

2019

Water Quality Report

CHICO DISTRICT
Hamilton City System





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From the Manager

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Welcome

Since our inception more than 90 years ago, California Water Service (Cal Water) has been committed to enhancing the quality of life for our customers and communities. One of the most important ways we do this is by providing a reliable supply of safe, high-quality water any time you turn on the tap. And, while standards continue to become more stringent, our commitment to you never wavers.

In this system in 2019, we conducted 777 tests on 88 water samples for 125 constituents. **We are pleased to confirm that we met every primary and secondary state and federal water quality standard last year.**

Fulfilling our promise to provide quality, service, and value means more than treatment and testing, however. It also means maintaining and upgrading the infrastructure needed to transport water from the source to your tap through a network of pumps, tanks, and pipes. It means having expert professionals available to help you with both routine service needs and emergencies. It also means that, although the costs to obtain, treat, test, store, and deliver the water continue to increase across the country, we do everything we can to operate

as efficiently as possible to keep your water affordable – less than a penny per gallon in most of our service areas, in fact.

I encourage you to review this annual water quality report, also called your Consumer Confidence Report, as it details any constituents detected in your water supply in 2019 and shows how your water compares to federal and state standards. It also provides information on current water quality issues and steps we are taking to protect your health and safety.

If you have any questions, we are here to assist you. You can reach us by phone, online at www.calwater.com, or in person at our local Customer Center. You can also get water service news on our web site, via our Facebook, Twitter, and Instagram pages, and in your monthly bill. And, please be sure your contact information with Cal Water is up to date by visiting ccu.calwater.com, to ensure we can reach you with important emergency and other information.

Sincerely,

George Barber, District Manager, Chico District

[Chico District 2222 Dr. Martin Luther King Jr. Parkway Chico, CA 95928 (530) 893-6300]

Your Water System

Cal Water has provided high-quality water utility services in the Hamilton City area since 1962. To meet the needs of our Hamilton City customers, we utilize three wells to pump an average of 0.56 million gallons of groundwater per day. This supply is delivered to customers through 7.7 miles of pipeline.

Our company-wide water quality assurance program includes vigilant monitoring throughout our systems and testing at our state-of-the-art laboratory. Additionally, Cal Water proactively maintains and upgrades 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) 893-6300 or through the Contact Us link at www.calwater.com.

WATER RESOURCE SUSTAINABILITY

Cal Water helps our customers conserve water by offering programs and incentives to reduce indoor and outdoor water use, develop more efficient habits, and educate the next generation about the importance of managing water resources sustainably. We also continue to invest diligently in our infrastructure to reduce the amount of water lost to pipeline leaks and are updating our assessment of the impacts of climate change on water supply and demand. 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.

Visit www.calwater.com/conservation for details.

Water Quality

THE WATER QUALITY LAB

Water professionals collect samples from throughout the water system for testing at our state-of-the-art water quality laboratory, which is certified each year through the stringent Environmental Laboratory Accreditation Program (ELAP). Scientists, chemists, and microbiologists test the water for 326 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 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 connections, and enforce and manage the installation of new commercial and residential assemblies.

Backflow can occur when certain pressure conditions exist either in our distribution system or within the customer's plumbing, so our customers are our first line of defense. A minor home improvement project — without the proper protections — 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 even present health concerns. Some 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

The list of materials that could potentially contaminate the water system is vast. According to the EPA, a wide variety of substances have contaminated drinking water systems throughout the country as a result of poor cross-connection control. Examples include:

- Antifreeze from a heating system
- Lawn chemicals from a garden hose or sprinkler head
- Blue water from a toilet tank
- Carbonated water from a soda dispenser

Customers must ensure that all plumbing is in conformance with local plumbing codes. Additionally, state law requires certain types of facilities to install and maintain backflow prevention assemblies at the water meter. Cal Water's cross-connection control staff will determine whether you need to install a backflow prevention assembly based on water uses at your location.

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 Hamilton City are considered most vulnerable to:

- Agriculture
- Existing and historic gas stations
- Fertilizer/pesticide/herbicide applications
- Parks
- Wastewater
- Above-ground storage tanks
- Food processing
- High-density housing
- Water supply wells
- Automobile repair shops
- Machine shops
- Railroads

A copy of this assessment may be viewed at:

DDW Valley District Office
364 Knollcrest Drive
Redding, CA 96002

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



2019 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, low levels of fluoride occur naturally, and Cal Water doesn't add any to the water supply. 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.

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.

The current water quality table for your service area shows an average hardness of 193 ppm.

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

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. However, 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 (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures).

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 certified 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.

Testing for Lead in Schools

The State of California required 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 worked with all school districts in our service area that serve kindergarten through 12th grade to develop sampling plans, test samples, and conduct follow-up monitoring, if needed, for corrective actions. We have published the total number of schools requesting testing from last year in this year's Water Quality report.

