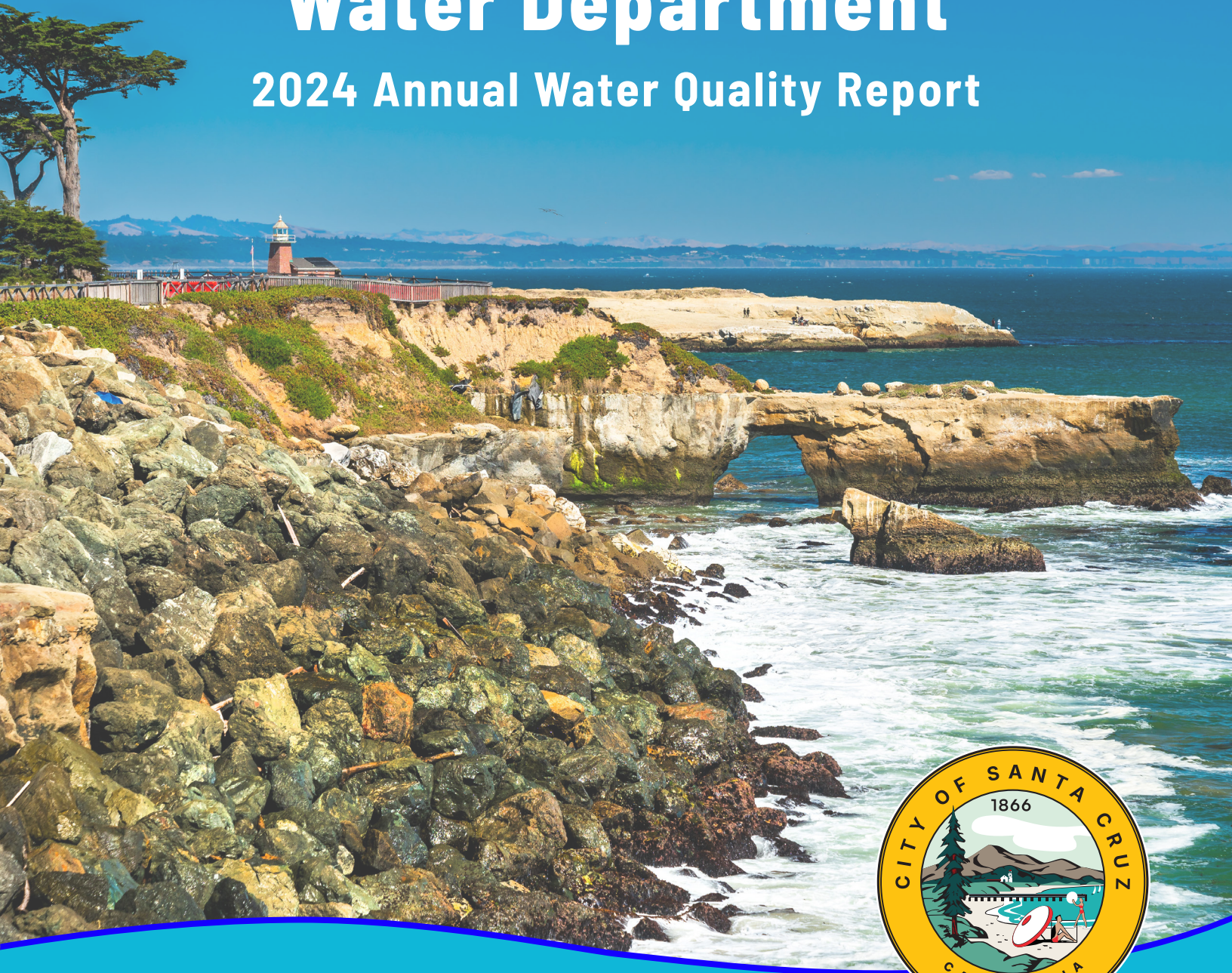


# City of Santa Cruz Water Department

## 2024 Annual Water Quality Report



### Report Summary

This Annual Water Quality Report, formerly known as the Consumer Confidence Report, reflects the hard work and investment by the City of Santa Cruz Water Department (SCWD) in providing high quality drinking water to its customers.

SCWD produces a Water Quality Report every year to provide information about where your water comes from, what it contains, and how it is treated and tested to ensure customers receive high quality drinking water. We do this not only to meet a regulatory requirement but to provide an educational opportunity to understand our drinking water operations and public health protection efforts. SCWD is committed to providing customers with accurate information about their drinking water quality.

SCWD water meets all California State Water Resources Control Board, Division of Drinking Water (State Board) and U.S. Environmental Protection Agency (USEPA) drinking water health standards.



# Santa Cruz Water Department Snapshot 2024

Ensuring the delivery of safe, reliable water that meets or exceeds stringent State and Federal drinking water standards is SCWD's top priority. To provide high-quality drinking water year-round, a dedicated team of water industry professionals work collaboratively to manage various essential responsibilities. These include treating raw source water, maintaining vital infrastructure (such as pumps, water mains, and tanks), operating and monitoring the intricate distribution system, sampling and analyzing water quality, carefully managing watershed lands, and upgrading facilities as needed.



