CITY OF WACO
2023
WATER QUALITY REPORT

Committed to the protection of public health and to the quality management of water and wastewater services

CITY OF WACO
WATER UTILITY SERVICES

PWS: TX1550008

WACOWATER.COM

Introduction: What goes into your water?

City of Waco Water Utility Services' Water Quality Report is published every year as a resource to learn about your drinking water. The report is part of the requirements of the Safe Drinking Water Act. Utility employees perform over 6000 water quality tests in the plants, in the field and at customers' homes every year to make sure you receive high-quality drinking water. The City of Waco is proud to report that we had zero violations. Besides testing water every day, a lot goes into getting safe, delicious drinking water to our customers.

- **210 Employees** work in seven divisions to answer questions, perform repairs and monitor the system.
- **89 Licensed Operators** have worked, studied and passed tests to make sure we have qualified employees to do all the jobs.
- **3 Water Treatment Plants** clarify, disinfect and filter water from Lake Waco—including a state-of-the-art Dissolved Air Flotation (DAF) Plant.
- **2 Wastewater Treatment Plants** take water that flowed down your drains and use an engineered treatment process to make it safe to return to the rivers and creeks.
- **13,767 Valves** help keep the right amount of water flowing through the system.
- **5,843 Hydrants** pull water from the system for a variety of reasons—including fighting fires.
- **13 Ground Storage Tanks**
- **6 Elevated Storage Tanks**
- **50,015 Water Meters** use Automated Meter technology to ensure accurate billilng and help you notice leaks earlier.
- **25.8 Million Gallons** treated per day on average based on how much water is being used.
- **347 Leaks Repaired** every year means our staff is in the field repairing leaks every day.
- **6,012 Water Quality Tests** performed every year at the treatment plants, in the field, at construction sites and more!
- **132,208 Customer Service Calls** are answered to help people pay their bills, report leaks and get the answers they need.
- **1,050 Miles Of Water Lines** carry safe, delicious drinking water to homes, schools and businesses in the service area.
- **993 Miles Of Wastewater Lines** carry wastewater safely to our treatment plants where it's treated and returned to nature.
- **1663 Square Miles Of Watershed** influences the contents of our sourcewater as runoff carries dirt, minerals and other materials downstream.
- **99 Square Miles Of Service Area** with residents, schools and businesses who use water every day.
- **Open 24/7/365** to answer your calls, monitor the system and respond to emergencies.