For more information, please see our [Testing for Lead in Schools](#) web page. For specific information regarding local school data, see the [state web portal](#).

Lead and Copper Rule

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 any 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.

Lead Service Line Inventory (LSLI)

Protecting our customers' health and safety is our highest priority. As part of this commitment, we have been working to identify and replace any old customer water service lines and fittings that may contain lead. California Senate Bill (SB) 1398 requires all water utilities in California to develop an inventory of all distribution service line materials, and submit a list of known service lines to the state by 2018. A list of unknown service lines that may contain lead, along with a plan for replacement, is due to the state by July 1, 2020. Known lines are replaced as soon as possible.

More information regarding LSLI and specific data for each water system can be found on [the state web site](#).

PFOA and PFOS

PFOS and PFOA are manmade compounds used prevalently in firefighting foams and to make carpets, clothing, fabrics for furniture, paper packaging for food, cookware, and other items resistant to water, grease, fire, or stains. They are also used in a number of industrial processes. They are part of a larger group of chemicals referred to as per- and poly-fluoroalkyl substances (PFAS).

In early 2020, DDW announced lower response levels for PFOA and PFOS (10 ppt for PFOA, and 40 ppt for PFOS) from the previous level of 70 ppt combined. The notification levels (5.1 ppt for PFOA, and 6.5 ppt for PFOS) were not changed.

Knowing that these are constituents of emerging concern, Cal Water had identified and tested water sources in 2019 and earlier that would be more likely to have these compounds present. In our Chico, Oroville, Visalia, and East Los Angeles districts, where we had one to two wells that exceeded the response level, we stopped using those sources. With the updated response levels, we are working through our plan to conduct additional testing for these constituents in all of our water systems.

Studies indicate that long-term exposure to PFOS and PFOA over certain levels could have adverse health effects, including developmental effects to fetuses during pregnancy or infants; cancer; or liver, immunity, thyroid, and other effects. Potential health impacts related to PFAS compounds are still being studied, and research is still evolving on this issue.

Although there is no Maximum Contaminant Level (MCL) set for these substances, we have proactively monitored sources and will continue to do so. Even though it is not required by the state, we believe it is the right thing to do. When an MCL is established by DDW for these compounds, we will continue to ensure our water sources are in compliance with any set standard.

While we are doing our part to treat the water and meet the standards the public health experts have set, it's important that our population as a whole focuses on being good stewards of the environment and takes steps to prevent impacting the water supply. Additionally, Cal Water has filed a lawsuit against a group of companies that manufactured and sold firefighting foam products that released the PFOS and PFOA into the environment, to ensure the responsible parties bear the costs of treating for these chemicals, not our customers.

More information on PFOS and PFOA is available **on the DDW web site**.

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 MCL, SMCL, 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 are set by the EPA and do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NON-DETECT (ND)

The constituent was not detected.

NOTIFICATION LEVEL (NL) AND RESPONSE LEVEL (RL)

Health-based advisory levels for unregulated contaminants in drinking water. They are 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 three major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” 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
FE	Human and animal waste
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
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
RU	Runoff/leaching from natural deposits
SO	Soil runoff
SW	Seawater influence
WD	Leaching from wood preservatives

Our testing equipment is so sensitive, it can detect mineral traces as small as 1 part per trillion. That is equivalent to 1 second in nearly 32,000 years.

2019 Water Quality

Primary Drinking Water Standards

						Distribution System-Wide		
Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Highest Monthly		Source
Total coliform (systems with <40 samples/month) (Total Coliform Rule)	2019	Positive samples	1	(0)	Yes	0		EN
Fecal coliform and E. coli	2019	Positive samples	1*	(0)	Yes	0		FE
						Groundwater		
Radiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Source
Gross alpha	2016	pCi/L	15	(0)	Yes	ND–3.0	ND	ER
						Groundwater		
Inorganic	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Average	Source
Arsenic	2017–2019	ppb	10	0.004 (0)	Yes	ND–2.0	ND	ER, OC
Nitrate as N	2019	ppm	10	10 (10)	Yes	2.7–4.0	3.2	ER, FR
						Distribution System-Wide		
Lead and Copper	Year Tested	Unit	AL	PHG (MCLG)	In Compliance	90 th Percentile	Samples > AL	Source
Copper	2017	ppm	1.3	0.3	Yes	0.27	0 of 11	IC, ER, WD
Lead	2017	ppb	15	0.2	Yes	ND	0 of 11	IC, IM, ER
Schools that requested lead sampling in 2019: 0								
						Distribution System-Wide		
Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Range	Highest Annual Average	Source
Haloacetic acids	2019	ppb	60	n/a	Yes	ND	ND	DI
Total trihalomethanes	2019	ppb	80	n/a	Yes	ND	ND	DI

* The MCL for fecal coliform and E. coli is exceeded when a routine sample and a repeat sample are total coliform positive, and one of these is also E. coli positive.

