

Barstow Water System

Consumer Confidence Report on Water Quality for 2020



Providing Quality Drinking Water in California Since 1929

About the Company

Golden State Water Company (GSWC) is a wholly owned subsidiary of American States Water Company (NYSE:AWR). GSWC provides water service to more than 1 million people in over 80 communities throughout California. AWR also owns a contracted services subsidiary, American States Utility Services, Inc. (ASUS). ASUS provides operations, maintenance and construction management services for water and wastewater systems located on military bases throughout the country under 50-year privatization contracts with the U.S. government.



Robert Sprowls
President and
Chief Executive Officer
Golden State Water Company



Perry Dahlstrom
General Manager, Mountain-
Desert District
Golden State Water Company

President's Message

Dear Golden State Water Customer,

Golden State Water Company (GSWC) is pleased to present our 2021 Annual Water Quality Report (Consumer Confidence Report), providing customers with important information regarding local water quality and service during the 2020 calendar year.

GSWC is proud to be the trusted water provider serving local customers and more than 80 communities throughout California, and we appreciate that customers have peace of mind knowing we never stop working to ensure quality, reliable water is available at their taps when they need it.

We recognize the challenges many customers have faced during this pandemic period. During this unprecedented time, our continued dedication to providing the highest levels of service and care to customers has been a driving force for our team of water professionals. We take great pride in the service we provide and embrace our role as essential workers in the community.

The pandemic has impacted the community in many ways, and we will remain with customers each step of the way until normalcy is restored. In 2020, GSWC implemented a temporary moratorium on disconnections for non-payment and activated Emergency Disaster Relief Protections as a resource for customers who have suffered financial hardships directly related to COVID-19. Those protections have been extended until June 30, 2021, and we are working closely with customers who have fallen behind to help get their accounts back in good standing.

For more than 90 years, water quality has always been a top priority for GSWC. Our team of scientists, engineers and water experts is committed to protecting our water systems and ensuring the water we deliver to local homes and businesses meets the stringent standards set by the state and federal governments and is safe to drink. We aggressively monitor and test for hundreds of contaminants in each of our 37 water systems and have consistently scored among the top water companies for compliance with water quality regulations.

GSWC is proud to report that the water delivered to your tap continues to meet all federal and state quality standards established to protect public health and safety. Within this document, you will find information regarding local water supply sources, testing, and the steps GSWC takes to ensure our water is in compliance with standards set by the United States Environmental Protection Agency (USEPA), State Water Resources Control Board's Division of Drinking Water (DDW) and California Public Utilities Commission (CPUC).

To access the most up-to-date Water Quality Report for your area, sampling results, and to learn more about common contaminants, you can visit www.gswater.com/water-quality/. If you have any questions about this report, please contact our 24-hour Customer Service Center at 1.800.999.4033 or email us at customerservice@gswater.com.

GSWC is constantly working toward 100 percent customer satisfaction and encourages all customers to visit www.gswater.com and follow us on Twitter and on Facebook at @GoldenStateH2O.

On behalf of everyone at GSWC, thank you for allowing us the opportunity to serve you and your community.

Sincerely,


Robert Sprowls


Perry Dahlstrom

Golden State Water is constantly working toward 100 percent customer satisfaction and we encourage you to visit www.gswater.com and follow us on Twitter and on Facebook at @GoldenStateH2O



Where Does My Water Come From?

Water delivered to customers in the Barstow System is groundwater pumped from the Mojave River Basin-Centro Sub-

Basin, which is the center of the Mojave Basin extending northwesterly and southeasterly from the Mojave River.

Source Water Assessment

Golden State Water Company conducted a source water assessment in early 2021 for each groundwater well serving the customers of its Barstow System.

The 18 local groundwater sources are considered most vulnerable to one or more of the following activities not associated with contaminants detected in the water supply: animal feeding operations, gas stations, auto body and repair shops, high density housing, septic and sewer collection systems, machine shops, transportation corridors – freeways/highways and railroads, waste transfer/recycling stations, parking lots, NPDES/WDR permitted discharges, and railroad yard maintenance and fueling areas.

