

2018 Water Quality Report for City of St. Louis

This report covers the drinking water quality for the City of St. Louis for the 2018 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2018. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

Your water comes from six groundwater wells, ranging in depth from 105 feet to 162.5 feet, and the Pine River. The Gratiot Area Water Authority (GAWA) treats the blended well/river source prior to pumping into the City's water distribution system. The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination in 2003. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based on geologic sensitivity, well construction, water chemistry and contamination sources. GAWA well #7 was ranked "moderately low", while well #1 and the Pine River were ranked "high" for having a high degree of sensitivity to potential contamination. The new GAWA wells, #8, #9, #10 and #11 were installed after the assessment was completed and are currently not ranked.

There are no significant sources of contamination to GAWA's well fields. Both partner cities of GAWA have adopted and Implemented Wellhead Protection plans to further protect GAWA's well fields from potential contamination sources.

The Pine River is susceptible to contamination by illegal dumping and runoff. Daily monitoring of the river water entering the treatment plant is performed by plant operators.

Included in this report is the analysis of water supplied by GAWA Water Treatment Plant in Alma, Michigan and all required tests of the St. Louis water distribution system. A full copy of GAWA's 2018 CCR for the City of Alma is available online or at Alma or St. Louis city halls.

If you would like to know more about the St. Louis or GAWA report(s), please contact [Keith Risdon, St. Louis Utilities Director @ 989-681-2613](mailto:Keith.Risdon@stlouis.gov) or [Bill Pilmore, GAWA Plant Superintendent @ 989-463-8394](mailto:Bill.Pilmore@stlouis.gov).

- **Contaminants and their presence in water:** 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 **EPA's Safe Drinking Water Hotline (800-426-4791)**.

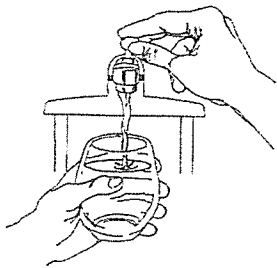
- **Vulnerability of sub-populations:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems 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).

- **Sources of drinking water:** The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from wells and surface water. 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 and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.



In order to ensure that tap water is safe to drink, EPA prescribes regulations that 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 provide the same protection for public health.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2018 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 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 significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

Terms and abbreviations used below:

- **Maximum Contaminant Level Goal (MCLG):** 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.
- **Maximum Contaminant Level (MCL):** 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.
- **Maximum Residual Disinfectant 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 Disinfectant Level Goal (MRDLG):** 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.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **N/A:** Not applicable **ND:** not detectable at testing limit **ppb:** parts per billion or micrograms per liter **ppm:** parts per million or milligrams 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 that a water system must follow.
- **Level 1 Assessment:** A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **NTU:** Nephelometric turbidity units.

GAWA Water Supply results for water supplied January 1, 2018 – December 31, 2018

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes / No	Typical Source of Contaminant
Inorganic Contaminants							
Arsenic (ppb)	10	0	2.1	1.7-2.5	2018	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Fluoride (ppm)	4	4	0.78	0.36 -1.11	2018	NO	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Sodium ¹ (ppm)	N/A	N/A	56		2018	NO	Erosion of natural deposits.
Chlorine ² (ppm)	4	4	1.13	0.72 – 2.09	2018	NO	Water additive used to control microbes

Nephelometric turbidity units	95% of 4 hr compliance periods must be less than 034 NTUs		100% < 0.34 ntu	0.04 – 0.18	2018	NO	Measure of the cloudiness of water due to soil runoff. Used to monitor effectiveness if filtration system.
Disinfectants & Disinfection By-Products							
TTHM - Total Trihalomethanes (ppb)	80	N/A	23	13 - 32	2018	NO	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	4.4	1.3 - 9	2018	NO	Byproduct of drinking water disinfection
Dalapon (ppb)	200	200	0.14	N/A	2018	NO	Herbicide runoff
Radioactive Contaminants							
Combined radium (pCi/L)	5	0	0.1	N/A	2013	NO	Erosion of natural deposits
Inorganic Contaminant Subject to AL	AL	MCLG	Your Water⁴	Year Sampled	# of Samples Above AL	Does System Exceed AL? Yes / No	Typical Source of Contaminant
Lead (ppb)	15	0	3	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.14	2018	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Special Monitoring and Unregulated Contaminants *			Level Detected	Year Sampled	Typical Source		
Chloride			24 ppm	2018	Erosion of natural deposits		
Iron			<0.1 ppm	2018	Erosion of natural deposits		
Sulfate			170 ppm	2018	Erosion of natural deposits		

¹ Sodium is not a regulated contaminant.

² The chlorine "Level Detected" was calculated using a running annual average.

³ *E. coli* MCL violation occurs if: (1) routine and repeat samples total coliform-positive and either is *E. coli*-positive, or (2) supply fails to take all required repeat samples following *E. coli*-positive routine sample, or (3) supply fails to analyze total coliform-positive repeat sample for *E. coli*.

⁴ 90 percent of the samples collected were at or below the level reported for our water.

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 service lines and home plumbing. The City of St. Louis 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 or at <http://www.epa.gov/safewater/lead>.

Monitoring and Reporting to the Department of Environment, Great Lakes and Energy (EGLE) Requirements:

The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety. We met all the monitoring and reporting requirements for 2018.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at City Hall, 300 N. Mill Street, St. Louis, Michigan 48880 and on the City's website at www.stlouismi.com. This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. The City Council of St. Louis meets on the first and third Tuesday evenings at 6:00 pm at City Hall, 300 N. Mill Street, St. Louis, Michigan 48880. The Gratiot Area Water Authority (GAWA) meets on the second Friday of every month at noon, at Alma City Hall. Please check the websites for the City of St. Louis and the City of Alma for possible date/time changes prior to the meeting dates.