



Dear Residents:

The Genesee County Drain Commissioner's Office – Division of Water and Waste Services (GCDC-WWS) provides unparalleled and uninterrupted service to the communities that we serve. Our employees are at the forefront each day providing the essential services of drinking water treatment and delivery, and wastewater collection and treatment operations.

GCDC-WWS announced in early 2021 that municipalities we service for water supply will have a 5th consecutive year of no water rate increases. This 5th year of holding water rates steady coincides with our 4th year purchasing raw water from the KWA pipeline and operating the new GCDC-WWS water plant. Being on our own system has allowed us to focus on providing affordability and the highest quality water possible, despite rising costs of supplies, materials, and energy rates.

The most critical aspect of protecting the health of our residents has always been ensuring the quality of the drinking water we deliver. Our testing procedures continue to expand, following the testing protocols of EGLE and the EPA, at every level. Rigorous testing of our system continues to indicate levels well below the action level for lead, and copper.

No indication of PFAS/PFOS has been found in samples taken. All samples taken have fallen under laboratory detection limits. These tests are performed by independent laboratories with highly specialized equipment. These testing standards will be maintained in 2021 and beyond through diligent water quality monitoring as we continue to provide water service across our communities.

As we move throughout the rest of 2021, our office will continue dedicated focus on proactively strengthening the water supply system for every person we serve. A significant part of that commitment comes in the form of construction of a 1-million-gallon elevated storage facility. This new storage facility, along with the 5 existing elevated storage tanks throughout the Genesee County water system will ensure peak hour water supply demand is met, provide critical fire protection, and increases reliability of water supply to every community served by the Genesee County Drain Commissioner's Office.

Sincerely,

Jeff Wright, Genesee County Drain Commissioner

Dan Potter, Chief Deputy Drain Commissioner

John F. O'Brien, PE, BCEE, Director, Division of Water & Waste Services

Kevin VanSickle, Superintendent, Water Treatment Plant

Water Quality Report

2020 Consumer Confidence Report

This report contains our water quality data for 2020 as required by the United States Environmental Protection Agency.

Water Source;

Genesee County Drain Commissioner Division of Water & Waste Services (GCDC-WWS) (WSSN-2615) 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. EGLE/EPA required tests are performed to ensure safe and reliable drinking water.

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 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 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 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.

Per- and Polyfluoroalkyl Substance (PFAS):

Per- and polyfluoroalkyl substances (PFAS), sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the United States Environmental Protection Agency (U.S. EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples from the general U.S. population. These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Although our understanding of these emerging contaminants is constantly evolving, elevated levels of PFAS have the potential to cause increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. Links to these health effects in humans are supported by epidemiologic studies and by laboratory studies in animal models.

How can I stay updated on the situation?

The state has created a website where you can find information about PFAS contamination and efforts to address it in Michigan. The site will be updated as more information becomes available. The website address is: <http://michigan.gov/pfasresponse>. PFAS testing of source water was conducted for the Karegondi Water Authority (KWA) in December of 2020 and the results for all samples were below the detection limit (ND).

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), EGLE, and privately contracted laboratories 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 following table. Sources of Contaminants show where this substance usually originates.

Key to Detected Contaminants Table		
Term	Meaning Spelled Out	Definition/Explanation
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, dibromo acetic, 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 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	Does not apply.
ND	Not Detected	Result is not detectable at or below the laboratory detection level.
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.
ug/L	Micrograms per liter	A microgram = 1/1000 milligrams. 1 microgram per liter is equal to 1 part per billion (ppb).
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 taken during the previous twelve months.
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.
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
>	Greater than	
	90th Percentile Value	The concentration of lead or copper in tap water exceeded by 10 percent of the sites sampled during a monitoring period.

2020 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	Daily	ppm	4	4	0.87	0.12 - 0.87	no	Erosion of natural deposits; Water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Arsenic	4-29-20	ppb	0	10	0.46	n/a	no	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	4-29-20	ppm	2	2	.013	n/a	no	Erosion of natural deposits; discharge of drilling wastes; discharge from metal refineries.

2020 Disinfection By-Products - Monitoring in Distribution System								
Regulated Contaminant	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water	
Total Trihalomethanes (TTHM)	ppb	n/a	80	50.0	16.4-74.4	no	By-product of drinking water chlorination	
Haloacetic Acids (HAA5)	ppb	n/a	60	25.3	0-35.0	no	By-product of drinking water disinfection	

Disinfectant Residuals - Monitoring in Distribution System							
Regulated Contaminant	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	ppm	4	4	0.68	0.2 - 1.22	no	Water additive used to control microbes

2020 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
0.10 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.			

