

# 2013 CONSUMER CONFIDENCE REPORT



**SOURCE**



**TREATMENT**



**DISTRIBUTION**



A publication on quality water and quality service provided by  
**DES MOINES WATER WORKS**

Des Moines  
**Water Works**  
Water You Can Trust for Life

## WATER YOU CAN TRUST FOR LIFE

**W**ater plays a key role in your health and Des Moines Water Works (DMWW) plays a key role in providing **WATER YOU CAN TRUST FOR LIFE**. Supplying approximately 500,000 central Iowans with clean, safe drinking water is Des Moines Water Works' mission.

In order to ensure tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems.

This annual water quality report summarizes information regarding water sources used, any detected contaminants, compliance and educational information.

Des Moines Water Works ensures our customers have a reliable, secure water supply. To achieve that, we responsibly invest in maintenance and upgrades to our infrastructure. We closely monitor the water supply to identify and treat any contaminants and regularly review treatment methods and operations for efficiency. Des Moines Water Works' extensive monitoring program allows us to evaluate our ever-challenging source waters and treat them effectively.



Dale Maffitt Reservoir

## WHERE DOES YOUR WATER COME FROM?

DMWW operates three water treatment plants in central Iowa. The newest facility, Saylorville Water Treatment Plant located in northern Polk County, began serving water to residents north of Des Moines April 2011. This facility treats water from the Des Moines River and utilizes membrane technology to soften and purify the finished water. It is DMWW's first membrane treatment plant and the largest such facility in Iowa.

The L.D. McMullen Treatment Facility at Maffitt Reservoir, located southwest of the metro area, treats water from the Raccoon River, and serves customers in southwest Des Moines, parts of Xenia and Warren Water Systems, Waukee and parts of Clive, Urbandale and West Des Moines. The water is obtained through radial collector wells located horizontally in the coarse sand and gravel formation beneath the river. The shallow groundwater receives natural filtration prior to entry into the wells. The groundwater is pumped to the treatment plant via a series of pipes and pumps that interconnect all six of the wells and the horizontally drilled well. This innovative horizontal well formation was designed and constructed by DMWW staff.

All other areas in Des Moines Water Works' service area receive water from the Fleur Drive Treatment Plant. This plant treats water pumped from one of three sources: Raccoon River, Des Moines River and an infiltration gallery (a series of underground pipes situated next to the Raccoon River located throughout Water Works Park).

DMWW's chemists and microbiologist test the untreated water daily to determine the best source water. They also test the treated water every day to ensure that it is a healthy and safe product. The tests include bacterial analysis, softening levels and testing for other contaminants.

Once treated, there are more than 1,300 miles of underground water mains and pipe (iron, concrete and plastic) distributing the water to homes and businesses in Des Moines and surrounding communities.

## SOURCE WATER REPORT

Des Moines Water Works obtains water from one or more surface waters. Surface water sources are susceptible to sources of contamination within the drainage basin.

Surface Water Name	Susceptibility
Crystal Lake	High
Des Moines River	High
Maffitt Reservoir	High
Raccoon River	High

Des Moines Water Works completed a **SOURCE WATER ASSESSMENT** in 2001. To obtain a copy of the assessment, call (515) 283-8700 to request a printed copy.



2012 WATER QUALITY RESULTS

# Water Treatment Plant Monitoring

TOTAL ORGANIC CARBON RESULTS			
Treatment Plant	Year Tested	Annual Removal Ratio	Minimum Removal Requirement
Fleur Drive Plant	2012	2.98	1.00
McMullen Facility	2012	1.64	1.00
Saylorville Plant	2012	2.50	1.00

Before water can be delivered to your home, it must first be analyzed by certified laboratories at Des Moines Water Works' Fleur Drive Treatment Plant and at the University of Iowa Hygienic Laboratory in Iowa City. Results for 2012 in this report include samples taken as water leaves Des Moines Water Works' three treatment plants and from samples obtained from the various water distribution systems supplied with water by Des Moines Water Works.

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 material and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or humans.

Contaminants that may be present in source water include:

- **Microorganisms** 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 occur naturally or come from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and Herbicides** which may come from agriculture, urban stormwater runoff and residential uses.
- **Organic Chemicals** including synthetic and volatile organic chemicals, which are industrial and petroleum process byproducts and can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive Contaminants** which can occur naturally or result from oil and gas production and mining activities.