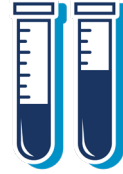
**25,429 Service Connections**



**95,017 Population Served**



**20 Square Miles of Service Area**



**42,663 Water Tests**



**2,486 Million Gallons Served to Customers**



**15 Distribution System Storage Tanks**



**20.9 Million Gallons of Water Storage Capacity**



**31 Miles of Raw Water Mains**



**263 Miles of Treated Water Mains**



# Source to Tap

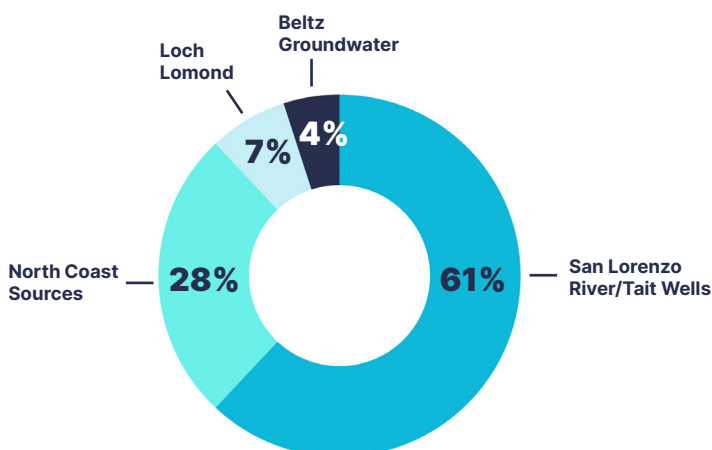
SCWD's drinking water supply is sourced from both surface water and groundwater, all of which are carefully protected and managed. SCWD relies on raw water from four key sources: the San Lorenzo River (SLR), Loch Lomond Reservoir, North Coast Sources, and the Beltz Groundwater Wells, located in mid-county near Live Oak. All of SCWD's water is locally sourced and dependent on annual rainfall and runoff.



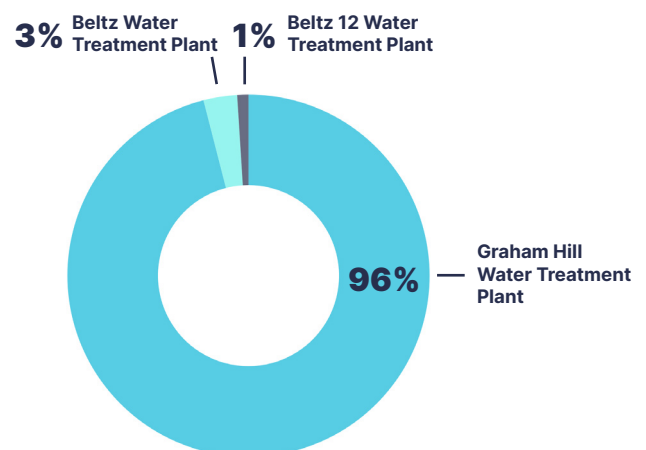
## 2024 Supply

During 2024, the SLR and Tait Wells contributed 61% of the total raw water supply, while the North Coast Sources contributed 28%, Loch Lomond contributed 7% and the Beltz Groundwater Wells contributed 4%. 96% of the water served to SCWD's customers in 2024 was produced at the Graham Hill Water Treatment Plant (GHWTP), 3% was produced by the Beltz Water Treatment Plant, and 1% was produced by the Beltz 12 Water Treatment Plant.

### 2024 Source Water Contributions



### 2024 System Supply





# Our Surface Water Sources and Treatment

## San Lorenzo River and Tait Wells

San Lorenzo River (SLR) water is diverted at two locations: Tait Street Diversion and Felton Diversion.

The Tait Street Diversion, located in the City of Santa Cruz west of the Graham Hill Water Treatment Plant (GHWTP), diverts water from the SLR and the Tait Wells. Water produced by the Tait Wells is delivered to the SLR intake sump at the Coast Pump Station and then pumped to the common transmission pipeline that also conveys the SLR and North Coast water to the GHWTP.

The Felton Diversion, five miles upstream from the Tait Street Diversion, pumps water from the SLR to Loch Lomond Reservoir for additional reservoir storage when flows are available. Under the current water rights diversion permit for the Felton Diversion, water diverted at Felton cannot be sent directly to the GHWTP. Ultimately, this water is directed back to the GHWTP for use/treatment by way of the Newell Creek pipeline.



## Loch Lomond Reservoir

Loch Lomond Reservoir was constructed in the 1960s and is located on Newell Creek, approximately 10 miles northeast of the City of Santa Cruz. The reservoir's maximum capacity is approximately 8,776 acre-feet (2.8 billion gallons). Water is conveyed from Loch Lomond to the GHWTP through the Newell Creek Pipeline. Loch Lomond primarily receives local watershed runoff but can also receive water diverted from the SLR at the Felton Diversion, as allowed under current water rights.



