

2018

Water Quality Report

OROVILLE DISTRICT



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

Quality. Service. Value.®

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Welcome

Since 1927, California Water Service (Cal Water) has been committed to providing quality, service, and value to our customers. Our highest priority is to deliver a reliable supply of water that meets all federal and state water quality standards, any and every time you turn on the tap. This means you don't have to wonder whether your water is safe to use and drink; we're dedicated to making sure it is.

In 2018, we conducted 428,037 tests on 66,551 water samples for 318 constituents. **We are pleased to confirm that we met every primary and secondary state and federal water quality standard last year.**

Ensuring that high-quality water is always available to you means maintaining and upgrading the infrastructure needed to move water from the source to your tap, and having expert professionals to assist you with both routine service needs and after-hours emergencies. Although the costs to obtain, treat, test, store, and deliver safe water continue to increase across the country, we work hard to operate efficiently to keep your water affordable — less than a penny per gallon in almost all of our service areas.

This annual water quality report details any constituents detected in your water supply in 2018 and shows how your water compares to federal and state water quality standards. It also highlights other current water quality issues and steps we take to protect your health and safety.

If you have any questions, you can contact us by phone, online at www.calwater.com, or in person at our local Customer Center. For important water service announcements, please visit our web site or watch for information in your monthly bill, and be sure your contact information is up to date by visiting ccu.calwater.com.

Sincerely,

George Barber, District Manager, Oroville District

[Oroville District 1905 High Street Oroville, CA 95965-4938 (530) 533-4034]

Your Water System

Cal Water has provided high-quality water utility services in Oroville since 1927. Most of the water we provide to customers is surface water from the west branch of the Feather River, which is processed at our treatment plant. This surface water supply is supplemented by local groundwater produced by our four wells.

Our system also includes 52 miles of pipeline, two storage tanks, and six booster pumps. We may also utilize a connection with Thermalito Irrigation District during emergencies or treatment plant maintenance.

Cal Water's company-wide water quality assurance program includes vigilant monitoring throughout our systems and testing at our state-of-the-art laboratory. Additionally, we proactively maintain and upgrade our facilities to ensure a reliable, high-quality supply.

If you have any questions, suggestions, or concerns, please contact our local Customer Center, either by phone at (530) 533-4034 or through the Contact Us link at www.calwater.com.

USING WATER WISELY

As we await more information on the long-term water-use regulations from the State of California, it's important that we make water-use efficiency a way of life. Using water wisely will ensure that we have enough water in dry years and for generations to come.

Cal Water has a robust water conservation program that includes rebates, kits, and other tools to help our customers save water.

Visit www.calwater.com/conservation for details.

WATER QUALITY LABORATORY

Water professionals collect samples from throughout the water system for testing at our state-of-the-art water quality laboratory, which is certified through the stringent Environmental Laboratory Accreditation Program (ELAP). Scientists, chemists, and microbiologists test the water for 318 constituents with equipment so sensitive it can detect levels as low as one part per trillion. In order to maintain the ELAP certification, all of our scientists must pass blind-study proficiency tests each year for every water quality test performed. Water quality test results are entered into our Laboratory Information Management System (LIMS), a sophisticated software program that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.

CROSS-CONNECTION CONTROL

To ensure that the high-quality water we deliver is not compromised in the distribution system, Cal Water has a robust cross-connection control program in place. Cross-connection control is critical to ensuring that activities on customers' properties do not affect the public water supply. Our cross-connection control specialists ensure that all of the existing backflow prevention assemblies are tested annually, assess all non-residential connections, and enforce and manage the installation of new commercial and residential assemblies. Last year, our specialists oversaw installation of 2,243 new assemblies and testing of 39,358 backflow prevention assemblies company-wide.

Our customers are our first line of defense in preventing water system contamination through backflow. A minor home improvement project can create a potentially hazardous situation, so careful adherence to plumbing codes and

standards will ensure the community's water supply remains safe. Please be sure to utilize the advice or services of a qualified plumbing professional.