Seven of the 18 groundwater wells are also considered most vulnerable to one or more of the following activities associated with contaminants detected in the water supply.

- ◆ High density septic systems
- ◆ Known contaminant plumes

A copy of the assessment may be viewed at:

State Water Board San Bernardino District Office
464 West 4th St., Suite 437, San Bernardino, CA 92401

or

Golden State Water Company, Apple Valley Office
13608 Hitt Rd., Apple Valley, CA 92308

You may request a summary of the assessment be sent to you by contacting:

State Water Board San Bernardino District Office at 1.909.383.4328
For more details, contact George Zakhari, Water Quality Engineer, at 1.800.999.4033.



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In every one of our water systems, a team of highly-trained employees monitors water quality on an on-going basis to ensure that our customers are receiving high-quality water.





Glossary of Terms

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the public health goals and maximum contaminant level goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

California Notification Level (NL)

Non-regulatory, health-based advisory levels established by the State Board for contaminants in drinking water for which an MCL has not been established.

Maximum Contaminant Level Goal (MCLG)

The level of contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals are set by the United States Environmental Protection Agency (USEPA).

Maximum Residual Disinfectant Level (MRDL)

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.

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.

Primary Drinking Water Standard (PDWS)

MCLs, MRDLs and treatment techniques (TTs) 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. Public health goals are set by the California Environmental Protection Agency (CalEPA).

Regulatory Action Level (AL)

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

Delivering drinking water is serious business, and our team of scientists, engineers and water experts is dedicated to protecting our water systems and ensuring the water we deliver to local homes and businesses meets stringent standards set by the state and federal governments and is safe to drink.

Unit of Measurement	Unit Abbreviation	Also Known as	This can be compared to...
Parts per million (PPM)	mg/L	milligrams per liter	1 second in 12 days
Parts per billion (PPB)	µg/L	micrograms per liter	1 second in 32 years
Parts per trillion (PPT)	ng/L	nanograms per liter	1 second in 32,000 years
Grains per gallon	grains/gallon	a measurement for water hardness often used for sizing household water softeners	1 grain/gal equals 17.1 mg/L of hardness
Nephelometric Turbidity Units	NTU	a measurement of the clarity of water.	Turbidity in excess of 5 NTU is noticeable to the average person
Microsiemens per centimeter	µS/cm	a measurement of a solution's ability to conduct electricity	
Picocuries per liter	pCi/L	a measurement of radioactivity in water	

How to Read Your Table

The consumer confidence report lets you know which constituents, if any, are in your drinking water and how this may affect your health. The constituents presented in this table were detected above the detection limit set by the State Water Resources Control Board. Below is a guide that explains each column of the table.

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The highest level of a constituent allowed in drinking water.	The range of presence for which the constituent was detected in the drinking water.	The average amount of a constituent detected in the drinking water.	The most recent year tests were conducted.	Describes the most likely ways a constituent enters the drinking water. Wording provided by the USEPA.			
The highest level for which the constituent has no known or expected health risks.	Primary Standards - Health Based (units)	Primary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
	Substance A (mg/L)	50	0.6	ND - 40	20	2019	Erosion of natural deposits; residue from some surface water treatment processes
	Substance B (µg/L)	6	1	0.1 - 2.8	1.7	2016	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

