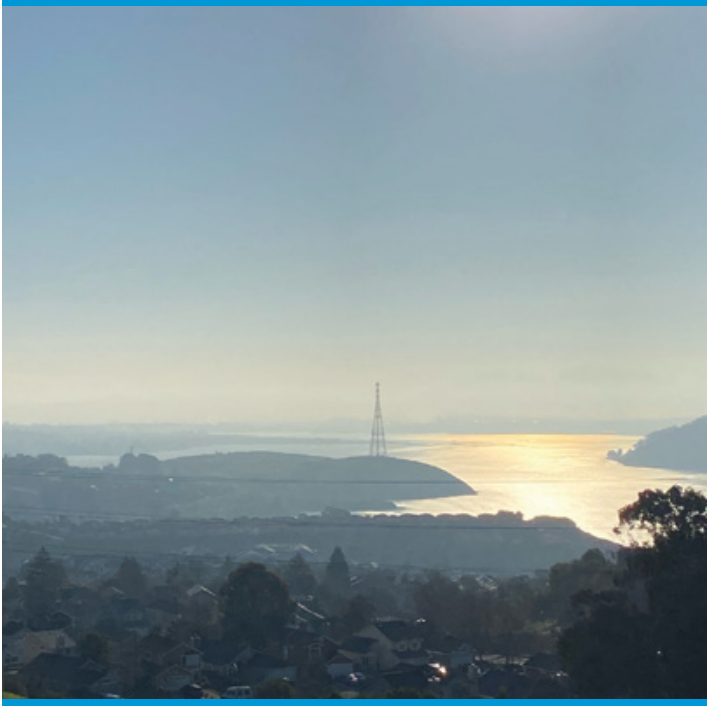
Annual
Water Quality Report

Water Testing Performed in 2021



City of VALLEJO California
WATER
Clear Vision
Bright Future

City of Vallejo System, CA4810007

City of Vallejo Lakes System, CA4810021

30073-I-0037

The City of Vallejo welcomes this yearly opportunity to provide our customers with the Annual Water Quality Report. We have included information so you know where your drinking water comes from, how it is treated and how its quality compares to drinking water standards.

This report contains information from water quality testing in 2021 and shows how your water compares with primary and secondary standards established by the State Water Resources Control Board and the U.S. Environmental Protection Agency (USEPA). Primary standards are health related standards whereas secondary standards relate to consumer acceptance of the water supply and govern qualities such as taste, odor and color.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2021. These revisions add the requirements of the federal Revised Total Coliform Rule (rTCR), effective April 1, 2016, to the existing state Total Coliform Rule (TCR). The revised rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The USEPA anticipates greater public health protection as the rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system. The state Revised Total Coliform Rule became effective July 1, 2021.

The tables in this report show each constituent found, the level at which they occur, how their level compares with standards and their most likely source. For more information about this report, or for any questions relating to your drinking water, please call Danielle Bonham, City of Vallejo, Water Quality Manager, at (707) 649-3473.

Public Participation

You are invited to participate in our public forum and voice your opinions and concerns about your drinking water. The Vallejo City Council meets on various Tuesdays, throughout the year, at 7:00 p.m. at 555 Santa Clara Street, Vallejo. You may call the City Clerk at (707) 648-4527 for specific meeting dates.

Your Water Treatment Process

The **City of Vallejo** water system and service area receives its finished water from the forty-two million gallons per day Fleming Hill Water Treatment Plant. This conventional treatment facility utilizes a multi-barrier process to ensure compliance with all State and Federal drinking water regulations and standards.

Initially, ozone is added to help remove dissolved organic matter and to aid in downstream processes. The water then flows to mixing basins where coagulants are added and the water is gently agitated so that fine suspended particles come together to form large 'floc' particles that settle out of the water. This process, known as coagulation, flocculation and sedimentation is followed by the addition of more ozone to disinfect and remove unwanted color, taste and odor.

The next step is filtration, where the water flows through multimedia filters consisting of granular activated carbon and sand in order to meet strict standards for clarity and to reduce the levels of microbial contaminants that could be in the untreated source water. Following filtration, the water receives additions of caustic soda (for pH and alkalinity control), fluoride (for the prevention of dental caries), and finally chlorine (to provide microbial protection throughout Vallejo's distribution system). Quality control and assurance is maintained at all times through uniform adherence to standard operating procedures and a meticulous schedule of laboratory analyses.

The **City of Vallejo Lakes System's** Green Valley Water Treatment Plant, which provides water service to the Lakes service area, can treat up to one million gallons a day.