## North Coast

The North Coast water supply consists of two coastal streams and one spring located six to eight miles northwest of the City of Santa Cruz. Water from Liddell Spring, Laguna Creek and Majors Creek is transported through the Coast Pipeline to the Coast Pump Station, where it is then conveyed to the GHWTP. The use of some of these sources by SCWD dates back to 1890.



## Graham Hill Water Treatment Plant

The Graham Hill Water Treatment Plant is a conventional surface water treatment plant that utilizes coagulation, flocculation, sedimentation, disinfection, and filtration to treat the SLR and Tait Wells, Loch Lomond, and North Coast Sources.





# Source Water Protection

## Source Water Assessment and Protection of Watersheds

SCWD conducts a Watershed Sanitary Survey of our surface water sources every five years. A Watershed Sanitary Survey evaluates source water quality and potential watershed contaminant sources to provide information that helps maintain and improve source water protection, the first barrier in protecting public health. An evaluation of water treatment plant capabilities and treated water quality provides an assessment of the ability of a water utility to treat their source water.

Several potentially contaminating activities exist in SCWD water sources, including improperly functioning septic systems, commercial cannabis cultivation, homeless encampments, urban runoff, roads, mining and quarry activities, chemical spills, pesticides, herbicides, fire, and geologic hazards, including landslides after significant rains, among others. Also, a few legacy land disturbances including historic timber harvest roads and isolated industrial operations that resulted in contaminant plumes still have the potential to impact drinking water sources. Despite these potential vulnerabilities, due to the efforts of SCWD, your water continues to meet State and Federal drinking water standards.

To provide high quality drinking water, SCWD works proactively with partners to reduce or eliminate potential contaminant sources and prioritizes the use of the best quality source waters during times when the drinking water system is most vulnerable (i.e., during storm runoff periods). This watershed protection effort also provides environmental benefits, such as support for steelhead trout and Coho salmon.

In 2023, the Watershed section of SCWD completed an update to the [Drinking Watershed Sanitary Survey of the San Lorenzo Valley and North Coast Watersheds](#).

[Review the source water report for Water Year 2021](#) (Oct. 1, 2020 – Sept. 30, 2021), which includes source water quality data post-CZU Lightning Complex Fire.





# Our Groundwater Treatment

## Beltz Groundwater Wells

The Beltz groundwater system consists of four Groundwater Wells and two small groundwater treatment plants, the Beltz Water Treatment Plant and the Beltz 12 Water Treatment Plant, located in the southeast portion of the City's service area. These wells draw directly from the Mid-County Groundwater Basin.

Generally, the groundwater treatment plants are used during the late spring, summer and early fall seasons to supply customers in the southeast service area when surface water flows have diminished. During 2024, the Beltz Water Treatment Plant was in use in January, June, and September to December and the Beltz 12 Water Treatment Plant was in use from September to December.

## Beltz Water Treatment Plant

The Beltz Water Treatment Plant is a groundwater treatment plant that utilizes iron and manganese oxidation, aeration, and direct filtration to treat Beltz Wells 8, 9, and 10.

## Beltz 12 Water Treatment Plant

The Beltz 12 Water Treatment Plant is a groundwater treatment plant that utilizes iron and manganese oxidation, direct filtration with green sand filters and further oxidation with a contact vessel to treat Beltz Well 12.



## Aquifer Storage and Recovery Pilot Study at Beltz

As part of SCWD's Water Supply Augmentation Strategy, SCWD is pursuing the conversion of its existing Beltz Wells for Aquifer Storage and Recovery (ASR). ASR pilot studies have been completed at Beltz Wells 8, 9, and 12, including additional Demonstration Projects at Beltz 8 and 12 following the pilot studies. Available winter and spring flows from the North Coast Sources and the SLR were treated to potable standards at the GHWTP, conveyed through the water distribution system and injected into the existing production wells. After injection, the water was stored, recovered, tested to ensure it meets all drinking water standards, and directed to SCWD's distribution system. During 2024, SCWD injected a total of 16.7 million gallons (MG) into the Mid-County Groundwater Basin at Beltz Well 9. Design of permanent ASR facilities at Beltz Well 12 was completed in 2024 and construction will begin in early 2025. SCWD is in the process of designing permanent ASR facilities at Beltz Well 8, with plans to begin designing permanent ASR facilities at Beltz Well 9 and starting an ASR pilot test at a fourth well in 2026.