YOUR WATER MEETS ALL CURRENT FEDERAL AND STATE REQUIREMENTS

Barstow Water System – Source Water Quality

Primary Standards - Health Based (units)	Primary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Inorganic Constituents						
Arsenic (µg/L)	10	0.004	2.1 - 4.0	2.9	2020	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (mg/L)	1	2	ND - 0.14	ND	2020	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.33 - 0.56	0.44	2020	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel (µg/L)	100	12	ND - 10	ND	2020	Erosion of natural deposits; discharge from metal factories
Nitrate [as N] (mg/L)	10	1	1.8 - 8.0	3.3	2020	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactive Constituents						
Gross Alpha Activity (pCi/L)	15(a)	(0)	ND - 11.0	4.3	2020	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	1.5 - 5.1	3.1	2018	Erosion of natural deposits
Secondary Standards - Aesthetic (units)	Secondary MCL	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Color (units)	15	n/a	ND - 5	ND	2020	Naturally-occurring organic materials
Chloride (mg/L)	500	n/a	69 - 100	80	2020	Runoff/leaching from natural deposits; seawater influence
Iron (µg/L)	300	n/a	ND - 100	ND	2020	Leaching from natural deposits; industrial wastes
Odor – Threshold (units)(b)	3	n/a	ND - 2	ND	2020	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1600	n/a	650 - 880	750	2020	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	n/a	93 - 170	120	2020	Runoff/leaching from natural deposits; industrial wastes
Turbidity (units)	5	n/a	0.10 - 1.5	0.48	2020	Soil runoff
Total Dissolved Solids (mg/L)	1000	n/a	420 - 570	490	2020	Runoff/leaching from natural deposits
Other Parameters (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent
Alkalinity (mg/L)	n/a	n/a	120 - 170	130	2020	The sum of polyvalent cations present in the water, generally magnesium and calcium; the cations are usually naturally occurring
Calcium (mg/L)	n/a	n/a	51 - 91	69	2020	
Hardness [as CaCO ₃] (mg/L)	n/a	n/a	160 - 290	220	2020	
Hardness [as CaCO ₃] (grains/gal)	n/a	n/a	9.4 - 17	13	2020	
Magnesium (mg/L)	n/a	n/a	8.8 - 16	12	2020	
pH (pH units)	n/a	n/a	7.5 - 7.9	7.7	2020	Refers to the salt present in the water and is generally naturally occurring
Potassium (mg/L)	n/a	n/a	2.3 - 3.3	2.8	2020	
Sodium (mg/L)	n/a	n/a	62 - 76	69	2020	
Unregulated Drinking Water Constituents (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	
HAA6Br [Total of 6 Brominated Haloacetic Acids] (µg/L)	n/a	n/a	1.5 - 7.7	3.8	2019	
HAA9 [Total of 9 Haloacetic Acids] (µg/L)	n/a	n/a	1.5 - 8.3	4.0	2019	
Manganese (µg/L) (c)	n/a	n/a	ND - 2.3	0.50	2019	

(a) MCL is based on Gross Alpha minus Uranium.

(b) Odor data reported is prior to chlorination or other process and is not necessarily representative of water received by customers.

(c) Manganese is a regulated contaminant but was not detected in routine samples associated with regulatory compliance and is below all regulatory standards.

ND = Not Detected CaCO₃ = Calcium Carbonate

This table includes data only on constituents that were detected.

Laboratory Analyses

Through the years, we have taken thousands of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants in your drinking water. The table we provide shows only detected contaminants in the water.

Even though all the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of these substances were present in your water. Compliance (unless otherwise noted) is based on the average level of concentration below the MCL. The state allows us to monitor for some contaminants less than once per year because the concentrations do not change frequently. Some of our data, while representative, is more than a year old.

Lead – 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.



Golden State Water Company 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 two 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 about 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>.

Nitrate – Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

Unregulated Contaminant Monitoring – Monitoring for unregulated contaminants helps the USEPA and the State Water Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Barstow Water System – Distribution Water Quality

Disinfection Byproducts and Disinfectant Residuals (units)	Primary MCL (MRDL)	PHG (MRDLG)	Range of Detection	Average Level	Most Recent Sampling Date	Typical Source of Constituent	
Chlorine [as Cl ₂] (mg/L)	(4.0)	(4)	0.3 - 2.2	1.4	2020	Drinking water disinfectant added for treatment	
HAA5 [Sum of 5 Haloacetic Acids] (µg/L)	60	n/a	ND - 2.8	1.7	2020	Byproduct of drinking water disinfection	
TTHMs [Total Trihalomethanes] (µg/L)	80	n/a	5.3 - 18	12	2020	Byproduct of drinking water disinfection	
Inorganic Constituents (units)	Action Level	PHG (MCLG)	Sample Data	90th % Level	Most Recent Sampling Date	Typical Source of Constituent	
Copper (mg/L)	1.3	0.3	None of the 30 samples collected exceeded the action level.	0.29	2019	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	
Lead sampling in schools and residential plumbing	Action Level	PHG	Sample Data	90th % Level	Most Recent Sampling Date	Typical Source	Number of Schools Tested (d)
Lead (µg/L)	AL = 15	0.2	None of the 30 samples collected exceeded the action level.	ND	2019	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.	10

(d) The State of California made lead sampling in schools mandatory with a compliance window through 2019.

