



2018 Annual Drinking Water Quality Report

City of Dowagiac, Michigan

We are pleased to present to you the Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. In order to provide you with facts concerning Dowagiac's water supply we will be publishing this water quality report on an annual basis. Some general information on water supplies is included below.

How We Rate:

We're pleased to report that our drinking water is safe and meets all federal and state requirements. Our water is monitored on a regular basis for many different contaminants using both our in-house laboratories and the Michigan Department of Environmental, Great Lakes and Energy laboratory. In a typical year, well over 2,000 tests are performed to ensure that proper chemical levels are maintained and to monitor for contaminants.

Additionally, the Michigan Department of Environmental, Great Lakes and Energy has completed a Source Water Assessment for the City of Dowagiac's water wells. This assessment defines the susceptibility of the City's wells to outside contamination. The susceptibility of the City of Dowagiac's wells was ranked Moderately Low for all wells. If you would like to obtain a copy of this Source Water Assessment, please contact Keith Moss, Water Treatment Plant Superintendent of the system, at (517) 231-5773 or kmoos@fv-operations.com, or Chad Tyrakowski, DPS Director, at (269) 782-8200 or DPS_Service_Request@dowagiac.org.

Our Water System:

Dowagiac's water source is groundwater drawn from four wells located in Dowagiac. These wells are 12 inches in diameter and approximately 160 feet deep. They provide a clean source of drinking water that is safe to drink without any treatment. This groundwater does contain iron, which may stain laundry and plumbing fixtures. To remove this iron the Dowagiac Water Treatment Plant was constructed in 1974. Approximately 90 % of the iron in the groundwater is removed at the Water Treatment Plant by a filtration process. Other treatment includes addition of chlorine to protect against contamination and addition of fluoride to help prevent tooth decay.

How to learn more about our water system:

If you have any questions about this report or concerning your water utility, please contact Keith Moss, Water Treatment Plant Superintendent, at (517) 231-5773 or kmoos@fv-operations.com, or Chad Tyrakowski, Department of Public Services Director, at (269) 782-8200 or DPS_Service_Request@dowagiac.org. We want our valued customers to be informed about their water utility. If you want to learn more, please contact us or attend any of our regularly scheduled City Council meetings. They are held on the second and fourth Monday of each month at 7 P.M. in the council chambers at Dowagiac's City Hall.

General Information about All Drinking Water Sources:

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 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 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

All 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 the water poses a health risk.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

- Vulnerability of sub-populations. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons 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 Environmental Protection Agency's State Drinking Water Hotline (800-426-4791).

Tables:

The City of Dowagiac water system routinely monitors for contaminants in your drinking water according to Federal and State laws. Tables below show the results of our monitoring for the period of January 1, 2018 to December 31, 2018, unless a different date is noted on the table.

In the tables, you will find some terms and abbreviations that many people are not familiar with, so the following definitions are provided:

- mg/L – number of milligrams of substance in one liter of water.
- ppm -- parts per million or milligrams per liter.
- ppb -- parts per billion or micrograms per liter.
- pCi/L – picocuries per liter (a measure of radioactivity).
- Action Level (AL) -- the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

- Maximum Contaminant Level (MCL) -- The "Maximum Allowed" is 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. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
- Maximum Residual Disinfectant Level (MRDL) means the level of a drinking water disinfectant below which there is no known or expected risk to health. The MRDL for chlorine is 4.0 mg/L. The chlorine residual levels are calculated based on monthly averages of all samples collected from the water distribution system.
- Maximum Residual Disinfectant Level Goal (MRDLG) means 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. The MRDLG for chlorine is 4.0 mg/L. The MRDLG for TTHM's is 0.
- Maximum Contaminant Level Goal -- The "Goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Dowagiac Water Treatment Plant Monitoring:

Table of Regulated Detected Contaminants

Substance	Highest Level Allowed (MCL)	Highest Level Detected	Range of Values Detected	EPA Goal (MCLG)	Year	Likely Sources of Contaminant
Fluoride	4.0 ppm	1.42 ppm	0.15 – 1.42 ppm	4.0 ppm	2018	Erosion of natural deposits. Water additive that promotes strong teeth.
Barium	2.0 ppm	0.14 ppm	0.14 – 0.14 ppm	2 ppm	2014	Naturally occurring in some ground-waters
Arsenic	10 ppb	3 ppb	3 – 3 ppb	0 ppb	2014	Naturally occurring in some ground-waters

Note: Dowagiac’s groundwater contains approximately 0.4 ppm of naturally occurring fluoride. Additional fluoride is added at the water treatment plant to bring the level to approximately 0.7 ppm. This is considered the optimum level of fluoride for the prevention of tooth decay.