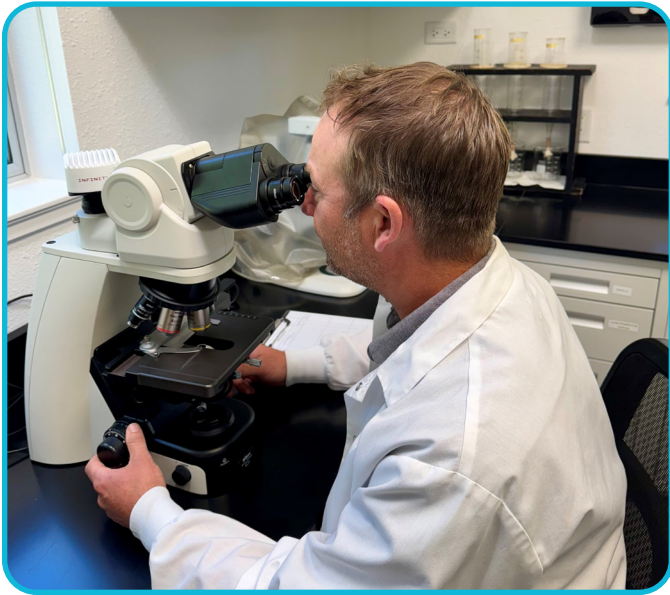
## Interconnection with Soquel Creek Water District

To supplement water supply during October, SCWD received 6 MG of water from Soquel Creek Water District through an intertie connection located near 41st Ave. [View the Soquel Creek Water District's 2024 Water Quality Report.](#)



# Health and Regulations

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 activities.



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 operations and wildlife.
- ◆ Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban storm water 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 storm water runoff and residential uses.
- ◆ Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can come from gas stations, urban storm water 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.

In order to ensure that tap water is safe to drink, the USEPA and the State Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. 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.**

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 on the **U.S. EPA website** or by calling the U.S. EPA's Safe Drinking Water Hotline: 1-800-426-4791.

Drinking water standards are established by both the State Board and USEPA. Primary drinking water standards are set to protect public health from substances in water that may be immediately harmful to humans or affect their health if consumed for long periods of time. The primary drinking water standards are defined by Maximum Contaminant Levels (MCLs) for contaminants that affect health along with their monitoring and reporting requirements and surface water treatment requirements.

Secondary drinking water standards govern aesthetic qualities of water such as taste, odor, clarity, and mineral content. These standards specify limits for substances that may influence consumer acceptance of the water but are not harmful to public health.

## Precautions for Vulnerable Populations

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. 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: 1-800-426-4791.



# Drinking Water and Lead

Lead was not detected above the regulatory action level in SCWD's water supply. Exposure to lead, if present, can cause serious health effects, especially for pregnant women and young children. Lead in drinking water is primarily derived from materials and components associated with service lines and home plumbing. SCWD is responsible for providing high-quality drinking water but cannot control the variety of materials used in indoor plumbing components. When your water has been sitting for several hours in these pipes, 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 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 want to consider having your water tested. Contact the SCWD's Water Quality Laboratory (WQL) to schedule a free lead test.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or on the [USEPA website](#).

## Lead Testing in Schools

In 2017, the State Board directed all permitted water systems in California to provide lead monitoring assistance to all public K-12 schools. Between 2017-2019, SCWD assisted 24 schools within the Santa Cruz service area with lead testing per the free [Lead Testing Schools program](#). Contact your school or SCWD's WQL for the results.

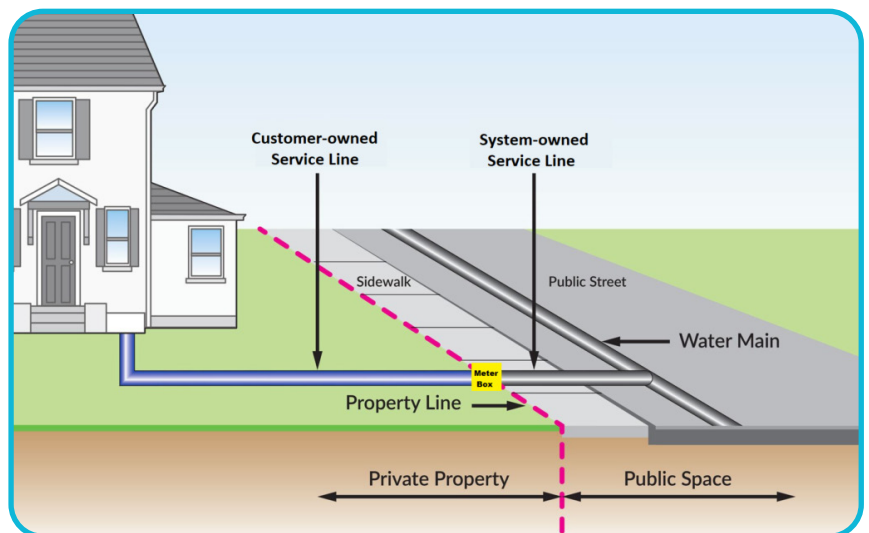
## Lead and Copper Rule Tap Sampling

SCWD conducted the triennial Lead and Copper Rule monitoring at 44 representative customer tap locations in 2024. The customer tap samples were analyzed for lead and copper as required by the [Lead and Copper Rule \(LCR\)](#). The results are provided in the Table of Detected Constituents on page 14 of this report. The next round of LCR monitoring will be conducted in the summer of 2027.