Many water use activities involve substances that, if allowed to enter the distribution system, would be aesthetically displeasing or could present health concerns. Some of the most common cross-connections are:

- Garden hoses connected to a hose bib without a simple hose-type vacuum breaker (available at a home improvement store)
- Improperly installed toilet tank fill valves that do not have the required air gap between the valve or refill tube
- Landscape irrigation systems that do not have the proper backflow prevention assembly installed on the supply line



DWSAPP

By the end of 2002, Cal Water had submitted to the Division of Drinking Water (DDW) a Drinking Water Source Assessment and Protection Program (DWSAPP) report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid in prioritizing cleanup and pollution prevention efforts. All reports are available for viewing or copying at our Customer Center.

The water sources in your district are considered most vulnerable to:

- Existing and historic gas stations
- Known contaminant plumes
- Underground storage tanks
- Wastewater
- Dry cleaners
- Utility stations (maintenance areas)
- Chemical/petroleum processing
- Plastics/synthetics producers
- Grazing
- Agricultural drainage
- Managed forests

We encourage customers to join us in our efforts to prevent water pollution and protect our most precious natural resource.



2018 Results

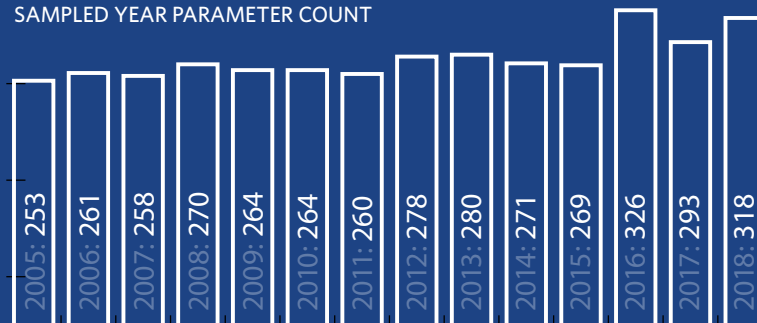
FLUORIDE

State law requires Cal Water to add fluoride to drinking water if public funding is available to pay for it, and it is a practice endorsed by the American Medical Association and the American Dental Association to prevent tooth decay. In this area, Cal Water adds fluoride to achieve levels considered optimum for good dental health. Show the table in this report to your dentist to see if he or she recommends giving your children fluoride supplements.

More information about fluoridation, oral health, and related issues can be found on the DDW web site at www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html. For general information on water fluoridation, visit us online at www.calwater.com.

NUMBER OF CONSTITUENTS TESTED ANNUALLY SINCE 2005

SAMPLED YEAR PARAMETER COUNT



Water Hardness

Hardness is a measure of the magnesium, calcium, and carbonate minerals in the water. Water is considered **soft** if its hardness is less than 75 parts per million (ppm), **moderately hard** at 75 to 150 ppm, **hard** between 150 and 300 ppm, and **very hard** at 300 ppm or higher.

Hard water is generally not a health concern, but it can have an impact on how well soap lathers and is significant for some industrial and manufacturing processes. Hard water may also lead to mineral buildup in pipes or water heaters.

Some people with hard water opt to buy a water softener for aesthetic reasons. However, some water softeners add salt to the water, which can cause problems at wastewater treatment plants. Additionally, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.

For more information on water hardness, visit www.calwater.com/video/hardness.

Our testing equipment is so sensitive, it can detect mineral traces as small as 1 part per trillion.

That is equivalent to 1 penny in 1 billion dollars.

Possible Contaminants

All 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 United States Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled) 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 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.

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, which 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, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which can 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 EPA and DDW prescribe regulations that 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, and those with HIV/AIDS or other immune system disorders; some elderly people; and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA and Centers for Disease Control and Prevention (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.

About Lead

TESTING FOR LEAD IN SCHOOLS

The State of California now requires that all public schools built before 2010 test for lead in their drinking water by July 1, 2019. We are committed to supporting our school districts' efforts to protect students and ensure that the drinking water at their school sites are below lead limits. We have been working with school districts serving kindergarten through 12th grade to develop sampling plans, test samples, and conduct follow-up monitoring for corrective actions. We have published a summary of local school lead testing from the last year in this year's Water Quality report. For more information, please see our Testing for Lead in Schools [web page](#).

As the issue of lead in water continues to be top of mind for many Americans, Cal Water wants to assure you about the quality of your water. We are compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets all water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards, but what about your home's plumbing? In California, lead in drinking water comes primarily from materials and components used for in-home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures).

