

2018 Annual Consumer Confidence Report On the Quality of Tap Water For the Village and Township Of Grass lake

Our message to you:

This report covers the drinking water quality for Grass Lake water supply. Included is a listing of results from water quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. We are proud to share the results with you.

Is my water safe?

Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and State of Michigan drinking water health standards. The Village of Grass Lake Public works vigilantly safeguards its water supplies, and we are proud to report that our system has never violated a maximum containment level or any other water quality standard.

Where does my water come from?

Our water comes from two wells located within the Village of Grass Lake, One is 380 feet deep and the other is 400 foot deep, it is then disinfected and transferred to a 500,000 gallon storage reservoir and finally pumped to our customers.

Source Water Assessment

The State of Michigan performed an assessment of our source water in 2003 to determine the susceptibility or the relative potential of contamination. The susceptibility ratings is on a six tier scale from “very low” to “high” based primarily on geologic sensitivity water chemistry and contamination sources. The susceptibility of our source is “high.” The susceptibility determination may change in the future as the village belongs to and supports an active wellhead protection plan. This effort has identified the ground water recharge area for our wells and has provided action to prevent contamination from entering the groundwater.

Is the water safe for everyone to drink?

To ensure that tap water is safe to drink, the EPA has developed regulations limiting the amount of certain contaminants in water provided by public water systems. The (FDA) has established similar regulations for bottled water, which must provide the same protection for public health.

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 Safe Drinking Water Hotline (800-426-4791)

All drinking water, including bottled water, may be reasonably 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 EPA’s Safe drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap and bottled water) include 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, radio-active material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in untreated water include:

- Microbial contaminants; such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Examples of such organisms are Cryptosporidium and Giardia. When ingested, these microscopic organisms can cause diarrhea, fever and other gastrointestinal symptoms. The best defense against these organisms is an effective water treatment process.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or results from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come form a variety of sources such as agriculture, urban storm water runoff and residential use.
- 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 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.

The following terms and definitions are used in the tables below.

N/A = test not applicable

ND = not detected =contaminants not detected in test

mg/L = Milligrams per liter =one part per million units

ppm = Parts per million =one part per million units

ppb = Parts per billion = one part per billion units

- **Action Level:** the concentration of a contaminant that if exceeded, triggers treatment or other requirements, which a water system must follow.
- **Maximum level Detected:** results of our testing.
- **Maximum Contaminant Level:** the “Maximum Allowed” (MCL) is the highest level of a contaminant that is allowed in drinking water. The MCL is set as close to the MCLG as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal:** the “Goal” (MCLG) is the level of a contaminant in drinking water that is below, the expected health risk. MCLG allows for a margin of safety.
- **Maximum Residual Disinfection Level (MRDL):** 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.
- **Maximum Residual Disinfection Level Goal (MRDLG):** the level of a drinking water disinfectant, which there is no known or expected risk to health. MRDLG does not reflect the benefits of disinfectants to control microbial contaminants.

The following tables show the results of our drinking water testing for 2018

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 from year to year. All of the data is representative of the water quality, but some are more than a year old.

Table 1 Inorganic Contaminants

| Contaminant | Violation Y/N | Maximum Level Detected | Range | Sample Date | MCL | MCLG | Most Likely Sources of Contamination |
|-------------|---------------|------------------------|-------|-------------|----------|----------|---|
| Fluoride | No | 0.37 mg/L | N/A | 7/18/2018 | 4.0 mg/L | 4.0 mg/L | Erosion of natural deposits, water additive that promotes strong teeth, discharge from fertilizer and aluminum factories. |

