

An aerial photograph of the Genesee County Water Treatment Plant. The plant features several large, rectangular aeration basins filled with water, surrounded by concrete walkways and industrial structures. In the background, there are green fields and some residential buildings. The sky is overcast.

Dear Resident,

The Genesee County Drain Commissioner's - Division of Water & Waste Services (GCDC-WWS) is proud to issue our first Consumers Confidence Report relating to the water delivered from your own treatment plant and the new KWA pipeline from Lake Huron.

Our new plant has been delivering high quality water to Genesee County Residents since November 2017. The KWA pipeline and the new GCDC plant have ended the decade-long, yearly double-digit rate increases from our former water supplier, Detroit. We are proud to announce **the 2nd year** in a row with **no rate increase** to our community customers. This stabilization is a direct result of operating our new system independently, with local control by elected leaders across our community.

Heartfelt thanks to everyone who assisted with the construction and implementation of the Genesee County treatment plant and KWA pipeline. This includes the men and women of the Drain Commissioner's office who worked around the clock to ensure the project was completed **on time** and **under budget**. Thanks to the residents living along the construction routes, who exhibited great patience and understanding while being inconvenienced. As a direct result of their efforts and cooperation, our entire area can enjoy a first-class water system and stabilization of water rates for not only us, but for future generations of our children and grandchildren.

Public health, safety, and water quality have been top priorities since our plant became operational. In 2018, we collected over 2,000 water samples from the water plant and distribution system. All sample results gathered were non-detect or below the levels set by USEPA for safe drinking water. Because of our excellent results, the County will be adjusting our phosphate levels during the summer of 2019.

In 2018, PFAS/PFOS in drinking water came to the forefront as a concern. PFAS/PFOS, a chemical that has been used in many industrial applications as well as consumer products such as carpeting, waterproof clothing, upholstery, food paper wrapping, fire-fighting foams, personal care items, cleaning products, paints, and pesticides. The Drain Commissioner performed a round of testing; the State performed a round of testing; and an independent third party performed a round of testing. We are happy to report all samples were non-detect for PFAS/PFOS. The most recent sample tested was taken on January 22, 2019.

We will continue to monitor for PFAS/PFOS throughout the year. All of our test results can be seen on our website.

If you have questions or comments, please call Kevin VanSickle at (810) 793-5123.

Sincerely,

Jeff Wright, Drain Commissioner  
John F. O'Brien, PE, BCEE, Director, Division of Water & Waste Services  
Kevin VanSickle, Superintendent, Water Treatment Plant

# Water Quality Report

## 2018 Consumer Confidence Report

This report contains our 2018 water quality data as required by the United States Environmental Protection Agency.

### Water Source;

Genesee County Drain Commissioner-Division of Water and Waste Services (GCDC-WWS) draws its water from Lake Huron. We distribute the water to nineteen communities within Genesee County. Routine samples are taken daily at our Water Plant, as well as weekly, monthly, and yearly from the water distribution system. MDEQ/EPA required tests are performed to ensure safe and reliable drinking water.

### Additional Information;

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food & Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 for 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 waters 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 including agriculture, urban storm water 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 and mining activities.

### 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, who are 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 (Communicable Disease Center) establishes guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants. These are available from the Safe Drinking Water Hotline (800-426-4791) or [www.epa.gov/safewater](http://www.epa.gov/safewater).



## How do I read this Chart?

It's easy! Our water is tested to assure that it is safe and healthy. These Tables are based on tests conducted by Genesee County Drain Commissioner- Division of Water & Waste Services (GCDC-WWS) within the last five (5) calendar years. We conduct many tests throughout the year, however, only tests that show the presence of a contaminant are shown here. The table on this page is a key to the terms used in the contaminants table on the pages that follow.

