



## City of Flint Water Plant & Facilities

### 2006 Consumers Annual Report on Water Quality

The City of Flint Department of Utilities is proud of the excellent quality of its drinking water. The Consumers Annual Report on Water Quality provides important information about your drinking water. This report includes information about the source of the water, a chart summarizing United States Environmental Protection Agency (USEPA) test results, health information, and a table giving explanations of important terms to understand when viewing USEPA required test results. The Flint Water Plant & Facilities maintains total compliance with all state and federal regulations. The Flint Department of Utilities is committed to prompt and thorough notification to the consumers if there is any reason for concern about the water.

Information about your drinking water is available at the City of Flint web page on the Internet at [www.cityofflint.com](http://www.cityofflint.com) or by calling the Flint Water Plant & Facilities at (810) 787-6537. The Safe Drinking Water Hotline at (800) 426-4791 is a resource for health related questions and water quality issues. General drinking water information can be found on the USEPA web site at [www.epa.gov/safewater/](http://www.epa.gov/safewater/).

#### **Water Source**

The City of Flint purchases drinking water from the Detroit Water & Sewerage Department (DWSD) which operates several drinking water facilities. Following treatment to remove impurities, the water is pumped by DWSD to the Flint Water Plant, where the water is then distributed throughout the City.

The source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water & Sewerage Department, and the Michigan Public Health Institute performed a source water assessment of Lake Huron to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from moderately low to very high based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

#### **Additional Health Information**

To ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by the 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.

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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-

426-4791).

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 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 storm water 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 storm water 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 (1-800-426-4791).

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800) 426-4791.

The City of Flint welcomes your comments and questions about this report. Please contact Brent Wright, Supervisor Flint Water Plant and Facilities at (810) 787-6537.

## Lake Huron Water Treatment Plant 2006 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
<b>Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap</b>								
Fluoride	8/15/2006	ppm	4	4	0.997	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/15/2006	ppm	10	10	0.217	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System</b>								
Total Trihalomethanes (TTHM)	Feb-Nov 2006	ppb	n/a	80	14.9	7.5-25.1	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb- Nov 2006	ppb	n/a	60	10.1	5.4-17.1	No	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	Jan-Dec 2006	ppm	MRDGL 4	MRDL 4	0.66	0.53-0.76	No	Water additive used to control microbes
<b>Radioactive Contaminants-Plant Finished Water Tap</b>								
Alpha Emitters	11/16/2001	pCi/l	0	15	3.19	n/a	No	Erosion of Natural Deposits

<b>2006 Turbidity – Monitored every 4 hours at Plant Finished Water Tap</b>			
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
0.11 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.			

<b>2006 Microbiological Contaminants – Monthly Monitoring in Distribution System</b>					
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	2 (in one month)	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.	0 (entire year)	No	Human waste and animal fecal waste.

<b>2005 Lead and Copper Monitoring at Customers' Tap</b>								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 <sup>th</sup> Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2005	ppb	0	15	1.4	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2005	ppm	1.3	1.3	0.12	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 Conataminant
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

### 2006 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.01	Erosion of natural deposits

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

### Key to Detected Contaminants Tables

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

# IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

## Detroit Water and Sewerage Department, Lake Huron Water Treatment Plant

### Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this situation does not require that you take immediate action, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation.

We treat our water to control corrosion and prevent lead and copper in the pipes from dissolving into the water. The corrosion control treatment is done primarily by the addition of phosphate to the water. To ensure we are optimizing corrosion control, we routinely monitor the water before it enters the distribution system for water quality parameters such as pH and phosphate dosage and residual. We are required to maintain these parameters above state-designated minimums. For fourteen (14) days during January 2007 and February 2007 we did not maintain a phosphate dosage greater than the established minimum. The standard requires that no more than nine (9) days in a six (6) month period may be below the established minimum. For the 14 day period, we did not add enough phosphate for optimal corrosion control. Phosphate was being added to the water, but at a dosage below the state designated minimum.

#### What should I do?

You do not need to boil your water or take other corrective actions. However, if you have specific health concerns, consult your doctor.

#### What does this mean?

This situation does not require that you take immediate action. If it had been, you would have been notified immediately. This is a treatment technique violation, and does not necessarily mean there is lead or copper in your drinking water. It is important that we take measures to control and minimize lead and copper levels in the water, because ingesting lead or copper can cause serious health consequences.

**Lead:** 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.

**Copper:** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

#### What happened? What is being done?

The phosphate dosage was below the established minimum for too long of a period during the months of January and February. During this time the Lake Huron Water Treatment Plant experienced phosphate pump malfunctions that resulted in the below optimal dosages. Despite this lower than acceptable dosage, phosphate residual concentrations in water leaving the plant and entering the distribution system were maintained above the established minimum. The chemical feed pumps have all been repaired and both dosages and residuals are currently at the optimal level.

For more information, please contact Brent Wright at (810) 787-6537.

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*

This notice is being sent to you by The City of Flint Water Plant & Facilities

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#### CERTIFICATION:

certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

WSSN: 2310

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Water Plant Supervisor

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date Distributed

Reminder to water supplier: This notice / certifiati on must be sent to the DEQ.