



ENVIRONMENTAL UTILITIES

2018 Water Quality Report



H2OH!

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 expert 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.

Thank you Roseville for doing your part!

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

roseville.ca.us/eu

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 continues as a top priority as we regularly implement vulnerability assessment 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 source to tap. Information provided in this report is for the water provided January through December 2018, 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;

Water sources

Drinking water (both 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 the presence of animals or from human activity. In 2018, 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 test 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 it reaches 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.

Roseville groundwater sources

Groundwater supply is important because it provides added water reliability to Roseville's customers in case of droughts or emergency. Currently, the city maintains six aquifer storage and recovery (ASR) groundwater wells as a backup supply to the city's primary surface water supply. ASR stores treated surface water into the ground for retrieval at a later date when water is needed. Groundwater is typically rain and snow that soaks through the ground and continues to move downward through pore (small openings) space in the soil until it reaches the aquifer under the city. The groundwater meets all water quality and health standards just like treated surface water, but may have aesthetic 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 2018, Roseville supplied 5.4 million gallons of groundwater (0.06% of supply) as part of our regularly scheduled groundwater 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 and 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 7 p.m. in the City of Roseville Council Chambers. The public is welcome to attend.

What is in water?

Last year, as in years past, your tap water met all EPA and State drinking water health standards. Roseville vigilantly safeguards its water supplies and, once again, we are proud to report that our system has never violated a maximum contaminant level, water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to state of California standards. We are committed to providing you with information.

Terms & 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

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.

Water quality analysis results for 2018

Water source monitoring

Substance	MCL	PHG [MCLG]	Folsom Lake Average	Folsom Lake Range	Groundwater Average	Groundwater Range	Year of sampling	Violation	Typical source
Detected results of monitoring for primary drinking water standards									
Turbidity (NTU)	"TT = 1.0 NTU TT = 95% of samples <0.3 NTU"		0.02 100% <0.3	0.02 - 0.27	0.62	0.015 - 1.1	2018	No	Soil runoff
Fluoride - natural (ppm)	2.0 ppm	1	ND	ND	0.24	0.2 - 0.36	2016/2018	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Fluoride - added (ppm)	2.0 ppm	1	Distrb. system avg: 0.65 Distrb. system range: 0.50 - 0.86	Distrb. system avg: 0.65 Distrb. system range: 0.50 - 0.86			2018	No	Water additive which promotes strong teeth
Total Organic Carbon (ppm)		none	1	0.7 - 1.2			2018	No	Runoff/leaching from natural deposits
Total Organic Carbon (ppm)		none			0.25	ND - 0.63	2013	No	Runoff/leaching from natural deposits
Arsenic	10 ppb	0.004	ND	ND	1.8	ND - 3.1	2013/16	No	Runoff/leaching from natural deposits
Gross Alpha Particle Activity	15 pCi/L	0	ND	ND	1.06	1.06 - 1.06	2018	No	Runoff/leaching from natural deposits
Combined Radium	5 pCi/L	5	ND	ND	1.6	1.41 - 1.79	2018	No	Runoff/leaching from natural deposits
Arsenic	10	4	ND	ND	0.8	ND - 2.9	2016	No	Erosion of natural deposits; runoff from orchards; electronics production waste
Barium	1 mg/L	2 mg/L	ND	ND	0.03	ND - 0.16	2018	No	Runoff/leaching from natural deposits
Nickel	100	12	ND	ND	2	ND - 12	2016	No	Erosion of natural deposits; discharge from metal factories
Nitrate as NO3	10 mg/L	10	ND	ND	1.1	0.69 - 1.6	2018	No	Runoff/leaching from natural deposits; leaching from fertilizer, septic tanks, and sewage
Detected results of monitoring for secondary drinking water standards									
Chloride (ppm)	500 ppm	N/A	1.6	1.6	121	53 - 250	2016/2018	No	Runoff/leaching from natural deposits; seawater influence
Total Dissolved Solids (ppm)	1000 ppm	N/A	44	44	415	270 - 720	2016/2018	No	Runoff/leaching from natural deposits
Specific conductance (uS/cm)	1600 uS/cm	N/A	42	42	541	370 - 990	2016/18	No	Substances that form ions within water
Bicarbonate (ppm)	none	N/A	25	25	115	74 - 200	2016/18	No	Runoff/leaching from natural deposits
Alkalinity (ppm)	none	N/A	21	21	94	61 - 160	2016/18	No	Runoff/leaching from natural deposits
Calcium (ppm)	none		7.8	7.8	33.5	18 - 66	2016/18		Runoff/leaching from natural deposits
Magnesium (ppm)	none	N/A	1.2	1.2	13	11 - 21	2016/18	No	Runoff/leaching from natural deposits
Potassium (ppm)	none	N/A	ND	ND	0.45	ND - 2.7	2016/18	No	Runoff/leaching from natural deposits
Sodium (ppm)	none	N/A	3.3	3.3	52	29 - 86	2016/18	No	Runoff/leaching from natural deposits
pH (pH units)	none	N/A	8.5	7.6 - 9.1	7.8	7.6 - 8.0	2018	No	Runoff/leaching from natural deposits
Total Hardness (ppm)	none	N/A	24	24	137	91 - 250	2016/18	No	Runoff/leaching from natural deposits
Sulfate as SO4	500 mg/L	N/A	4.3	4.3	19.4	6.6 - 37	2016/18	No	Runoff/leaching from natural deposits
Iron	300	N/A	ND	ND	130	120 - 140	2016/18	No	Runoff/leaching from natural deposits
Additional Monitoring									
Aggressive Index		none	10	10	11.7	11 - 12	2016/18	NO	Runoff/leaching from natural deposits
Langelier Index		none	-1.5	-1.5	-0.4	-.34 - -.52	2016/18	NO	Runoff/leaching from natural deposits

