

2025

Chollas Creek

Water Quality Monitoring Report



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Dear Reader,

Over the past year, our monitoring in Chollas Creek has revealed a clear and compelling picture of water quality conditions within this highly urbanized watershed. In 2025, we observed three key patterns:

- **Nitrogen and phosphorus levels frequently exceeded water quality objectives throughout the year**
- ***E. coli* concentrations exceeded water quality objectives more than 50% of the time**
- **Metals, including copper, lead, and zinc, were generally detected at low levels**

Together, these findings indicate ongoing water quality impairments and challenges in the creek. The frequency of nutrient and bacteria exceedances highlights the strong influence of stormwater runoff, urban land use, and watershed inputs on creek conditions.

These insights would not be possible without the dedication of our staff, volunteers, partners, and community members who support this work. Whether in the field or behind the scenes, their contributions help generate high-quality data that informs our understanding of local water quality and supports long-term protection efforts.

This year is especially meaningful as we celebrate 30 years of protecting clean water, and underscores both the value of consistent monitoring and the importance of local data in identifying priority areas for restoration and management. In urban watersheds like Chollas Creek, where waterways are closely connected to surrounding development, community-driven science plays a critical role in understanding environmental conditions and informing solutions.

We hope this report helps you better understand the current condition of Chollas Creek, the factors that influence it, and the shared responsibility we all have in protecting our waterways for the future.

**With gratitude,
Water Quality Monitoring Team**



ABOUT SAN DIEGO COASTKEEPER

Founded in 1995, San Diego Coastkeeper safeguards our region's coastal and inland waters through a strategic blend of community science, education, grassroots outreach, policy advocacy, and legal enforcement of environmental laws.

Fundamental Right to Clean Water

We are guided by the belief that humans and the environment share a fundamental right to clean water.

Inherent Value of Waterways and Ecosystems

We believe in the inherent value of San Diego's rivers, streams, canyons, and coastline, as well as the ecosystems and biodiversity they support.

Diverse Stakeholder Engagement

We are dedicated to engaging with diverse partners and stakeholders to protect and restore clean water for the communities and traditions that depend on it.

Fearless Advocacy

We are committed to addressing environmental threats directly, fearlessly, and on the basis of sound scientific and legal principles, even when doing so challenges popular opinion.

Strategic, Multifaceted Approach

We believe a strategic combination of science, advocacy, education, and community engagement is the most effective way to address existing and emerging water quality issues.

Mission:

Protecting and restoring swimmable, drinkable, and fishable waters in San Diego County.



PROJECT PURPOSE

Using Community Science as a tool – gathering data for multifaceted goals.

This program creates a pathway for interested community members to:

- Be introduced to the scientific tools they need to understand their local watershed.
- Learn about Chollas Creek and connect with community members and organizations working to protect and restore the Creek and watershed.
- Directly influence future management decisions impacting the Creek by collecting data to support policies that restore the Creek and reduce pollution.

Volunteers attend bimonthly water quality monitoring events to gather samples and data at four different sites along Chollas Creek. They also engage in community events, meetings, and advocacy efforts.

The data collected is shared with the public on San Diego Coastkeeper's website and is used in advocacy to improve the Creek's water quality for the people and wildlife who use and depend on it. This includes stressing the need for improvements to stormwater and wastewater infrastructure, better flood control, more climate-resilient, low impact development, and habitat restoration projects. The data is also uploaded to the California State Water Quality Control Board's California Environmental Data Exchange Network (CEDEN), where it will help inform future regulatory actions to reduce pollution.

Program goals include:

Environmental Stewardship

Increase environmental literacy and knowledge among community members, connect volunteers to the outdoors, and improve the ecological health of Chollas Creek and the Chollas watershed.

Equitable Access

Provide program material and training in both English and Spanish, increase diversity and representation in the conservation and environmental workforce, and provide a monthly stipend to volunteers.

Community Engagement

Connect volunteers to local environmental issues and advocacy efforts, and invite volunteers to community events and campaigns.

Workforce Development

Build skills through water quality sampling training and data collection.



METHODS

Field Measurements & Sample Collection



Community Powered Science

Our monitoring program is led by trained staff, with support from volunteers, partners, and community members.

At Chollas Creek, volunteers are a regular part of field efforts. These volunteers receive hands-on instruction in water quality science, field safety, and standardized sampling methods to ensure consistency and accuracy in the field. All monitoring is conducted as a coordinated unit under staff direction and follows strict quality assurance protocols, with staff reviewing all field and laboratory documentation to maintain data integrity.