2012 LAB TEST RESULTS				Fleur Drive Treatment Plant		L.D. McMullen Water Treatment Facility		Saylorville Water Treatment Plant		COMMON SOURCES OF CONTAMINANT
	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS	
WATER CLARITY										
Turbidity	NTU	TT	N/A	0.24	0.03-0.24	0.2	0.02-0.2	0.55	0.01-0.55	Soil runoff
INORGANIC SUBSTANCES										
Barium	mg/L	2	2	<0.05	N/A	N/A	N/A	0.1	N/A	Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	mg/L	4	4	0.71	0.48-0.93	0.74	0.21-1.03	0.57	0.10-3.98	Additive for strong teeth; erosion of natural deposits; fertilizer
Nitrate [as N]	mg/L	10	10	5.7	ND-5.7	4.29	0.05-4.29	0.82	0-0.82	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Sodium	mg/L	N/A	N/A	19.4	N/A	17.1	N/A	17.2	N/A	Erosion of natural deposits
ORGANIC SUBSTANCES										
Atrazine	µg/L	3	3	<0.1	N/A	<0.1	N/A	<0.1	N/A	Agriculture runoff
cis-1,2 Dichloroethylene	µg/L	70	70	<0.5	N/A	<0.5	N/A	<0.5	N/A	Discharge from industrial chemical factories
RADIOACTIVE SUBSTANCES										
Alpha Emitters	pCi/L	15	N/A	1.6	N/A	<1.1	N/A	<1.3	N/A	Erosion of natural deposits
Combined Radium	pCi/L	5	N/A	<1.0	N/A	N/A	N/A	<1.0	N/A	Erosion of natural deposits

**DES MOINES WATER WORKS AND THE CITY OF ANKENY** operate Aquifer Storage and Recovery (ASR) wells. Treated drinking water is injected into the well during cold-weather months, and recovered for use during warm-weather months. Testing data unique to this water can be seen on the chart below.

2012 LAB TEST RESULTS				Louise P. Moon Well		L.D. McMullen Facility Well		Ankeny Well 4		Ankeny Well 6		COMMON SOURCES OF CONTAMINANT
	UNITS	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS	LEVEL FOUND	RANGE OF DETECTIONS	
PARAMETER												
Alpha Emitters	pCi/L	15	0	ND	N/A	ND	N/A	2.2	N/A	3.1	N/A	Erosion of natural deposits
Arsenic	µg/L	10	0	ND	N/A	ND	N/A	N/A	N/A	1	N/A	Erosion of natural deposits
Atrazine	µg/L	3	3	<0.1	N/A	<0.1	N/A	N/A	N/A	N/A	N/A	Runoff from fertilizer
Combined Radium	pCi/L	15	0	ND	N/A	ND	N/A	N/A	N/A	1	N/A	Discharge from rubber and chemical factories
Di(2-ethylhexyl)phthalate	µg/L	6	0	<0.6	N/A	<0.6	N/A	N/A	N/A	N/A	N/A	Discharge from rubber and chemical factories
Fluoride	mg/L	4	4	1.45	N/A	1.17	N/A	N/A	N/A	0.69	N/A	Additive for strong teeth; erosion of natural deposits
Nitrate [as N]	mg/L	10	10	2.06	0.83-2.06	4.9	0.22-4.90	0.96	0.73-0.96	0.71	N/A	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Sodium	mg/L	N/A	N/A	37.20	N/A	19.5	N/A	20.3	N/A	17	N/A	Erosion of natural deposits

# Distribution System Monitoring

Once the water leaves the water treatment facilities, it is regularly monitored throughout the numerous distribution systems served by Des Moines Water Works for disinfectant, disinfectant byproducts, bacteria, lead and copper. The table below shows the results of this monitoring.

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. Des Moines Water Works 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 are available from the **Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink>**.

