

ENVIRONMENTAL UTILITIES **2022** WATER QUALITY REPORT

About this report

We're pleased to present you with this annual report on city-provided drinking water. As in past years, water quality results have met state and federal standards. The safety and protection of our water system continue to be a top priority as we regularly implement vulnerability assessments and security measures.

Under the guidelines provided by the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board, Division of Drinking Water, the City of Roseville monitors and tests the drinking water from the source to tap. Information provided in this report is for the water provided January through December 2022, and includes details about where your water comes from, what it contains, and how it compares to the standards set by the regulatory agencies.

We hope that this report will provide the answers to any questions you may have about the drinking water supplied by the City of Roseville. You can obtain additional information by contacting the Environmental Utilities at (916) 774-5750 or visiting [roseville.ca.us/eu](https://www.roseville.ca.us/eu).



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

[roseville.ca.us/eu](https://www.roseville.ca.us/eu)



Water sources

Drinking water (tap water and bottled water) sources 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 animals' presence or from human activity. In 2022, both surface water and groundwater was supplied by Roseville.

We maintain a water distribution system that contains pipelines throughout the city ranging in size from four inches to over five feet in diameter. Staff collects water samples throughout the system and tests on a weekly basis to ensure quality maintained during delivery to customers.

Surface water—Roseville

The surface water source from Folsom Lake is snowmelt water that flows from the Sierra Nevada Mountains. The melting snow flows into the North, middle, and South Forks of the American River and is ultimately stored in Folsom Lake.

The Folsom Lake water is conveyed to, and treated at, Roseville's 100 million gallon per day (MGD) water treatment plant. The treatment process comprises coagulation, sedimentation, filtration and disinfection. Fluoride is added for residents' dental health and pH is adjusted to reduce corrosion.

Surface water—PCWA

As part of a regional water use agreement, the City of Roseville receives up to 10 MGD of treated surface water from Placer County Water Agency's (PCWA) Foothill-Sunset water treatment plant. Water from PCWA originates in the Sierra snowpack from the Yuba-Bear and American River watersheds. The source water travels through a network of canal systems operated and maintained by PCWA and PG&E before reaching the water treatment plant. The Foothill-Sunset water treatment plant uses coagulation, high rate settling via micro sand flocculation, filtration and disinfection. Water is fluoridated at the entry port to Roseville. The CCR for this water can be found on PCWA's website: pcwa.net/services/waterquality.



Roseville groundwater sources

The City of Roseville's ability to utilize its groundwater supply is imperative as it provides water reliability to Roseville's customers during times of dry conditions – often resulting in surface water curtailments or other emergencies that severely limit the City's use of surface water.

Currently, the City maintains 4 production wells equipped for aquifer storage and recovery (ASR) and one non-ASR production wells. In total, these 5 groundwater production wells provide an alternate supply to the City's primary surface water supply.

The ASR functionality of production wells enables the City to artificially recharge excess treated surface water through

well injection during years when surface water supplies are abundant, and store this water deep beneath the City in aquifers for use (i.e. pumping or extraction) from the same wells during years when additional water supplies are necessary.

Groundwater exists in the pore space between grains of sediment that make up aquifers which predominately consists of layers of continuous sands and gravels. Groundwater is naturally recharged as a result of rainfall and infiltration of surface water running through creeks, rivers, and streams largely from snowmelt. This rainfall and surface water naturally recharges the groundwater system through the saturation of surface soil and continues to filter downward and into the aquifers beneath the City. The groundwater supplied meets all water quality and health standards just like treated surface water, but may have aesthetic (i.e. largely taste) differences and sometimes is noticeable to some consumers.

Two-thirds of Californians, along with half of all Americans (more than 95 percent for rural Americans) get their household water supplied from groundwater. In addition, groundwater provides approximately 40% of the State's water supply in normal hydrology years and approximately 60% in dry years. In 2022, Roseville supplied 39 Million gallons of ASR-sourced groundwater as part of our updated well maintenance program.



Water source protection

A community's drinking water supply is valuable and needs protection. The quality and reliability of source water can have a significant impact on a community's economy and quality of life. The city actively participates in several source water protection programs.

American River Watershed Sanitary Survey

This is an ongoing project in partnership with the San Juan Water District, El Dorado Irrigation District, Placer County Water Agency, City of Sacramento, Carmichael Water District and County of Sacramento, keeping us up-to-date on developments in the American River watershed. The 2018 American River Watershed Sanitary Survey assessed the potential water quality contamination activities in the watershed. They evaluated treatment processes and source water protection programs to remove these contaminants from our drinking water.

The American River Watershed is considered most vulnerable to the following activities associated with contaminants detected in the water supply: Folsom Lake State Recreation Area facilities (marina, restrooms, recreational areas, parking lots and storm drains) and residential sewer and septic systems.

The American River Watershed is also considered vulnerable to the following activities not associated with any detected contaminants: illegal activities and dumping, fertilizer, pesticide and herbicide application, and high-density housing developments.