The lead and copper rule requires us to test water inside a representative number of homes that have plumbing most likely to contain lead and/or lead solder to determine the presence of lead and copper or an action level exceedance (AL). An action level is the concentration of a contaminant which, when exceeded, triggers corrective actions before it becomes a health concern. If action levels are exceeded, either at a customer's home or system-wide, we work with the customer to investigate the issue and/or implement corrosion control treatment to reduce lead levels.

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. Cal Water is responsible for providing high-quality drinking water to our customers' meters, 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 by a lab. More information about lead in drinking water can be found on the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

In your system, results from our lead monitoring program, conducted in accordance with the Lead and Copper Rule, were below the action level for the presence of lead.

Key Definitions

MAXIMUM CONTAMINANT LEVEL (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs protect public health and are set as close to the PHGs (or MCLGs) as are economically and technologically feasible. Secondary MCLs (SMCLs) relate to the odor, taste, and appearance of drinking water.

IN COMPLIANCE

Does not exceed any applicable primary MCL, secondary MCL, or action level, as determined by DDW. For some compounds, compliance is determined by averaging the results for one source over a one-year period.

REGULATORY ACTION LEVEL (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other required action by the water provider.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the EPA.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (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 (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.

NOTIFICATION LEVEL (NL)

A health-based advisory level for an unregulated contaminant in drinking water. It is used by DDW to provide guidance to drinking water systems.

PRIMARY DRINKING WATER STANDARD (PDWS)

MCLs and MRDLs for contaminants that affect health, along with their monitoring, reporting, and water treatment 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 the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment without regard to cost or available detection and treatment technologies.

TREATMENT TECHNIQUE (TT)

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

Table Introduction

CAL WATER TESTS YOUR WATER FOR MORE THAN 140 REGULATED CONTAMINANTS AND DOZENS OF UNREGULATED CONTAMINANTS. THIS TABLE LISTS ONLY THOSE CONTAMINANTS THAT WERE DETECTED.

In the table, water quality test results are divided into four major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” “State Regulated Contaminants with Notification Levels,” and “Unregulated Compounds.” Primary standards protect public health by limiting the levels of certain constituents in drinking water. Secondary standards are set for substances that don’t impact health but could affect the water’s taste, odor, or appearance. Some unregulated substances (hardness and sodium, for example) are included for your information. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

SUBSTANCE SOURCES

DI	Byproduct of drinking water disinfection
DS	Drinking water disinfectant added for treatment
EN	Naturally present in the environment
ER	Erosion of natural deposits
FD	Discharge from factories, dry cleaners, and auto shops (metal degreaser)
FL	Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
FR	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage
IC	Internal corrosion of household plumbing systems
IM	Discharge from industrial manufacturers
IN	Runoff/leaching from insecticide used on cotton and cattle
IO	Substances that form ions when in water
IW	Industrial waste
OC	Runoff from orchards; glass and electronics production waste
PH	Inherent characteristic of water
RL	Runoff/leaching from natural deposits
SO	Soil runoff
SW	Seawater influence
VA	Various natural and manmade sources
WD	Leaching from wood preservatives
UR	Unregulated constituents with no source listed and that do not have standardized “source of substance” language

2018 Water Quality

Primary Drinking Water Standards

						Groundwater		Surface Water		
Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Highest Monthly		Highest Monthly		Source
Total coliform (systems with <40 samples/month) (total coliform rule)	2018	positive samples	1	(0)	Yes	0		0		EN
Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Gross alpha particle activity	2010–2018	pCi/L	15	(0)	Yes	ND–6.7	2.42	ND	ND	ER
Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Arsenic	2016–2018	ppb	10	0.004	Yes	ND–2.9	0.86	ND–2.5	0.63	ER, OC
Fluoride ¹	2016–2018	ppm	2.0	1	Yes	ND–0.18	0.10	ND–0.99	0.71	ER, FL
Nitrate (as nitrogen)	2016–2018	ppm	10	10	Yes	0.98–3.63	2.13	ND–2.04	0.34	ER, FR
Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	Distribution System-Wide				Source
						90 th Percentile		Samples > AL		
Copper	2016	ppm	1.3	0.3	Yes	0.11		0 of 32		IC, ER, WD
Lead	2016	ppb	15	0.2	Yes	ND		0 of 32		IC, ER, IM
Schools that requested lead sampling in 2018: 0										
Volatile Organic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Tetrachloroethylene (PCE)	2016–2018	ppb	5	0.06	Yes	ND–1.5	1.06	ND	ND	FD

¹Fluoride is added to Oroville's water supply.

