

This is your water quality report for January 1 to December 31, 2022

For more information regarding this report contact:

MARSHA WSC provides surface water and ground water from the **Colorado River as it flows through Lake Travis and Lake Austin** located in **Travis County**.

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Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al teléfono (512) 803-8725.

Definitions and Abbreviations

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	parts per quadrillion, or picograms per liter (pg/L)
ppt	parts per trillion, or nanograms per liter (ng/L)
Treatment Technique or TT:	A required process intended to reduce the level of a contaminant in drinking water.

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 EPA's 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 contact the system's business office.

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>.

Information about Source Water

MARSHA WSC purchases water from CITY OF AUSTIN WATER & WASTEWATER. CITY OF AUSTIN WATER & WASTEWATER provides purchase surface water from Lower Colorado River as it flows through Lake Travis and Lake Austin located in Travis County.

- Customers of the City of Austin receive their drinking water from three water treatment plants. Each plant pumps, treats and disinfects surface water from the Lower Colorado River as it flows through Lake Travis and Lake Austin.
- Austin Water monitors the lake water for *Cryptosporidium* because surface water sources are known to be susceptible to this contaminant. The treatment plants utilize clarification and filtration processes that have been shown to remove *Cryptosporidium*.
- During the 2022 monitoring for *Cryptosporidium*, eight samples reported no detection, two samples reported a detection of one oocyst and one sample reported a detection of three oocysts.
- Austin Water was in compliance with the Total Organic Carbon (TOC) removal requirements in the Disinfection Byproducts Rule.

Key

AL = Action Level

MCL = Maximum Contaminant Level

MCLG = Maximum Contaminant Level Goal

n/a = not applicable

NTU = Nephelometric Turbidity Units (a measure of turbidity)

ppm = parts per million or milligrams per liter

ppb = parts per billion or micrograms per liter

TT = Treatment Technique

pCi/L = picocuries per liter (a measure of radioactivity)

Regulated at the Treatment Plant

Parameter	MCL	MCLG	Date	Low	High	Average	Possible sources
Barium (ppm)	2	2	2022	0.01	0.01	0.01	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta/Photon Emitters (pCi/L*)	50	0	2021	4.3	4.3	4.3	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Copper (ppm)	AL = 1.3	1.3	2022	<0.002	0.009	0.004	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide (ppb)	200	200	2022	30	170	107	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Diquat (ppb)	20	20	2022	0.6	0.6	0.6	Runoff from herbicide use
Fluoride (ppm)	4	4	2022	0.5	0.8	0.6	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (ppm)	10	10	2022	<0.05	0.21	0.11	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Turbidity (NTU)	TT - no sample > 1.0 & 95% of samples must be ≤ 0.3	n/a	2022	0.01	9.0**	0.04	Turbidity is a measure of the cloudiness of the water, typically due to soil runoff
				95% was the lowest monthly percentage of samples ≤ 0.3			

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

**The three water treatment plants were in compliance with turbidity standards in 2022, with the exception of an event at one plant in February 2022. During a period between February 5-6, 2022, one water treatment plant did not continuously meet turbidity standards.

Disinfection Byproducts Rule Regulated at the Treatment Plant

Parameter	MCL	MCLG	Date	Low	High	Average	Possible sources
TOC Removal Ratio	TT - Average ≥ 1	n/a	2022	1.24	2.69	1.89	Naturally present in the environment

The Total Organic Carbon (TOC) removal ratio is the percent of TOC removed through the treatment process divided by the percent of TOC removal required by the TCEQ. TOC has no adverse health effects. TOC provides a medium for the formation of disinfection byproducts when water is disinfected. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens.

Unregulated Contaminant Monitoring Regulations Reporting (UCMR)

Parameter	MCLG	Date	Low	High	Average	Possible Sources
Bromodichloromethane (ppb)	0	2022	7.6	12.0	9.7	Byproduct of drinking water disinfection
Dibromochloromethane (ppb)	60	2022	7.2	12.2	9.8	
Chloroform (ppb)	70	2022	4.5	14.6	8.0	
Bromoform (ppb)	0	2022	1.4	4.6	2.4	
Dichloroacetic Acid (ppb)	0	2022	3.2	10.1	5.9	
Trichloroacetic Acid (ppb)	20	2022	<1.0	2.6	1.6	
Dibromoacetic Acid (ppb)	n/a	2022	1.8	4.3	2.7	
Bromochloroacetic Acid (ppb)	n/a	2022	2.3	5.8	3.9	

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Any unregulated contaminants detected are reported in the table above. For additional information and data visit epa.gov, or call the Safe Drinking Water Hotline at 800-426-4791.

No Source Water Assessment for your drinking water source(s) has been conducted by the TCEQ for your water system. The report describes the susceptibility and the types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The information in this assessment allows us to focus our source water protection strategies.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2022	1.3	1.3	0.0035	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

2022 Water Quality Test Results

Disinfection By-Products	Collection Date	Highest Level Detected	Range of Individual Samples	MCLG	MCL	Units	Violation	Likely Source of Contamination
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Haloacetic Acids (HAA5)	2022	10	9.8 - 9.8	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
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*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)	2022	30	29.7 - 29.7	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
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*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
Nitrite [measured as Nitrogen]	06/17/2021	0.08	0.08 - 0.08	1	1	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Disinfectant Residual

Disinfectant Residual	Year	Average Level	Range of Levels Detected	MRDL	MRDLG	Unit of Measure	Violation (Y/N)	Source in Drinking Water
Chloramine	2022	1.64	0.66 - 3.2	4	4	ppm	N	Water additive used to control microbes.

Water Loss

Water loss is an important part of managing a water system. The percentage of loss is calculated by dividing the gallon lost by the total gallons purchased. Water loss is caused by leaks, routine flushing, repairs, and inaccurate meters. In 2022, Marsha WSC purchased 11,953,374 gallons and sold 10,600,298 gallons, which means that the annual water loss for Marsha WSC is 11.32%.