ND = Not Detected

This table includes data only on constituents that were detected.



For People with Sensitive Immune Systems

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those individuals with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly populations, and infants, can be particularly at risk from infections. These people should seek advice from their health care providers.

The USEPA and Centers for Disease Control issue guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants. To obtain a copy of these guidelines, please call the USEPA's Safe Drinking Water Hotline at 1.800.426.4791.

Risk to Tap and Bottled Water

Drinking water, including bottled water, may reasonably be expected to contain 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.

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 layers in the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, which can pick up substances resulting from the presence of animal or human activity.

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 Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The 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.

Contaminants in Drinking Water Sources May 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, and 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, and can also come from gas stations, urban stormwater runoff and septic systems
- ◆ Radioactive contaminants that can be naturally occurring or be the result of oil and gas production and mining activities

Cross Connection Control Program

Golden State Water Company's Cross Connection Control Program provides a level of certainty that the water in the company's distribution system is protected from possible backflow of contaminated water from commercial or industrial customers' premises. For additional information, visit <https://www.gswater.com/protecting-our-drinking-water/>.



Flushing

Hydrant flushing is an essential maintenance procedure that all water providers must perform periodically to ensure the water delivered to customers meets state and federal drinking water standards. GSWC is using NO-DES (Neutral Output-Discharge Elimination System) flushing in several of our service areas to help flush our distribution systems sustainably.

Traditional hydrant flushing discharges hundreds of thousands of gallons of water onto the street. GSWC's NO-DES trucks and trailers offer a new maintenance technology, connecting two hydrants to a complex filtration system which cleans the water and returns it to the distribution system.

For more information about hydrant flushing, visit <https://www.gswater.com/flushing>.

If You Have Questions – Contact Us

For information about your water quality or to find out about upcoming opportunities to participate in public meetings, please contact our 24-hour Customer Service Center at 1.800.999.4033. Visit us online at www.gswater.com or email us at customerservice@gswater.com.

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



Connect with us to learn more!

Visit www.gswater.com to:

- ◆ Access the latest Water Quality Report for your area
- ◆ Get the latest updates and news regarding the drought and state/local restrictions
- ◆ Learn more about water-use efficiency, including programs and rebates in your area
- ◆ Understand your water bill and learn about payment options
- ◆ Obtain information about programs for low-income customers (CARW)
- ◆ Sign up to receive email updates about your water service

For additional information, please contact our 24-hour Customer Service Center at **1.800.999.4033** or email us at customerservice@gswater.com.

Infrastructure Investments

Water providers have a duty to maintain the local water infrastructure to ensure that the delivery of reliable, quality water is not compromised. At GSWC, we take that responsibility seriously.

In 2020, GSWC installed 103,994 feet of pipeline, 1,623 service lines and 282 fire hydrants throughout the state. Proactive system investments like these are critical to protect the quality of water we serve to the customers and to avoid the costly and sometimes dangerous effects of deferring maintenance.

Customers interested in learning more about current and completed infrastructure projects in their service areas are encouraged to visit their service area's webpage at www.gswater.com.



A drought-tolerant garden.

Conserving for California

It's important that all Californians continue using water responsibly, as many parts of our state are experiencing various levels of drought. We must all work together to protect available water supplies. As Californians, it is our duty to make conservation a way of life and protect this precious and scarce resource.

GSWC is proud to be your conservation partner. It is important that we all work together to incorporate water-use efficiency into our daily lives.

To learn more about conservation programs and/or water-use restrictions in your area, please visit www.gswater.com/conservation or call 1.800.999.4033.