinfection
Tap water samples were collected for lead and copper analyses from sample sites throughout the community																	
Substance (Unit of Measure)	Year Sampled	AL	MCLG	Amount Detected (90th%tile)	Sites Above AL/Total Sites	Violation	Typical Source										
Copper (ppm)	2017	1.3	1.3	0.001	0/60	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives										
Lead (ppb)	2017	15	0	5	0/60	No	Corrosion of household plumbing systems; Erosion of natural deposits										

UNREGULATED SUBSTANCES														
		West Des Moines Water Works A.C. Ward Municipal Water Treatment Plant		Des Moines Water Works McMullen Plant		Des Moines Water Works Fleur Drive Plant		LP Moon ASR Well		McMullen Plant ASR Well		Des Moines Water Works		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2015	170	NA	10.36'	NA	14.13'	NA	24.51'	NA	13.72'	NA	NA	NA	Erosion of natural deposits; Added to water during treatment process

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).