



CITY OF BENICIA

2025 ANNUAL WATER QUALITY REPORT

The City of Benicia (City) is proud to report that in calendar year 2025, your drinking water quality met or surpassed all Federal and State drinking water health standards. To ensure your tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Water Board) prescribe limits that regulate the amount of certain contaminants in water provided by public water systems. This drinking water quality report is provided to our water customers and contains information about the quality and sources of water treated from January 1, 2025, through December 31, 2025. This report and other information can be found on the City's website at www.ci.benicia.ca.us/publicworks

The City encourages customers to participate in City Council meetings which take place every first and third Tuesday of the month. For more information, please visit the City's website: <https://www.ci.benicia.ca.us/citycouncil>

Este informe contiene información es muy importante sobre su agua para beber. Favor de comunicarse City of Benicia 707-746-4336 para asistirlo en español.

If you would like a physical copy of this report have questions or comments regarding this report or would like more information relating to your drinking water quality, please contact Marc Bautista, Water Quality Supervisor, at 707-746-4394



The City owns and operates the Benicia Water Treatment Plant (WTP), transmission system, storage reservoirs, and distribution system, which serve approximately 30,000 customers and numerous visitors to our City. The WTP can produce up to 12 million gallons a day (MGD) of drinking water. Our water supply consists of three surface water sources: State Water Project water via the North Bay Aqueduct (NBA), Lake Berryessa transported through the Putah South Canal (PSC), and our local source, Sulphur Springs Creek diverted at Lake Herman. Each source provides clean and safe water for drinking, fire protection, irrigation, and industry. The City maintains the ability to treat and deliver from any of its sources based on seasonal and operational needs, as well as contractual obligations.

Source Water Assessments evaluate the quality of the water used as a drinking water supply for local communities and examine the water’s vulnerability to possible contamination from activities within the watershed. A copy of each assessment is available at: State Water Resources Control Board, Division of Drinking Water, San Francisco District Office, 850 Marina Bay Parkway Bldg. P, Second Floor Richmond CA 94804-6403, (510) 620-3474.

Source	Last Assessment	Identified Vulnerabilities
State Water Project via the North Bay Aqueduct (NBA)	2021	Cattle and sheep grazing activities
Lake Berryessa via the Putah South Canal	2023	Illegal activities/unauthorized dumping and herbicide application
Sulphur Springs Creek/ Lake Herman	2023	Urban runoff, herbicides and pesticides application, cattle grazing operations, and historic mining operations

SOURCES OF DRINKING WATER AND CONTAMINANTS THAT MAY BE IN SOURCE 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.

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 stormwater 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 stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

WTP UPDATE:

In 2025, the City completed several mechanical improvements at the WTP. These improvements included repairing a 60-year-old backwash line, rerouting a backwash fill line, and replacing six gate valves along with their associated electrically operated valves and actuators.

Additionally, staff took the opportunity to reroute and enhance a utility feed line that had been damaged during the emergency line break at the WTP in 2022.

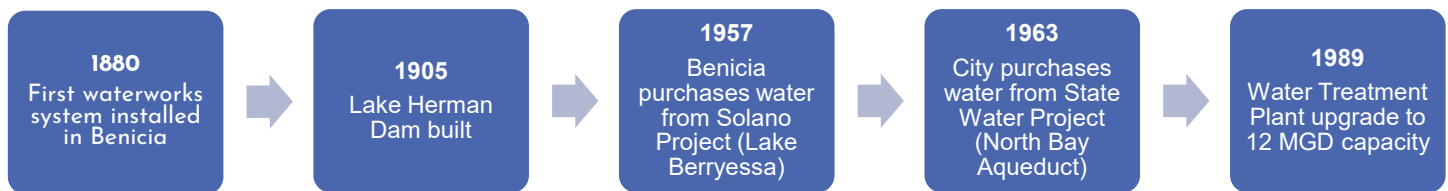


In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

SPECIAL INFORMATION

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 (1-800-426-4791).

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 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. U.S. EPA/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 (1-800-426-4791).