Table 2 Contaminants Detected at Consumers Tap

| Contaminant | Violation Y/N | Maximum Level Detected | Range | Sample Date | MCL | MCLG | Most Likely Sources of Contamination |
|-----------------------|---------------|------------------------|-------------|-------------|--------|--------|---|
| Total Trihalomethanes | No | 16.1 ppb | N/A | 7/18/2018 | 80 ppb | none | By-product of drinking water disinfection |
| Haloacetic acids | No | 1 ppb | n/a | 7/20/2018 | 60 ppb | none | By-product of drinking water disinfection |
| Contaminant | Violation Y/N | Maximum Level Detected | Range | Sample Date | MRDL | MRDLG | Most Likely Sources of Contamination |
| Chlorine | No | 0.16 mg/L | 0.02 - 0.51 | Monthly | 4 mg/L | 4 mg/L | Water additive used to control microbes |

Table 3 Special Monitoring test results for 2018

| Contaminant | Violation Y/N | Maximum Level Detected | Range | Sample Date | MCL | MCLG | Most Likely Sources of Contamination |
|-------------|---------------|------------------------|-------|-------------|-----|------|--------------------------------------|
| Sodium* | No | 27 mg/L | N/A | 7/18/2018 | N/A | N/A | Naturally present in groundwater |
| Hardness | No | 252 | N/A | 7/18/2018 | N/A | N/A | Naturally present in groundwater |
| Iron | No | 0.2 mg/L | N/A | 7/12/2017 | N/A | N/A | Naturally present in groundwater |

*Sodium is considered special monitoring-there is no MCL associated with it. Sodium monitoring is required to inform the residents and the local health department of sodium levels in the community.

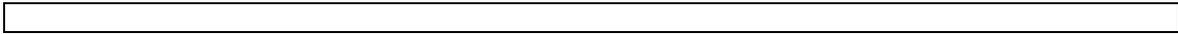
Table 4 Monthly Bacterial samples for 2018

| Microbial contaminants | MCL | MCLG | Number detected | Violation yes/no | Typical source of Contaminant |
|------------------------|---|------|-----------------|------------------|--------------------------------------|
| Village | All monthly samples tested good in 2018 | 0 | 0 | No | Naturally present in the environment |

Table 4; Lead and Copper test results for the Village of Grass Lake

| Contaminant | Violation y/n | Samples collected 90% of samples below this level: | Sample date | AL | MCL G | # of samples above action level | Most Likely Sources of Contamination |
|--------------|---------------|--|-------------|---------------|----------|---|---|
| Lead (ppb) | No | 2 ppb | 6/14/2016 | AL = 15 ppb | 0 ppb | 1 out of 10 Homes Exceeded Action Level | Corrosion of household plumbing system Erosion of natural deposits. |
| Copper (ppb) | No | 370 ppb | 6/14/2016 | Al = 1300 ppb | 1300 ppb | 0 out of 10 Homes Exceeded Action Level | Corrosion of household plumbing system Erosion of natural deposits. |

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.



What does all this mean?

The tables above indicate that The Village and Township of Grass Lake had no water quality violations in 2018. We have learned through monitoring and testing that some constituents have been detected but are not a health risk. We are proud that our drinking water meets or exceeds all Federal and State requirements. This report is intended to show our water quality and what it means

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. The Grass Lake Water Dept 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 cooking or drinking. 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 or at:
<http://www.epa.gov/safewater/lead>

Additional information is available from the Environmental Protection Agency’s Safe Drinking Water Hotline 800-426-4791.

Water Costs Money Don’t Waste It!

The most common cause for a high water bill is usually a leaky faucet or the customer’s toilet(s). Yet as common as the problem is, it is difficult for a customer to understand. The customer seldom hears or sees the leak because it’s running down the overflow pipe and they find it hard to believe that a toilet can use that much water!!!

A continual leak running at a very slow rate of ¼ gallon per minute for three months can add up to \$100. To a water bill.

The Village of Grass Lake works around the clock to provide the best quality of water possible to every tap. We ask that all of our customers please help us protect our water sources. We also want our valued customers to be informed about their water quality.

This report will not be mailed to our customers, copies of this report will be available @ Grass Lake Village Hall 119 N. Lake St. (517) 522-4550 or contact the Department of Public works @ (517) 522-4530, 132 Clark St.

Paul Lammers
Village of Grass Lake
517-522-4530
3/11/2018