2022 Consumer Confidence Report
for Charter Township of Washington

An annual Water Quality Report of the public water supply in the Charter Township of Michigan.

Report # 25 March 2023

Available online at: www.WashingtonTownship.org/CCR

The Great Lakes Water Authority (GLWA)
consistently delivers safe drinking water to our community.

This year's Water Quality Report highlights the performance of GLWA and the Charter Township of Washington's water professionals in delivering some of the nation's best drinking water.

The Charter Township of Washington operates the system of water mains that carry this water to your service line.

The Charter Township of Washington and the Great Lakes Water Authority (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.

Department of Public Works
57900 Van Dyke, Washington, MI 48094
Richard Amormino, DPW Director (586) 786-0000 ext 2002
www.WashingtonTownship.org DPW@WashingtonTwpMI.org

Source water protection Lake Huron intake

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 sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has 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 the National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. GLWA has a Surface Water Intake Protection plan for the Lake Huron water intake. The plan has seven elements: 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 (313 926-8127).

2022 LAKE HURON TAP WATER MINERAL ANALYSIS
This mineral table is not required but provides information frequently requested.

Parameter	Units	Minimum	Maximum	Average
Copper	ppm	ND	0.008	0.001
Sodium	ppm	4.5	5.3	4.9
Lead	ppm	ND	ND	0.000
Chloride	ppm	8.3	10.6	9.5
Total Hardness	ppm	80	104	92
Fluoride	ppm	0.62	0.79	0.69
pH		7.36	7.60	7.45

Washington Township DPW (586) 786-0010 ext 2002

www.WashingtonTownship.org

Our website contains information on

Summer watering restrictions - Cross Connections - View and pay your water bill - & more

Become part of our annual water testing program

Lead and Copper health effects language

Required language: "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. Washington Township 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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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://www.epa.gov/safewaterllead."

Required Michigan Health Effects language: "Infants and children who drink water containing lead 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 or high blood pressure."

"Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor."

Washington Township water service connections by service line material at the end of 2022

Number of lead service lines	Number of service lines of unknown material	Total number of service lines in the supply
0	0	6,424

2022 Lead and Copper Monitoring at Customers' Tap

Regulated Contaminant	Test Date	Unit	MCLG	Action Level AL	90th Percentile Value*	Number of Samples over AL	Range of Individual Sample Results	Violation Yes/No	Major Sources in Drinking water
Lead	2022	ppb	0	15	1 ppb	0	0 ppb - 3 ppb	NO	Lead services lines, corrosion of household plumbing including fittings and fixtures; erosion of natural deposits
Copper	2022	ppm	1.3	1.3	0.1 ppm	0	0.0 ppm - 0.2 ppm	NO	Corrosion of household plumbing system; Erosion of natural deposits

*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.

2022 Regulated Detected Contaminants Tables

2022 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap

Regulated Contaminant	Test Date	Unit	Health Goal or MCLG	Allowed Level of MCL	Highest Level Detected	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Fluoride	07-12-2022	ppm	4	4	0.41	N/A	NO	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	07-12-2022	ppm	10	10	0.51	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

2022 Disinfection Residual—Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Total Chlorine Residual	2022	ppm	4	4	0.79	0.64 - 0.85	No	Water additive used to control microbes

2022 Disinfection By-Products – Stage 2 Disinfection By-Products Monitoring in Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Quarterly Results	Violation Yes/No	Major Sources in Drinking water
Total Trihalomethanes TTHM	2022	ppb	N/A	80	14.28	8.4 - 19	NO	By-product of drinking water chlorination
Haloacetic Acids HAA5	2022	ppb	N/A	60	15.8	9.2 - 23	NO	By-product of drinking water disinfection

2022 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	Major sources in Drinking Water
0.35 NTU	98.4%	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 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 and the TOC removal requirements. The TOC is measured each quarter and because the level is low, there is no requirement for TOC removal.	Erosion of natural deposits

Radionuclides– Monitored at the Plant Finished Tap in 2014

Regulated contaminant	Test Date	Unit	MCLG	MCL	Level Detected	Violation	Major sources in Drinking Water
Combined Radium Radium 226 and 228	5-13-2014	pCi/L	0	5	0.86 ± 0.55	NO	Erosion of natural deposits

2022 Special Monitoring						
Contaminant	Test Date	Unit	MCLG	MCL	Highest Level Detected	Source of contaminant
Sodium	7-12-2022	ppm	n/a	n/a	5.4	Erosion of natural deposits

These tables are based on tests conducted by GLWA in the year 2022 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. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The data is representative of the water quality, but some are more than one year old.