2012 DISTRIBUTION RESULTS	TOTAL TRIHALOMETHANES (µg/L)		HALOACETIC ACIDS (µg/L)		LEAD (µg/L)		COPPER (mg/L)		COLIFORM BACTERIA (positive)		CHLORINE DISINFECTANT (mg/L)	
	Byproducts of chlorination  MCL: 80 µg/L MCLG: no limit set		Byproducts of chlorination  MCL: 60 µg/L MCLG: no limit set		From plumbing corrosion  90% of all samples must be below Action Level of 15 µg/L		From plumbing corrosion  90% of all samples must be below Action Level of 1.3 mg/L		Naturally present in the environment  No more than 5% of monthly samples can be positive		Added to prevent bacterial growth  Maximum limit for annual average: 4 mg/L	
SYSTEM	Level Found	Range of Detections	Level Found	Range of Detections	90% of Samples Below Action Level	Range of Detections	90% of Samples Below Action Level	Range of Detections	Monthly Samples	Positive Samples	Running Annual Average	Range
Des Moines <sup>*1</sup>	69	21.5-115.7	17	ND-23	ND	ND	ND	ND	151	2 <sup>2</sup>	1.1	0.18-3.2
Ankeny	67	15-89.2	8	ND-14	ND	ND	0.04	ND-0.06	50	1 <sup>3</sup>	0.8	0.32-1.31
Berwick	68	42.4-93.1	16	7-30	ND	ND	ND	ND	1	0	0.7	0.38-1.3
Bondurant	64	33.4-80.6	20	10.1-30.8	ND	ND-7	0.0406	ND-0.0845	6	0	2.4	2.2-2.5
Clive	68	27-89	13	7-18	ND	ND-69 <sup>4</sup>	ND	ND-0.03	15	0	1	0.36-1.49
Cumming	67	38-94	7	9-15	ND	ND	ND	ND-0.02	1	0	0.7	0.5-1.11
East Dallas Water	47	N/A	8	N/A	ND	ND-10	0.02	ND-0.03	1	0	2	1.37-2.2
Earlham	25	15-31	6	ND-10	ND	ND	ND	ND	2	0	2.2	1.73-2.45
Johnston	71	38.5-96.3	17	9.03-22.1	4	ND-54 <sup>4</sup>	0.0254	ND-0.0616	20	0	0.8	0.05-1.4
New Virginia <sup>5</sup>	58	42.3-74	16	11-20	5	ND-10	0.03	ND-0.03	1	0	1.9	1.12-2.2
Norwalk <sup>6</sup>	61	45-69	12	6-16	ND	ND	ND	ND	10	0	1	0.32-1.46
SE Polk Rural Water <sup>**</sup>	86 <sup>7</sup>	46.5-136	8	6-12	ND	ND	0.02	ND-0.03	7	0	0.8	0.19-1.54
Urbandale	67	25-87	11	ND-13	ND	ND-330 <sup>8</sup>	0.02	ND-0.04	40	0	1	0.5-1.8
Warren Water District	68	29-120	14	ND-31	ND	ND-11	0.021	ND-0.028	16	0	2.2	0.27-3.3
Waukee	80	34-110	13	8-17	10	ND-30 <sup>4</sup>	0.05	ND-0.2	9	0	0.8	0.32-1.41
Xenia Rural Water District	35	16.2-49.1	15	8.9-21.5	3.3	ND-6	0.0224	ND-0.122	15	0	2.8	1.3-3.6

<sup>\*</sup> Includes water supplied to Alleman, Pleasant Hill, Polk County Rural Water District #1 and Windsor Heights    <sup>\*\*</sup> Includes water supplied to Runnells.    <sup>1</sup> In June, Violation of Iowa Administrative Code for Construction without a Permit.    <sup>2</sup> Two samples in July and one in August. tested positive for total coliforms. Repeat samples indicated coliform bacteria were not present, and the water was determined to be safe for consumption.    <sup>3</sup> One sample in June tested positive for total coliforms. Repeat samples indicated coliform bacteria were not present, and the water was determined to be safe for consumption.    <sup>4</sup> One sample exceeded the Action Level.    <sup>5</sup> Monitoring Violation for Stage 2 Disinfectants and Disinfection Byproducts Rule in November. Failed to monitor for TTHM and HAA5 in November. Procedure was corrected to avoid future violations.    <sup>6</sup> Month of April Record Keeping Violation for Chlorine.    <sup>7</sup> One sample location exceeded TTHM MCL for Stage 2 Disinfectants and Disinfection Byproducts Rule.    <sup>8</sup> One sample exceeded the Action Level. Repeat sample indicated below the Action Level.