Distribution system monitoring Dist avg Dist range

Total Trihalomethane (ppm)	80		41	26 - 67			2018	No	Byproduct of drinking water chlorination
Haloacetic Acids (ppm)	60		24	17-37			2018	No	Byproduct of drinking water chlorination
Chlorine Residual (ppm)	4.0	4	0.78	0.12 - 1.23			2018	No	Drinking Water Disinfectant added for treatment

Lead and copper monitoring 90th percentile #Sampled/#Exceeded AL

Lead (ppb)	AL = 15	0.2	ND				2018	NO	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppb)	AL = 1300	300	ND				2018	NO	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Unregulated Contaminant Monitoring Rule (UCMR3) results—tests conducted in 2013 and 2014

Constituent	Human Health Advisory	PHG	Average	Range					Potential sources
Vanadium (ppb)	Notification level = 50	N/A	0.44	0.26-0.69					Naturally Occuring Metal
Strontium (ppb)	4000	N/A	41	32-53					Naturally Occuring Metal
Chromium (ppb)	50	N/A	1.05	ND-4.2					Runoff/leaching from natural deposits or discharge from Industrial Facilities
Hexavalent chromium (ppb)	10 (MCL)	0.02	0.025	ND-.051					Runoff/leaching from natural deposits or discharge from Industrial Facilities
Chlorate (ppb)	Notification level = 800	N/A	202	160-250					Oxidant used in pyrotechnics and possible by-product of water treatment

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.

Things you should know 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.

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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Unregulated Contaminant Monitoring Rule (UCMR3) results

USEPA requires public water systems to collect data for unregulated constituents in drinking water supplies under the Unregulated Contaminant Monitoring Rule 3. Currently, these constituents have no drinking water standards but may be regulated in the future. More information on this USEPA program can be found at <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>. The City of Roseville water was tested in 2013 and 2014. While some constituents were detected, none at any level of human health concern.

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.

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.