City of Santa Barbara JUNE 2021 ANNUAL WATER QUALITY REPORT



SantaBarbaraCA.gov/Water

MESSAGE FROM THE WATER RESOURCES MANAGER



The City of Santa Barbara's water delivery system is vital to our way of life, the health and well-being of our community, and the success of our local economy. Santa Barbara would not exist as it does today without the safe, clean, and reliable delivery of drinking water throughout our community.

For our community to thrive, Santa Barbara's water system needs investment in its aging infrastructure, including the replacement of water main pipelines and reservoirs to ensure a clean, reliable supply.

To achieve this objective, we must invest in capital improvements, meeting mandated standards of treatment, servicing debt obligations, and balancing reserves. The City's proposed water rate increases will fund investments needed to ensure the continued delivery of safe and reliable drinking water to our customers.

We recognize the tremendous difficulties the COVID-19 pandemic has brought on so many, which is why we have taken assertive measures to reduce bill impacts by deferring infrastructure projects and forgoing last year's planned rate increase. At the same time, our duty and responsibility to deliver safe, high-quality water is of the utmost importance.

Sincerely, Amanda Flesse, Acting Water Resources Manager



For questions about water quality, contact the Water Resources Laboratory at WaterLab@SantaBarbaraCA.gov or call 805-568-1008.

For questions on the City's water system, call 805-564-5387.

The City of Santa Barbara Water Commission meets at 9:00 a.m. on the third Thursday of each month. Water Commission meetings are open to the public and are currently held virtually due to COVID-19. For more information on the Water Commission, visit SantaBarbaraCA.gov/WC.

SantaBarbaraCA.gov/Water



City of Santa Barbara Water Resources staff providing essential services to residents.

Planning for Tomorrow

Investing in our water system today ensures safe and reliable water supplies into the future

Santa Barbara was not built-out steadily over time, but rather experienced a dramatic growth rate in the 1950s and 1960s. At that time, cast iron was the material of choice for water mains. As a result of this rapid expansion, approximately 44% (135 miles) of the City's water mains are made of cast iron. Cast iron is a brittle material. As result, cast iron water mains break five times more frequently than all other pipe materials combined. Cast iron water mains have an average service life of 77 years, which is much shorter than PVC or ductile iron pipe.

City Council set a goal in 1987 to replace three miles (1% of the system) of water mains annually. While this target was sufficient for decades, in recent years the City has experienced an increasing number of water main breaks, leading to costly emergency repairs and service interruptions. In response, City Council set a new goal in 2018 to replace six miles (2% of the system) of water mains annually, which has helped to reduce the number of main breaks the City experiences annually.

Providing safe and reliable drinking water that meets or exceeds all water quality standards is a primary objective of the City's Water Resources Division. To achieve this objective, rates are set to generate sufficient revenue to invest in capital improvements, meet mandated treatment standards, service debt obligations, and balance reserves. By law, rates may not exceed the cost of providing service, and must be proportionally allocated to the benefit received by each customer class.

To learn more about the City's water rates please visit **SantaBarbaraCA.** gov/WaterRates or call (805) 564-5387.



Drinking Water Treatment Regulations

Most of the City's drinking water comes from Lake Cachuma, Gibraltar Reservoir, and the Charles E. Meyer Desalination Plant. A portion of the City's water also comes from groundwater and imported State Water sources. As water travels over land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the water sources include:

- Microbial contaminants such as bacteria and viruses that may come from wildlife or human activity.
- Inorganic contaminants such as salts and metals that can be naturally occurring or result from human activities.
- Radioactive contaminants, which can be naturally occurring.

- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater run-off, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes, petroleum production and use, or septic systems and agricultural applications.

To ensure safe drinking water, federal and state regulations limit the amount of certain contaminants in public water systems. Regulations also establish limits for contaminants in bottled water to provide protection for public health.

Special Information Available

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

In 2020, the City of Santa Barbara's water met all EPA and state drinking water health standards. Before distribution, drinking water from our primary water sources is treated at the Cater Water Treatment Plant or the Charles E. Meyer Desalination Plant. Groundwater is treated at the Ortega Groundwater Treatment Plant or at the well site.



The Santa Ynez River is one of the largest rivers on the Central Coast of California and has three reservoirs.

