



CITY OF WARREN

2019 ANNUAL WATER QUALITY REPORT



JAMES R. FOUTS, MAYOR

**PUBLISHED
APRIL 2020**

Elected Officials

James R. Fouts
Mayor

Sonja Buffa
City Clerk

Lorie Barnwell
City Treasurer

City Council

Patrick Green
Council President
Mayor Pro Tem

Garry Watts
Council Vice President

Mindy Moore
Council Secretary

Jonathan Lafferty
Asst. Council Secretary

Eddie Kabacinski
Councilman

Ronald Papandrea
Councilman

Angela Rogensues
Councilwoman

Comments or questions, contact:

City of Warren
Water Division

12821 Stephens
Warren, MI 48089
586 759-9200 Office
586 759-9249 Fax

Tom Pawelkowski
Superintendent

Report prepared by:

David Koss
Deputy Superintendent
Operator in Charge

Michael Richards
Water Operations
Manager

Attention: Important Information on Water Quality and Safety

Drinking water quality is important to our community and the region. The City of Warren 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. City of Warren 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 City of Warren 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.

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).

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:

- *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 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 organics, which are by-products of industrial processes, petroleum production, and can also come from gas stations, and urban storm water 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 tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Our water is treated according to EPA's regulations. 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 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)."

Your source water comes from the Detroit River, situated within Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the US 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 US 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.

GLWA initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a 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 Plan. The programs includes 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 sources of contamination, management approaches for protection, contingency plans, siting of new 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).

Information about lead: (PLEASE REVIEW BACK PAGE FOR IMPORTANT LEAD SERVICE IDENTIFICATION)

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 Warren 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. 

Lead Information Continued:

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 Warren 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 tap water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested, please contact the City of Warren at 586-759-9200. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800) 426-4719 or at <http://www.epa.gov/safewater/lead>.

Detected Contaminant Tables:

The following tables list all the drinking water contaminants that were detected during the 2019 calendar year. The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing conducted in 2019.

2019 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation Yes/No	Major Sources in Drinking Water
Lead	2019	ppb	0	15	10.57	3	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2019	ppm	1.3	1.3	.05	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.

Key to Detected Contaminants 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 conitions.
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 a 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. MRDLGs 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.
SMCL	Secondary Maximum Contaminant Level	An MCL which involves a biological, chemical or physical characteristic of water that may adversely affect the taste, odor, color or appearance (aesthetics), which may thereby affect public confidence or acceptance of the drinking water.
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

2019 Regulated Detected Contaminants Tables

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation Yes / No	Major Sources in Drinking Water
-------------	-----------	-------	------------------	-------------------	------------------------	--------------------	--------------------	---------------------------------

2019 Inorganic Chemicals – Monitoring at Plant Finished Water Tap

Fluoride	6/11/2019	ppm	4	4	0.72	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	0.48	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 Disinfectant By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation	Major Sources in Drinking Water
Total Trihalomethane (TTHM)	2019	ppb	n/a	80	29	17 to 49	No	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	2019	ppb	n/a	60	13.75	13 to 14	No	By-product of drinking water disinfection.

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation	Major Sources in Drinking Water
Total Chlorine Residual	Jan -Dec 2019	ppm	MRDGL 4	MRDL 4	0.74	0.45 - 0.83	No	Water additive used to control microbes.

2019 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
0.13 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.

2019 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.	0 in one month	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.	0 in entire year	No	Human waste and animal fecal waste.

Regulated Contaminant	Treatment Technique 2019	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 TOC removal requirement.	Erosion of natural deposits.

Special Monitoring 2019

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	6.37	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.

2013 Unregulated Contaminant Monitoring Rule - UCMR 3

Contaminant	Test Date	Units	MRL	Range of Detection	Average Results
Chromium	May, August, Nov, 2013 & Feb 2014	ppb	0.2	0.067 – 0.35	0.26
Hexavalent Chromium	May, August, Nov, 2013 & Feb 2014	ppb	0.03	0.080 - 0.15	0.11
Strontium	May, August, Nov, 2013 & Feb 2014	ppb	0.3	0.10 - 115	67.2
Vanadium	May, August, Nov, 2013 & Feb 2014	ppb	0.2	.067 - .45	0.24

More information about contaminants and potential health effects can be obtained by visiting the EPA's website at <http://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule> or by calling the **Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791)**.