## DEFINITION OF TERMS

**Coliform** A bacteria originating in the digestive system of mammals. Its presence in water alerts lab staff that disease-causing agents may be present.

**Level Found** The highest amount found in the water or the average of all samples analyzed, depending on the regulation. If multiple samples were tested in 2011, the lowest and highest detected values are listed under Range of Detections.

**mg/L** milligrams per liter, or parts per million (**ppm**). Parts of contaminant per million parts of water. One part per million is equivalent to a single penny in ten thousand dollars.

**MCL** The maximum contaminant level, the highest level of a substance allowed in drinking water

**MCLG** The MCL Goal, the level of a substance where there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available treatment processes.

**N/A** not applicable.

**ND** not detected.

**NTU** nephelometric turbidity units.

**pCi/L** picocuries per liter, a measure of radioactivity.

**TT** Treatment technology. Certain treatment processes are required to reduce the level of turbidity in the drinking water. Turbidity must not ever exceed 1 NTU, and must be less than 0.3 NTU 95% of the time.

**Turbidity** Turbidity is a measure of cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

**µg/L** micrograms per liter, or parts per billion (**ppb**). Parts of contaminant per billion parts of water. One part per billion is equivalent to a single penny in ten million dollars.



Fleur Drive Treatment Plant Filter Building

## DRINKING WATER AND HEALTH INFORMATION FROM THE EPA

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 from their health-care providers about drinking water. The EPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the national Safe Drinking Water Hotline (800) 426-4791.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants 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. Des Moines Water Works uses a variety of strategies to keep the treated tap water below 10 ppm. These strategies include source water blending, and if necessary, removal of nitrate using a treatment process known as ion exchange. Des Moines Water Works' treated water has not exceeded the 10 ppm standard since nitrate removal was implemented in 1992. If you are caring for an infant, you should ask for advice from your healthcare provider.

Many customers wish to know if bottled water is safer than regular tap water. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that 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. Research repeatedly shows bottled water to be no safer than conventional tap water provided by public water systems in the U.S.

More information about contaminants and potential health effects can be obtained by contacting the EPA's Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink>.



Arie den Boer Arboretum at Water Works Park



## PUBLIC MEETING & UTILITY CONTACT INFORMATION

### ■ CITY OF ALLEMAN

2<sup>nd</sup> Monday of the month at 7:00 pm  
Alleman City Council  
14000 NE 6<sup>th</sup> Street • Alleman, IA 50007  
**Kathy Larson, City Clerk**  
(515) 685-3666  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ CITY OF ANKENY

1<sup>st</sup> & 3<sup>rd</sup> Monday of each month at 5:30 pm  
410 West 1<sup>st</sup> Street • Ankeny, IA 50023  
**Customer Service**  
220 West 1<sup>st</sup> Street • Ankeny, IA 50023  
(515) 963-3565 • www.ankenyiowa.gov

### ■ BERWICK WATER ASSOCIATION

Annual meeting and as needed  
5825 NE Berwick Drive • Berwick, IA 50032  
**Tom O'Donnell**  
PO Box 187 • Berwick, IA 50032  
(515) 266-8668

### ■ CITY OF BONDURANT

1<sup>st</sup> & 3<sup>rd</sup> Monday of each month at 6:00 pm  
Bondurant City Hall  
200 2<sup>nd</sup> Street NE • Bondurant, IA 50035  
**Patrick F. Collison**  
(515) 971-6856 • pcollison@cityofbondurant.com

### ■ CITY OF CLIVE

1<sup>st</sup> & 3<sup>rd</sup> Thursday of each month at 7:00 pm &  
5<sup>th</sup> Thursday at 6:00 pm  
Clive City Hall  
1900 NW 114<sup>th</sup> Street • Clive, IA 50325  
**Bart Weller, Public Works Director**  
2123 NW 111<sup>th</sup> Street • Clive, IA 50325  
(515) 223-6231 • bweller@cityofclive.com