Limited Potential for Contamination

The City has evaluated the vulnerability of its water supplies. Gibraltar Reservoir's remote location and restricted access limits opportunities for contamination. Water contact activities at Lake Cachuma are prohibited. The Desalination Plant and Cater Plant use advanced treatment technologies. City groundwater supplies are located deep beneath the surface. Nonetheless, contaminants from sources such as gas stations and dry cleaners could potentially reach City water supplies. All water sources are carefully monitored to ensure pollutants do not exceed state and federal standards. For more information, call 805-568-1008.

Lead in Plumbing

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 private service lines and home plumbing. The City has no lead service lines in the water distribution system. The City is responsible for providing high-quality drinking water but cannot control the variety of materials used in private plumbing components. The City's water contains low levels of lead and copper. However, if your water has been sitting in your pipes for a number of days, you can minimize lead exposure by flushing your tap for 30 seconds before using the water for drinking or cooking. Additionally, if you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791, or EPA.gov/SafeWater/Lead.

Nitrate Levels

The City's highest nitrate level in 2020 was 5.6 mg/L. 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.

Water Quality Tests

To ensure the delivery of quality drinking water that is free of harmful bacteria, water quality tests are performed weekly at our sample stations located throughout the water system. The results are submitted monthly to the State Water Resources Control Board, Division of Drinking Water. All water systems are required to comply with both the State Total Coliform Rule and the Federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.





Recommended Water Softener Settings

Groundwater: 18-45 grains/gallon Surface Water: 22-29 grains/gallon Desal Water: 2-3 grains/gallon (1 grain/gallon = 17.1 milligrams per liter)

> Desal water distribution map: SantaBarbaraCA.gov/Desal

Radon

Radon is a radioactive gas that you cannot see, taste, or smell that is found throughout the United States. It occurs naturally in certain rock formations. As a result, radon can be found in Santa Barbara's groundwater. Groundwater is a small part (<10%) of the City's total water supply. Radon has not been detected in the City's surface water. Radon can enter homes through cracks or holes in foundations and floors. Radon can also get indoors when released from tap water. Test your home if you are concerned about radon. Testing is inexpensive and easy. For additional information, call the State radon program at 1-800-745-7236, the EPA Safe Drinking Water Hotline at 1-800-426-4791, or the National Safety Council Radon Hotline at 1-800-SOS-RADON.

Safe Drinking Water Hotline and Website Information

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 U.S. EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at EPA.gov/SafeWater.



Lake Cachuma is the City's primary surface water supply, and is also a source for surrounding communities.