First, the MIEX™ pretreatment process removes naturally-occurring dissolved organic matter. This treatment, using ion exchange resin, enables us to meet the Disinfectants and Disinfection Byproducts Rule by sufficiently lowering the levels of total organic carbon, therefore limiting the formation of disinfection byproducts such as total trihalomethanes. Total trihalomethanes are chemicals formed over time in the distribution system when dissolved organic matter combines with chlorine. Regulations require that we use chlorine to disinfect surface water.

The treatment plant's conventional treatment process uses polymer to promote coagulation, flocculation and sedimentation which removes a majority of the soil particles from the water. Then, the water gravity flows through multimedia filters consisting of anthracite and sand so that it will meet clarity standards required to decrease microbial contaminants and to aid the disinfection process. Depending on which water source or blend of sources we are treating (Lakes Madigan and Frey and/or Putah South Canal), we may add soda ash in order to increase alkalinity and pH. The last step of the treatment process adds chlorine to disinfect the water supply and to provide continual protection in the distribution system. The Green Valley Water Treatment Plant does not add fluoride to your water.

A Message From the United States Environmental Protection Agency

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, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;

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Message from Environmental Protection Agency continued from inside

- 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, 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, which are byproducts of industrial processes and petroleum production, which may also come from gas stations, urban stormwater runoff, agricultural applications and septic systems; and
- Radioactive Contaminants which may be naturally-occurring or 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 State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

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 1-800-426-4791.

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

(707) 648-4307

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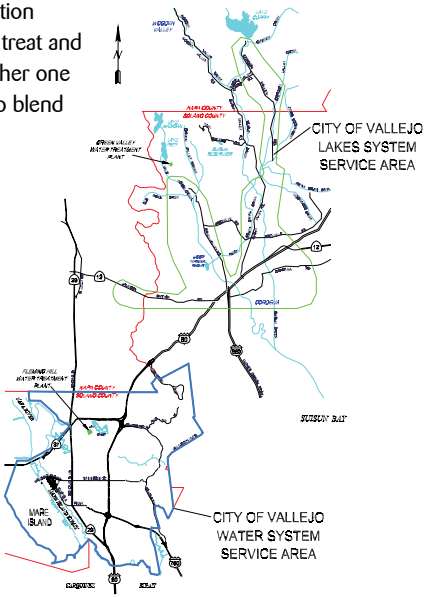
Your Water Sources

The City of Vallejo owns and operates two permitted public water systems for the benefit of our customers in two major service areas. The City of Vallejo Water System and service area provides drinking water to customers within the city limits, to some customers in the unincorporated areas adjacent to City boundaries and to a limited number of customers in the City of American Canyon.

The City of Vallejo Water System customers are fortunate because they receive water supplies from two surface water sources. The Solano Project provides source water from Lake Berryessa, transported to our facilities by the Putah South Canal. The City also receives surface water from the State Water Project. This water, from Lake Oroville, travels through the Sacramento River to the State's North Bay Aqueduct pumping facilities. Our source water pumping and distribution facilities enable us to treat and deliver water from either one of these sources or to blend these sources before treatment at the Fleming Hill Water Treatment Plant and distribution to the Vallejo service area. The City of Vallejo Lakes System and service area is a public water system with its own treatment plant and distribution system that delivers drinking water to customers residing in the Green Valley, Old Cordelia, Jameson Canyon, Suisun Valley, Willotta Oaks and Gordon Valley areas.



This system and service area also has water available from two distinct surface water sources. In addition to the Solano Project's Lake Berryessa water delivered from the Putah South Canal by agreement with the Solano Irrigation District, this system treats water from Lakes Frey and Madigan, which are two interconnected lakes owned by the City of Vallejo. The Green Valley Water Treatment Plant can either treat these two sources separately or blend these two sources before treatment and delivery to our customers. In case of emergencies, portions of this system can receive treated water from the City of Fairfield. For a copy of their Annual Water Quality Report, please call (707) 437-5386.

City of Vallejo Annual **Water Quality Report** *Water Testing Performed in 2021*