In the spring of 2013, the City of Warren began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 3 (UCMR 3). Unregulated contaminants are those which the EPA has not established drinking water standards. Monitoring helps EPA to determine where certain contaminants occur and whether they need to regulate those contaminants. Below is a summary of the UCMR 3 from the four sampling events in 2013 and part of 2014.

CITY OF WARREN WATER DIVISION

A Message from the City of Warren

We Need Your Help to Get the Lead Out



Lead Service Line Inventory and Replacement Program

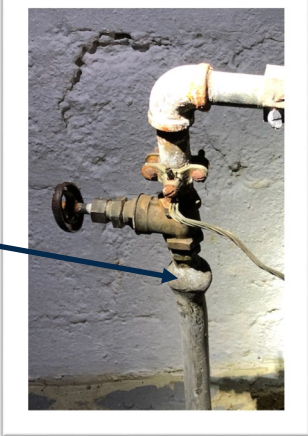
The City of Warren is compiling information for the location of lead services throughout the City. Not every home in the City has a lead service. Some of our records are incomplete and your assistance is needed to insure an accurate inventory throughout the water distribution system. Please review the information below that identifies a lead service. If you think your service is lead, then please visit the City of Warren website at <http://www.cityofwarren.org/> under News and Headlines or MiWarren at <http://www.miwarren.org/lead-service-line-inventory-program/> for further information and assistance for identifying a lead service line. If your service is not lead, then you need to do nothing further.

If you have a lead service then we ask that you complete the "Lead and Copper Request Form" from the websites listed above and return by email at leadout@cityofwarren.org or mail to the City of Warren Water Division, One City Square Suite 420, Warren MI 48093. If you are not sure of your homes service pipe type, then call 586-759-9200 to make an appointment for our service representative to complete an in home free inspection of your water service line. Your efforts to report your lead service will allow us to meet water quality standards and reduce potential lead contamination in water delivered to your home.

Review the information below to help you determine if you have a lead service!



Lead Service typically has solder "bulb" characteristic at the plumbing connection



Quick Reference to Identify Types of Water Service Lines:

- Find the water meter on your property. This could be in a basement, crawl space or on the ground level floor for slab homes.
- Look for the pipe that comes through the basement wall or floor or in the crawl space.
- At this location you will identify the type of service just before the water meter. If you have a lead service, you will see the "bulb" like solder joint. Additional information, including pipe identification methods can be found at <http://www.miwarren.org/> website. If you determine your service line is not lead, then you need to do nothing further.
- If you determine the pipe is lead material - then we ask you fill out the "Lead and Copper Request Form" located on the City's website. You can email the form to: leadout@cityofwarren.org or mail to City of Warren Water Division, One City Square Suite 420, Warren MI 48093.
- If you still are not sure of your water service type. Please contact us for a free inspection at (586)759-9200. Monday thru Friday 8:30 am to 5:00 pm.

Delinquent Water Bills

The City of Warren has stepped up collections of unpaid water and sewer bills. **Delinquent water bills not paid within thirty (30) days after they become due may result in water and sewer services being shut-off at the property for non-payment.** If your water and /or sewer service is discontinued for non-payment, you will be charged a \$70.00 service fee in addition to any other unpaid fees including penalties per city ordinance, section 41-182. -Late payment; penalty. **Please pay your water bills on time.**

Minimize Water Use During Summer Months Between the Hours of 5 am and 11 PM

As warmer weather approaches, watering demands increase, what you may not know is that the time of day you use this water has a direct impact on our City water rates. The City of Warren purchases wholesale water from the GLWA.

The cost of buying water is based on peak rate demand which occurs during the hours of 5 am to 11 pm. The more water we use during this time period from May 15 through October 15 has significant impact on what GLWA charges Warren for its water.

Minimize your outdoor water usage between (5 am to 11 pm) for your irrigation systems and outdoor usage. Lawn irrigation systems are the main contributor to our peak hour demand. If we can shift when we water our lawns into the non-peak hours (11 pm to 5 am), we will be able to reduce rate increases. **Reduce our peak rate water usage by shifting your irrigation and other outdoor water consumption to the hours of 11 pm to 5 am.**