CITY DRINKING WATER QUALITY REPORT

THIS ANNUAL REPORT SHOWS DATA COLLECTED FROM CALENDAR YEAR 2020

PRIMARY STANDARDS

Regulated Contaminants with Primary MCLs or MRDLs

Microbiological Contaminants	MCL	PHG				Hig	ghest % of Posit	ives	Major Sources in Drinking Water	
Total Coliform Bacteria	5% of monthly samples test positive	MCLG, 0				0.93%			Naturally present in the environment	
			Highest Single Measurement			Samples ≤0.3 NTU		U		
Turbidity (NTU)	$\frac{11 = 1 \text{ NIU}}{\text{TT} = 95\% \text{ of samples } \leq 0.3 \text{ NTU}}$	NA	0.00			100%				
Lead/Copper Rule			00th % Value	# of S	itor Compled	# 0	f Citor Evroadin	a Al		
Copper (mg/L)	AL, 1.3	0.3	0.52 31			1			erosion of natural deposits; leaching from wood preservatives	
Lead (µg/L)	AL, 15	0.2	2.6		31		0			
Disinfection Ryproducts, Disinfectant Residuals	MCL	PHG		System Wide			System Wide			
and Disinfection Byproduct Precursors				Average		Range				
Total Trihalomethanes (µg/L)	LRAA, 80	NA		Highest LRAA, 43		ND - 48			Byproduct of drinking water disinfection	
Haloacetic Acids (µg/L)	LRAA, 60	NA		Highest LRAA, 24		ND - 29			Byproduct of drinking water disinfection	
Disinfectant - Chlorine as Cl ₂ (mg/L)	MRDL, 4.0	MRDLG, 4.0		0.72		ND - 1.79			Drinking water disinfectant added for treatment	
Bromochloroacetic Acid (ug/L)	NA	NA		2.7		ND - 5.2			Byproduct of drinking water disinfection	
Bromodichloromethane (µg/L)	NA	NA		8.1			ND - 14		Byproduct of drinking water disinfection	
Bromotorm (µg/L)	NA	0.5		1.9			ND - 13		Byproduct of drinking water disinfection	
Chloroform (µg/L)	NA	0.4		12		ND - 25			Byproduct of drinking water disinfection	
Dibromoacetic acid (ug/L)		NA		1.8			ND - 3.1		Byproduct of drinking water disinfection	
Disbloroacetic acid (ug/L)	NA	0.1		6.3 F 1			ND 14		Byproduct of drinking water disinfection	
Monobromoacetic acid (µg/L)	ΝΔ			0.6		ND - 14			Byproduct of drinking water disinfection	
Monochloroacetic acid (µg/L)	<u></u> ΝΔ			1.4		ND - 1.2			Byproduct of drinking water disinfection	
Trichloroacetic acid (ug/L)	NA	NA		4.1		<u>د.د - ماها</u> ND - 8			Byproduct of drinking water disinfection	
memorodeene deid (ug, 2)	MCL	PHG	Surface Water	Surface Water	Groundwater	Groundwater	Decalinated	Decalinated	Sproadet of animaling rates animeteron	
	MCL	1115	Average	Range	Average	Range	Water Average	Water Range		
Bromochloroacetic Acid (ug/L)	NA	NA	1.6	1.0 - 2.6	NA	NA	NA	NA	Byproduct of drinking water disinfection	
Bromodichloromethane (µg/L)	NA	NA	4.3	0.70 - 9.9	ND	NA	ND	NA	Byproduct of drinking water disinfection	
Bromoform (µg/L)	NA	NA	0.75	ND - 1.6	ND	NA	ND	NA	Byproduct of drinking water disinfection	
Chloroform (µg/L)	NA	NA	5.9	0.81 - 17	ND	NA	ND	NA	Byproduct of drinking water disinfection	
Dibromoacetic acid (µg/L)	NA	NA	0.95	ND - 1.6	NA	NA	NA ND NA		Byproduct of drinking water disinfection	
Dibromochloromethane (µg/L)	NA	NA	3.3	1.3 - 6.7	NA	NA	NA	NA	Byproduct of drinking water disinfection	
Dichloroacetic acid (µg/L)	NA	NA	1.4	ND - 2.9	NA	NA	ND	NA	Byproduct of drinking water disinfection	
Trichloroacetic acid (µg/L)	NA	NA	2.6	ND - 8.5	NA	NA	ND	NA	Byproduct of drinking water disinfection	
Bromate (ug/L)	10	0.1	36	26-55	NA	NΔ	NA	ΝΔ	Burroduct of drinking water disinfection	
Control of DPP Procursors TOC (mg/L)		NA	2.6	2.0-3.5	NA	NA			byproduct of drinking water distinection	
			2.0	2.1 - J.2	NA		0.15	10-0.51		
Radioactive Contaminants							4.55			
Uranium (pCi/L)	20	0.43	0.83	NA	2.9	0.74 - 5.0	1.25	ND - 4.64	Erosion of natural deposits	
Inorganic Contaminants										
Aluminum (mg/L)	1	0.6	0.17	0.03 - 0.43	ND	NA	ND	NA	Erosion of natural deposits	
Arsenic (ug/L)	10	0.004	0.82	ND - 1.2	1.9	ND - 3.8	ND	NA	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes	
Barium (mg/L)	1	2	0.064	NA	0.050	0.032 - 0.066	ND	NA	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits	
Eluoride (mg/l.)	2.0	1	0.45	0 36 - 0 51	0.40	0.32 - 0.59	ND	NA	Frosion of natural denosits: discharge from fertilizer and aluminum factories	
Total Nitrato + Nitrito ac N (mg/L)	10	10	0.20	ND _ 0.31	17	ND - 5.6		NA	Encion of natural denotics uponings non-network	
$\frac{10 \text{ (a) With a term in the as N(H)}}{10 \text{ (a) with a term in the as N(C)}}$	45		0.04	ND 1.37	<u> </u>			NA		
Nitrate as NO3 (mg/L)	40		0.84	- 1.37	0.8	<u>ND - 25</u> <u>ND</u> <u>NA</u>			Erosion of natural deposits; runoff from fertilizer use	
Nitrate as N (mg/L)	10	10	0.20	<u>ND - 0.31</u>	1.7	<u>ND - 5.6</u>	ND	NA	Erosion of natural deposits; runoff from fertilizer use	