PRIMARY DRINKING WATER STANDARDS - Health Related Standards

PARAMETER/CONSTITUENT (units of measurement)	STATE MCL	PHG (MCLG)	VALLEJO SERVICE AREA RANGE	VALLEJO SERVICE AREA AVG	LAKES SERVICE AREA RANGE	LAKES SERVICE AREA AVG	MAJOR SOURCES IN DRINKING WATER
INORGANICS							
ASBESTOS (MFL)	7	7		ND		ND	Internal corrosion of asbestos cement water mains; Erosion of natural deposits
FLUORIDE (ppm)	2.0	1	0.49 - 0.75	0.64	ND - 0.11	ND	Water additive; Erosion of natural deposits; Factory discharge
MICROBIAL							
TOTAL COLIFORM BACTERIA (% or # monthly positive samples)	5.0% or 1 sample		0%	ND	ND - 1	ND	Naturally present in the environment
FECAL COLIFORMS and *E. COLI* (# positive samples)	0	(0)	0		0		Human and animal fecal waste
The City of Vallejo water system collects at least 40 samples per month, so no more than 5.0% of all samples in a month may be positive for total coliforms. The Lakes water system typically collects fewer than 40 sample per month, so no more than 1 sample in a month may be positive for total coliforms. No water system, regardless of size or number of monthly samples, may have any samples positive for *E. coli* or fecal coliforms.							
CLARITY							
TURBIDITY (NTU)	TT = 95% of samples ≤ 0.3		100% of samples ≤ 0.3		100% of samples ≤ 0.3		Soil runoff
	Maximum ≤ 1		Maximum = 0.20		Maximum = 0.10		
	TT = % reduction ≥ 80%		99% - 100%	99%	99% - 100%	99%	
Turbidity is a measurement of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. MCL compliance is based on all samples taken each month. All samples were in compliance.							
RADIOLOGICAL							
RADIUM 228 (pCi/L)	5	0.019			ND	ND	Erosion of natural deposits
GROSS ALPHA (pCi/L)	15	(0)	ND	ND			
The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Consequently, some of our radiological sample data, though representative, are more than one year old. The City of Vallejo water system sampled Gross Alpha in 2020 and the Lakes System sampled Radiologicals in 2016.							
DISINFECTANT	**MRDL**	**EPG MRDLG**					
CHLORINE, Free Residual as Cl_2 (ppm)	4.0*	4	ND - 1.81	0.82	ND - 2.07	0.63	Disinfectant for drinking water
DISINFECTION BYPRODUCTS							
BROMATE (ppb)	10*	0.1	ND - 2.2	1.3	N/A	N/A	Byproduct of drinking water disinfection
TRIHALOMETHANES, TOTAL (ppb)	80*	N/A	25 - 53	40	24 - 58	42	
HALOACETIC ACIDS, SUM OF HAA5 (ppb)	60*	N/A	10 - 21	15	7.0 - 19	13	
DISINFECTION BYPRODUCTS PRECURSOR							
TOTAL ORGANIC CARBON (% Removal Ratio)	TT = Running Annual Average (RAA) ≥ 1*		All RAA ≥ 1 Minimum = 1.7		All RAA ≥ 1 Minimum = 2.5		Various natural and manmade sources; Decay of natural organic matter

*Compliance levels for the parameters listed above are based on a running annual average determined quarterly. This means that every three months, we average all the sample results taken during the prior twelve month period. Results for minimum and maximum values are based on single samples.

Notice to Customers Residing in the City of Vallejo Lakes System Service Area Only

If you reside in the Old Cordelia service area please contact City of Fairfield at 707-437-5386 for a copy of their Annual Water Quality Report.

All residences on Willotta Drive received City of Vallejo Lakes System Water in 2021.

PRIMARY STANDARDS—LEAD and COPPER STUDY—Monitoring of Customers' Tap Water

PARAMETER/CONSTITUENT (units of measurement)	AL	PHG (MCLG)	Vallejo Service Area 90th %	Number of Homes Above Action Level	Number of Homes Sampled in 2021	Lakes Service Area 90th %	Number of Homes Above Action Level	Number of Homes Sampled in 2020	MAJOR SOURCE IN DRINKING WATER
COPPER (ppm at the 90th Percentile)	1.3	0.3	0.073	0	58	0.110	0	11	Internal corrosion of household plumbing; Erosion of natural deposits
LEAD (ppb at the 90th Percentile)	15	0.2	ND	0	58	7.0	0	11	

Every three years the City is required to sample at the homeowners' faucets for lead and copper. This monitoring ensures our water is not too corrosive and does not leach unsafe levels of these metals into your drinking water. Compliance measurements are from the 90th percentile (the highest level measured from 90% of the homes sampled). The latest monitoring, for both water systems, did not detect lead in 90% of the homes sampled.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Vallejo 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 at 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

The City of Vallejo has complied with HSC 116277 and AB 746: Lead Testing of Drinking Water in California Schools. No schools requested lead sampling in 2021.

