



## CITY OF SANTA CRUZ WATER DEPARTMENT CONSUMER CONFIDENCE REPORT 2017

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

此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

### WHAT IS THIS REPORT?

This annual Consumer Confidence Report provides a summary of the water quality tested in 2017 and has been prepared to inform the City of Santa Cruz Water customers about their drinking water quality. Included in this report are details about where your water comes from, what it contains, and how it compares to Federal and State drinking water standards. The City of Santa Cruz vigilantly safeguards its water supplies and provides thorough treatment to ensure that our customers receive high quality drinking water. We are committed to providing our customers with accurate information about their drinking water quality. **Last year, as in years past, your tap water met all U.S. Environmental Protection Agency and State of California drinking water health standards.**

### WHERE DOES OUR WATER COME FROM?

To provide water for our service area, the City of Santa Cruz depends on water supplies from four locales: the North Coast sources, San Lorenzo River, Loch Lomond Reservoir and the Live Oak Wells. Except for groundwater from the four Live Oak Wells, all other water sources are from surface water diversions or groundwater sources under the direct influence of surface water, which are dependent on annual rainfall and runoff.

The North Coast sources consist of surface water diversions from three coastal streams and one natural spring. Due to the excellent water quality and the lowest production cost, these North Coast sources are used to the greatest extent. These source waters are conveyed to the City's Graham Hill Water Treatment Plant for treatment. The use of these sources by the City dates back to 1890.

San Lorenzo River flows are diverted to the Graham Hill Water Treatment Plant for treatment. Three wells (groundwater under direct influence of surface water) located next to the San Lorenzo River and hydraulically connected, are included in the City's water right. Additionally, the City can divert water from the San Lorenzo River in Felton to store in Loch Lomond Reservoir. This water is used to supplement storage in the reservoir during dry years, when natural water inflow from Newell Creek is low.

Loch Lomond Reservoir, constructed in 1960, provides surface water storage on Newell Creek. Water from the reservoir is treated at the Graham Hill Water Treatment Plant. Additionally, the reservoir and surrounding watershed are used for public recreation purposes, including fishing, boating, hiking, and picnicking.

The Live Oak well system consists of four groundwater wells and two small groundwater treatment plants located in the southeast portion of the City's service area. Three of these wells draw directly from the Purisima Aquifer, while one well draws from both the Purisima and Santa Margarita Aquifers. During the late spring, summer and early fall seasons, when surface water flows may be inadequate to meet the daily customer water demand, this supplemental groundwater supply is pumped from the four Live Oak Wells and treated on-site at two groundwater treatment plants and distributed to customers in the southeast service area.

## IS OUR WATER VULNERABLE TO CONTAMINATION?

Since 1996, water suppliers who rely on surface water have been required to conduct assessments (called Watershed Sanitary Surveys) of their water sources to identify potential sources of contamination and their respective treatment plants' ability to treat those pollution sources. Assessments include a delineation of the area around water sources and a review of activities with the potential to release contaminants within the delineated area. A number of potentially contaminating activities exist in the area of the Santa Cruz water sources, including commercial cannabis cultivation, wastewater and urban runoff, confined animal facilities, unauthorized activity, roads (including timber harvest roads), mining/quarry activities, geologic hazards and fires including landslides after significant rains, chemical spills, pesticides and herbicides, among others. Also, a number of legacy land disturbances including historic timber harvest roads and isolated industrial operations that resulted in contaminant plumes which still have the potential to impact drinking water sources. To provide the highest quality drinking water possible, the City works proactively with a number of partners to reduce or eliminate potential contaminant sources and prioritizes the use of the highest quality source water during times when the drinking water system is most vulnerable (i.e. during storm runoff periods). This watershed protection effort also provides benefits to other "beneficial users" of the watersheds like steelhead trout and coho salmon. In 2018, the Watershed section of the City's Water Department completed an update to the 2013 Drinking Watershed Sanitary Survey of the San Lorenzo Valley and North Coast Watersheds, which can be viewed at [www.cityofsantacruz.com/SanitarySurvey2018](http://www.cityofsantacruz.com/SanitarySurvey2018)

## WHY ARE THERE CONTAMINANTS IN DRINKING WATER?

In order to ensure that tap water is safe to drink, U.S. EPA and the State Water Resources Control Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health <https://www.cdph.ca.gov/Programs/CEH/DFDCS/Pages/FDBPrograms/FoodSafetyProgram/Water.aspx>

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 (1-800-426-4791).

The sources of drinking water (both tap and bottled water) 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 from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses, parasites and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that 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 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 that 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 that can be naturally-occurring or be the result of oil and gas production and mining activities.

The State Water Resources Control Board, Division of Drinking Water 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.

## DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/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 (1-800-426-4791).

*Cryptosporidium* is a microbial pathogen (parasite) found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our 2015-2017 monitoring indicates the presence of these organisms in our source waters. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. **However, immune-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immune-compromised individuals to consult with their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.** <https://www.cdc.gov/parasites/water.html>

## INORGANIC CONTAMINANTS WITH ACTION LEVELS

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, young children and infants. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Santa Cruz Water Department 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 2 minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.** 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 or at <http://www.epa.gov/lead> . In 2015, tap water samples were collected from 34 Santa Cruz homes after their water sat unused overnight for 6 hours or more, and then analyzed for lead and copper as required by the Lead and Copper Rule <https://www.epa.gov/dwreginfo/lead-and-copper-rule> . The City of Santa Cruz has a three year waiver for required Lead and Copper Rule monitoring frequency, the next study will be in 2018. Two K-12 schools within the Santa Cruz Water service area requested free lead testing in 2017 with the remainder of schools to be tested in 2018.

## WATER QUALITY DATA TABLE

The Table of Detected Contaminants lists drinking water contaminants that were detected during the 2017 calendar year. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.

**To interpret the tables, you will need the following definitions:**

**MCL: Maximum Contaminant Level:** 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.

**MCLG: Maximum Contaminant Level Goal:** 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.

**MRDL: Maximum Residual Disinfectant Level:** 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.

**MRDLG: Maximum Residual Disinfectant Level Goal:** 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.

**N/A: Not Applicable**

**PDWS: Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**PHG: Public Health Goal:** 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.

**LRAA: Locational Running Annual Average:** The locational average of the most recent 12 months of data.

**RAL: Regulatory Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**SDWS: Secondary Drinking Water Standards:** MCLs for contaminants that may adversely affect the taste, odor or appearance of drinking water. These are aesthetic considerations that are not considered as health concerns.

**TT: Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

### WATER QUALITY TABLE OF DETECTED CONTAMINANTS

Contaminants Regulated by Primary Drinking Water Standards								
Contaminants (units)	PHG MCLG	PDWS MCL	Treated Water Average <sup>2</sup>	Source Water Range <sup>1</sup>		Sample Date	Violation	Typical Source of Contamination
				Low	High			
Aluminum (ppm)	0.6	1	< 0.02	< 0.02	0.30	2017	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (ppb)	0.004	10	< 1.0	1.0	3.6	2017	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Fluoride (ppm)	1	2.0	0.2	< 0.1	0.6	2017	No	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Gross Alpha particle activity (pCi/L)	0	15	< 3.00	< 3.00	< 3.00	2017	No	Erosion of natural deposits
Nitrate as Nitrogen (ppm)	10	10	0.31	< 0.02	1.44	2017	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

Additional Contaminants Regulated by Primary Drinking Water Standards								
Contaminants (units)	PHG MCLG	PDWS MCL	Treated Water Average <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Date	Violation	Typical Source of Contamination
				Low	High			
Turbidity (NTU)	TT	Maximum 1 and 95% < 0.3	0.07	0.04	0.33	2017	No	Soil runoff

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Microbiological Contaminants								
Contaminants	PHG MCLG	PDWS MCL	Treated Water <sup>2</sup>	Source Water <sup>1</sup>		Sample Date	Violation	Typical Source of Contamination
Total Coliform Bacteria	0	less than 5% positive	0 positive			2017	No	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present
<i>E. Coli</i>	0	0	0 positive			2017	No	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes

Contaminants Regulated by MRDL								
Contaminants (units)	PHG	PDWS MRDL	Treated Water Average <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Date	Violation	Typical Source of Contamination
				Low	High			
Chlorine (ppm)	4	4	0.99	0.02	1.61	2017	No	Drinking water disinfectant added for treatment

### Disinfection Byproduct Contaminants under Stage 2 DBP Rule

Contaminants (units)	PHG MCLG	MCL	Treated Water <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Date	Violation	Typical Source of Contamination
				Low	High			
TTHM [Total Trihalomethanes] (ppb)	N/A	80 (LRAA)	71 (LRAA)	6	72	2017	No	By-product of drinking water disinfection
HAA5 [Haloacetic Acids (five)] (ppb)	N/A	60 (LRAA)	45 (LRAA)	< 2	83	2017	No	By-product of drinking water disinfection

### Inorganic Contaminants with Action Levels

Contaminants (units)	PHG	RAL	Tap Water 90 <sup>th</sup> Percentile <sup>3</sup>	# of Samples Exceeding RAL <sup>3</sup>	Sample Date	Exceeds RAL	Typical Source of Contamination
Copper (ppm)	0.3	1.3	0.4	0/34	2015	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	0.2	15	< 2	0/34	2015	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

### Contaminants with Secondary Drinking Water Standards (SDWS)

Contaminants (units)	SDWS MCL	Treated Water Average <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Date	Typical Source of Contamination
			Low	High		
Iron (ppb)	300	< 20	< 20	38	2017	Leaching from natural deposits; industrial wastes
Chloride (ppm)	500	24	16	55	2017	Runoff/leaching from natural deposits; seawater influence
Manganese (ppb)	50	< 2	< 2	6	2017	Leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	440	290	755	2017	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	73	57	135	2017	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1000	280	260	500	2017	Runoff/leaching from natural deposits

### Other Monitoring Results

Other monitoring results are provided for consumer information.