2019 Water Quality

(Continued)

Disinfectants	Year Tested	Unit	MRDL	MRDLG	In Compliance	Distribution System-Wide		Source
						Range	Average	
Chlorine	2019	ppm	4	4	Yes	0.39–1.2	0.65	DS

Secondary Drinking Water Standards

Contaminants	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Groundwater		Source
						Range	Average	
Chloride	2017–2019	ppm	500	n/a	Yes	14–16	15	RU, SW
Specific conductance	2017–2019	US	1600	n/a	Yes	440–450	447	SW, IO
Sulfate	2017–2019	ppm	500	n/a	Yes	18–20	19	RU, IW
Total dissolved solids	2017–2019	ppm	1000	n/a	Yes	260–270	263	RU
Turbidity	2017–2019	NTU	5	n/a	Yes	0.14–0.23	0.19	SO

State-Regulated Contaminants with Notification Levels

Contaminants	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Groundwater		Source
						Range	Average	
Hexavalent chromium*	2011–2014	ppb	n/a	0.02	Yes	2.0–2.3	2.0	UR

Unregulated Contaminant Monitoring Rule (UCMR)

Contaminants	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Source
						Range	Average	
Strontium	2015	ppb	n/a	n/a	Yes	430–652	493	UR

* The previous MCL of 0.010 mg/L (10 ppb) for hexavalent chromium was withdrawn on September 11, 2017, and there is currently no MCL in effect.

2019 Water Quality

(Continued)

Unregulated Compounds

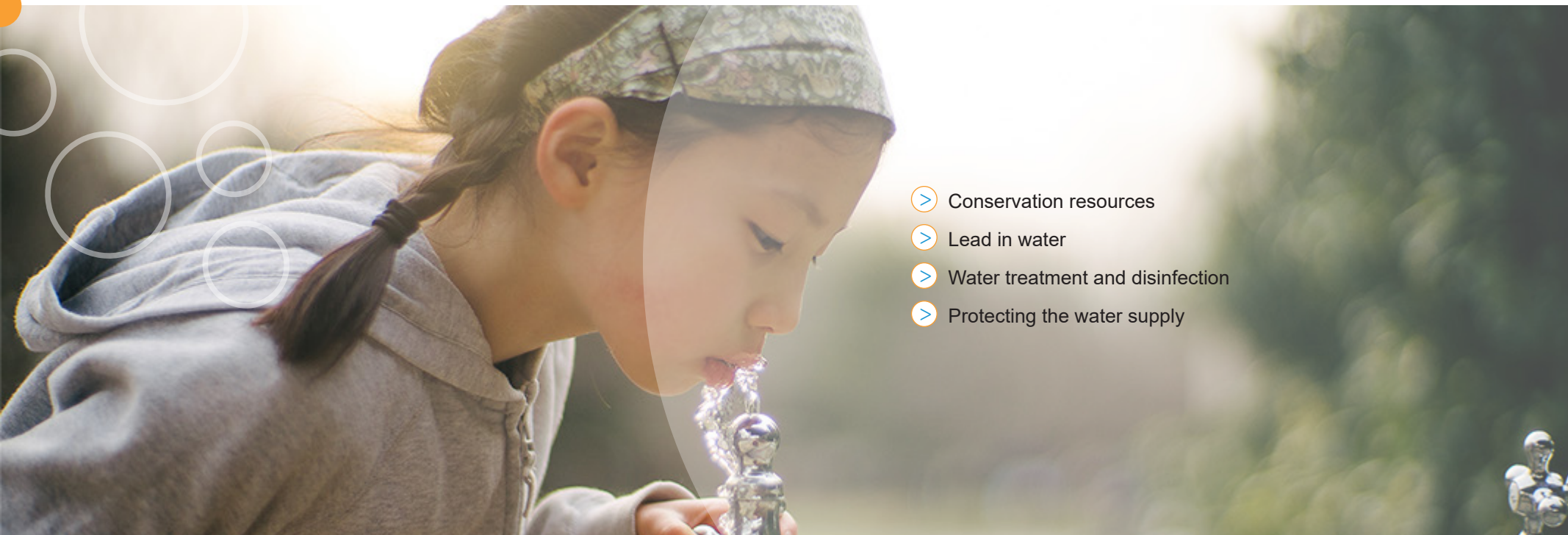
Contaminants	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Source
						Range	Average	
Alkalinity (total)	2017–2019	ppm	n/a	n/a	Yes	170–180	173	UR
Calcium	2017–2019	ppm	n/a	n/a	Yes	43–45	44	UR
Hardness (total)	2017–2019	ppm	n/a	n/a	Yes	190–200	193	UR
Magnesium	2017–2019	ppm	n/a	n/a	Yes	20–22	21	UR
Sodium	2017–2019	ppm	n/a	n/a	Yes	20–21	20	UR
pH	2019	Units	n/a	n/a	Yes	7.00–7.50	7.17	PH

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