## Lead Service Line Inventory and Lead and Copper Rule Revisions

In 2024, the SCWD completed its lead service line inventory, as required by USEPA Lead and Copper Rule Revisions (LCRR). A service line is a smaller diameter length pipe that extends from the water main in the street to the residence. There are two sections of a service line, from the main to the meter, often referred to as the utility side, and from the meter to the residence, referred to as the customer side. SCWD completed an inventory of the utility side service lines in 2018 and the recent LCRR inventory completed the survey by characterizing the customer side of the service line.

Given that physically identifying materials for all customer-side service lines would be disruptive to customers and practically infeasible, the SCWD completed the customer side inventory through a combination of historical record review, statistical analysis, and field investigations. SCWD determined that its distribution system has no lead or galvanized requiring replacement service lines (a galvanized line requiring replacement is defined as a galvanized service line that may have at any time, been downstream from a lead water main or service line). [Learn more about SCWD's lead service line inventory efforts](#) and [USEPA's LCRR](#).





# Testing and Monitoring Water Quality

To ensure water quality standards are met, drinking water samples are collected weekly throughout the service area and analyzed for a variety of chemical and microbiological constituents. Samples are tested by SCWD's WQL, a California Environmental Laboratory Accreditation Program certified drinking water laboratory, using the latest testing procedures and equipment. The WQL collects and analyzes over 100 distribution system and 15 raw source water quality samples per month to ensure that water delivered to its customers meets or exceeds State and Federal drinking water standards.

In 2024, the WQL processed more than 42,000 drinking water tests in the raw source waters, treatment plants and City's distribution system. This is in addition to the extensive treatment process control monitoring performed by certified Water Treatment Operators and online instruments. Test results from the distribution system are provided in the Table of Detected Constituents on page 13 of this report. Some of the data in this report, though representative, are more than one year old. SCWD holds a State Board monitoring waiver for some constituents that were not detected after repeated monitoring and therefore their monitoring frequencies are less than annual.

Laboratory analysis was also performed for many constituents beyond what is listed in the tables; only those constituents detected in the tap water are shown.

## Unregulated Emerging Constituents

In addition to performing routine monitoring of source water, treatment plant finished water, and the distribution system to comply with State and Federal regulations, SCWD also voluntarily performs monitoring for unregulated emerging constituents with State notification levels (NLs) such as chlorate, per- and polyfluoroalkyl substances (PFAS), and vanadium to inform decision making around ongoing operations and assist in planning for potential future treatment plant upgrades. All unregulated constituents collected from treated water produced by our treatment plants were below their respective NLs and results are provided in the Table of Detected Constituents on page 15 of this report.

More information on drinking water NLs can be found on the [State Board website](#).





# Water Quality Update

## Hexavalent Chromium

Hexavalent chromium, also known as chromium 6, is a heavy metal that is commonly found in low levels in drinking water. Much of the hexavalent chromium found in drinking water occurs naturally from the erosion of chromium deposits found in rocks and soils. It can also be produced by industrial processes, manufacturing activities, leakage, poor storage or inadequate industrial waste disposal practices.

On October 1, 2024, the State Board set a new California drinking water MCL of 10 µg/L, or ppb, for hexavalent chromium. Under this rule, public water systems are required to take an initial sample for hexavalent chromium by April 1, 2025, from each water source. SCWD completed the initial hexavalent chromium monitoring in October 2024, and all results are below the MCL. While SCWD drinking water meets the California MCL for hexavalent chromium, it does contain low levels of naturally occurring hexavalent chromium found in our source water. SCWD hexavalent chromium results are provided in the Table of Detected Constituents on page 13 of this report. [Learn more about hexavalent chromium and the newly adopted drinking water regulation.](#)

## Fifth Unregulated Contaminant Monitoring Rule (UCMR5)

The Fifth Unregulated Contaminant Monitoring Rule (UCMR5) is part of the Safe Drinking Water Act, which requires USEPA to identify a list of unregulated contaminants to be monitored by public water system every five years. The results help the USEPA decide whether these contaminants should have a health-based standard. EPA identified 29 different per- and polyfluoroalkyl substances (PFAS) along with lithium for monitoring under UCMR5.

USEPA published UCMR5 on December 27, 2021, and SCWD conducted four consecutive quarters of monitoring for 29 PFAS and lithium at the GHWTP, Beltz Water Treatment Plant, and Beltz 12 Water Treatment Plant treated water between July 2023 and April 2024. Lithium was the only UCMR5 constituent detected above the minimum reporting limit (MRL) and the results are provided in the Table of Detected Constituents on page 15 of this report. [Learn more about UCMR5.](#)

## Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS), also known as forever chemicals, are a large group of manmade chemicals that have been used extensively in consumer products such as cookware, carpets, food packaging, clothing, fabrics for furniture, fire-fighting foams, and other materials designed to be waterproof, stain-resistant, or non-stick.