Constituents (units)	Treated Water Average <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Date	Typical Source of Contamination
		Low	High		
Hardness (ppm)	164	108	278	2017	A measure of the major cations, primarily calcium and magnesium
Sodium (ppm)	26	27	47	2017	Runoff/leaching from natural deposits; saltwater influence
Hexavalent Chromium (ppb) *	0.04	<0.02	0.26	2017	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits.

\* **There is currently no MCL for Hexavalent Chromium.** The previous MCL of 0.010 mg/L (ppm) was withdrawn on September 11, 2017. Some people who drink water containing hexavalent chromium in excess of 10 µg/L (ppb) over many years may have an increased risk of getting cancer.

### Unregulated Contaminants – UCMR3

Contaminants (units)	Treated Water Average <sup>2</sup>	Treated Water Range <sup>2</sup>		Sample Dates
		Low	High	
Chlorate (ppb)	180	73	320	2013/2014
Chromium-6 (ppb)	0.05	< 0.03	0.14	2013/2014
Molybdenum (ppb)	2.1	1.6	2.6	2013/2014
Strontium (ppb)	245	200	260	2013/2014
Vanadium (ppb)	0.3	< 0.2	0.7	2013/2014

<sup>1</sup>Untreated water from the raw sources    <sup>2</sup>Treated water from treatment plants and/or water mains    <sup>3</sup>Water from 34 customers' household taps

Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

**Data Table Units:**

**NTU:** Nephelometric Turbidity Units  
**pCi/L:** picocuries per liter (a measurement of radioactivity)  
**ppm:** parts per million or milligrams per liter (mg/L)  
**ppb:** parts per billion or micrograms per liter (µg/L)  
**µmhos/cm:** a measure of electrical conductivity

**We hope this Consumer Confidence Report is valuable to you. If you have questions or comments about your water, please contact one of the City of Santa Cruz staff listed below.**

**WATER ADMINISTRATION**

Rosemary Menard, Water  
Director  
212 Locust St, Suite A  
Santa Cruz, CA 95060  
Phone: (831) 420-5200  
Fax: (831) 420-5201

**WATER QUALITY LABORATORY**

Hugh Dalton, Water Quality Manager  
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Phone: (831) 420-5484  
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CCR2017:  
[www.cityofsantacruz.com/ccr2017](http://www.cityofsantacruz.com/ccr2017)

**WATER RESOURCES**

Chris Berry, Watershed Compliance  
Manager  
715 Graham Hill Road  
Santa Cruz, CA 95060  
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E-mail:  
[WaterResources@cityofsantacruz.com](mailto:WaterResources@cityofsantacruz.com)

**You can also find other information on the Water Department and its activities at the City's website <http://www.cityofsantacruz.com/government/city-departments/water> There you can find information on Water Conservation, Loch Lomond Recreation Area, activities and projects of our Engineering Section, Water Commission and more. Meetings of the City Council and Water Commission provide excellent opportunities for you to get involved in issues related to drinking water. Their agendas are posted on the website listed above, at City Hall, or you can call the Water Department at (831) 420-5200 to find out more. We welcome your attendance and input.**

**SANTA CRUZ CITY COUNCIL**

809 Center Street, Room 10  
Santa Cruz, CA 95060  
Phone: (831) 420-5020  
E-mail: [CityCouncil@cityofsantacruz.com](mailto:CityCouncil@cityofsantacruz.com)

**SANTA CRUZ WATER COMMISSION**

Contact the Water Commission through the Water Department at (831) 420-5200  
Water Commission meetings are scheduled for the first Monday of each month at 7:00 pm.

**Other sources of information:**

**STATE WATER RESOURCES CONTROL BOARD**

**DIVISION OF DRINKING WATER**

Monterey District Office  
(831) 655-6939  
[http://www.waterboards.ca.gov/drinking\\_water/programs/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/index.shtml)  
[http://www.swrcb.ca.gov/drinking\\_water/certlic/drinkingwater/Lawbook.shtml](http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Lawbook.shtml)

**U.S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA)**

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