

2022 Water Quality Report for the City of St. Louis

Water Supply Serial Number: 06320

This report covers the drinking water quality for the City of St. Louis for the 2022 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2022. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. 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, as necessary. The Gratiot Area Water Authority (GAWA) treats and softens the well water 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 was 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 and has a susceptibility rating of very high. The Pine River currently serves only as a back-up source in case of an emergency. No water was taken from the Pine River for treatment in 2022.

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 2022 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, or GAWA Plant Operations @ 989-463-8349.

- **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 **U.S. 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. U.S. EPA/Center for Disease Control 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)**.

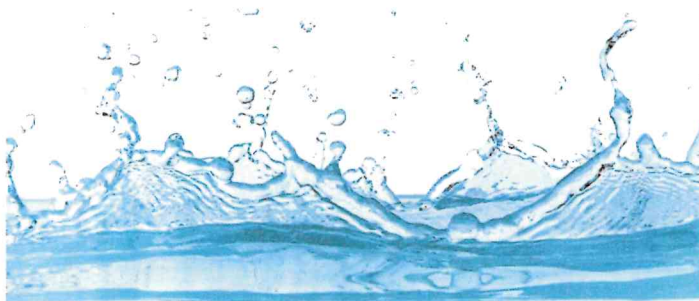
Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.



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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.



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In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal 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 2022 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 through December 31, 2022. 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 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
- ppm: parts per million or milligrams per liter
- ppb: parts per billion or micrograms per liter
- ppt: parts per trillion or nanograms 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.

GAWA and City of St. Louis Water Supply results for water supplied January 1, 2022 - December 31, 2022

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	0	1.775	1.25 – 2.7	2022	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.0092	N/A	2019	No	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Beryllium (ppb)	4	4	2.5	N/A	2019	No	Erosion of natural deposits
Fluoride (ppm)	4	4	0.46	N/A	2022	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Cadmium (ppb)	5	5	1.8	N/A	2019	No	Erosion of natural deposits
THM Total Trihalomethanes (ppb)	80	N/A	28	17 - 28	2022	No	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	4	1 - 4	2022	No	Byproduct of drinking water disinfection
Chlorine ¹ (ppm)	4	4	0.56*	0.07 – 1.03	2022	No	Water additive used to control microbes
Dalapon (ppb)	200	200	0.14	N/A	2018	No	Herbicide runoff
Combined radium (pCi/L)	5	0	0.1	N/A	2013	No	Erosion of natural deposits
Total Organic Carbon	TT	N/A	44% removed (15% is required)	36%-58%	2022	No*	Naturally present in the environment

* It has been determined there was no Treatment Technique violation through an alternate compliance criteria (ACC)

¹ The chlorine "Level Detected" was calculated using a running annual average.

Per- and polyfluoroalkyl substances (PFAS)									
Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant		
Hexafluoropropylene oxide dimer acid (HFPO-DA) (ppt)	370	N/A	<2	N/A	2021	No	Discharge and waste from industrial facilities utilizing the Gen X chemical process		
Perfluorobutane sulfonic acid (PFBS) (ppt)	420	N/A	<2	N/A	2021	No	Discharge and waste from industrial facilities; stain-resistant treatments		
Perfluorohexane sulfonic acid (PFHxS) (ppt)	51	N/A	<2	N/A	2021	No	Firefighting foam; discharge and waste from industrial facilities		
Perfluorohexanoic acid (PFHxA) (ppt)	400,000	N/A	<2	N/A	2021	No	Firefighting foam; discharge and waste from industrial facilities		
Perfluorononanoic acid (PFNA) (ppt)	6	N/A	<2	N/A	2021	No	Discharge and waste from industrial facilities; breakdown of precursor compounds		
Perfluorooctane sulfonic acid (PFOS) (ppt)	16	N/A	<2	N/A	2021	No	Firefighting foam; discharge from electroplating facilities; discharge and waste from industrial facilities		
Perfluorooctanoic acid (PFOA) (ppt)	8	N/A	<2	N/A	2021	No	Discharge and waste from industrial facilities; stain-resistant treatments		
Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	St. Louis Water ²	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant		
Lead (ppb)	15	0	1	0 - 6	2021	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits		
Copper (ppm)	1.3	1.3	0.1	0 - 0.5	2021	0	Corrosion of household plumbing systems; Erosion of natural deposits		

² Ninety (90) percent of the samples collected were at or below this level reported for our water.

Additional Monitoring

Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA determine where certain contaminants occur and whether regulation of those contaminants is needed.

Unregulated Contaminant and Special Monitoring	Level Detected	Year Sampled	Comments
Sodium (ppm)	45 ppm	2022	Typical source is erosion of natural deposits
Chloride	25 ppm	2020	Typical source is erosion of natural deposits
Iron	<0.1 ppm	2020	Typical source is erosion of natural deposits
Sulfate	190 ppm	2020	Typical source is erosion of natural deposits
Nickel	2.2 ppb	2019	Typical source is erosion of natural deposits

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 have a lead service line it is recommended that you run your water for at least 5 minutes to flush water from both your home plumbing and the lead service line. 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>.

