

# City of Northfield Water Division

*City of Northfield*

## 2010 Annual Report to Consumers on Water Quality

Dear Customer:

We are pleased to present a summary of the quality of water provided to you during the past year. The City of Northfield is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2010. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. The City of Northfield is proud of the fine drinking water it provides. This annual water quality report shows the source of our water, lists the results of our tests, and contains much important information about water and health. Our goal is to provide you with high quality, safe drinking water that exceeds all federal and state standards. We're proud to share our results with you. Please read this report carefully and, if you have any questions, call the number listed below.

**We are proud to report that the water provided by the City of Northfield Water Division meets or exceeds established water quality standards.**

Call us at (507) 645-3051 if you have questions about the City of Northfield's drinking water or for information about the next opportunity for public participation in decisions that may affect the quality of our drinking water. Find out more about City of Northfield Water Division on the Internet at [www.ci.northfield.mn.us](http://www.ci.northfield.mn.us).



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

Nov yog ntaub ntawv tseem ceeb. Yog koy tsi to taub, nrhi-av heeg pab txhais rau koh kom sai sai.

### How to Read This Table

This report is based upon tests conducted in the year 2010 by City of Northfield Water Division. Terms used in the Water-Quality Table and in other parts of this report are defined here

**Maximum Contaminant Level or MCL:** 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.

**Maximum Contaminant Level Goal or MCLG:** 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.

### Key To Table

AL = Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfectant Level Goal

N/A = not applicable (does not apply)

pCi/l = picocuries per liter (a measure of radioactivity)

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

nd = no detection

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 a year; as a result, not all contaminants were sampled for in 2010. 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	Date Tested	Unit	MCL	MCLG	Level Found Average/ Result*	Level Found Range 2010	Type Source of Contaminant
<b>Regulated Contaminants</b>							
Nitrate [as Nitrogen]	2010	ppm	10.4	10.4	1.5	.09 - 1.5	Runoff from fertilizer use; Leaching from septic tanks, sewage, Erosion of natural deposits
TTHMs [Total Trihalomethanes]	2010	ppb	80	0	5.46	N/A	By-product of drinking water disinfection.
Fluoride	2010	ppm	4	4	1.4	1.3 - 1.5	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.
Barium	2002	ppm	2	2	0.04	N/A	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Alpha emitters	2007	pCi/l	15.4	0	6.7	N/A	Erosion of natural deposits.
Combined radium	2007	pCi/l	5.4	0	2.4	N/A	Erosion of natural deposits.
Haloacetic Acids (HAA5)	2006	ppb	60	0	.6	N/A	By-product of drinking water disinfection.
Radon	2003	pCi/l			570	N/A	Erosion of natural deposits.
Contaminant (units)			MRDLG	MRDL	****	*****	Typical Source of Contaminant

Chlorine	2010	ppm	4	4	.28	nd - 6	Water additive used to control microbes.
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\*\*\*\* = Highest and Lowest Monthly Average  
\*\*\*\*\* = Highest Quarterly Average

### Unregulated Contaminants \*\*

Sulfate	2008	ppm			48.2	N/A	Erosion of natural deposits.
Sodium	2008	ppm			4.3	N/A	Erosion of natural deposits.

Monitoring for unregulated contaminants as required by U.S. Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2008. Results for the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651-201-4656.

### Lead & Copper \*\*\*

			AL	MCLG	90% Level	# Sites Over AL	
Copper	2010	ppm	AL=1.3	1.3	.5	0 of 30	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead	2010	ppb	AL=15	0	3.4	0 of 30	Corrosion of household plumbing systems; Erosion of natural deposits

**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.

### **Water-Quality Table Footnotes**

\* 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.

\*\* Some contaminants do not have Maximum Contaminant Levels established for them. These “unregulated contaminants” are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take other corrective actions. In the table that follows are the unregulated contaminants that were detected.

\*\*\* If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. City of Northfield 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>.

Radon is a radioactive gas which is naturally occurring in some groundwater. It poses a lung cancer risk when gas is released from water into air (as occurs during showering, bathing, or washing dishes or clothes) and a stomach cancer risk when it is ingested. Because radon in indoor air poses a much greater health risk than radon in drinking water, an Alternative Maximum Contaminant Level (AMCL) of 4,000 picoCuries per liter may apply in states that have adopted an Indoor Air Program, which compels citizens, homeowners, schools, and communities to reduce the radon threat from indoor air. For states without such a program, the Maximum Contaminant Level (MCL) of 300 pCi/l may apply. Minnesota plans to adopt an Indoor Air Program once the Radon Rule is finalized.

Arsenic is less than 1 ppb (>1ug/L), lower than any proposed regulated limit. The MCL for arsenic is 10 ppb.

### **National Primary Drinking Water Regulation Compliance**

The sources of drinking water (both tap 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:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) 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.

(E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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 (800-426-4791).

### **Other Monitoring**

In addition to testing we are required to perform, our water system voluntarily tests for additional substances and microscopic organisms to make certain our water is safe and of high quality. If you are interested in a more detailed report, contact the Water Division.

### **Required Additional Health Information**

In order to ensure the tap water is safe to drink, 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 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 (800-426-4791).

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## Water Conservation

Water conservation is an important topic for all residents and businesses. This is the time to consider water usage for future generations.

The two main areas of water conservation are the savings of our natural resources and your personal financial savings.

Although at the present time we have an adequate supply of water coming from the Jordan Aquifer, we must consider that it has taken thousands of years to build this supply and without protective measures, major problems could arise in the distant future.

## Water Source

The City of Northfield provides drinking water to its residents from a groundwater source: 4 wells ranging from 365 to 415 feet, that draw water from the Prairie Du Chein-Jordan and Jordan-St. Lawrence aquifers.

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 on line at [www.health.state.mn.us/divs/eh/water/swp/swa](http://www.health.state.mn.us/divs/eh/water/swp/swa).

## Water System Information

Fluoride is fed at a rate of 1.2 mg/L  
Iron Content 0.2 mg/L  
Chlorine is fed at a rate of 1.2 mg/L  
Manganese 0.11 mg/L  
Polyphosphate is fed at a rate of .5 mg/L  
PH. 7.4 mg/L

Water hardness\*\*\* 18 grains per gallon or 320 p.p.m.  
*Hardness is caused by compounds of calcium and magnesium, and by a variety of other metals, including iron and manganese.*

Calcium 77.7 mg/l  
Magnesium 29.4 mg/l  
Specific conductance 587.0 umhos/cm  
Total dissolved solids 352 mg/L  
Alkalinity, Total 284 mg/L CaCO3  
Chloride 4.4 mg/L  
Aluminum, dissolved <0.141 mg/L  
Potassium 2 mg/L  
Phosphate - raw water .25 ppm

