

June 18, 2018 **2017 CONSUMER CONFIDENCE REPORT**

CITY OF MONTROSE

Dear City Water Consumers:

It is my privilege to report the City of Montrose 2017 Consumer Confidence Report. The Michigan Department of Environmental Quality (MDEQ) along with the Safe Drinking Water Act (SDWA) requires Community Water Systems to supply consumers with a annual water report each year. Inside this report, you will find information regarding source, treatment, sample collecting and other important information regarding your drinking water. This report covers the period from January 1 – December 31 2017. City council meetings are held at the City Office 139 S. Saginaw St. the third Thursday of each month at 7pm.

Drinking water quality is important to our community and the region. The City of Montrose 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 Montrose operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights this performance of GLWA and the City of Montrose 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.

Thank you,

Sam Spence

Department of Public Works Supervisor

Key to the Detected Contaminants Table

Symbol	Abbreviation	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.
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

**Lake Huron Water Treatment Plant
2017 Regulated Detected Contaminants Tables**

2017 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	5-16-2017	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	5-16-2017	ppm	10	10	0.34	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

2017 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)	2017	ppb	n/a	80	49	15-91	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	10	12-21	no	By-product of drinking water disinfection
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Range of Detection <td>Violation yes/no</td> <td>Major Sources in Drinking Water</td>	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	1.4	0.5-2.4	no	Water additive used to control microbes

2017 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
0.29 NTU	100 %	no
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.		

**Lake Huron Water Treatment Plant
2017 Regulated Detected Contaminants Tables**

2017 Lead and Copper Monitoring at Customers' Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2014	ppb	0	15	0.0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	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 2017	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	0.86 + or - 0.55	no	Erosion of natural deposits

Contaminant	MCLG	MCL	Level Detected 2017	Source of Contamination
Sodium (ppm)	n/a	n/a	4.46	Erosion of natural deposits

2017 Genesee County Water and Waste Detected Contaminant Tables - NEW WTP (Nov., Dec. 2017)								
Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals - Monitoring at the Plant Finished Water Tap								
Fluoride	12-7-17	ppm	4	4	0.85	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	12-7-17	ppm	10	10	ND	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	12-11-17	ppm	2	2	0.01	n/a	no	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.

Disinfectant Residuals - Monitoring in Distribution								
Regulated Contaminant	Test Date	Units	Health Goal MRDLG	Allowed Level MRDL	Monthly Avg.	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Dec 2017	ppm	4	4	0.64	0.4-0.9	no	Water additive used to control microbes

December 2017 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
0.56 NTU	99%	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.			

Regulated Organic Carbon (ppm)	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 TOC removal requirement.	Erosion of natural deposits

Radionuclides							
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	12/7/2017	pCi/L	0	5	2.28±0.77	no	Erosion of Natural Deposits
Gross Alpha	12/7/2017	pCi/L	0	15	2.4±1.1	no	Erosion of Natural Deposits

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	ND	Erosion of Natural Deposits

