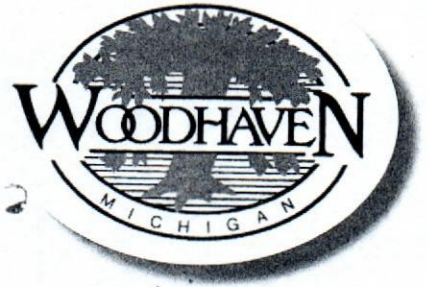


CITY OF WOODHAVEN

Your Drinking Water Quality
Report For 2019



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

NEW METER INSTALLATION

This summer, the City of Woodhaven will continue installing
new residential water meters.

Please call the Water Department (734) 675-4908 or
Public Service Department (734) 675-4919
to schedule an appointment for installation.

Drinking water quality is important to our community and the region. The City of Woodhaven 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 Woodhaven 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 Woodhaven 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 following information is for water supplied to you during 2019. The Woodhaven Water and Sewer Department is proud to report that our system has never violated a maximum contaminant level or any other water quality standard. We meet and surpass all U.S. Environmental Protection Agency (EPA) and State of Michigan health standards.

The Woodhaven Water & Sewer Department has four full time field crew personnel who are licensed by the EGLE under EPA requirements to safeguard your water system. They are on call around the clock for your protection.

Customers with irrigation systems are required to submit a test on their back flow preventer devices. Maintaining these devices is critical to safe guarding our drinking water. Tests are required annually or if the device malfunctions. Through permits and inspections the water quality is maintained for the community. If a customer is being detained from connecting to the water system or is issued a violation, it is because they have not met EPA, EGLE and the City of Woodhaven standards and may pollute the community water supply. An improper connection to the water supply could unintentionally cause sickness and even death. Working together the community can help ensure that our drinking water supply is always safe.

In addition to the testing we are required to perform, GLWA voluntarily tests for hundreds of additional substances and microscopic organisms. If you are interested in knowing all the substances tested for please contact Woodhaven Water & Sewer Department at (734) 675-4908.

Great Lakes Water Authority in conjunction with the City of Woodhaven Water and Sewer Department work together to deliver quality drinking water from the point of origin directly to the consumers tap. This is assured by the stringent testing protocol outlined by the EGLE and performed by both the GLWA and The City of Woodhaven Water Department.

The water we deliver to our customers is safe to drink as determined by USEPA and EGLE standards. Those who wish, because of personal preference, to install a home "treatment" device are cautioned to maintain the device. The filters are excellent breeding grounds for bacteria if left in service beyond the manufacturer's recommendation. Woodhaven's program, which tests for lead and copper, is well under the action levels of 15 ppb for lead and 1.3 ppb for copper. Our last requested testing results are included in the tables in this report.

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 Woodhaven 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>.

*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 Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791).

The sources of drinking water (both tap water and bottled water) include river, 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 substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic system, agricultural livestock operation, and wildlife.

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.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic system.

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.*

*Some people may be more vulnerable to contaminants in drinking water than is in general population. Immune-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).*

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 home's 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 Woodhaven Water and Sewer Department participates in the Stage 2 Disinfection Byproduct Monitoring Program (DBP). This program is required by the Michigan Department of Environmental Quality. Samples are taken four times per calendar year to monitor levels of TTHM/HAA5. The City of Woodhaven collects samples in February, May, August, and November.

Lead Message

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community 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 in your home or business. The City of Woodhaven 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.

Water Costs Money, Don't Waste it!

Water Waste

A leaky faucet may result in the loss of 10 gallons of water. Toilet bowl leaks can cause 60 gallons of water loss each day. Antiquated or loose shower heads dripping water at a rate of 10 drips per minute results in a loss of 500 gallons of water yearly. Overwatering of lawns and gardens also wastes water. Correcting these issues may save consumers 10% on their water bills.

Identifying the Problem

There are several ways to identify leaks that are causing water to be squandered. One way is to review winter water usage rates; the typical family of four may be suffering from leaks if winter water usage is higher than 12,000 gallons per month. Monitoring water meter readings when no water is being consumed provides another method of detection; the meter readings should remain constant over a certain period of time that water is not being used. Placing a drop of food coloring into the toilet tank and waiting 15 minutes to see if it appears in the bowl is a way to determine if a toilet is wasting water. A lawn does not need watering if the grass immediately springs back up after being walked across.