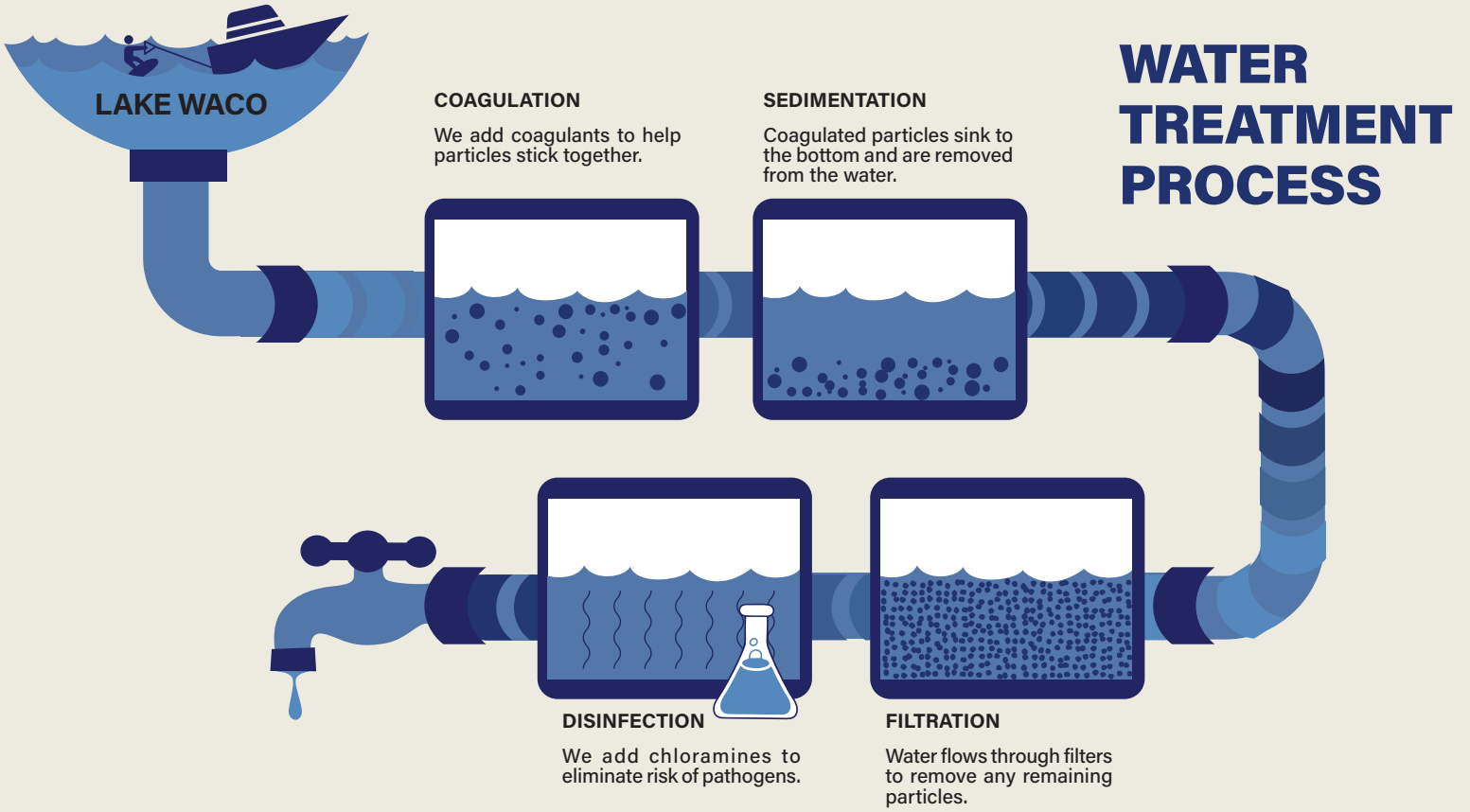
Information about your Drinking Water

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.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

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 storm water 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 storm water runoff, and residential uses.
- 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 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.



In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please call (254) 299-CITY.

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; persons who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders, can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care providers. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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.

Waco Water Utility Services met or exceeded all regulatory drinking water standards in 2023.

Information about Source Water
TCEQ completed an assessment of your source water, and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system is based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system contact the City of Waco Water Quality Lab at (254) 750-1662.

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive.	0.8		0	N	Naturally present in the environment.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	07/23/2021	1.3	1.3	0.24	1	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	07/23/2021	0	15	1.4	1	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Bromate	2023	5	0 - 12.3	0	10	ppb	N	By-product of drinking water disinfection.
Haloacetic Acids (HAA5)	2023	15	9 - 17.2	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

***The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year**

Total Trihalomethanes (TTHM)	2023	52	32.1 - 68.5	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

***The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year**

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2023	3	2.6 - 2.7	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2023	0.0436	0.0413 - 0.0436	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2023	0.7	0.7 - 0.73	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2023	0.39	0.09 - 0.39	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/photon emitters	2023	6.3	5.4 - 6.3	0	50	pCi/L*	N	Decay of natural and man-made deposits.

***EPA considers 50 pCi/L to be the level of concern for beta particles.**

Synthetic organic contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
Atrazine	2023	0.18	0 - 0.18	3	3	ppb	N	Runoff from herbicide used on row crops.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Monochloramine	2023	2.48	0.52-3.82	4	4	ppm	N	Water additive used to control microbes.

Turbidity

	Level Detected	Limit (Treatment Technique)	Violation	Likely Source of Contamination
Highest single measurement	0.4 NTU	1 NTU	N	Soil runoff.
Lowest monthly % meeting limit	100%	0.3 NTU	N	Soil runoff.
Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.				

Total Organic Carbon
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set.

Decoding the Data

COLIFORM BACTERIA

What is it?	Where does it come from?	What are the risks?
Coliform bacteria are organisms present in the environment and feces of warm-blooded animals.	Surface runoff, failed septic tanks, flooding events.	One variety, e. coli bacteria, can cause stomach and intestinal illness.

It's relatively easy and inexpensive to test for coliform bacteria. Our team does 1000s of tests every year.

INORGANIC CONTAMINANTS

What is it?	Where does it come from?	What are the risks?
Inorganic contaminants consist of metals, nutrients and salts.	Can be present as a result of natural processes or man-made pollution.	High levels of inorganic contaminants can cause taste, odor and health issues.

Water treatment removes and reduces the levels of inorganic contaminants.

LEAD

What is it?	Where does it come from?	What are the risks?
Lead is a naturally occurring metal.	Plumbing materials and fixtures.	Exposure to lead can cause developmental delays in babies and young children.

The City of Waco is working to remove all known lead service lines from the system and will have an online, searchable database of service line materials for Waco Water customers in the Fall of 2024.

DISINFECTION BY-PRODUCTS (DBPs)

What is it?	Where does it come from?	What are the risks?
DBPs are formed when chlorine and bromine interact with natural organic materials in water.	DBPs can be found in the air during showering and swimming or in chlorine-treated water.	DBPs do not build up in the environment or the body. Health effects are unknown.

Disinfection by chloramine is one of the most important parts of water treatment. By controlling water age and turnover (i.e. keeping the water moving), the amount of DBPs in Waco Water is kept low.

What does PPM, PPB or PPT mean?

PPM (parts per million)

One part per million is about 1 cup of water in an average backyard swimming pool.

PPB (parts per billion)

One part per billion is about 1 drop of water in an average backyard swimming pool.

PPT (parts per trillion)

One part per trillion is about 1 drop of water in 20 Olympic-sized swimming pools.

What about PFAS?