Unregulated Detected Contaminants Tables

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

2019 Additional Monitoring—Stage 4			
Unregulated Contaminant Name	Minimum Reporting Level	Average Level Detected	Range
Monochloroacetic Acid [2C] (ug/L)	2.00	4.96	<2.00 –5.15
Monobromoacetic Acid (ug/L)	0.300	0.46	0.44 - 0.49
Dichloroacetic acid [2C] (ug/L)	0.200	6.21	4.39 - 8.03
Trichloroacetic acid (ug/L)	0.500	6.82	5.42 - 8.23
Bromochloroacetic acid (ug/L)	0.300	2.74	2.35 - 3.17
Dibromoacetic acid (ug/L)	0.300	0.59	0.54 - 0.66
Bromodichloroacetic acid [2C] (ug/L)	0.500	4.33	4.28 - 4.45
Chlorodibromoacetic acid [2C] (ug/L)	0.300	0.91	0.86 - 0.96
Tribromoacetic acid (ug/L)	2.00	<2.00	<2.00
Surrogate: 2-Bromobutanoic acid % Rec	Limit: 70-130	99.87	97.1 - 102
Surrogate: 2-Bromobutanoic acid [2C] % Rec	Limit: 70-130	99.97	96.8 - 103
Quinoline (ug/L)	0.0200	<0.0200	<0.0200
Surrogate: Quinoline-d7 (% Rec)	Limit: 70-130	84.55	77.7 - 91.4
Surrogate: o-Toluidine-d9 (% Rec)	Limit: 70-130	73.35	71.9 - 74.8
2-Propen-1-ol (ug/L)	0.500	<0.500	<0.500
Surrogate: 1-Butanol-d10 (% Rec)	Limit: 70-130	87.25	83.6 - 90.9
alpha-BHC (alpha-Hexachlorocyclohexane) (ug/L)	0.010	<0.010	<0.010
Tribufos (ug/L)	0.067	<0.067	<0.067
Surrogate: Benzo(a)Pyrene-d12 (% Rec)	Limit: 70-130	84.4	80.1 - 88.7
Surrogate: 1,3-Dimethyl-2-nitrobenzene (% Rec)	Limit: 70-130	72.55	70.1 - 75
Surrogate: Triphenyl phosphate (% Rec)	Limit: 70-130	121.5	121 - 122

2018 Additional Monitoring—Stage 4			
Unregulated Contaminant Name	Minimum Reporting Level	Average Level Detected	Range
Monochloroacetic Acid (ug/L)	2.00	2.97	<2.00 –8.48
Dichloroacetic acid [2C] (ug/L)	0.200	6.572	4.64 - 8.94
Trichloroacetic acid (ug/L)	0.500	7.047	5.75 - 8.82
Bromochloroacetic acid (ug/L)	0.300	2.955	2.49 - 3.41
Dibromoacetic acid (ug/L)	0.300	0.760	0.678 - 0.869
Bromodichloroacetic acid [2C] (ug/L)	0.500	4.170	4.11 - 4.21
Chlorodibromoacetic acid [2C] (ug/L)	0.300	0.861	0.752 - 0.967
Tribromoacetic acid (ug/L)	2.00	<2.00	<2.00
Surrogate: 2-Bromobutanoic acid % Rec	Limit: 70-130	105	104 - 107
Surrogate: 2-Bromobutanoic acid [2C] % Rec	Limit: 70-130	100	95.5 - 107
Quinoline (ug/L)	0.0200	<0.0200	<0.0200
Surrogate: Quinoline-d7 (% Rec)	Limit: 70-130	86.3	86.3
Surrogate: o-Toluidine-d9 (% Rec)	Limit: 70-130	72.7	72.7
2-Propen-1-ol (ug/L)	0.500	<0.500	<0.500
Surrogate: 1-Butanol-d10 (% Rec)	Limit: 70-130	85.8	85.8
Tribufos (ug/L)	0.070	<0.070	<0.070
Surrogate: Benzo(a)Pyrene-d12 (% Rec)	Limit: 70-130	77.2	77.2
Surrogate: 1,3-Dimethyl-2-nitrobenzene (% Rec)	Limit: 70-130	73	73
Surrogate: Triphenyl phosphate (% Rec)	Limit: 70-130	89.2	89.2

KEY TO THE DETECTED CONTAMINANTS TABLE		
Symbol	**Abbreviation**	**Definition/Explanation**
<	Less than	
>	Greater than	
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
HAA5	Haloacetic Acid	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 a 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. 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.
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.
µohms	Microohms	Measure of electrical conductance of water

2022 Required Language.

"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 (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 can dissolve naturally occurring minerals and, in some cases, radioactive materials, 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 discharge, 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 chemicals, 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 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 the water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for human health."

Warning about the vulnerability of some populations to contaminants in drinking water. (§141.154).

"Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as person 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)."