### ■ CITY OF CUMMING

2<sup>nd</sup> & 4<sup>th</sup> Monday each month  
City Hall • Cumming, IA 50061  
**Rachelle Swisher, City Clerk**  
P.O. Box 100 • Cumming, IA 50061  
(515) 981-9214 • cityclerk@cumming-iowa.com  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ DES MOINES WATER WORKS

4<sup>th</sup> Tuesday of each month at 3:30 pm  
Des Moines Water Works  
2201 George Flagg Parkway • Des Moines, IA 50321  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ CITY OF EARLHAM

2<sup>nd</sup> Monday of each month at 7:00 pm  
Earlham City Hall  
140 South Chestnut Avenue • Earlham, IA 50072  
**Gary Coffman**  
(515) 758-2281 • earlhamcityhall@mchsi.com

### ■ CITY OF JOHNSTON

1<sup>st</sup> & 3<sup>rd</sup> Monday of each month at 7:00 pm  
Johnston City Hall  
6221 Merle Hay Road • Johnston, IA 50131  
**Shane Kinsey**  
P.O. Box 410 • Johnston, IA 50131  
(515) 278-0822 • skinsey@cityofjohnston.com

### ■ NEW VIRGINIA WATER WORKS

1<sup>st</sup> Saturday of each month at 7:30 am  
Fire Station meeting room • New Virginia, IA 50210  
**Brent Baughman**  
506 West Street • New Virginia, IA 50210  
(641) 449-3492 • bjbaughman@windstream.net

### ■ CITY OF NORWALK

1<sup>st</sup> & 3<sup>rd</sup> Thursday of each month at 6:30 pm  
Norwalk City Hall  
705 North Avenue • Norwalk, IA 50211  
**Tim Hoskins, Public Works Director**  
(515) 202-2540 • thoskins@norwalk.iowa.gov

### ■ CITY OF PLEASANT HILL

2<sup>nd</sup> & 4<sup>th</sup> Tuesday of each month at 6:30 pm  
Pleasant Hill City Hall  
5160 Maple Drive, Suite A • Pleasant Hill, IA 50317  
**Gary Patterson, Public Works Director**  
(515) 262-9465 • gpatterson@ci.pleasant-hill.ia.us  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ POLK COUNTY RURAL WATER DISTRICT #1

Meetings as needed  
660 NW 66<sup>th</sup> Avenue, Suite 4 • Des Moines, IA 50313  
**Francis Schlueter**  
(515) 289-1877  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ CITY OF RUNNELLS

2<sup>nd</sup> Tuesday of each month at 7:00 pm  
Runnells City Hall  
**Carol Elam, City Clerk**  
(515) 966-2042  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ URBANDALE WATER UTILITY

Meets monthly • Call 278-3940 for information  
3720 86<sup>th</sup> Street • Urbandale, IA 50322  
**Dale Acheson**  
(515) 278-3940 • dacheson@urbandalewater.org

### ■ WARREN WATER DISTRICT

3<sup>rd</sup> Monday of each month at 6:00 or 7:00 pm,  
as posted  
Warren Water District Office  
1204 East 2<sup>nd</sup> Avenue • Indianola, IA 50125  
**Randy Beavers, System Manager**  
(515) 962-1200 • wwd@warrenwaterdistrict.com

### ■ CITY OF WAUKEE

1<sup>st</sup> & 3<sup>rd</sup> Monday each month at 5:30 pm  
Waukee City Hall  
230 Highway 6 • Waukee, IA 50263  
**John Gibson**  
(515) 987-4363 • jgibson@waukee.org

### ■ CITY OF WINDSOR HEIGHTS

1<sup>st</sup> & 3<sup>rd</sup> Monday each month at 6:00 pm  
Windsor Heights City Hall  
133 66<sup>th</sup> Street • Windsor Heights, IA 50324  
**Jeff Fiegenschuh, City Administrator**  
(515) 279-3662  
**Des Moines Water Works Customer Service**  
(515) 283-8700 • customerservice@dmww.com

### ■ XENIA RURAL WATER DISTRICT

Thursday of 3<sup>rd</sup> full week of each month  
2398 141<sup>st</sup> Street • Bouton, IA 50039  
**L.D. McMullen, General Manager/CEO**  
PO Box 39 • Bouton, Iowa 50039  
(515) 676-2117



Dale Maffitt Reservoir