Fixing the Problem

The quickest way to ensure kitchen and bathroom fixtures are not wasting water is to make sure the connections are tight using a wrench and piping tape if necessary. If faucets and shower heads are still leaking, replacement of washers and gaskets may be required. It is possible that the issue lies with the faucet or shower head. In such cases, they should be replaced. Look for faucets or shower heads with the WaterSense label for efficient water usage. A professional plumber can help with installation.

The City of Woodhaven and the Great Lakes Water Authority 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.

We are continuing to upgrade our meters!

To improve services for our customers, The City of Woodhaven is upgrading its water meters to a cellular read metering system.

Homeowners will benefit by both online and smart phone access to water consumption as well as having the ability to set an alert to detect potential leaks. This will enable you to better manage your water usage.

Please contact the Woodhaven Water & Sewer Department at 734-675-4908 to schedule an appointment for the new meter installation. Appointments are available M-F between the hours of 7:15 a.m. and 2 p.m. Appointments generally take approximately 30 minutes.

****NOTE**** The valves at the meter are Homeowner responsibility and should be operated on a regular basis and prior to your meter appointment to be sure they are in good working order.

Southwest Water Treatment Plant

2019 Regulated Detected Contaminants Table

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detections	Violation yes/no	Major Sources in Drinking Water
2019 INORGANIC CHEMICALS - MONITORING AT THE PLANT FINISHED WATER TAP								
Fluoride	6-11-2019	ppm	4	4	0.74	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	6-11-2019	ppm	10	10	0.99	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits.

2019 DISINFECTION BY-PRODUCT - MONITORING IN DISTRIBUTION SYSTEM, STAGE 2 DISINFECTION BY-PRODUCTS								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detections	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2019	ppb	n/a	80	30.5	12-41	no	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	2019	ppb	n/a	60	16.75	10-28	no	By-product of drinking water disinfection.

2019 DISINFECTANT RESIDUALS - MONITORING IN DISTRIBUTION SYSTEM								
Regulated Contaminant	Test Date	Unit	MRDLG	MRDL	Highest LRAA	Range of Detections	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2019	ppm	4	4	0.60	0.49-0.69	no	Water additive used to control microbes.

2019 TURBIDITY - MONITORED EVERY 4 HOURS AT PLANT FINISHED WATER								
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
0.18 NTU	100%						no	Soil Runoff

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

2019 LEAD AND COPPER MONITORING AT CUSTOMER'S TAP								
Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2019	ppb	0	15	1	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2019	ppm	1.3	1.3	0.1	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	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 quarter and because the level was low, there is no requirement for TOC removal.	Erosion of natural deposits.

2014 RADIONUCLIDES								
REGULATED CONTAMINANT	Test Date	Unit	Health Goal MCLG	Allowed Level	Level Detected	Violation Yes/no	Major Source in Drinking water	
Combined Radium 226 and 228	5-13-14	pCi/L	0	5	0.65+ or - 0.54	no	Erosion of natural deposits.	

2019 SPECIAL MONITORING								
CONTAMINANT	MCLG	MCL	LEVEL DETECTED 2019				SOURCE OF CONTAMINATION	
Sodium (ppm)	n/a	n/a	7.25				Erosion of natural deposits.	

Unregulated Contaminant Monitoring Rule - Unregulated contaminants are those for which the Environmental Protection Agency (EPA) has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Before EPA regulates a contaminant, it considers adverse health effects, the occurrence of the contaminant in drinking water, and whether the regulation will reduce health risk. The Great Lakes Water Authority monitored for 20 unregulated contaminants quarterly in 2019. The following table list the unregulated substance detected during the calendar year 2019.

UNREGULATED CONTAMINANT	Test Date	Unit	Highest Level Detected	SMCL	Range of Detection	Noticeable Effects above SMCL	Major Source in Drinking water
Manganese	2019	ppb	0.48	50	0.0 - 0.48	black to brown color; black staining; bitter metallic taste	Erosion of natural deposits.