Infants and children who drink water containing lead 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.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Our water supply has no known Lead service lines, however out of a total of 1412 water service lines in the City of St. Louis there are 884 private and public water services that are of unknown materials. These unknown services will be identified over the next 2 years. Those service lines designated to be replaced will be replaced at a minimum rate of 5% per year. As the City continues to investigate and identify these 884 private and public services of unknown materials, we will update this quantity to reflect our findings.

CERTIFICATION

WSSN: 0632

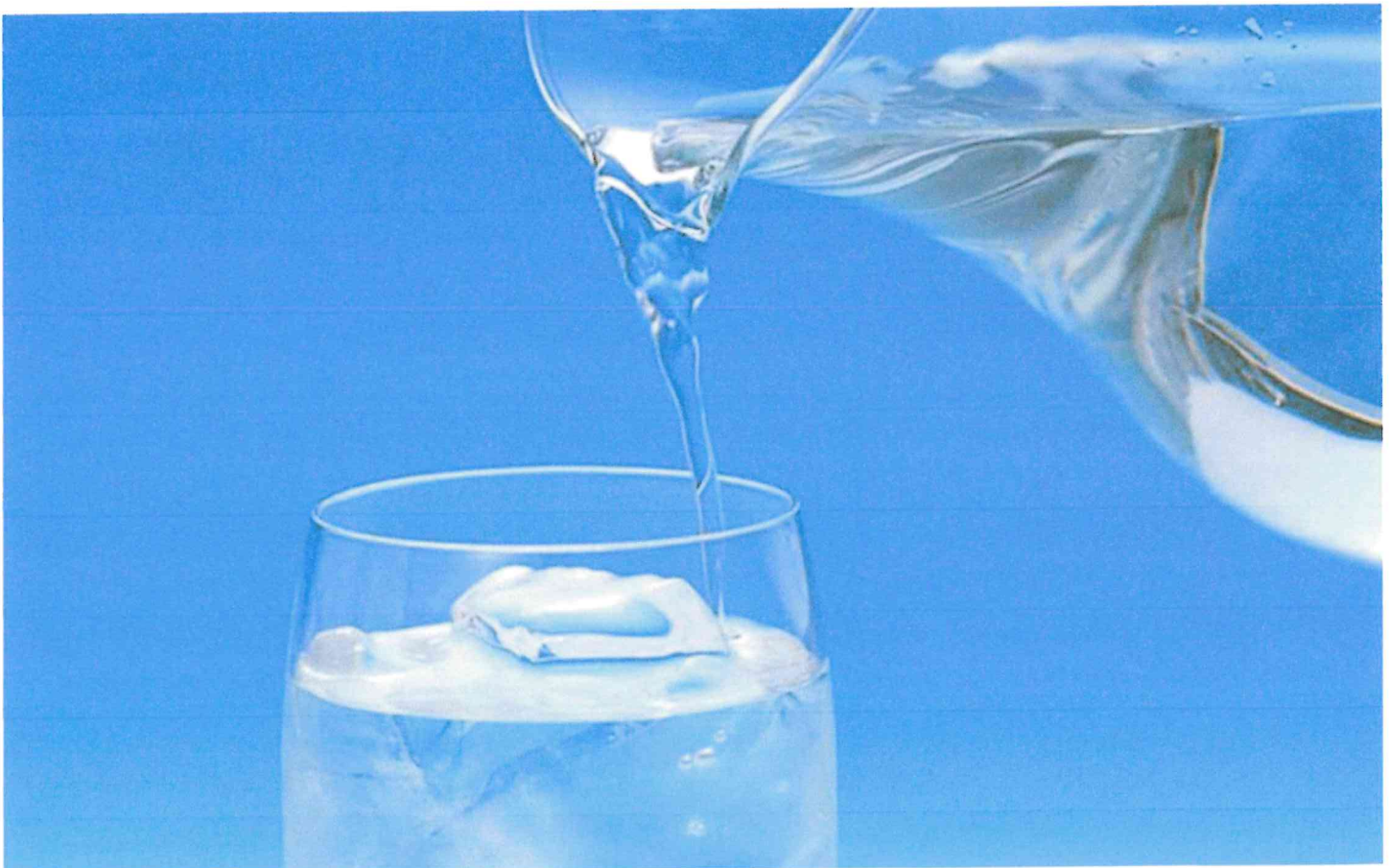
I certify that this water supply has fully complied with the public notification regulations in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature: *Karel W. Kerola* Title: Director of Public Services Dated Distributed: May 22, 2023

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 2022.

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 Public Library. 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.



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