



City of Farmington

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2010 Annual Drinking Water Quality Report • July 2011

The City of Farmington operates and maintains its water supply system. Title XIV of the United States Public Health Service Act (Chapter 373.88 Stat 1660), popularly known as The Safe Drinking Water Act, and the Michigan Safe Drinking Water Act (1976 PA399, amended to 1998 PA56) require a water supplier to provide to its customers Consumer Confidence Reports (CCR).

This report is designed to inform you about the water quality and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water sources. We are committed to ensuring the quality of our water. Our water is from one source, surface water from the Detroit River Belle Isle intakes via the Springwells Water Treatment Plant. We purchase the water from Detroit Water and Sewerage Department. The state has completed a source water assessment for the Detroit system. This data is now available.

We're pleased to report that our drinking water is safe and meets federal and state requirements. If you have any questions about this report or concerns about our water quality, please contact the Assistant Director of Public Services for the City of Farmington, Paul Smith at (248) 473-7250. We want our valued customers to be informed about their water quality. Commercial customers, please post this report in a conspicuous location.

System Design and Improvements

We work continually to provide high quality water to every tap. In order to maintain a safe and dependable water supply, we sometimes need to make improvements that will benefit all customers. These improvements are sometimes reflected as rate structure adjustments. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Background Information

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. These substances can be microbes, inorganic or organic chemicals, pesticides, herbicides and radioactive substances. All 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.**

People with Special Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone 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 microbiological contaminants are available from the **Safe Drinking Water Hotline at (800) 426-4791.**

Your Water Quality

The City of Farmington water system is routinely monitored for contaminants in your drinking water in accordance with the Public Acts. The following tables show the results of our monitoring for the period of January 1 to December 31, 2010. In addition, other test results are shown for the year they were required. The most recent test date is listed in the table. Remember, the presence of some elements does not necessarily pose a health risk.

Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water and set at a very stringent level. To understand the possible health effects described from many regulated elements, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

As you can see by the tables, **our system had no violations.** We're proud that your drinking water meets or exceeds all federal and state requirements. The EPA has determined that your water **IS SAFE** at the levels detected.

Public comments on this report may be made at any City Council meeting. City Council meetings are scheduled for 7:00 pm on the third Monday of each month.

Detroit River Intakes Source Water Assessment

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is on a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The susceptibility of our Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

DWSD has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. DWSD participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. If you would like to know more information about this report or a complete copy of this report, please contact your water department at (248) 473-7250.

Springwells Water Treatment Plant 2010 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride	11/2010	ppm	4	4	1.19	0.72-1.19	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/23/2010	ppm	10	10	0.25	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	6/9/2008	ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Selenium	6/9/2008	ppb	50	50	1	n/a	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System								
Total Trihalomethanes (TTHM)	Feb-Nov 2010	ppb	n/a	80	21.0	9.3-40.1	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb-Nov 2010	ppb	n/a	60	11.2	4.4-19.6	No	By-product of drinking water disinfection
Disinfectant Chlorine Residual	Jan-Dec 2010	ppm	MRDGL 4	MRDL 4	0.71	0.63-0.77	No	Water additive used to control microbes

2010 Turbidity – Monitored every 4 hours at Plant Finished Water Tap

Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.28 NTU	100 %	No	Soil Runoff

Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2010 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Contaminant	MCLG	MCL	Highest Number Detected	Violation yes/no	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	in one month - 0	No	Naturally present in the environment.
<i>E.coli</i> or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E.coli</i> positive.	entire year - 0	No	Human waste and animal fecal waste.

2008 Lead and Copper Monitoring at Customers' Tap								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2008	ppb	0	15	0	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2008	ppm	1.3	1.3	.0064	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

Regulated Contaminant	Treatment Technique	Running annual average	Monthly Ratio Range	Violation Yes/No	Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.				Erosion of natural deposits

2010 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.75	Erosion of natural deposits

Collection and sampling result information in the table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

Stage 2 Disinfectants Byproducts Rule 40/30 Waiver Testing

TTHM

MCL/AL	2005	2006				2007			
80 ppb	4 Qtr.	1 Qtr.	2 Qtr.	3 Qtr.	4 Qtr.	1 Qtr.	2 Qtr.	3 Qtr.	4 Qtr.
RAA	12 ppb	15.5 ppb	21.8 ppb	23 ppb	16 ppb	14 ppb	23 ppb	23 ppb	N/A

HAA5

MCL/AL	2005	2006				2007			
60 ppb	4 Qtr.	1 Qtr.	2 Qtr.	3 Qtr.	4 Qtr.	1 Qtr.	2 Qtr.	3 Qtr.	4 Qtr.
RAA	12.3 ppb	15.5 ppb	12.5 ppb	7.3 ppb	10 ppb	7 ppb	24 ppb	10 ppb	N/A

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 organics, 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 be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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. The City of Farmington 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>.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Cryptosporidium was detected once, during a twelve-month period at our Detroit River intake plants. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

CITY OF FARMINGTON OUTSIDE WATER RESTRICTIONS

Time		Commercial Lawn Irrigation Automated	Residential Lawn Irrigation Automated	Residential Lawn Irrigation Manual	Residential Garden Irrigation Automated	Residential Garden Irrigation Manual
Odd-Even Restriction		Yes	No	No	No	No
Midnight	6:00 a.m.	Not Prohibited	Not Prohibited	Not Prohibited	Not Prohibited	Not Prohibited
6:00 a.m.	11:00 a.m.	Prohibited	Prohibited	Not encouraged	Not encouraged	Not encouraged
11:00 a.m.	7:00 p.m.	Not encouraged	Not encouraged	Not encouraged	Not encouraged	Not encouraged
7:00 p.m.	10:00 p.m.	Prohibited	Prohibited	Not encouraged	Not encouraged	Not encouraged
10:00 p.m.	Midnight	Not Prohibited	Not Prohibited	Not Prohibited	Not Prohibited	Not Prohibited



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ATTENTION: THIS IS AN IMPORTANT REPORT ON WATER QUALITY AND SAFETY.

Key to Detected Contaminants Tables		
Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
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.
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.
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.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
ND	Not Detected	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.
pCi/l	picocuries per liter	A measure of radioactivity.
n/a	not applicable	
>	Greater than	