

# 2019 Water Quality Report

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

Taylor 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 Taylor 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.

Safe drinking water is a shared responsibility. The water that the 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 leach into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in the service pipes throughout the system, including your home or business.

The City of Taylor 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 exposure to lead.

## Where does my water come from?

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 (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.

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 the Detroit River have historically provided satisfactory treatment of this source water to 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 a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan.

## Important health information

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 rivers, lakes, streams,

naturally occurring or 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.

## Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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

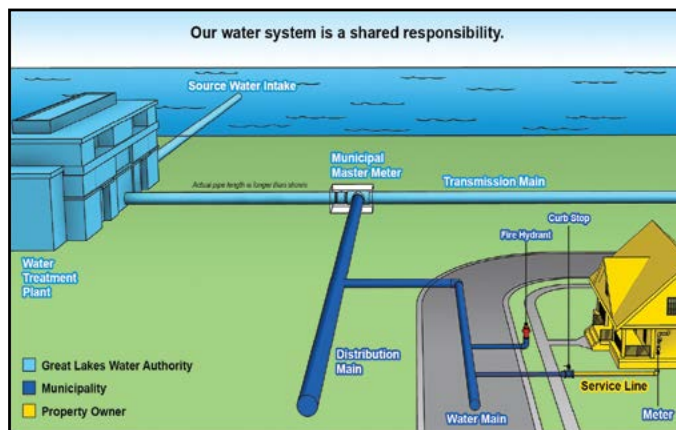
span and learning abilities. Adults who drink this water over many years could develop kidney problems of high blood pressure. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Taylor Water and Sewer Department is responsible 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>.

## 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 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 at (800) 426-4791.

Taylor 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.



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 and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

**Radioactive contaminants**, which can be



If you would like to know more about this report, need additional copies or have other water-related issues, please contact the Taylor Water and Sewer Department: (734) 374-1373, [www.cityoftaylor.com](http://www.cityoftaylor.com)

**Southwest Water Treatment Plant  
Regulated Contaminants Table**

**2019**

2019 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation YES/NO	Major Sources in Drinking Water
Fluoride	6/11/19	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	6/11/19	ppm	10	10	0.99	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5/16/17	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosions of natural deposits.

2019 Disinfection By-Products – Monitoring in Distribution System, Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2019	ppb	n/a	80	31.6	15-61	NO	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2019	ppb	n/a	60	15.46	6.9-24	NO	By-product of drinking water disinfection

2019 Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection	Violation YES/NO	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2019	ppm	4	4	0.6	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 indicator of the effectiveness of our filtration system.

2019 Microbiological Contaminants – (01-01-2019) to (12-31-2019) Monthly Monitoring in Distribution System								
Regulated Contaminant	MCLG	MCL	Highest	Violation	Major Sources in Drinking Water			
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of month samples	0	NO	Naturally present in the environment			
E. coli Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E. coli positive.	0	NO	Human waste and animal fecal waste.			

2019 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number Samples over AL	Violation YES/NO	Major Sources in Drinking Water
Lead	2019	ppb	0	15	5.89 ppb	0	NO	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2019	ppm	1.3	1.3	0.4 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 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

Radionuclides 2014								
Regulated contaminant	Test date	Unit	Health Goal MCLG	Allowed Level	Level detected	Violation YES/NO	Major Sources 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	

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 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 the SMCL	Major Source in Drinking Water
Manganese	2019	ppb	0.48	50	0.0-0.48	black brown color; black staining; bitter metallic taste	Erosion of natural deposits and corrosion of iron pipes

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 present in these tables.

**What do these tables mean?**

These tables show the results of our water quality analyses. Every regulated and unregulated detected contaminant in the water is listed here. The tables contain contaminant names, the highest detected levels, health goals, the sources in drinking water and if a violation has occurred. Key definitions and/or explanations for each symbol used are listed to the right of the tables.

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.

**Definitions**

**Maximum Contaminant Level Goal (MCLG):** level of contaminant in drinking water below which there is no known or expected risk to health.

**Maximum Contaminant Level (MCL):** highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Parts per billion (ppb):** equivalent to micrograms per liter. A microgram = 1/1000 milligram.

**Parts per million (ppm):** equivalent to milligrams per liter. A milligram = 1/1000 gram.

**Nephelometric Turbidity Units (NTU):** Measures the cloudiness of water.

**Not Detected (ND)**  
**Treatment Technique (TT):** required process intended to reduce the level of a contaminant in drinking water.

**Action Level (AL):** concentration of a contaminant which, if exceeded, triggers treatment or other requirements the water system must follow.

**Haloacetic Acids (HAA5):** total of bromoacetic, chloroacetic, bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.

**Total Trihalomethanes (TTHM):** Sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.

**pCi/l:** Picouries per liter is a measure of radioactivity.

**Location running annual average (LRAA)**

**Micromhos (µmhos):** Measure of electrical conductance of water.

**Celsius (°C):** A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.

n/a = not applicable

> = greater than