2017 Genesee County Water and Waste Services Detected Contaminants Tables - GLWA (Jan.-Nov. 2017)

Regulated Contaminant	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
2017 INORGANIC Chemicals - Monitoring at the Plant Finished Water Tap							
Fluoride	ppm	4	4	0.72	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Barium	ppm	2	2	0.01	n/a	no	Discharge of drilling waste; Discharge from metal refineries; erosion of natural deposits.
Nitrate	ppm	10	10	0.34	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (optional)	ppm	n/a	n/a	4.46	n/a	no	Erosion of natural deposits.
2017 DISINFECTION Residual & By-Product Monitoring in Distribution System/Organic Carbon/Turbidity							
Total TriHalonmethanes (TTHM)	ppb	n/a	80	LRAA 35.2	9.3 to 57.8	no	By-product of drinking water chlorination
Haloacetic Acids(HAA5)	ppb	n/a	60	LRAA 17	5 to 17	no	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	ppm	MRDGL 4	MRDL 4	RAA 0.7	0.2 to 1.60	no	Water additive used to control microbes
Total Organic Carbon	Treatment Technique: The Total Organic Carbon (TOC) removal 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.
Turbidity (NTU)	Highest single measurement cannot exceed 1 NTU: 0.29 NTU highest detected Lowest monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (Minimum 95%)					no	Soil Run Off
Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.							
2017 MICROBIOLOGICAL CONTAMINANTS - Monthly Monitoring in Distribution System							
Total Coliform Bacteria (% positive samples/month)	%	0	>5% of monthly samples	1.1	n/a	no	Naturally present in the environment
E.coli Bacteria (# positive samples)	#	0	0	0	n/a	no	Human and animal fecal waste
A violation occurs when a routine sample and repeat sample, in any given month, are total coliform positive, and one is also E-coli positive.							

2017 LEAD AND COPPER MONITORING at CUSTOMER'S TAP

Regulated Contaminants	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	2017	ppb	0	15	0	0	no	Corrosion of Household Plumbing Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.01	0	no	Corrosion of Household Plumbing System; Erosion of natural deposits; leaching wood preservatives.
Combined Radium, 5/23/2014 Radium 226 & 228		pCi/L	0	5	n/a	Level Detected 0.86+ or -0.55	no	Erosion of natural deposits.

Unregulated Contaminants:

Unregulated contaminants are those for which 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 would reduce health risk. GCDC began monitoring for 28 unregulated contaminants in 2013. The following tables list the unregulated substances detected during the 2013 & 2014 calendar years.

2013-2014 Unregulated Contaminants - Monitoring at the Source

Contaminant	Unit	Range	Source
Strontium	ppb	88.3-110	Erosion of natural deposits
Hexavalent Chromium	ppb	0.076-0.13	Discharge from steel and pulp mills; Erosion of natural deposits
Total Chromium	ppb	0.23-0.46	Discharge from steel and pulp mills; Erosion of natural deposits
Vanadium	ppb	ND-0.32	Erosion of natural deposits

2013-2014 Unregulated Contaminants - Monitoring at the Distribution Source

Contaminant	Unit	Range	Source
Strontium	ppb	97.2-106	Erosion of natural deposits
Hexavalent Chromium	ppb	0.082-0.1	Discharge from steel and pulp mills; Erosion of natural deposits
Total Chromium	ppb	0.22-0.34	Discharge from steel and pulp mills; Erosion of natural deposits
Vanadium	ppb	ND-0.23	Erosion of natural deposits

“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 at (800-426-4791).

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from 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 water discharge, oil and gas production, mining, or farming.

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

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 naturally occurring or be the result of oil and gas production.

In order to ensure that 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.”

Some people are more vulnerable to contaminants in drinking water. Immuno-compromised, some elderly, and infants can be at risk. These people should seek advice about drinking water from their health care provider. 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. It is possible that lead levels at your home may be higher than at other homes as a result of materials used in your home's plumbing. If concerned water may be tested or additional information is available at (800-426-4791).

Lead and Copper for 2017

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, a 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 Montrose performs required lead and copper sampling and testing in our community. Water consumers have the responsibility to maintain the plumbing in their homes and businesses, and we can take steps to limit their exposure to lead. The City of Montrose successfully tested 20 residents.

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 Montrose 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Water source

Your 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 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 a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant source. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contamination sources.

In 2015, GLWA received a grant from the Michigan Department of Environmental Quality to develop a source water protection program for the Lake Huron water treatment plant intake. The program includes seven elements that include the following; roles and duties of government units and water supply agencies, delineation of a source water protection plan, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. The water supplier changed in November 2017. If you would like to know more information about the Source Water Assessment report please, contact your water department at (810-639-6168).

The City of Montrose 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.

Thank you,

Sam Spence

DPW Supervisor-City of Montrose