WATER QUALITY

HARDNESS is measured in milligrams per liter (mg/L). Calcium and Magnesium are naturally occurring materials in our water and can cause water to be “hard”. The City’s water calculated to 87 mg/L in 2025. This is generally considered “moderately hard” to “very hard”, in the range of 72 to 186 mg/L. Water that is characterized as “soft” (<30 mg/L) can be corrosive to plumbing pipes and water that is too “hard” (>300 mg/L) can cause scale to form on appliances and reduce laundry efficiency.

HEXAVALENT CHROMIUM The City is currently monitoring Hexavalent Chromium but is not required to meet regulatory standards until October 2026. In 2025, the observed concentration of hexavalent chromium in your water was 0.040 micrograms per liter (µg/L), which is below the upcoming standard of 10 µg/L. Significant sources include industrial applications and is also found naturally throughout the environment.

TURBIDITY is a measure of the cloudiness of the water, and it is measured in Nephelometric Turbidity Units (NTU). Turbidity is an indicator of the filtration system's effectiveness. The city measures the treated water after filtration at the water plant and in the distribution system. The limits and results for each in 2025 can be found in the table below.

PFAS The Fifth Unregulated Contaminant Monitoring Rule (UCMR5) was published by the U.S. EPA in December 2021. Under this rule, public water systems (PWS) are required to monitor for 29 PFAS compounds and lithium. In 2025, four quarters of testing resulted in only one quarter having three detections for those chemicals. See the table below. For more information, please visit <https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule>.

FLUORIDE Our water system treats your water by adding fluoride to the naturally occurring level to help prevent dental caries in consumers. State regulations require the fluoride levels in the treated water be maintained within a range of 0.6-1.7 mg/L with an optimum dose of 0.7-1.3 mg/L. Our monitoring showed that the fluoride level in the treated water was 0.7 mg/L. Information about fluoridation, oral health, and current issues is available from: http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml

LEAD AND COPPER

The Lead and Copper Rule was introduced by USEPA in 1991 to limit the concentration of lead and copper allowed in drinking water at the customer’s tap as well as to limit the corrosivity due to the water. The City’s corrosion control program proactively adjusts the pH of the water to form a calcium carbonate protective layer between the pipe material and the water supply to prevent lead and copper from leaching into the drinking water supply.

Every three years, the City is required to collect a representative set of drinking water samples collected directly from City customers’ indoor faucets. USEPA requires that the 90th percentile value of the samples be below the regulatory action level (AL) of **15 ppb for lead and 1.3 ppm for copper**. In 2024, 37 homes were tested for lead and copper, and no homes were detected above the regulatory action level (see above table). The next lead and copper test is scheduled for late Summer/Fall 2027.

2024 Lead and Copper Sampling Results						
Contaminant	Action Level (AL)	Public Health Goal (PHG)	Range	90th Percentile	Number of Sites Above the AL	Contaminant Source
Lead (ug/L)	15	0.2	ND – 11	2.33	0	Corrosion of household plumbing systems
Copper (mg/L)	1.3	0.3	0.012 -0.170	0.07	0	

MINIMIZING EXPOSURE TO LEAD

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. City of Benicia is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact City of Benicia and Water Quality Supervisor, Marc Bautista at 707-746-4394. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

According to USEPA, homes built before 1986 are more likely to have lead pipes or fixtures and solders that contain lead. However, due to the City’s corrosion control program and the replacement of lead service lines, very little lead is leached from these plumbing materials. If a customer is concerned about the risk of lead exposure from drinking water, we encourage you to have your water tested by a certified laboratory. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

In 2024, a stratified random sample of 939 customer service lines was completed. The survey was organized by decade, achieving a 95% confidence level and a margin of error of 5%. Although no lead was found in the inspected lines, 10 lines have been identified for replacement. Staff was unable to determine the material of upstream pipe for 10 galvanized connections. If you would like to review the service line inventory or are concerned about lead in your water, please contact the City at 707-746-4394.