2020 Microbiological Contaminants - Monthly Monitoring in Distribution System					
Regulated Contaminant	MCLG	MCL	Highest Number Detected	Violation yes/no	Major Sources in Drinking Water
Total Coliform Bacteria	0	>1 Positive monthly sample, or Presence of Coliform bacteria > 5% of monthly samples	0	no	Naturally present in the environment
<i>E. coli</i> Bacteria	0	A routine sample and a repeat sample are total coliform positive and one is also fecal or <i>E. coli</i> positive	0	no	Human waste and animal fecal waste.

2020 Lead and Copper Monitoring at Customer Tap								
Regulated Contaminant	Unit	Health Goal MCLG	Action 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 - 5	0	no	Corrosion of household plumbing including Fittings and Fixtures; Erosion of natural deposits.
Lead (July-Dec)	ppb	0	15	0	0 - 5	0	no	Corrosion of household plumbing including Fittings and Fixtures; Erosion of natural deposits.
Copper (Jan-June)	ppm	1.3	1.3	0.1	0 - 0.16	0	no	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
Copper (July-Dec)	ppm	1.3	1.3	0	0 - 0.12	0	no	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

*The 90 Percentile value is the concentration of lead or copper in tap water exceeded by 10 percent of the sites sampled during a monitoring period. If the 90th percentile value is above the AL, additional requirements must be met.

Radionuclides 2019							
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	2/13/19	pCi/L	0	5	1.0 ± 0.50	no	Erosion of natural deposits
Gross Alpha	2/13/19	pCi/L	0	15	2.0 ± 1.0	no	Erosion of natural deposits

2020 Unregulated Detected Contaminant

Unregulated Parameters	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	9.9	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 Drain Commissioner-Division of Water & Waste Services (GCDC-WWS) began testing for several unregulated contaminants in 2013 and continued additional sampling through 2020. The purpose of unregulated contaminants monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation 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 2019 calendar year.

Unregulated Contaminants - Monitored at the Primary Source (AM1: metals, pesticides, alcohols, SVOCs) - tested for in 2019			
Contaminant	Units	Range	Source
Bromide	ppm	ND - 23.2	Naturally present in fossil fuel, coal and shale.
Total Organic Carbon	ppm	2 - 2.4	Erosion of natural deposits.

Unregulated Contaminants - Monitored at the Treatment Plant and Entry Point into the System - tested for in 2019			
Contaminant	Units	Range	Source
Manganese, total	ug/l	2.1 - 10.6	Naturally present in the environment.

Unregulated Contaminants - Monitored in the Distribution System - tested for in 2019			
Contaminant	Units	Range	Source
Dichloroacetic acid (DCAA)	ug/l	1.2 - 13.2	By-product of drinking water disinfection.
Trichloroacetic acid (TCAA)	ug/l	1.6 - 16.5	By-product of drinking water disinfection.
Bromo chloroacetic acid (BCAA)	ug/l	0.3 - 3.9	By-product of drinking water disinfection.
Bromo dichloroacetic acid (BDCAA)	ug/l	ND - 3.1	By-product of drinking water disinfection.
Dibromo acetic acid (DBAA)	ug/l	ND - 0.8	By-product of drinking water disinfection.
ChloroDiBromoAcetic acid	ug/l	ND - 0.6	By-product of drinking water disinfection.
HAA5 Group	ug/l	2.8 - 22.6	By-product of drinking water disinfection.
HAA6Br Group	ug/l	0.6 - 8.1	By-product of drinking water disinfection.
HAA9 Group	ug/l	3.7 - 29.9	By-product of drinking water disinfection.



Tested for but not Detected Unregulated Contaminants 2019/2020:

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





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Important Health Information - Lead

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. Genesee County Division of Water & 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/drink/inf/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 & Waste Services (GCDC-WWS) performs required lead and copper sampling and testing in our community. Water consumers also have responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

Cryptosporidium

Cryptosporidium (Crypto) is a microbial parasite found in surface water throughout the U.S. The Genesee County Drain Commissioner-Division of Water & Waste Services (GCDC-WWS) Water Treatment Plant went on line in December 2017. GCDC-WWS conducted monthly source water (Lake Huron) monitoring for Cryptosporidium (Crypto), Giardia, and E-Coli. Crypto was detected in two of the 24 source water samples collected. Crypto was **not** detected in any of the finished water samples.

Ingestion of Crypto may cause cryptosporidiosis, and abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may 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 9:00a.m. The public is welcome.

National Primary Drinking Water Regulation Compliance

We'll be happy to answer any questions and provide more information about Genesee County Division of Water and Waste Services and our water quality. Call Rich Bysko, Dan Lince, or Jim Thompson at (810) 732-7870. You may also visit our website <http://www.gcdewws.com>. For more information about safe drinking water, visit U.S. EPA at <http://www.epa.gov/safewater>.