2018 Water Quality

(Continued)

Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide		Source
						Range	Highest Annual Average	
Haloacetic acids	2018	ppb	60	n/a	Yes	14–38	29.5	DI
Total trihalomethanes	2018	ppb	80	n/a	Yes	20.3–54.5	40	DI
Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Distribution System-Wide		Source
						Range	Average	
Chlorine	2018	ppm	4	4	Yes	0.56–1.54	1.0	DS
Surface Water—Turbidity and TOC	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Surface Water Only		Source
						Highest Level	Lowest Monthly Percent	
Turbidity (surface water requiring filtration) ²	2017	NTU	TT	n/a	Yes	0.11	99.00%	SO
Total organic carbon	2018	ppm	TT	n/a	Yes	0.89–1.3	1.1	VA

Secondary Drinking Water Standards

Inorganic Chemicals	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Total dissolved solids	2016–2018	ppm	1000	n/a	Yes	230–370	283.33	51–66	59.75	RL
Specific conductance	2016–2018	µS/cm	1600	n/a	Yes	340–570	420	79–99	90.5	SW, IN
Chloride	2016–2018	ppm	500	n/a	Yes	10–43	23.67	ND–3.5	1.95	RL, SW
Sulfate	2016–2018	ppm	500	n/a	Yes	12–71	34.67	ND–1.1	0.55	RL, IW

²For surface water systems, the treatment technique dictates that the turbidity level of the filtered water be less than or equal to 0.3 NTU in 95% of the measurements taken each month and not exceed 1 NTU at any time. Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2018 Water Quality

(Continued)

State-Regulated Contaminants with Notification Levels

Chemical	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Boron ³	2016–2018	ppm	1	n/a	Yes	1.8–1.83	1.81	n/a	n/a	UR
Vanadium	2018	ppb	50	n/a	Yes	4.55	4.55	n/a	n/a	UR

Unregulated Compounds

Inorganic Chemicals	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Surface Water		Source
						Range	Average	Range	Average	
Calcium	2016–2018	ppm	n/a	n/a	Yes	25–31.83	27.28	7.6–9	8.3	ER
Magnesium	2016–2018	ppm	n/a	n/a	Yes	16.98–18	17.66	3–3.9	3.4	ER
Strontium	2016–2018	ppb	n/a	n/a	Yes	140–610	330	n/a	n/a	ER
pH	2016–2018	Units	n/a	n/a	Yes	7–7.4	7.17	7–8.3	7.65	PH
Hardness	2016–2018	ppm	n/a	n/a	Yes	130–150	140	31–38	34.75	ER
Sodium	2016–2018	ppm	n/a	n/a	Yes	19–66.77	35.52	3.1–5.9	4.6	ER
Silica	2018	ppm	n/a	n/a	Yes	44.59	44.59	n/a	n/a	ER

³No MCL has been established for boron, which is a naturally occurring element in rocks, soil, and water. Boron has an NL of 1 mg/L; NLs are established as a precautionary measure to prompt additional analysis and assessment of treatment and supply options, and we notify the local government annually as required. Boron was detected in only one well at an average of 1.81 mg/L; however, 96% of the water provided to Oroville customers comes from our surface water treatment plant, which has no boron. DDW recommends that sources of supply be taken out of service if boron exceeds 10 mg/L, as laboratory studies show that the babies of some pregnant women who drink water containing boron in excess of the NL could have an increased risk of developmental effects.

Thank you.

Thanks for taking the time to learn more about your water quality! Even more information awaits you at www.calwater.com.

Visit our web site to get information about your account, water use history, water rates, and water system.

You will also find water-saving tips and news about water conservation programs and rebates available in your area.



- > Conservation resources
- > Lead in water
- > Water treatment and disinfection
- > Protecting the water supply