Keep the Waters Clean Campaign

This source water protection program protects water quality by encouraging boaters and other recreational users of the Sacramento River to use pump outs and public restrooms rather than the river to dispose of wastes. This program is in partnership with the City of Sacramento, County of Sacramento and the East Bay Municipal Utility District.

Drinking water source assessment program

The city also has completed source water assessments on the groundwater wells to determine if there were any potentially contaminating activities present. There have been no contaminants detected in the water supply for the groundwater wells; however, all wells are still considered vulnerable to activities located near the water source. The wells are considered most vulnerable to the following activities not associated with any detected contaminants: sewer collection systems and chemical/petroleum processing/storage.

Public participation

The Environmental Utilities Department routinely reports at the City of Roseville Public Utilities Commission meetings held on the fourth Tuesday of each month at 6 p.m. in the City of Roseville Council Chambers. The public is welcome to attend.

Terms and abbreviations used in this report

MCL—Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

MCLG—Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known, or expected, risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

PHG—Public Health Goal: The level of a contaminant in drinking water below which there is no known, or expected, risk to health. PHGs are set by the California Environmental Protection Agency.

MRDL—Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG—Maximum Residual Disinfectant Level Goal: 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.

NTU—Nephelometric Turbidity Units: a measurement of the clarity of water.

ppb: parts per billion. A measurement of the concentration of a substance in the water. One penny in \$10,000,000 would be 1 ppb.

ppm: parts per million. A measurement of the concentration of a substance in the water. One penny in \$10,000 would be 1 ppm.

Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Secondary Drinking Water Standards: Limits for substances that may affect consumer acceptance of water, but are not otherwise harmful. Secondary MCLs are set to address the taste, odor, and appearance of drinking water.

TT—Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

µS/cm—microsiemen (µS) per centimeter: A measurement of water's ability to conduct electrical current.

About drinking 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 USEPA's Safe Drinking Water Hotline at (800) 426-4791.
- Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as individuals with cancer, undergoing chemotherapy, individuals 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. USEPA/ Centers for Disease Control (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 at (800) 426-4791.
- 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.



If you would like to have more information on items related to water quality issues visit the EPA website at water.epa.gov/drink or the California Department of Drinking Water website at waterboards.ca.gov/drinking_water/programs.

Statement on lead

Infants, young children, and pregnant women are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of the materials used in your home's plumbing.

If your water faucet has not been used for several hours, you can minimize the potential for lead exposure by flushing the faucet for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Additional information is available from the USEPA Safe Drinking Water Hotline (800) 426-4791 or at epa.gov/safewater/lead.



Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, that 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 that 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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.
- Radioactive contaminants 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, the U.S. Environmental Protection Agency (USEPA) and the California Department of Drinking Water prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.
- The City of Roseville 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 (800) 426-4791, or by visiting [epa.gov/safewater/lead](https://www.epa.gov/safewater/lead).

Footnotes

(1) Fluoride is added in order to help prevent dental cavities. The optimal fluoride level is 0.7 ppm.

(2) For Total Coliform Bacteria the highest percentage of positive samples collected in any month is reported as the average. The MCL is 5% of monthly samples are positive. Coliforms are bacteria that are naturally present in the environment and are used as indicators that other, potentially harmful, bacteria may be present.

(3) There are no PHGs, MCLGs or mandatory standard health effects language for constituents with secondary drinking water standards because secondary MCLs are set on the basis of aesthetics.



To help Roseville sustain its water supply, we are encouraging customers to adopt and continue water use efficiency practices and limit the amount of water used for any given purpose.

Please take advantage of the valuable tips, rebate information, and educational material the city offers and join in our effort to reduce our use by following these simple steps:



Reduce your outdoor irrigation

Outdoor irrigation can account for up to 60% of your total water use.



Check for leaks

Drips and breaks can waste hundreds of gallons of water each day. For more information, check out the "how-to videos" at roseville.ca.us/savewater.



Schedule a Water Wise House Call

Let our experts analyze your water use and provide you with water-saving tips and devices free of charge. Schedule your appointment or call today at: roseville.ca.us/housecall or (916) 774-5761.



Commercial customers

Schedule a water-use review. We'll perform a thorough assessment of indoor and outdoor use to identify inefficiencies and make recommendations for improvement. Call (916) 774-5761 to schedule your appointment today.



Report water waste at roseville.ca.us/waterwaste

Your eyes and ears are essential to help the city identify potential problem areas and educate our residents about unnecessary water waste.