On April 10, 2024, USEPA set a new national primary drinking water standard for PFAS. Under this rule, drinking water systems must complete the initial monitoring requirements for PFAS within three years. Starting in 2027, water systems must include the initial and long-term quarterly PFAS testing in their Annual Water Quality Report.

SCWD began the initial PFAS monitoring required under USEPA's April 10, 2024, regulation in September 2024, and will complete the quarterly monitoring by June 2025. SCWD will provide the PFAS initial monitoring results in the 2025 Annual Water Quality Report.

SCWD's voluntary PFAS monitoring results, not part of the initial monitoring required under the new rule, are provided in the Table of Detected Constituents on page 15 of this report. SCWD also conducted PFAS monitoring as required by UCMR5, and all results were below the MRL. [Learn more about PFAS regulations in drinking water.](#)

## Fluoride

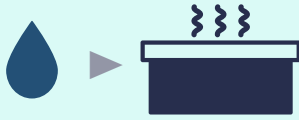
SCWD does not add fluoride to the water supply, however, there are low levels of naturally occurring fluoride found in our source water. SCWD fluoride concentrations are below State Boards drinking water MCL of 2 mg/L, or ppm, and results are provided in the Table of Detected Constituents on page 13 of this report.



# How Constituents Are Measured

Constituents are measured and reported in extremely small quantities such as parts per million, parts per billion, and in some cases, parts per trillion. The following comparisons help explain the measurements.

## Milligrams per liter (mg/L) or parts per million (ppm)



One drop in a hot tub

OR



One second in 11.5 days

**11.5 DAYS**

## Micrograms per liter (µg/L) or parts per billion (ppb)



One drop in an Olympic-size swimming pool

OR



One second in nearly 32 years

**32 YEARS**

## Nanograms per liter (ng/L) or parts per trillion (ppt)



One drop in a 6-acre lake or  
1 drop in 20 Olympic-size  
swimming pools

OR



One second in nearly 32,000 years

**32,000 YEARS**

## Abbreviations and Data Table Units

**CU:** Color Unit is a measure of color

**mg/L:** Milligrams per liter or parts per million (ppm)

**ng/L:** Nanograms per liter or parts per trillion (ppt)

**NTU:** Nephelometric Turbidity Units

**µg/L:** Micrograms per liter or parts per billion (ppb)

**µmhos/cm:** A measure of electrical conductivity

**SU:** Standard Units is a measure of pH

**TON:** Threshold Odor Number



# Key Water Quality Terms

Some of the terms, abbreviations and symbols are unique to the water industry and might not be familiar to all customers. Terms used in the table are explained below:

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

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



**MCL: Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water which is delivered to the customer. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

**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 USEPA.

**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.

**MRL: Minimum Reporting Limit:** The lowest concentration of a substance that can be reliably measured by an analytical method.

**N/A: Not Applicable**

**ND: Constituent Not Detected**

**NL: Notification Level:** Health-based advisory levels established by the State Board for chemicals in drinking water that lack MCLs. When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

**PDWS: Primary Drinking Water Standard:** MCLs and MRDLs 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, Office of Environmental Health Hazard Assessment (OEHHA).

**SDWS: Secondary Drinking Water Standards:** Non-mandatory water quality standards.

**SMCL: Secondary Maximum Contaminant Level:** Secondary MCLs are set for contaminants that may adversely affect the taste, odor or appearance of drinking water. These aesthetic guidelines 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 Data for 2024

This table lists all of the drinking water constituents detected between January 1 and December 31. SCWD water quality met or surpassed all State and Federal criteria for public health protection.