<b>Key to Detected Contaminants Table</b>		
<b>Term</b>	<b>Meaning Spelled Out</b>	<b>Definition/Explanation</b>
<b>AL</b>	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
<b>HAA5</b>	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
<b>LRAA</b>	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
<b>MCL</b>	Maximum Contaminant Level	The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
<b>MCLG</b>	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
<b>MRDL</b>	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.
<b>MRDLG</b>	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.
<b>n/a</b>	Not Applicable	Does not apply.
<b>ND</b>	Not Detected	Zero or result is below the laboratory detection level.
<b>NTU</b>	Nephelometric Turbidity Units	Measures the cloudiness of water.
<b>pCi/L</b>	Picocuries Per Liter	A measure of radioactivity.
<b>ppb</b>	Parts Per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
<b>ug/L</b>	Micrograms per liter	A microgram = 1/1000 milligrams. 1 microgram per liter is equal to 1 part per billion (ppb).
<b>ppm</b>	Parts Per Million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
<b>RAA</b>	Running Annual Average	The average of analytical results for all samples taken during the previous twelve months.
<b>TT</b>	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
<b>TTHM</b>	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
<b>°C</b>	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
<b>&gt;</b>	Greater than	

## 2018 Regulated Detected Contaminant Tables

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	2018 Quarterly	ppm	4	4	0.79	0.53 - 0.79	no	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

Disinfection By-Products - Monitoring in Distribution System								
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)	2018	ppb	n/a	80	56.2	14 - 87.4	no	By-product of drinking water chlorination
Haloacetic Acid (HAA5)	2018	ppb	n/a	60	21	2 - 34	no	By-product of drinking water disinfection

Disinfection Residuals - Monitoring in Distribution System								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2018	ppm	4	4	0.74	0.2 - 1.43	no	Water additive used to control microbes

2018 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
0.7 NTU	95%	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.			

2018 Lead and Copper Monitoring at Customer Tap								
Regulated Contaminant	Unit	Health Goal MCLG	Allowed Level AL	90th Percentile Value*	Range	Number Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead (Jan-June)	ppb	0	15	0	0-18	1	no	Corrosion of household plumbing system; Erosion of natural deposits.
Lead (July-Dec)	ppb	0	15	0	0-2	0	no	See above.
Copper (Jan-June)	ppm	1.3	1.3	0	0-0.15	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper (July-Dec)	ppm	1.3	1.3	0.05	0-0.14	0	no	See above.
*The 90th percentile value is the concentration of lead or copper in tap water exceeded by 10 percent of the sites samples during a monitoring period. If the 90th percentile value is above the AL, additional requirements must be met.								

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 requirement. The TOC was measured each quarter and because the level was low, there is no TOC removal requirements.						Erosion of natural deposits.

Radionuclides 2018								
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	2018 Quarterly	pCi/L	0	5	ND to 1.68 ±0.68	no	Erosion of natural deposits	
Gross Alpha	2018 Quarterly	pCi/L	0	15	0.07± 1.41 2.2± 1.2	no	Erosion of natural deposits	

## 2018 Unregulated Detected Contaminant

Unregulated Parameters	Unit	Average	Range Detected	Source of Contamination
<b>Sodium (ppm)</b>	ppm	7	5-9	Erosion of natural deposits
<b>Nickel</b>	ppb	0.36	ND to 0.47	Erosion of natural deposits

### Additional Sampling results:

Every 5 years the United States Environmental Protection Agency (USEPA) establishes 30 unregulated contaminants for additional sampling. Unregulated contaminants are those for which the USEPA has not established drinking water standards, as required by the USEPA, Genesee County Water & Waste Services began testing for several unregulated contaminants in 2018 and will continue additional sampling in 2019 and 2020. The purpose of unregulated contaminants monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations is warranted. Before USEPA 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 following tables list the unregulated contaminants detected during the 2018 calendar year.

Unregulated Contaminants - Monitored at the Primary Source (AM1: metals, pesticides, alcohols, SVOCs)			
Contaminant	Units	Result	Source
Bromide	ug/l	19.8	Naturally present in fossil fuels, coal and shale.
Total Organic Carbon	mg/l	2.2	Erosion of natural deposits,

Unregulated Contaminants - Monitored at the Treatment Plant and Entry Point into the System			
Contaminant	Units	Result	Source
Manganese, total	ug/l	0.42 - 1.1	Naturally present in the environment.