Substance	Highest MCL Allowed	Highest MCL Detected	Range Detected	Running Annual Average	Year	Likely Sources of Contaminant
Chlorine	4.0 ppm	1.17 ppm	0.09 – 1.17 ppm	0.68 ppm	2018	Added as a disinfectant
Haloacetic Acid	60 ppb	3.3 ppb	3.3 – 3.3 ppb	3.3 ppb	2018	By-product of drinking water disinfection
Total Trihalomethanes	80 ppb	12 ppb	12 – 12 ppb	23.9 ppb	2018	By-product of drinking water disinfection
Gross Alpha	15 pCi/L	3.4 +/- 1.6 pCi/L	3.4 +/- 1.6 pCi/L	3.4 +/- 1.6 pCi/L	2015	Erosion of Natural Deposits
Combined Radium (Radium 226 + Radium 228)	5 pCi/L	2.11 +/- 0.52 pCi/L	2.11 +/- 0.52 pCi/L	2.11 +/- 0.52 pCi/L	2015	Erosion of Natural Deposits

Note: The MCL for total trihalomethanes and haloacetic acids is the sum of the concentrations of the individual trihalomethanes and haloacetic acids. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant Subject to AL	Action Level	MCLG	Your Water ¹	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb) **	15	0	6	ND - 65	2018	1	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper (ppm)	1.3	1.3	0.060	ND – 0.11	2018	0	Corrosion of household plumbing systems; Erosion of natural deposits.

¹ Ninety (90) percent of the samples collected were at or below the level reported for Your Water.

Distribution System Materials Inventory:

City of Dowagiac has 22 known lead service lines, and 2,978 service lines of unknown material. City staff are currently performing a distribution system materials inventory. Updated information will be included in future water quality reports.

**Important Information About 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 services lines and home plumbing. HSRUA 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 your 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>.

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.

**Additional Monitoring:
Table of Unregulated Contaminants**

Substance	Level Detected	Year	Likely sources of contaminant
Chloride	13.6 ppm	2018	Naturally occurring in some ground-waters
Hardness as CaCO ₃	305 ppm	2018	Naturally occurring in some ground-waters
Sulfate	42.4 ppm	2018	Naturally occurring in some ground-waters
Sodium	10.4 ppm	2018	Naturally occurring in some ground-waters

PFAS (Per- and Polyfluoroalkyl Substances) Monitoring				
Date Collected	Sampling Location	PFOS + PFOA (ppt)	LHA (ppt) PFOS + PFOA	Total tested PFAS (ppt)
8-6-2018	Water Plant Tap	ND	70	ND

What are Per- and polyfluoroalkyl substances (PFAS) and why are they harmful?

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 U.S. Environmental Protection Agency (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 of 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. Studies in people who were exposed to PFAS found links between the chemicals and increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers.

Are there health advisory levels?

The EPA has not established enforceable drinking water standards, called maximum contaminant levels, for these chemicals. However, EPA has set a lifetime health advisory (LHA) level in drinking water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, **below which no harm is expected from these chemicals**. The LHA level is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. If both PFOA and PFOS are present, the LHA is 70 ppt for the combined concentration.

There are many other PFAS compounds that currently do not have LHA levels. For information on PFOA, PFOS and other PFAS, including possible health outcomes, you may visit these websites: <https://www.epa.gov/pfas>; <http://www.michigan.gov/som/pfasresponse>; or www.atsdr.cdc.gov/pfas.

Who can I call if I have questions about PFAS in my drinking water?

If any resident has additional questions regarding this issue, the State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday – Friday, 8:00 AM to 4:30 PM. You may also contact HSRUA at 989-362-0050.

Is it safe to eat fish in these areas?

Wild fish samples are being collected from local lakes and rivers. These samples will be analyzed to determine the levels of PFAS in fish and make recommendations on how much is safe to eat. Some information is already available in the State of Michigan Eat Safe Fish guides, which are available at <http://www.michigan.gov/eatsafefish>.

May I bathe or swim in water containing PFAS?

Yes, information currently available suggests that this is not a major contributor to overall exposure.

How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect different systems in the body. The National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR) is working with various partners to better understand how exposure to PFAS might affect people's health.

If you are concerned about exposure to PFAS in your drinking water, please contact the MDHHS Toxicology Hotline at 800-648-6942 or the CDC/ATSDR: <https://www.cdc.gov/cdc-info/> or 800-232-4636. Currently, scientists are still learning about the health effects of exposures to PFAS, including exposure to mixtures.

What other ways could I be exposed to PFOA, PFOS and other PFAS compounds?

PFAS are used in many consumer products. They are used in food packaging such as fast food wrappers and microwave popcorn bags; waterproof and stain resistant fabrics such as outdoor clothing, upholstery, and carpeting; nonstick coatings on cookware; and cleaning supplies including some soaps and shampoos. People can be exposed to these chemicals in house dust, indoor and outdoor air, food, and drinking water. There is still uncertainty regarding these routes of exposure and more research is necessary.

What is being done about this issue?

State and local agencies are actively working to obtain more information about this situation as quickly as possible. Additional testing of the drinking water will be conducted to demonstrate that the PFAS levels are consistent and reliably below the existing LHA. Additional monitoring in and around our region and other affected areas will also be performed by the Michigan Department of Environmental Quality, which will help us answer more questions and determine next steps.

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>

Reporting Requirements Not Met for Dowagiac

The City of Dowagiac did not submit the required Lead and Copper reporting form for the June 1, 2018, to September 30, 2018, monitoring period by the required deadline of October 10, 2018, making the submission overdue and resulting in a violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399) of the 1979 Administrative Code.

We returned to full compliance when the report was submitted on December 13, 2018.

CERTIFICATION

I CERTIFY THAT THIS WATER SUPPLY HAS FULLY COMPLIED WITH THE PUBLIC NOTIFICATION REGULATIONS IN THE Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature: Roy Keith Moss

Title: Water Treatment Plant Superintendent

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