Water quality analysis results for 2022*

Substance	MCL	PHG [MCLG]	Folsom Lake Average	Folsom Lake Range	Folsom Lake Year of Sampling	Groundwater Average	Groundwater Range	Groundwater Year of Sampling	Violation	Typical source
Water source monitoring										
Results of Monitoring for Secondary Drinking Water Standards										
Turbidity (NTU)	"TT = 1.0 NTU TT = 95% of samples <0.3 NTU"		0.02 100% <0.3	0.02 - 0.28	2022	0.49	0.15 - 1.1	2019, 2022	NO	Runoff/leaching from natural deposits
Fluoride - natural (ppm)	2.0 ppm	1	ND	ND	2022	0.37	0.26 - 0.62	2019, 2022	NO	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Total Organic Carbon (ppm)		none	0.95	0.63 - 1.3	2022			N/A	NO	Runoff/leaching from natural deposits
Gross Alpha Particle Activity (pCi/L)	15 pCi/L	0	ND	ND	2021	0.7	ND - 1.92	2019, 2022	NO	Runoff/leaching from natural deposits
Radium (pCi/L)	5 pCi/L	0.05	ND	ND	2021	0.11	ND - 0.44	2019	NO	Runoff/leaching from natural deposits
Barium (mg/L)	1 mg/L	2 mg/L	ND	ND	2022	0.03	ND - 0.16	2018	NO	Runoff/leaching from natural deposits
Nitrate as NO3 (mg/L)	10 mg/L	10	ND	ND	2022	1.1	1.0 - 1.3	2022	NO	Runoff/leaching from natural deposits; leaching from fertilizer, septic tanks, and sewage
Arsenic	10 µg/L	0.004	ND	ND	2022	0.46	ND - 2.3	2022	NO	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Results of Monitoring for Secondary Drinking Water Standards										
Chloride (ppm)	500 ppm	none	3.2	3.2	2022	92	6.3 - 250	2018, 2022	NO	Runoff/leaching from natural deposits; seawater influence
Total Dissolved Solids (ppm)	1000 ppm	none	62	62	2022	350	140 - 650	2021	NO	Runoff/leaching from natural deposits
Specific conductance (uS/cm)	1600 uS/cm	none	91	91	2022	508	380 - 940	2021, 2022	NO	Substances that form ions within water
Bicarbonate (ppm)	none	none	32	32	2022	78	33 - 120	2019, 2021	NO	Runoff/leaching from natural deposits
Alkalinity (ppm)	none	none	32	32	2022	64	33 - 140	2019, 2021	NO	Runoff/leaching from natural deposits
Calcium (ppm)	none	none	11	11	2022	31.8	13 - 62	2019, 2021	NO	Runoff/leaching from natural deposits
Magnesium (ppm)	none	none	2	2	2022	10.6	5 - 23	2019, 2021	NO	Runoff/leaching from natural deposits
Potassium (ppm)	none	none	ND	ND	2022	0.45	ND - 2.7	2021	NO	Runoff/leaching from natural deposits
Sodium (ppm)	none	none	3.5	3.5	2022	35.2	12 - 79	2019, 2021	NO	Runoff/leaching from natural deposits
pH (pH units)	none	none	8.81	7.6 - 9.6	2022	7.6	7.3 - 7.9	2019, 2022	NO	Runoff/leaching from natural deposits
Total Hardness (ppm)	none	none	37	37	2022	120	45 - 250	2016, 19, 21	NO	Runoff/leaching from natural deposits
Sulfate as SO4 (mg/L)	500 mg/L	none	5.7	5.7	2022	18	5.4 - 37	2018 - 2022	NO	Runoff/leaching from natural deposits
Iron (ppb)	300	none	ND	ND	2022	74	ND - 370	2019, 2021	NO	Runoff/leaching from natural deposits
Odor --- Threshold	3 TON	none	2.5	2.5	2022	0.2	ND - 1	2022	NO	Naturally-occurring organic materials
Additional Monitoring										
Aggressive Index		none	11	11	2022	12	12	2021	NO	Runoff/leaching from natural deposits
Langelier Index		none	-1.2	-1.2	2022	-0.54	-0.46 - -0.65	2021	NO	Runoff/leaching from natural deposits
Distribution system monitoring										
Substance	MCL	PHG [MCLG]	Distance Average	Distance Range				Year of sampling	Violation	Typical source
Total Trihalomethane (ppm)	80		48.5	24 - 72				2022	NO	Byproduct of drinking water chlorination
Haloacetic Acids (ppm)	60		30.6	15 - 65				2022	NO	Byproduct of drinking water chlorination
Chlorine Residual (ppm)	4.0	4	0.78	0.02 - 1.92				2022	NO	Drinking Water Disinfectant added for treatment
Fluoride - added (ppm)	2.0 ppm	1	0.62	0.37 - 1.3				2022	NO	Water additive which promotes strong teeth
Lead and copper monitoring										
			90th Percentile	#Sample/ # Exceeded AL						
Lead (ppb)	AL = 15	0.2	ND	55/0				2021	NO	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppb)	AL = 1300	300	ND	55/0				2021	NO	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Number of Schools Requesting Lead Sampling: 26										
Unregulated Contaminant Monitoring Rule (UCMR4) Results—Tests conducted in 2019 and 2020										
Constituent	Human Health Advisory	PHG	Average	Range						Potential sources
Germanium	None	N/A	0.14	ND - 1.2						Naturally occurring metal
Manganese	Notification level 500 ug/L	300 ug/L	3.9	ND - 8.6						Naturally occurring metal
HAA6Br	None	N/A	0.62	ND - 1.5						Byproduct of drinking water chlorination
HAA9	None	N/A	18.3	13 - 23						Byproduct of drinking water chlorination

*only detected constituents are reported