These tables are based on tests conducted by GLWA in the year 2019 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables.

2019 Key to the Detected Contaminant Tables

Symbol	Abbreviation for	Definition/Explanation
>	Greater than	
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
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.
Level 1	Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.
Level 2	Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
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.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	not applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per liter	A measure of radioactivity.
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.
RAA	Running Annual Average	The average of analytical results for all samples during the previous four quarters.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
µmhos	Micromhos	Measure of electrical conductance of water.

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, watersheds 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 GLWA's Detroit River source water for potential contamination. The susceptibility rating is based on a seven-tiered scale and ranges from very low to very high determined primarily using geologic sensitivity, water chemistry, and potential contaminant sources. The report described GLWA's Detroit River intakes as highly susceptible to potential contamination. However, all four GLWA water treatment plants that service the city of Detroit and draw water from the Detroit River have historically provided satisfactory treatment and meet drinking water standards. GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in the National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2016, the Michigan Department of Environmental Quality approved the GLWA Surface Water Intake Protection Program plan. 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 areas, identification of potential sources of contamination, management approaches for protection, contingency plans, siting of new water sources, public participation and public education activities. If you would like to know more information about the Source Water Assessment report please, contact GLWA at (313) 926-8102).

About Unregulated Contaminant Monitoring - Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Before EPA regulates a contaminant, it considers adverse health effects, the occurrence of the contaminant in drinking water, and whether the regulation would reduce health risk. The City of Woodhaven Water Department began monitoring for unregulated contaminants in 2014. The following tables list the unregulated substances detected during the calendar year 2014.

Cryptosporidium - GLWA voluntarily monitors for Cryptosporidium and Giardia in our untreated source water monthly. The untreated water samples collected from our Southwest plant indicated the presence of one Giardia cyst in March. In addition, monitoring indicated the presence of one Giardia cyst and one Cryptosporidium oocyst in the untreated water from the Southwest plant in July. Additional testing was performed on the treated water at the Southwest plant and Cryptosporidium was absent. All other samples collected in the year 2018 were absent for the presence of Cryptosporidium and Giardia. Systems using surface water like GLWA must provide treatment so that 99.9 percent of Giardia lamblia is removed or inactivated. Cryptosporidium is a microbial parasite found in surface water throughout the United States. Although Cryptosporidium can be removed by filtration, the most commonly used filtration cannot guarantee 100% removal. Current test methods do not enable us to determine if these organisms are dead or alive. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy persons can overcome the disease within a few weeks. However, immuno-compromised people (such as those with AIDS, undergoing chemotherapy or recent organ transplant recipients) are at a greater risk of developing a severe, life-threatening illness. Immuno-compromised persons should contact their doctor to learn about appropriate precautions to prevent infection. Cryptosporidium must be taken in through the mouth to cause disease and it may be passed by other means than drinking water.

2015 Unregulated Contaminants - Monitored in the Detroit River								
Regulated Contaminant	Test Date	Unit	Average Level of Detection	MRLt	Health Advisory	MCLG	MCL	Source of Contaminant
Strontium	Jan 2015	ug/L	120	0.3	4000	n/a	n/a	Erosion of natural deposits
Vanadium Chromium	Jan 2015	ug/L	0.2	0.2	n/a	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
Chromium Hexavalent	April 2015	ug/L	0.1	0.03	n/a	n/a	n/a	Discharge from steel and pulp mills; Erosion of natural deposits
2015 Unregulated Contaminants - Monitored in the Detroit River								
Regulated Contaminant	Test Date	Unit	Average Level of Detection	MRLt	Health Advisory	MCLG	MCL	Source of Contaminant
Strontium	April 2015	ug/L	100	0.3	4000	n/a	n/a	Erosion of natural deposits
Vanadium Chromium	Jan 2015	ug/L	0.2	0.2	n/a	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
Chromium Hexavalent	April 2015	ug/L	0.13	0.03	n/a	n/a	n/a	Discharge from steel and pulp mills; Erosion of natural deposits

City of Woodhaven
Water & Sewer Department
21869 West Road
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734-675-4908

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