



Golden State
Water Company
A Subsidiary of American States Water Company

2018

West Orange County Water System

**Consumer Confidence Report
on Water Quality for 2017**



Providing Quality Drinking Water in California Since 1929

www.gswater.com/WestOrangeCountyCCR

Golden State Water Company (Golden State Water) is pleased to present our Annual Water Quality Report (Consumer Confidence Report) for 2017.

Delivering drinking water is serious business, and our team of scientists, engineers and water experts share the focus of protecting our water systems and delivering reliable, quality water to customers whenever they need it.

We know that water is part of your every day, and want you to rest assured knowing that the water delivered to your tap meets all federal and state quality standards established 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).

Our team of water quality professionals aggressively monitors and tests our water supply for hundreds of contaminants. In 2017 alone, we invested nearly half a million dollars on laboratory testing to meet regulatory standards. Additional information about water quality, including sampling results, is available at www.gswater.com.

We pride ourselves on getting the job done right, and our team of experts strives to provide consistent water service and prevent water quality issues by regularly investing to maintain and improve our water system. This ensures our ability to provide you with high-quality drinking water—24 hours a day, seven days a week—is not compromised. In the unlikely event that drinking water standards are exceeded, we take immediate action to notify customers and restore normal service.

Last year, Golden State Water proactively initiated the School Lead Testing program to collaborate with schools in our service areas to test the water in their facilities for compliance with lead standards. Ensuring that any school we serve water to is also providing only the purest water to their students is a high priority to Golden State Water. We look forward to continuing the program in 2018, following the signing of new legislation (AB 746) that makes lead testing mandatory for all California public K-12 schools constructed before Jan. 1, 2010.

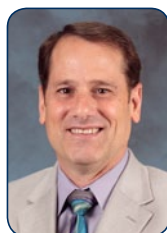
Our customers have always been our top priority, and we make it a point to ensure that we always have personnel available to assist our customers with their inquiries or other service related needs. Golden State Water is constantly working toward 100 percent customer satisfaction and encourages all customers to visit www.gswater.com and follow us on Twitter and on Facebook at @GoldenStateH2O. In addition, Golden State Water's Customer Service Representatives are available around-the-clock for customers at 1.800.999.4033.

We have proudly served California for more than 85 years, and we currently provide water to approximately 1 million customers throughout the state. On behalf of everyone at Golden State Water, thank you for being a valued customer.

Sincerely,



Robert Sprowls
President and Chief Executive Officer
Golden State Water Company



Ken Vecchiarelli
General Manager, Orange County District
Golden State Water Company

About the Company

Golden State Water Company, a subsidiary of American States Water Company (AWR), provides water service to approximately one million Californians located within 75 communities throughout 10 counties in Northern, Coastal and Southern California. The Company also distributes electricity to more than 24,000 customers in the Big Bear recreational area of California. AWR's contracted services subsidiary, American States Utility Services, Inc., provides operations, maintenance and construction management services for water and wastewater systems located on military bases throughout the country.

Conserving for California

Golden State Water thanks customers for their impressive conservation efforts, and encourages the entire community to continue using water wisely to keep the state on the path to full drought recovery. Following unusually dry winter months, it is critical that all customers continue to use water wisely and make conservation a California Way of Life.

On May 9, 2016 Governor Jerry Brown issued an Executive Order that permanently prohibits practices that waste potable water. These practices include prohibiting hosing off sidewalks, driveways and other hardscapes, washing a motor vehicle without a hose that is fitted with a shut-off nozzle, operating a fountain or decorative water feature unless the water is part of a recirculation system, watering outdoor landscapes in a manner that causes excess runoff, or within 48 hours following measurable precipitation and irrigating ornamental turf in public street medians with potable water.

Golden State Water thanks customers for their continued conservation efforts. To learn more about the drought and water waste restrictions in your area, please visit <http://www.gswater.com/drought/> or call 1.800.999.4033.

Where Does My Water Come From?

Water delivered to customers in the West Orange System is a blend of groundwater pumped from the Orange County Groundwater Basin and imported water from the Colorado River Aqueduct and the State Water Project (imported and distributed by the Metropolitan Water District of Southern California). The Orange County Groundwater Basin stretches 350 square miles from the Orange County line at Seal Beach and Long Beach, along the coast down to the El Toro "Y" and east to Yorba Linda.

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 Division of Drinking Water (DDW) 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 and MRDLs for contaminants that affect health along with their monitoring and reporting requirements 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. 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.

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.

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.

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 <http://www.gswater.com/protecting-our-drinking-water/>.

Hydrant Flushing

Hydrant flushing is an essential maintenance procedure that all water providers must perform periodically to ensure the delivery of water that meets state and federal drinking water standards.

Flushing is a necessary part of maintaining the water system and the quality of the water within it. Golden State Water has modified procedures to minimize the amount of water released during flushing activities. Water used for flushing represents less than 1 percent of the total water usage in each of our water systems.

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

Connect with us to learn more!

Visit www.gswater.com to learn how 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.