SECONDARY DRINKING WATER STANDARDS - Aesthetics Related Standards

PARAMETER/CONSTITUENT (units of measurement)	STATE MCL	PHG or (MCLG)	VALLEJO SERVICE AREA WATER RANGE	VALLEJO SERVICE AREA WATER AVG	LAKES SERVICE AREA WATER RANGE	LAKES SERVICE AREA WATER AVG	MAJOR SOURCES IN DRINKING WATER
CHLORIDE (ppm)	500	N/A	9.1 - 26	24	16 - 110	24	Runoff / leaching from natural deposits; Seawater influence
ODOR-THRESHOLD (units)	3		all samples ND	ND	all samples ND	ND	Naturally-occurring organic materials
SPECIFIC CONDUCTANCE (µS/cm)	1,600		230 - 410	310	240 - 610	350	Substances that form ions when in water; Seawater influence
SULFATE (ppm)	500		22 - 58	30	5 - 19	15	Runoff / leaching from natural deposits; Industrial wastes
TOTAL DISSOLVED SOLIDS (ppm)	1,000		130 - 250	210	130 - 300	210	Runoff from natural deposits
MONITORING FOR SODIUM and HARDNESS							
SODIUM (ppm)	N/A	N/A	31	31	19	19	Naturally-occuring minerals
TOTAL HARDNESS (ppm as $CaCO_3$)			74 - 175	89	79 - 178	148	
TOTAL HARDNESS (grains/gallon as $CaCO_3$)			4.3 - 10.2	5.2	4.6 - 10.4	8.6	

Special Health Concerns

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. The 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 1-800-426-4791.

Source Water Assessments and Vulnerability Summaries

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. Source Water Assessments were completed in 2017 for the Putah South Canal and in 2016 for Lakes Frey and Madigan. The North Bay Aqueduct's (Sacramento Delta) assessment was completed in 2016. The adjacent table summarizes the vulnerability of each water source and provides a contact name if you would like copies of the complete assessments.

Vulnerability Assessments Table

Source	Most Vulnerable Activities	Moderately Vulnerable Activities	Contact
Lakes Frey and Madigan	Illegal body contact*, Wild animal access*, Agricultural drainage*, Illegal activities/dumping, Herbicide applications	Other animal operations, Wildfires, Road/Streets, Storm drain discharge, Recreational areas	John Palesi City of Vallejo (707) 648-4519
Putah South Canal			Alex Rabidoux Solano County Water Agency (707) 451-6090
North Bay Aqueduct	Grazing animals*, Runoff from grazing land	Runoff from agricultural land	Alex Rabidoux Solano County Water Agency (707) 451-6090

*Associated with detected contaminants

USEPA Unregulated Contaminant Monitoring Rule

Throughout 2018, the USEPA required all large public water systems to monitor for contaminants that are currently unregulated. Unregulated contaminant monitoring helps the USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated. This monitoring program only applies to the City of Vallejo service area. The table below lists unregulated contaminants that were detected, as well as the range and average of those detections.

PARAMETER/CONSTITUENT (units of measurement)	RANGE	AVERAGE	MAJOR SOURCES IN DRINKING WATER	NOTES
MANGANESE (ppb)	ND - 1.9	0.89	Leaching from natural deposits	
TOTAL HAA6Br (ppb)	4.2 - 8.1	5.8	Byproduct of drinking water disinfection	Sum of bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, dibromochloroacetic acid, monobromoacetic acid, and tribromoacetic acid
TOTAL HAA9 (ppb)	10 - 30	19		Sum of bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, and trichloroacetic acid

DEFINITIONS OF TERMS USED IN THIS REPORT

AL-Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

***E. coli* - *Escherichia coli*:** A common coliform bacterium, some strains of which can cause infection.

HAA5-Sum of 5 Haloacetic Acids: Sum of monochloroacetic acid, monobromoacetic acid, dichloroacetic acid, dibromoacetic acid, and trichloroacetic acid."

MCL-Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as closed 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. EPA.

MFL-Million fibers per liter: A measure of the presence of asbestos fibers.

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 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.

N/A: Not applicable.

ND: Not detected.

NTU-Nephelometric Turbidity Units: A measure of particles in water that make it appear cloudy.

pCi/L-picoCuries per liter: A measure of radioactivity.

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 EPA.

ppb: Parts per billion or micrograms per liter (µg/L).

ppm: Parts per million or milligrams per liter (mg/L).

(PDWS)-Primary Drinking Water Standards: MCLs, MRDLs, and TTs for contaminants that affect health, along with their monitoring and reporting requirements.

(SDWS)-Secondary Drinking Water Standards: MCLs for aesthetic characteristics of water (such as color, taste, and odor) that may affect the consumer's acceptance of their water supply.

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

µS/cm-microsiemens per centimeter: A measure of electrical conductivity.

City of Vallejo Water Conservation Program

Contact us for information on free water-saving devices and services or rebates to help reduce water use.

www.vallejowater.org

(707) 648-5299 or (707) 648-4479