CITY DRINKING WATER QUALITY REPORT

i.e., Unregulated Contaminants

SECONDARY STANDARDS

CONTAMINANTS WITH NO MCLs

Regulated Contaminants with Secondary MCLs Aesthetic Standards Established by the State of California, Department of Public Health. No adverse health effects from exceedance of standards.

	MCL	PHG	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	Desalinated Water Average	Desalinated Water Range	Major Sources in Drinking Water
lron (μg/L)	300	NA	15	ND - 31	820	35 - 2000	ND	NA	Leaching from natural deposits
Manganese (ug/L)	50	NA	ND	NA	76	ND - 220	ND	NA	Leaching from natural deposits
Color, Apparent (units)	15	NA	ND	NA	8	ND - 20	ND	NA	Naturally occurring organic materials
Threshold Odor Number at 60 °C (units)	3	NA	3	1-4	11	ND - 40	ND	NA	Naturally occurring organic materials
Turbidity, Laboratory (NTU)	5	NA	0.34	0.05 - 1.00	6.8	0.41 - 16	0.15	0.04 - 0.88	Soil runoff
Total Dissolved Solids (mg/L)	1000	NA	734	630 - 842	910	520 - 1300	270	210 - 320	Runoff / leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	NA	987	936 - 1112	1280	750 - 2000	540	420 - 724	Substances that form ions when in water; seawater influence
Chloride (mg/L)	500	NA	27.2	23.7 - 30.1	150	32 - 350	140	110 - 170	Runoff / leaching from natural deposits; seawater influence
Sulfate (mg/L)	500	NA	290	259 - 340	150	4.4 - 280	3.7	3.4 - 4.0	Runoff / leaching from natural deposits
Total Chromium (μg/L)	50	NA	ND	NA	15	ND - 56	ND	NA	Runoff / leaching from natural deposits

Boron (mg/L)	NL,1	NA	0.38	0.37 - 0.39	0.085	NA	0.71	0.54 - 0.89	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Additional Constituents									
pH (units)	NA	NA	7.52	7.39 - 7.72	6.86	6.71 - 6.96	8.74	8.52 -8.89	
Total Hardness as CaCO ₃ (mg/L)	NA	NA	428	392 - 480	510	320 - 770	45	NA	
Total Alkalinity as CaCO ₃ (mg/L)	NA	NA	220	209 - 229	220	130 - 310	46	35 - 57	
Calcium (mg/L)	NA	NA	97	93 - 109	130	88 - 170	18	16 - 20	
Magnesium (mg/L)	NA	NA	44	37 - 52	47	24 - 85	2.0	1.8 - 2.1	
Sodium (mg/L)	NA	NA	58	51 - 68	72	42 - 130	78	60 - 94	
Potassium (mg/L)	NA	NA	3.6	3.3 - 4.0	1.4	1.1 - 1.7	NA	NA	
Radon 222 (pCi/L)	NA	NA	ND	NA	630	460 - 930	NA	NA	



tests each year to ensure safe drinking water for our community.

Note: Listed in the tables are substances detected in the City's drinking water. Not listed are more than 131 regulated and unregulated substances that were below the laboratory detection level.

The state allows us to monitor for some contaminants less than once per year because the concentrations of the these contaminants do not change frequently. Some of our data, though representative, are more than one year old. All data presented in the table above are from 2020, except for the following: Potassium for ground water is from 2018. Uranium as an additional constituent for surface water is from 2018. Uranium as a radioactive contaminant for surface water is from 2018. Uranium as a radioactive contaminant for ground water is from 2019. Uranium as a additional constituent for both ground water and desalinated water is from 2019. Boron for surface water is from 2016 and 2017. Boron for groundwater is from 2015. Radon 222 for both surface water and ground water are from 2012. Hexavalent chromium for both surface water and ground water is from 2019.