## Table of Detected Constituents

PRIMARY DRINKING WATER STANDARDS – <i>Public Health Related Standards</i>								
Primary standards are based on specific health concerns or impacts								
INORGANIC CHEMICALS								
Constituents (Units)	Sample Date	MCL	PHG	Average (Range: Low-High)			Violation	Major Source In Drinking Water
				Graham Hill Water Treatment Plant	Beltz Water Treatment Plant	Beltz 12 Water Treatment Plant		
Aluminum (mg/L)	2024	1	0.6	0.04 (ND – 0.04)	ND	ND	No	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic (µg/L)	2024	10	0.004	ND	0.59 (ND – 0.92)	ND	No	Erosion of natural deposits
Barium (mg/L)	2024	1	2	0.03 (0.03 – 0.04)	0.03 (0.02 – 0.04)	0.02 (0.02 – 0.02)	No	Erosion of natural deposits/rocks
Fluoride (mg/L)	2024	2.0	1	0.10 (ND – 0.15)	0.12 (0.11 – 0.12)	0.59	No	Erosion of natural deposits
Hexavalent Chromium (µg/L)	2024	10	0.02	0.17 (0.07 – 0.29)	ND	ND	No	Naturally occurring in rocks, plants, soil, volcanic dust, and animals
Nitrate as N-Nitrogen (mg/L)	2024	10	10	0.22 (0.14 – 0.35)	ND	ND	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS DISTRIBUTION SYSTEM								
Samples are collected from predetermined sample locations throughout the distribution system								
Constituents (units)	Sample Date		MCL or [MRDL]	PHG or [MRDLG]	Average (Range: Low-High)		Violation	Major Source In Drinking Water
Chlorine (mg/L)	2024		[4]	[4]	0.86 (0.08 – 1.54)		No	Drinking water disinfectant added for treatment
Total Trihalomethanes (TTHM) (µg/L)	2024		80 LRAA	N/A	58 (9 – 72)		No	Byproduct of drinking water disinfection
Haloacetic Acids (five) (HAA5) (µg/L)	2024		60 LRAA	N/A	39 (2 – 62)		No	Byproduct of drinking water disinfection
CONTROL OF DISINFECTION BYPRODUCT PRECURSORS								
The TOC treatment technique requirement applies to the filtered water from the Graham Hill Water Treatment Plant only								
Constituents (units)	Sample Date		TT	PHG or [MRDLG]	Average (Range: Low-High)		Violation	Major Source In Drinking Water
Total Organic Carbon (TOC) (mg/L)	2024		% Removal Ratio	N/A	1.2 (1.0 - 2.3)		No	Various natural and manmade sources. TOC has no health effects, however it provides a medium for the formation of disinfection byproducts including TTHM and HAA5
TURBIDITY								
Turbidity samples are collected and analyzed continuously/every 15 minutes at the Graham Hill Water Treatment Plant								
Constituents (units)	Sample Date		TT	PHG or [MRDLG]	Results	Violation	Major Source In Drinking Water	
Turbidity (NTU)	2024		1 NTU	N/A	0.083 Highest Single Turbidity Result of 2024	No	Soil runoff. Turbidity is a measure of the cloudiness of water and is a good indicator of the effectiveness of the treatment plant filtration system	
	2024		95% of samples ≤0.15 NTU	N/A	100%			



## PRIMARY DRINKING WATER STANDARDS – *Public Health Related Standards*

Primary standards are based on specific health concerns or impacts

### LEAD AND COPPER

Under the Lead and Copper Rule, samples are collected from inside customers' homes meeting criteria established by USEPA

Constituents (units)	Sample Date	AL	PHG	Number of Samples Collected	90th Percentile Level Detected	Range: Low - High	# of Samples Exceeding AL	Major Source In Drinking Water
Copper (mg/L)	2024	1.3	0.3	44	0.23	ND - 5.1	1	Internal corrosion of household plumbing; leaching from wood preservatives
Lead (µg/L)	2024	15	0.2	44	ND	ND - 880	1	Internal corrosion of household plumbing; discharges from industrial manufacturers; erosion of natural deposits

### MICROBIOLOGICAL

Over 100 microbiology samples are collected every month from predetermined sample locations throughout the distribution system

Constituents (units)	Sample Date	MCL	MCLG	Highest Number of Detections	% Positive	# of Months in Violation	Major Source In Drinking Water
Total Coliform Bacteria	2024	<5% positive samples per month	0 positive	1 of 111	0.90%	0	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria are present
<i>E. coli</i>	2024	0 positive	0 positive	0	0	0	<i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal fecal wastes

## SECONDARY DRINKING WATER STANDARDS – *Aesthetic Standards*

Secondary standards are based on aesthetic factors (taste, appearance, and odor etc.) and are not health related

### TREATMENT PLANTS

Constituents (units)	Sample Date	SMCL	Average (Range: Low-High)			Violation	Major Source In Drinking Water
			Graham Hill Water Treatment Plant	Beltz Water Treatment Plant	Beltz 12 Water Treatment Plant		
Chloride (mg/L)	2024	500	18 (15 - 21)	46 (30 - 57)	44	No	Runoff/leaching from natural deposits; seawater influence
Color (CU)	2024	15	1 (1 - 1)	1 (1 - 1)	1 (1 - 3)	No	Naturally occurring organic materials
Copper (mg/L)	2024	1	0.0003 (ND - 0.001)	0.0005 (ND - 0.001)	0.008 (0.005 - 0.011)	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (µg/L)	2024	300	ND	ND	ND	No	Leaching from natural deposits; industrial wastes
Manganese (µg/L)	2024	50	1.6 (ND - 6.2)	0.96 (ND - 2.3)	0.97 (ND - 6.8)	No	Leaching from natural deposits
Odor-Threshold (TON)	2024	3	1 (1-1)	1 (1-1)	1 (1-1)	No	Naturally occurring organic materials
Specific Conductance (µmhos/cm)	2024	1600	400 (305 - 465)	685 (475 - 850)	674 (625 - 690)	No	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	2024	500	70 (52 - 110)	161 (132 - 210)	100	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (mg/L)	2024	1000	250 (210 - 290)	482 (420 - 580)	455 (450 - 460)	No	Runoff/leaching from natural deposits
Zinc (mg/L)	2024	5	ND	0.003 (ND - 0.014)	0.008 (ND - 0.031)	No	Runoff/leaching from natural deposits