Measurements

Water is sampled and tested consistently throughout the year to ensure the best possible quality.

Contaminants are measured in:

- ▶ Parts per million (ppm) or milligrams per liter (mg/L)
- ▶ Parts per billion (ppb) or micrograms per liter (µg/L)
- ▶ Parts per trillion (ppt) or nanograms per liter (ng/L)
- ▶ Grains per gallon (grains/gal) – A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.
- ▶ MicroSiemens per centimeter (µS/cm) – A measurement of a solution's ability to conduct electricity
- ▶ Nephelometric Turbidity Units (NTU) – A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.
- ▶ PicoCuries per liter (pCi/L) – A measurement of radioactivity in water.

If this is difficult to imagine, think about these comparisons:

Parts per million:	Parts per billion:	Parts per trillion:
1 second in 12 days	1 second in 32 years	1 second in 32,000 years
1 inch in 16 miles	1 inch in 16,000 miles	1 inch in 16 million miles
1 drop in 14 gallons	1 drop in 14,000 gallons	10 drops in enough water to fill the Rose Bowl



YOUR WATER MEETS ALL CURRENT FEDERAL AND STATE REQUIREMENTS

West Orange County 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
Turbidity						
Highest single measurement of the treated surface water (NTU)	TT = 1.0	n/a	n/a	0.08	2017	Soil runoff
Lowest percent of all monthly readings less than 0.3 NTU (%)	TT = 95	n/a	n/a	100%	2017	Soil runoff
Inorganic Constituents						
Aluminum (mg/L)	1	0.6	ND-0.13	ND	2017	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (µg/L)	10	0.004	ND - 4.6	ND	2017	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes
Barium (mg/L)	1	2	ND - 0.1	ND	2017	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.4 - 0.9	0.5	2017	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Hexavalent Chromium (µg/L)	n/a(a)	0.02	ND - 2.9	ND	2017	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as N] (mg/L)	10	10	ND - 5.27	1.4	2017	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Volatile Organic Constituents						
Trichloroethylene (µg/L)	5	1.7	ND - 0.7	ND	2017	Discharge from metal degreasing sites and other factories
Radioactive Constituents						
Gross Alpha Excluding Uranium(pCi/L)	15(b)	(0)	ND - 6.3	ND	2017	Erosion of natural deposits
Uranium (pCi/L)	20	0.43	ND - 15.9	5.8	2017	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
Aluminum (µg/L)	200	n/a	ND-130	ND	2017	Erosion of natural deposits; residue from some surface water treatment processes
Color (units)	15	n/a	ND - 5	ND	2017	Naturally-occurring organic materials
Chloride (mg/L)	500	n/a	12-93	41	2017	Runoff/leaching from natural deposits; seawater influence
Iron (µg/L)	300	n/a	ND - 139	ND	2017	Leaching from natural deposits; industrial wastes
Odor---Threshold (units)	3	n/a	ND - 16(d)	1	2017	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1600	n/a	351 - 1050	621	2017	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	500	n/a	35.6 - 163	85.4	2017	Runoff/leaching from natural deposits; industrial wastes
Turbidity (units)	5	n/a	ND - 0.3	ND	2017	Soil runoff
Total Dissolved Solids (mg/L)	1000	n/a	213 - 652	389	2017	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	48 - 205	166	2017	
Calcium (mg/L)	n/a	n/a	20 - 109	67	2017	
Hardness [as CaCO3] (mg/L)	n/a	n/a	56.7 - 358	206	2017	The sum of polyvalent cations present in the water, generally magnesium and calcium; the cations are usually naturally occurring
Hardness [as CaCO3] (grains/gal)	n/a	n/a	3.31 - 20.9	12	2017	
Magnesium (mg/L)	n/a	n/a	1.6 - 21	13	2017	
pH (pH units)	n/a	n/a	7.5 - 8.6	7.9	2017	
Potassium (mg/L)	n/a	n/a	1.5 - 4.9	3.0	2017	
Sodium (mg/L)	n/a	n/a	33.3 - 82.4	45.1	2017	Refers to the salt present in the water and is generally naturally occurring
Unregulated Drinking Water Constituents (units)	Notification Level	PHG (MCLG)	Range of Detection	Average Level	Most Recent Sampling Date	
Chlorodifluoromethane (HCFC-22)	n/a	n/a	ND - 0.37	0.05	2015	
Vanadium (µg/L)	50	n/a	ND - 4.6	ND	2017	
Molybdenum (µg/L)	n/a	n/a	3.5 - 8.4	5.7	2015	
Strontium (µg/L)	n/a	n/a	182 - 808	562	2015	
Chlorate (µg/L)	800	n/a	20 - 390	130	2015	

