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

Water Quality Report

2014 Consumer Confidence Report

This report contains our water quality data for 2014 required by the United States Environmental Protection Agency

Water Source
GCDC-WWS is supplied water via the Detroit Water and Sewerage Department, which draws its water from Lake Huron. We distribute that water to nineteen communities within Genesee county.

Additional 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 (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:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
(B) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
(C) Pesticides and herbicides, which may come from a variety of sources including agriculture, urban stormwater runoff and residential use.
(D) 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 stormwater runoff and septic systems.
(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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) establishes limits for contaminants in bottled water.

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 (800-425-4791).

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 Division of Water and Waste Services has been tested for Cryptosporidium. This testing has been ongoing since 1994. Cryptosporidium has never been detected in any of the samples tested.

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 Jim Thompson at (810) 732-7870. You may also visit our website *http://www.gcdcwws.com*.

A Message from the Flint River Watershed Coalition (FRWC)
The Flint River Watershed Coalition's mission is to protect, preserve, and improve our watershed. FRWC efforts include educational programs such as Flint River GREEN, activities such as canoe trips and river walks, outreach programs and a speaker's bureau that is available for your service club or organization. These programs, and others, focus on reducing pollution and helping residents understand how we can all work to enhance water quality in the Flint River.

For additional information about FRWC programs, please visit their website at www.FlintRiver.org. You can also find the Coalition on FaceBook, Live Journal and Flickr.

Lake Huron Plant Source Water Assessment
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 to 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 contamination. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards. If you would like more information about this report or a complete copy of this report, please contact your water department at (810) 732-7870.

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 GCDC-WWS and the City of Detroit 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 tables. Sources of Contaminants show where this substance usually originates.

Key to Detected Contaminants Tables

Symbol	Abbreviation for	Definition/Explanation
LRAA	Locational Running Annual Average	
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
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.
ug/L	Micrograms per liter	A microgram = 1/1000 milligrams • 1 microgram per liter is equal to 1 part per billion (ppb).
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.
MRDL	Maximum Residual Disinfectant Level	The 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.
ppb	Parts per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligrams.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 grams.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
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.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. Compliance is based on the total.
N/D	Not Detected	
pCi/l	picocuries per liter	A measure of radioactivity.
n/a	not applicable	
>	Greater Than	
RAA	Running Annual Average	

Genesee County Water and Waste Services Detected Contaminants Tables

Regulated Contaminant	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
2014 INORGANIC Chemicals - Monitoring at the Plant Finished Water Tap.							
Fluoride	ppm	4	4	0.59	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	ppm	10	10	0.31	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium (optional)	ppm	n/a	n/a	4.78	n/a	no	Erosion of natural deposits.
2014 DISINFECTION By-Product Monitoring in Distribution System.							
Total TriHalonmethanes	ppb	n/a	80	LRAA 24.1	9.9 to 43.5	no	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	ppb	n/a	60	LRAA 12.5	1 to 13	no	By-product of drinking water disinfection.
Disinfectant (Total Chlorine residual)	ppm	MRDGL 4	MRDL 4	RAA 1.0	0.71 to 1.08	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, theres is no requiremen for TOC removal.						Erosion of natural deposits.
Turbidity (NTU)	100% of Samples Meet Turbidity Limit of 0.3 NTU 0.19 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.							
2014 MICROBIOLOGICAL - Monitoring in Distribution System.							
Total Coliform Bacteria		0	>5% of monthly samples	none	n/a	no	Naturally present in the environment.
E.coli Bacteria		0	0	none	n/a	no	Human and animal fecal waste.
2014 LEAD AND COPPER							
	Unit	Health Goal MCLG	Action Level AL	90th Percentile Value	Number of Samples Over AL	Violation Yes/No	Major Sources in Drinking Water.
Lead	ppb	0	15	2	0	no	Corrosion of Household Plumbing Erosion of natural deposits.
Copper	ppm	1.3	1.3	0.09	0	no	Corrosion of Household Plumbing System; Erosion of natural deposits; leaching wood preservatives.

Combined Radium, Radium 226 & 228	pCi/L	0	5		Level Detected 0.86+ or -0.55	no	Erosion of natural deposits.

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 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.*

2014 Unregulated Contaminants		*Units*	*Max*	*Min*	*Average*		
Hexavalent Chromium		ug/l	0.13	0.076	0.106		
Chromium, Total		ug/l	0.46	0.23	0.352		
Strontium, Total		ug/l	110	88.3	102		
Vanadium, Total		ug/l	0.32	ND	0.16		
1, 2 Dichlorobenzene-d4(s)		%	110	92	101		
4-Bromofluorobenzene(s)		%	104	79	95		
Methyl-t-Butylether-d3(s)		%	114	86.3	101.36		
1, 4 Dioxane-d8(s)		%	105	77	94		
Hexavalent Chromium		ug/l	0.1	0.082	0.09		
Chromium, Total		ug/l	0.34	0.22	0.282		
Strontium, Total		ug/l	106	97.2	100		
Vanadium, Total		ug/l	0.23	ND	0.09		
"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."							