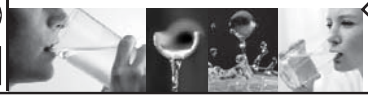
The City of Madison Heights

The City of Madison Heights wants you to know that **your tap water is safe to drink** and that it meets or surpasses all federal and state standards for quality and safety.

2015 Annual Consumer Report on Water Quality



Safe Drinking Water is a Shared Responsibility

Drinking water quality is important to our community and the region. The City of Madison Heights and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. The City of Madison Heights operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and the City of Madison Heights water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

The City of Madison Heights is proud of the fine drinking water it supplies and is honored to provide this report to you. The 2015 Annual Consumer Report on Water Quality shows the source of our water, lists the results of our tests and contains important information about water and health. The City of Madison Heights will notify you immediately if there is ever any reason for concern about our water. We are pleased to show you how we have surpassed water quality standards as mandated by the Environmental Protection Agency (EPA) and the State of Michigan Department of Environmental Quality (MDEQ).

The City of Madison Heights and the GLWA are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

About our system

The City of Madison Heights receives its water from two feeds that branch from the 54" water main that runs along Dequindre Road from the City of Detroit. This 54" main is fed by water from the Northeast Treatment Plant located on Eight Mile Road near Hoover. Your source water comes from the Detroit River, situated within 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 MDEQ in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department (DWSD), 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. 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 the Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

How do we know the water is safe to drink?

The GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. The GLWA participates in a National Pollutant Discharge Elimination System (NPDES) permit discharge program and has an emergency response management plan. In 2015, DWSD/GLWA received a grant from the MDEQ to develop a source water protection program for the Detroit River intakes. The programs include seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation. If you would like to know more information about the Source Water Assessment report or a complete copy of this report please, contact the City of Madison Heights Water Department at (248) 589-2294.

In order to ensure that the tap water is safe to drink, the 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.

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 EPA's Safe Drinking Water Hotline (800-426-4791).

Detected contaminants tables

Northeast Water Treatment Plant
2015 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	5/11/2015	ppm	4	4	**0.46**	**n/a**	**no**	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5/11/2015	ppm	10	10	**0.28**	**n/a**	**no**	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products								
Total Trihalomethanes (TTHM)	2015	ppb	n/a	80	**Highest LRAA 32**	**15-40**	**no**	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2015	ppb	n/a	60	**14**	**7.7-19**	**no**	By-product of drinking water disinfection
Disinfection Residual - Monitoring in Distribution System								
Total Chlorine Residual	Jan-Dec 2015	ppm	MRDGL 4	MRDL 4	**Highest RAA 0.75**	**0.65-0.82**	**no**	Water additive used to control microbes

2015 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**
0.17 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.			

2015 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.
E. coli or Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive.	**entire year 0**	**no**	Human waste and animal fecal waste

These tables are based on tests conducted by the GLWA formerly known as Detroit Water and Sewerage Department and the City in 2015 or within the last 6 calendar years. Many tests are conducted each year, however, only tests that show the presence of a contaminant are shown here.

Results of 2015 Disinfection By-product Rule Testing

During 2015, the City of Madison Heights collected eight samples from two separate locations in the City. The results of testing for these potentially harmful disinfection by-products were less than half of the level of action. All the samples tested during the sampling period were determined to be safe for consumption in accordance with the United States Environmental Protection Agency's regulations.

2015 Key to Detected Contaminants Tables		
Symbol	**Abbreviation**	**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.
pCi/L	Picocuries Per Liter	A measure of radioactivity. Picocurie (pCi) means the quantity of radioactive material producing 2.22 nuclear transformations per minute.
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.
n/a	not applicable	
>	Greater than	
LRAA	Locational Running Annual Average	
RAA	Running Annual Average	
µmhos	Micromhos	Measure of electrical conductance of water
˚C	Celcius	A scale of temperature in which water freezes at 0˚ and boils at 100˚ under standard conditions.

People with special health concerns

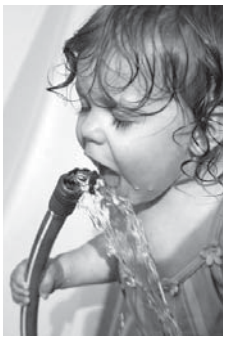
Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for 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).