Unregulated Contaminants - Monitored in the Distribution System		
Source of these contaminants are by products of drinking water disinfection.		
Contaminant	Units	Result
Dichloroacetic acid (DCAA)	ug/l	ND - 5.4
Trichloroacetic acid (TCAA)	ug/l	ND - 7.2
Bromo chloroacetic acid (BCAA)	ug/l	ND - 3.0
Bromo dichloroacetic acid (BDCAA)	ug/l	ND - 4.0
Dibromo acetic acid (DCAA)	ug/l	ND - 0.8
HAA5 Group	ug/l	1.1 - 11.5
HAA6Br Group	ug/l	<0.3 - 7.7
HAA9 Group	ug/l	1.1 - 18.5

### Tested for but not Detected Unregulated Contaminants:

Germanium, Chlorpyrifos, Dimethipem, Ethoprop, alpha-Hexachlorocyclohexane, Oxyfluorfen, Total Permethrin, Pprofenophos, Tebuconazole, Tribufos, butylated hydroxy anisole, o-toluidine, Quinoline, 1-butanol, 2-methoxyethanol, 2-propen-1-ol, MonoChloroacetic acid, MonoBromo Acetic acid, TriBromoAcetic acid, PFAS/PFOS.





**Jeff Wright,**  
**Genesee County**  
**Drain Commissioner**  
**Water & Waste Services**  
**G-4610 Beecher Rd.**  
**Flint, MI 48532**



#### **Important Health Information - 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 or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Genesee County Water and Waste Services 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>.

Safe drinking water is a shared responsibility. The water that is delivered 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 Division of Water and Waste Services 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 business, and can take steps to limit their exposure to lead.

#### **Cryptosporidium**

Cryptosporidium is a disease-causing parasite that lives in the intestinal tract of many animals, including dogs and cats. Symptoms of infection include diarrhea, abdominal cramps, headaches, nausea, and vomiting. The disease is typically spread through contact with feces of an infected animal or person and by consuming contaminated food or water. Cryptosporidium can be introduced into bodies of water by way of surface water runoff that contains animal waste and sewage discharge. The water supplied to the Genesee County Drain Commissioner Division of Water & Waste Services (GCDC-WWS) has been tested for Cryptosporidium. This testing has been ongoing since 1994. Cryptosporidium has never been detected in any of the samples tested.

The (GCDC-WWS) water treatment plant went on line in December of 2017. GCDC-WWS is required to conduct monthly source water monitoring for Cryptosporidium, Giardia, and E. Coli for the initial 24-months of operation. The purpose of the testing is to verify the quality of our source water. Based upon the test results, the quality of our source water places us into the best category of the Long Term 2 Enhanced Surface Water Treatment Rule. The purpose of the rule is to reduce illness linked with disease causing microorganisms in drinking water. It is important to note, however, Cryptosporidium, Giardia, and Microbial pathogens can be spread through means other than drinking water.

#### **Opportunities for Public Participation**

We encourage public interest and participation in our community's decisions affecting drinking water. Regular Advisory Board Meetings occur on the third Wednesday of every month, at G-4610 Beecher Road, Flint, Michigan at 9:00 A.M. The public is welcome.

#### **National Primary Drinking Water Regulation Compliance**

We'll be happy to answer any questions about Genesee County Division of Water and Waste Services and our water quality. Call Rich Bysko or Dan Lince at (810) 732-7870. You may also visit our website <http://www.gcdcwws.com>.

#### **2018 Compliance Notice**

In March 2018 GCDC-WWS was notified of a treatment technique violation. A violation notice letter was published and mailed in 2018. There was no public health concern because of this. While we were unable to always maintain the directed dosage of 2.1 mg/l, we were able to consistently feed orthophosphate into the system. Since then we have changed the phosphate chemical to a more readily available product that has ensured maintaining the directed level. The water system has successfully maintained orthophosphate and pH within state designate ranges, and is in compliance.