West Orange County Water System - Distribution Water Quality

Microbiological Constituents (units)	Primary MCL	PHG (MCLG)	Value		Most Recent Sampling Date	Typical Source of Constituent	
Total Coliform Bacteria ≥40 Samples/Month (Present / Absent)	More than 5% of monthly samples are positive	(0)	Highest percent of monthly samples positive was 1 %		2017	Naturally present in the environment	
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 Cl2] (mg/L)	(4.0)	(4)	ND - 2.6	1.22	2017	Drinking water disinfectant added for treatment	
HAA5 [Total of Five Haloacetic Acids] (µg/L)	60	n/a	ND-18	10	2017	Byproduct of drinking water disinfection	
THMs [Total of Four Trihalomethanes] (µg/L)	80	n/a	0.5-31	26	2017	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 46 samples collected exceeded the action level.	0.22	2016	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 Requesting Lead Samples(e)
Lead (µg/L)	AL = 15	0.2	None of the 46 samples collected exceeded the action level.	ND	2016	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.	16

(a) There is currently no MCL for hexavalent chromium. The previous MCL of 0.010 mg/L was withdrawn on September 11, 2017. (b) MCL is based on Gross Alpha minus Uranium. (c) DDW considers 50 pCi/L to be the level of concern for beta particles. (d) Odor data reported is prior to chlorination or other process and is not necessarily representative of water received by customers. (e) The State of California has made lead sampling in schools mandatory with a compliance window through 2019. The process requires each school to contact their water purveyor in order to initiate the sampling.
 ND = Not Detected CaCO3 = Calcium Carbonate This table includes data only on constituents that were detected.

Source Water Assessment

GSWC conducted a source water assessment in 2003 for each groundwater well serving the customers of its West Orange County system.

The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: active and historic gas stations, confirmed leaking underground storage tanks, dry cleaners, and repair shops.

The groundwater sources are considered most vulnerable to the following activities which have been associated with contaminants detected in the water supply: fertilizer, high-density housing, irrigated crops, pesticide/herbicide application, and sewer collection systems.

A copy of the assessment may be viewed at:

DDW Santa Ana District Office
605 W. Santa Ana Blvd., Room 325, Santa Ana, CA 92701

or Golden State Water Company, Anaheim Office
1920 W. Corporate Way, Anaheim, CA 92801

You may request a summary of the assessment be sent to you by contacting:
DDW Santa Ana District Office at 1.714.558.4410

For more details, contact Samantha Chen, Water Quality Engineer, at 1.800.999.4033.

In December 2002, the Metropolitan Water District of Southern California (MWD) completed a source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to the following: increasing urbanization in the watershed, recreation, urban/stormwater runoff, and wastewater.

State Water Project supplies are considered to be most vulnerable to the following: agriculture, recreation, urban/ stormwater runoff, wastewater, and wildlife.

A copy of the assessment can be obtained by contacting MWD by phone at 1.213.217.6000.

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 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 www.epa.gov/safewater/lead.

Chloramination — The water purchased by GSWC from Metropolitan Water District of Southern California (MWD) contains chloramine. Chloramine is added to the water for public health protection. Chloraminated water is safe for people and animals to drink, and for all other general uses. Three special user groups, including kidney dialysis patients, aquarium owners, and businesses or industries that use water in their treatment process, must remove chloramine from the water prior to use.

Hospitals or dialysis centers should be aware of chloramine in the water and should install proper chloramine removal equipment, such as dual carbon adsorption units. Aquarium owners can use readily available products to remove or neutralize chloramine. Businesses and industries that use water in any manufacturing process or for food or beverage preparation should contact their water treatment equipment supplier regarding specific equipment needs.

Fluoridation — Fluoride has been added to the water that GSWC purchases from Metropolitan Water District of Southern California (MWD). Customers should see no difference in the taste, color or odor of their water as a result of fluoridation. Fluoridation does not change the way you normally use water for fish, pets, or cooking. Parents and guardians of children who receive fluoride supplements should consult the child's doctor or dentist. For information regarding fluoridation of your water, please visit the Department of Drinking Water's fluoridation website at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html.

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.

Odor — The secondary MCL for odor is set for aesthetic reasons and there is no health concern associated with the odor levels in this water system.

Turbidity — Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of surface water filtration.

Unregulated Contaminant Monitoring — Monitoring for unregulated contaminants helps the USEPA and the DDW to determine where certain contaminants occur and whether the contaminants need to be regulated.

School Lead Testing — California Governor Jerry Brown signed legislation (AB 746) in October 2017 making lead testing mandatory for all California public K-12 schools constructed before Jan. 1, 2010. The legislation requires that testing be completed by July 1, 2019. To satisfy this legal requirement, Golden State Water is working with the schools in our service areas to test the drinking water at their facilities. There is no charge for this service, and any repairs that may be required could be eligible for funding through the State of California's Drinking Water for Schools Grant Program. Our experienced Water Quality team will provide free testing services at the school's drinking fountains, cafeterias, food preparation areas and other locations. Results will be reported to the school when they become available. To learn more about the school lead testing program and check if your school has been tested, please visit www.gswater.com/schools.

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.

To be certain that tap water is safe to drink, the USEPA and the DDW prescribe regulations limiting the amount of contaminants in water provided by public water systems. United States Food and Drug Administration (USFDA) and DDW regulations also provide the same public health protection by establishing limits for contaminants in bottled water.

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