PRIMARY DRINKING WATER STANDARDS <i>Contaminants that may affect your health</i>					
Parameters/ Constituents (units)	Range	Result or Average	MCL or {MRDL}	PHG or {MRDLG}	Major Source in Drinking Water
Inorganics					
Fluoride (mg/L)		0.70	2.0	1.0	Erosion of natural deposits; water additive to promote strong teeth
Microbial					
Coliform Bacteria (p/a)	1 of 471	0.21%	5%	0	Naturally present in the environment
Disinfection Byproducts					
Chlorine (mg/L)	0.62 - 1.59	1.12	{4.0 as Cl ₂ }	{4.0 as Cl ₂ }	Drinking water disinfectant added for treatment
Total Trihalomethanes (ug/L)	67-76	70	{80}	N/A	A by-product of drinking water disinfection
Total Haloacetic Acids (ug/L)	14 - 18	16	{60}	N/A	A by-product of drinking water disinfection

SECONDARY DRINKING WATER STANDARDS <i>Contaminants that may affect the odor, taste, or appearance of water</i>				
Parameters/ Constituents (units)	Range	Result or average	SMCL	Major Source in Drinking Water
Turbidity (NTU) in the water plant at Filtration ¹	0.03 - 0.19	0.07	1	Soil runoff ¹ <i>Treatment Technique</i>
		100% of samples ≤0.3	95% of samples ≤0.3	
Turbidity (NTU) in the treated water		0.20	5	Soil runoff
Chloride (mg/L)		18	500	Runoff/leaching of natural deposits; seawater influence
Sulfate (mg/L)		48	500	Runoff/leaching of natural deposits; industrial waste

GENERAL WATER QUALITY PARAMETERS <i>Non-regulated parameters of general interest to consumers</i>			
Parameters/Constituents (units)	Range	Result or Average	MCL
Calcium (mg/L)		15	N/A
Magnesium (mg/L)		12	N/A
Hardness (mg/L) calculated		87	N/A
Potassium (mg/L)		2.0	N/A
Sodium (mg/L)		37	N/A
pH	7.42 - 8.66	8.14	N/A
Alkalinity (mg/L)		87	N/A



Detected Unregulated Contaminants (UCMR 5)		
Parameters/Constituent (units)	Result	MCL
Perfluorobutanesulfonic acid (PFBS) (ug/L)	0.0033	N/A
Perfluorobutanoic acid (PFBA) (ug/L)	0.0063	N/A
Perfluorohexanoic acid (PFHxA) (ug/L)	0.0034	N/A

Violation	Explanation	Duration	Actions taken to Correct Violation	Health Affects
Coliform Assessment and/or Corrective action violations	In December 2025, staff failed to collect all required repeat samples after any single total coliform-positive sample. A resample was taken and sample was negative, however, additional samples upstream and downstream were not taken.	December 22- 26 2025	City staff confirmed that adequate resamples were not taken and implemented additional review procedures to prevent recurrence in the future. All other regulatory samples during the month were conducted and were in compliance.	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found.

KEY WATER QUALITY TERMS

AL Regulatory action level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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 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 US EPA.

MRDL Maximum Residual Disinfectant Level. 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.

MRDLG Maximum Residual Disinfectant Level Goal. The level of 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.

N/A Not Applicable/ available

ND/NS Non-Detect/Not Sampled

PDWS Primary Drinking Water Standard. MCLs, MRDLs and Treatment Techniques (TT) for contaminants that affect health along with their monitoring and reporting requirements.

Public Health Goal (PHG) The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by CA EPA.

RAA Running Annual Average

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

UNITS

ug/L micrograms per liter or Parts per billion (ppb) Equivalent to one second in 32 years

mg/L milligrams per liter or Parts per million (ppm) Equivalent to one second in 11.5 days

NTU Nephelometric Turbidity Units, a measure of the relative clarity of water

MGD Million Gallons per Day

MG Million Gallons

uS/cm MicroSiemens per centimeter

P/A present/absent from the distribution system