PFAS are Per- and polyfluoralkyl substances, a group of man-made chemicals that are resistant to heat, water and oil. Since the 1940s, these chemicals have been manufactured and can be found in food packaging, nonstick coatings, cleaning products, cosmetic and personal care products, textiles and firefighting foam. There are thousands of PFAS chemicals, and they are found in water, air and soil locations around the world. This makes them difficult to study and assess.

PFAS can enter drinking water sources through contact with humans, runoff, spills, wastewater discharge or landfills. The Environmental Protection Agency (EPA) is researching ways to detect and measure PFAS, as well as ways to potentially remove them from drinking water.

The EPA rule addresses six PFAS chemicals for drinking water:

- PFOA – perfluorooctanoic acid (Maximum Contaminant Level 4.0 ppt)
- PFOS – perfluoroocatanesulfonic acid (Maximum Contaminant Level 4.0 ppt)
- PFHxS – perfluorohexanesulfonic acid (Maximum Contaminant Level 10 ppt)
- PFNA – perfluorononanoic acid (Maximum Contaminant Level 10 ppt)
- HFPO-DA (sometimes called GENX) – hexafluoropropylene oxide-dimer acid (Maximum Contaminant Level 10 ppt)
- Mixture of PFHxS, PFNA, HFPO-DA and PFBS (perfluorobutanesulfonic acid) (Maximum Contaminant Level Hazard Index of 1)

The City of Waco has received threee data sets associated with the Unregulated Contaminant Monitoring Rule (UCMR-5) program. UCMR-5 samples are collected at two entry points for four consecutive quarters.

One substance reported as having an average higher than the laboratory minimum reporting level.

Perfluorobutanoic Acid (PFBA) reported an average concentration of 4.25 parts per trillion. The minimum reported value is 0.0 parts per trillion, and the maximum reported value is 7.59 parts per trillion. PFBA is a by-product of other PFAs used in stain-resistant fabric, paper food packaging and carpets. **It is not one of the six chemicals addressed by the current EPA rule.**

All other UCMR-5 results for lithium and the additional monitored PFAS compounds were reported as less than the laboratory minimum reporting level.

If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772 or cpsc.gov

Definitions and Abbreviations

The following tables contain scientific terms and measures, some of which may require explanation.

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment: A Level 2 assessment is 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.
Maximum Contaminant Level or 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 Contaminant Level Goal or 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 residual disinfectant level or 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 or 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.
MFL: million fibers per liter (a measure of asbestos)
mrem: millirems per year (a measure of radiation absorbed by the body)
na: not applicable.
NTU: nephelometric turbidity units (a measure of turbidity)
pCi/L: picocuries per liter (a measure of radioactivity)
ppb: micrograms per liter or parts per billion
ppm: milligrams per liter or parts per million
ppq: picograms per liter (pg/L) or parts per quadrillion
ppt: nanograms per liter (ng/L) or parts per trillion
Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

About This Report

City of Waco drinking water meets or exceeds all federal and state drinking water requirements. The City of Waco Water Utility Services Department (Public Water System #1550008) is proud to maintain a Superior water quality rating from the Texas Commission on Environmental Quality (TCEQ).

This report is a summary of the quality of the water we provided our customers during 2023. The analysis was made by using data from the most recent U.S. Environmental Protection Agency (EPA) required tests. Our goal is that this information will help you become more knowledgeable about what's in your drinking water.

The tables that follow (pp. 3-4) list all of the federally regulated and/or monitored contaminants that have been found in your drinking water. The U.S. EPA requires water systems to test for up to 97 different contaminants.

Where Does Our Water Come From?

Waco's drinking water is 99% surface water with less than 1% coming from ground water sources. The primary source of drinking water for residents of the City of Waco and surrounding communities is Lake Waco, located within the City of Waco, with less than 1% coming from the Trinity Aquifer.

Source Water Assessment and Protection

The TCEQ completed an assessment of our source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detections of these contaminants will be found in this report. For more information on source water assessments and protection efforts in our system, contact the City of Waco Water Quality Lab at (254) 750-1662.

Special Notice

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immunocompromised, such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk for infection. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at (800) 426-4791.

En Español

Este reporte incluye informacion importante sobre el agua para tomar. Si tiene preguntas o comentarios sobre ésteinforme en español, favor de llamar al (254) 299-2489 para hablar con una persona bilingüe en español.

Drinking Water Standards

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 before treatment 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 by-products 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 May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. 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 (1-800-426-4791).

Secondary Constituents

Contaminants may be found in drinking water that may cause taste, color, and odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor or color of drinking water, please contact Waco Water Utility Services.

Water Loss

In the water loss audit submitted to the Texas Water Development Board for the time period of January - December 2021, the City of Waco water system lost an estimated 159,901,557 gallons of water. This is 1.8% of the total water system input volume.

Water loss from a system occurs, primarily, due to leaks and line breaks, customer meter inaccuracy, data handling errors and unauthorized usage.

If you have any questions about the water loss audit, you may call: (254) 299-CITY (2489).

Environmental Lab Analyst Loreen Repp takes samples from one of the sampling stations around the city.

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- See past Water Quality Reports
- Find job opportunities
- Get conservation tips

...and more!

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