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UNREGULATED CONTAMINANTS MONITORING (UCMR3)

List 1 Contaminants	MCL	PHG	System Wide Average	System Wide Range
Chromium, Total (µg/L)	NA	NA	0.54	ND - 1.7
Molybdenum (µg/L)	NA	NA	6.3	ND - 11
Strontium (µg/L)	NA	NA	1045	670 - 1900
Vanadium (µg/L)	NA	NA	1.7	ND - 4.0
Chromium 6 (Hexavalent Chromium) (µg/L)	NA	NA	0.49	ND - 1.8
Chlorate (µg/L)	NA	NA	253	72.0 - 410
1,4-Dioxane (µg/L)	NA	NA	0.024	ND - 0.11
1,1-Dichloroethane (ng/L)	NA	NA	31	ND - 130
Chloromethane (ng/L)	NA	NA	31	ND - 250

UNREGULATED CONTAMINANTS MONITORING (UCMR4)

Haloacetic Acids	MCL	PHG	System Wide Average	System Wide Range
Bromochloroacetic Acid (ug/L)	NA	NA	3.9	ND - 8.2
Bromodichloroacetic Acid (ug/L)	NA	NA	3.5	ND - 5.8
Chlorodibromoacetic Acid (ug/L)	NA	NA	2.2	ND - 3.3
Dibromoacetic Acid (ug/L)	NA	NA	2.3	ND - 4.2
Dichloroacetic Acid (ug/L)	NA	NA	6.0	ND - 16
Tribromoacetic Acid (ug/L)	NA	NA	2.3	ND - 4.9
Trichloroacetic Acid (ug/L)	NA	NA	4.2	ND - 12
HAA5	NA	NA	13	ND - 32
HAA6Br	NA	NA	14	ND - 24
HAA9	NA	NA	24	ND - 51
Additional Contaminants				
Bromide (ug/L)	NA	NA	24000	51 - 73000
Germanium (ug/L)	NA	NA	0.42	ND - 0.95
Manganese (ug/L)	NA	NA	0.81	ND - 4.1
Total Organic Carbon (mg/L)	NA	NA	3.5	1.2 - 5.4

About the Unregulated Contaminant Monitoring Rule 3 & Rule 4

Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

UCMR3: As required by the EPA, the City's UCMR3 data reflects all detected contaminants from March 2014 through July 2015. The State Board recommends systems to report the data for 5 years.

UCMR4: As required by the EPA, the City's UCMR4 data will reflect all detected contaminants from March 2018 through November 2020.

Definitions

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.

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 U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL)

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

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.

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.

Regulatory Action Level (AL)

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

Treatment Technique (TT)

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

Primary Drinking Water Standards (PDWS) MCLs and MRDLs for contaminants that affect health along with their monitoring and

reporting requirements and water treatment requirements.

Secondary Drinking Water Standards (SDWS)

MCLs for contaminants that affect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Notification Level (NL)

Notification levels are health-based levels established by CDPH for chemicals in drinking water that lack MCLs.

Legend

mg/L:	milligrams per liter (parts per million)
μg/L:	micrograms per liter (parts per billion)
µmhos/cm:	micromhos per centimeter
pCi/L:	picoCuries per liter (a measure of radioactivity)
ND:	Not Detected at testing limit
NA:	Not Applicable
NTU:	Nephelometric Turbidity Units
DBP:	Disinfection Byproducts
TOC:	Total Organic Carbon
LRAA:	Locational Running Annual Average
ng/L:	nanograms per liter (parts per trillion)



Video Assistance Program COMING SUMMER 2021 More information at SantaBarbaraCA.gov/VAP



Sewer Lateral Inspection Program Video Assistance Program

Assistance up to \$300 per sewer lateral inspection for Residential City Initiated SLIP cases.

Video inspection will be conducted by a City Contractor.

Property Owner's Sewer Lateral Responsibility



WATER WISE SANTA BARBARA

- Rebates available for mulch, Flume leak alert device, and high efficiency washing machines.
- Adjust your sprinkler schedule based on the weather. Use the Watering Calculator & Watering % Adjust on our website.
- Check for and repair leaks inside and out with our DIY videos.
- Schedule a free virtual or phone Water Checkup appointment for your home or business.



For more information, visit SantaBarbaraCA.gov/WaterWise or call 805-564-5460.