### DISTRIBUTION SYSTEM

Constituents (units)	Sample Date	Average (Range: Low-High)	Violation	Major Source In Drinking Water
Turbidity (NTU)	2024	0.07 (0.05 - 1.2)	No	Soil runoff. Turbidity is a measure of the cloudiness of water

UNREGULATED CONSTITUENTS OF INTEREST						
Non-regulated parameters of general interest to consumers						
Constituents (units)	Sample Date	Average (Range: Low-High)			Major Source In Drinking Water	
		Graham Hill Water Treatment Plant	Beltz Water Treatment Plant	Beltz 12 Water Treatment Plant		
Alkalinity, Total as CaCO3 (mg/L)	2024	105 (72 - 124)	143 (108 - 158)	191 (174 - 196)	Alkalinity is the measure of water's capacity to resist acidic changes in pH	
Calcium (mg/L)	2024	52 (43 - 64)	74 (65 - 88)	68 (65 - 70)	Naturally occurring mineral	
Hardness, Total as CaCO3 (mg/L)	2024	152 (112 - 196)	247 (172 - 316)	279 (256 - 288)	Hardness is the sum of naturally occurring cations present in the water, generally calcium and magnesium	
Magnesium (mg/L)	2024	8.3 (6.9 - 9.9)	17 (15 - 21)	28 (26 - 28)	Naturally occurring mineral	
pH (SU)	2024	7.3 (7.0 - 7.6)	8.0 (7.9 - 8.2)	7.3 (7.2 - 7.5)	pH is the measure of how acidic or basic the water is	
Potassium (mg/L)	2024	2.2 (2.0 - 2.3)	6.7 (4.1 - 7.9)	4.5 (4.1 - 4.6)	Naturally occurring mineral	
Silica (mg/L)	2024	21 (17 - 23)	55 (42 - 65)	71 (68 - 75)	Naturally occurring compound found in sand, quartz, and soil	
Sodium (mg/L)	2024	18 (15 - 20)	42 (28 - 50)	31 (28 - 34)	Sodium refers to the salt present in the water from runoff/leaching from natural deposits and saltwater	
UNREGULATED CONSTITUENTS WITH STATE NOTIFICATION LEVELS						
Non-regulated health-based advisory levels						
Constituents (units)	Sample Date	NL	Average (Range: Low-High)			Major Source In Drinking Water
			Graham Hill Water Treatment Plant	Beltz Water Treatment Plant	Beltz 12 Water Treatment Plant	
Chlorate (µg/L)	2024	800	70 (ND - 140)	180	300	Degradation of hypochlorite solutions
Perfluorobutane Sul-fonic Acid (PFBS) (ng/L)	2024	500	ND	0.34 (ND - 1.7)	ND	Food and industrial manufacturing facilities
Perfluorohexane Sul-fonic Acid (PFHxS) (ng/L)	2024	3	ND	0.78 (ND - 2.1)	ND	Food and industrial manufacturing facilities
Perfluorooctane Sul-fonic Acid (PFOS) (ng/L)	2024	6.5	0.79 (ND - 2.2)	ND	ND	Food and industrial manufacturing facilities
Vanadium (mg/L)	2024	0.05	ND	0.001 (ND - 0.002)	ND	Weathering of rock and soil erosion
UNREGULATED CHEMICALS REQUIRING MONITORING UNDER FEDERAL UCMR5						
Constituents (units)	Sample Date	Average (Range: Low-High)			Major Source In Drinking Water	
		Graham Hill Water Treatment Plant	Beltz Water Treatment Plant	Beltz 12 Water Treatment Plant		
Lithium (µg/L)	2023-2024	ND	13 (12 - 14)	36 (18 - 54)	Naturally occurring element	

Note: Average results may be below laboratory minimum reporting level.



# For More Information

## For Questions About This Report, Contact

### Water Quality Laboratory

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## Learn More and Get Involved

- Visit the [SCWD website](#) to get additional information about SCWD including Water Conservation, Loch Lomond Recreation Area, engineering projects and more. [Learn more about water quality testing.](#)
- Customers are invited to attend City Council and [Water Commission meetings](#). Water Commission meetings are held the first Monday of each month at 7 p.m. Visit the [SCWD website](#) or call 831-420-5200 to learn more.
- Additional information about drinking water safety and standards is available from the [State Board](#) and the [USEPA](#).
- Learn how [drinking water standards](#) are established.

## Stay Connected

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## Espanol

Este Anual Informe de Calidad del Agua está disponible en español en [cityofsantacruz.com/water-quality-report](https://cityofsantacruz.com/water-quality-report). También puede llamar al 831-420-5220 o 212 Locust Street, Suite D; Santa Cruz, CA 95060 para obtener ayuda en español.



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