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.

Substances that may be found in source water

- 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.

6 Reasons to Drink Water



By Kathleen M. Zelman, MPH, RD, LD
WebMD Feature excerpts

1. Drinking Water Helps Maintain the Balance of Body Fluids. Your body is composed of about 60% water. The functions of these bodily fluids include digestion, absorption, circulation, creation of saliva, transportation of nutrients, and maintenance of body temperature.

2. Water Can Help Control Calories. For years, dieters have been drinking lots of water as a weight loss strategy. While water doesn't have any magical effect on weight loss, substituting it for higher calorie beverages can certainly help.

3. Water Helps Energize Muscles. Cells that don't maintain their balance of fluids and electrolytes shrivel, which can result in muscle fatigue. American College of Sports Medicine guidelines for fluid intake before and during physical activity recommends that people drink about 17 ounces of fluid about two hours before exercise.

4. Water Helps Keep Skin Looking Good. Your skin contains plenty of water, and functions as a protective barrier to prevent excess fluid loss. But don't expect over-hydration to erase wrinkles or fine lines, says Atlanta dermatologist Kenneth Ellner, MD.

5. Water Helps Your Kidneys. Body fluids transport waste products in and out of cells. The main toxin in the body is blood urea nitrogen, a water-soluble waste that is able to pass through the kidneys to be excreted in the urine.

6. Water Helps Maintain Normal Digestive Function. Adequate hydration promotes a healthy gastrointestinal tract.

Bacteriological sampling

Water samples are taken monthly from ten locations in Madison Heights by GLWA personnel. These samples are tested for coliform bacteria. Coliform bacteria are a group of bacteria found in the intestines of warm-blooded animals and human beings. The presence of these bacteria may indicate that a foreign, and possibly harmful, substance has been introduced to the water. All samples collected during 2015 were negative for coliform bacteria.

Special Note

Our meters in Madison Heights are equipped with flow detection devices. The red triangle, located between the 7 and 8 on the register, is the flow indicator. Any time water is going through the meter the triangle will be spinning. If you are not using water and the triangle is moving, there is a hidden source using water inside or outside your house. If this occurs, call the Water Department for assistance.

Department of Public Services
300 W. Thirteen Mile
Madison Heights MI 48071

Consumer Confidence Report

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

A Word About Lead

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 Madison Heights 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 at 1-800-426-4791 or at http://water.epa.gov/drink/info/lead.

In our pledge to provide high quality drinking water to our customers, the City of Madison Heights is proud to announce the use of NSF 61 lead free material for our water main projects. The lead free brass fittings and valves meet the EPA's requirements that commenced on January 4, 2014 enacted by Senate Bill 3874, Federal No Lead Law 11-380, Reduction of Lead in Drinking Water Act. Additional efforts the City makes to reduce the lead content in our drinking water are; the use of lead free water meters in our system and replacing lead services when we discover them on our water main project.

Since 1997, the City of Madison Heights has been testing homes with plumbing systems that may contribute lead to the household water supply. Our tests have not shown levels in excess of the action level for lead that could be harmful when ingested. If your home has a lead service line or piping that has lead soldered joints you can take the following precautions to minimize your exposure to lead:

- Run your water for 30 seconds to 2 minutes or until it feels cold. This practice should be followed anytime your water has not been used for more than 6 hours.
- Always use cold water for drinking, cooking or making baby formula.
- Use faucets and plumbing materials that are lead free.

2014 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	2014	ppb	0	15	4.5 ppb	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1.3	.0264 ppm	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

2015 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.96	Erosion of natural deposits

Collection and sampling result Information and tables provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

Safe drinking water is a shared responsibility. The water that the GLWA delivers to Madison Heights does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including your home or business. The City of Madison Heights performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

We welcome your questions and comments regarding this report and any other concerns you may have. You may contact the Water and Sewer Department, at (248) 589-2294 Monday through Friday between the hours of 8:00 a.m. and 3:30 p.m.