

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

*Presented By*



## Quality First

Once again, we are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. 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.

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

## 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.

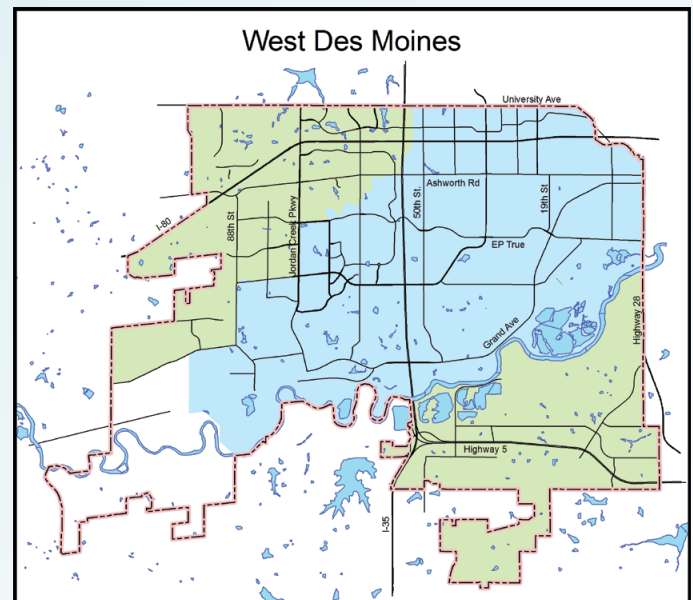
Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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>.

## 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 we 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 at (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water can be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.



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 17 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, is blended with treated water from the West Des Moines Water Works. Approximately 25 percent of West Des Moines Water Works customers (see map) receive their water solely from the Des Moines Water Works.

## Community Participation

You are invited to participate in our public meetings 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 third Wednesday of each month. Check [www.wdmww.com](http://www.wdmww.com) for the most up-to-date meeting schedule.

## 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 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 storm-water 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 storm-water 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.

## Water Stress

Water stress occurs when the demand for water exceeds the amount available during a certain period, or when poor water quality restricts its use. Water stress causes deterioration of fresh-water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).

According to the World Resource Institute ([www.wri.org](http://www.wri.org)), the Middle East and North Africa remain the most water stressed regions on earth. However, several states in the western half of the U.S. are similarly experiencing extremely high levels of water stress from overuse. It is clear that even in countries with low overall water stress, individual communities within a country may still be experiencing extremely stressed conditions. For example, South Africa and the United States rank #48 and #71 on WRI's list, respectively, yet the Western Cape (the state home to Cape Town) and New Mexico experience extremely high stress levels.

There are undeniably worrying trends in water quality. But by taking action now and investing in better management, we can solve water issues before it is too late.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron. Although iron does not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

## 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 will be highly susceptible to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application.

West Des Moines Water Works also 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 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.

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule and, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not 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.

Total Coliform Bacteria are bacteria that are naturally present in the environment and are used as an indicator that other waterborne pathogens may be present, or that a potential pathway exists through which contamination may enter drinking water. In June of 2020, West Des Moines Water Works had one sample positive with no violations.

We participated in the 4th round of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	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		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
<b>Alpha Emitters</b> (pCi/L)	2020	15	0	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits
<b>Arsenic</b> (ppb)	2020	10	0	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
<b>Atrazine</b> (ppb)	2019	3	3	NA	NA	NA	NA	0.1	NA	No	Runoff from herbicide used on row crops
<b>cis-1,2-Dichloroethylene</b> (ppb)	2020	70	70	NA	NA	NA	NA	1	1–1	No	Discharge from industrial chemical factories
<b>Chlorine</b> (ppm)	2020	[4]	[4]	1.0	0.04–2	NA	NA	NA	NA	No	Water additive used to control microbes
<b>Combined Radium</b> (pCi/L)	2020	5	0	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits
<b>Fluoride</b> (ppm)	2018	4	4	1.2	NA	0.92 <sup>2</sup>	0.12–0.92 <sup>2</sup>	NA	NA	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2020	60	NA	6	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2020	10	10	0.69	NA	7.38	0.11–7.38	5.66	0.08–5.66	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2020	80	NA	30	NA	NA	NA	NA	NA	No	By-product of drinking water disinfection
<b>Uranium</b> (ppb)	2018	30	0	NA	NA	NA	NA	NA	NA	No	Erosion of natural deposits

## Definitions

**90th %ile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

**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.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**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).

**REGULATED SUBSTANCES**

				LP Moon ASR Well		McMullen Plant ASR Well		Des Moines Water Works		Army Post ASR			
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	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2020	15	0	6.2	NA	2.7	NA	NA	NA	7.8 <sup>1</sup>	1.9–7.8 <sup>1</sup>	No	Erosion of natural deposits
<b>Arsenic</b> (ppb)	2020	10	0	ND	NA	ND	NA	NA	NA	2	ND–2	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
<b>Atrazine</b> (ppb)	2019	3	3	ND <sup>2</sup>	NA <sup>2</sup>	ND <sup>2</sup>	NA <sup>2</sup>	NA	NA	ND <sup>2</sup>	NA <sup>2</sup>	No	Runoff from herbicide used on row crops
<b>cis-1,2-Dichloroethylene</b> (ppb)	2020	70	70	NA	NA	NA	NA	NA	NA	NA	NA	No	Discharge from industrial chemical factories
<b>Chlorine</b> (ppm)	2020	[4]	[4]	NA	NA	NA	NA	1.1	0.34–1.69	NA	NA	No	Water additive used to control microbes
<b>Combined Radium</b> (pCi/L)	2020	5	0	1	NA	ND	NA	NA	NA	1.4 <sup>1</sup>	ND–1.4 <sup>1</sup>	No	Erosion of natural deposits
<b>Fluoride</b> (ppm)	2018	4	4	1.44 <sup>2</sup>	0.68–1.44 <sup>2</sup>	0.9 <sup>2</sup>	0.39–0.9 <sup>2</sup>	NA	NA	1.38 <sup>2</sup>	0.76–1.38 <sup>2</sup>	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2020	60	NA	NA	NA	NA	NA	8	NA	NA	NA	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2020	10	10	6.03	3.26–6.03	8.39	0.26–8.39	NA	NA	5.05	1.43–5.05	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2020	80	NA	NA	NA	NA	NA	47	NA	NA	NA	No	By-product of drinking water disinfection
<b>Uranium</b> (ppb)	2018	30	0	NA	NA	NA	NA	NA	NA	1.9	NA	No	Erosion of natural deposits

**Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community**

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2020	1.3	1.3	0.01	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
<b>Lead</b> (ppb)	2020	15	0	0.00	0/30	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		Army Post ASR			
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	
<b>Sodium</b> (ppm) <sup>3</sup>	2020	200	NA	16.19	NA	14.2	NA	50.95	NA	15.42	NA	20.11	NA	Erosion of natural deposits; Added to water during treatment process	

<sup>1</sup> Sampled in 2019.

<sup>2</sup> Sampled in 2020.

<sup>3</sup> Sampled in 2018.