What We Measure:

 In Field Temperature, pH, Dissolved Oxygen, Salinity, Conductivity, & Turbidity	 Bacteria Total Coliform, <i>E. coli</i> , & Enterococcus	 Nutrients Total Nitrogen, Total Phosphorus, Total Suspended Solids, Total Dissolved Solids	 Heavy Metals Copper, Lead, and Zinc
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Methods:

- 1 Sites** - 4 Sites are monitored bimonthly
- 2 In-Field Measurements** - Staff and volunteers work together, visiting each site and taking in-situ measurements including temperature, pH, dissolved oxygen, salinity, and turbidity, as well as field observations including weather, tide, wildlife activity, and visible pollution.
- 3 Sample Collection** - Staff and volunteers collect samples for laboratory analysis, including nutrients, heavy metals, total suspended solids, total dissolved solids, conductivity, and bacteria.
- 4 Preserve and Transport** - Samples are placed on ice, logged using Chain-of-Custody forms, and delivered to a certified laboratory.
- 5 Certified Laboratory Analysis** - Samples are analyzed using EPA-approved methods at an ELAP-certified laboratory to ensure accuracy and comparability.

SITE DESCRIPTION

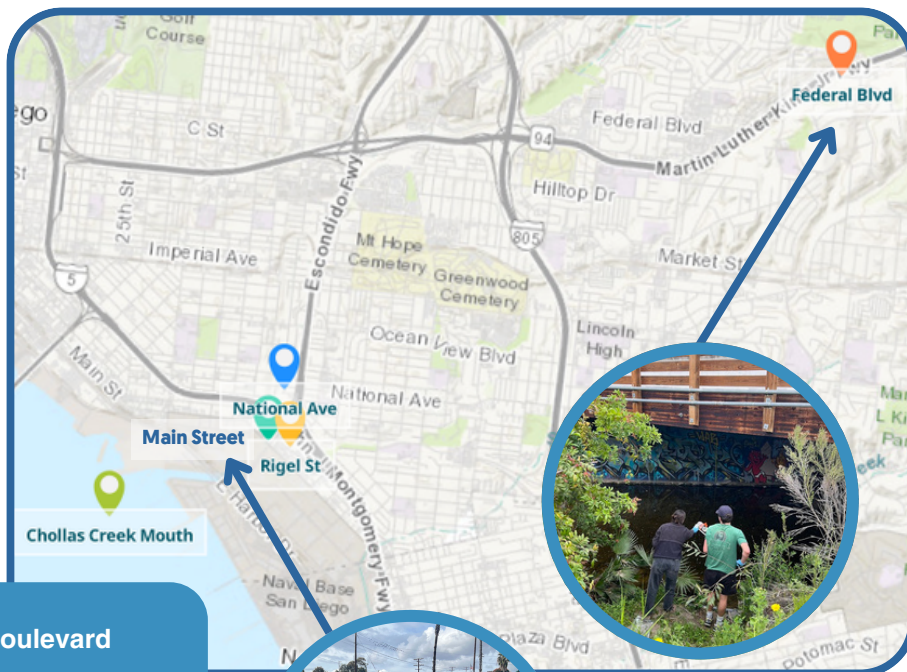
Chollas Creek is one of San Diego's most urbanized waterways, flowing through dense residential, commercial, and industrial areas before discharging into San Diego Bay. The creek is heavily influenced by stormwater runoff and is widely recognized for significant pollutant inputs, including industrial discharges and trash accumulation along its channel and banks. Despite these pressures, Chollas Creek supports a surprising diversity of wildlife, serving as an important urban habitat corridor for birds and other species. This contrast highlights both the ecological value of the creek and the ongoing challenges associated with protecting water quality in highly developed watersheds.

Our Monitoring Network

Four monitoring sites located throughout the Chollas Creek watershed are sampled every other month to track water quality conditions, identify pollution hotspots, and evaluate how conditions change from upstream tributaries to San Diego Bay.

Types of Sites

1	Upstream	Federal Boulevard
2	Downstream	National Avenue Main Street
1	Tributary	Rigel Street



Go to www.sdcoastkeeper.org/science/chollas-creek-map for an interactive map and graphs of our water quality data.

A Dynamic, Brackish Waterway

Chollas Creek experiences highly variable salinity conditions due to a combination of freshwater runoff, tidal influence from San Diego Bay, and seasonal rainfall patterns. Depending on location and weather conditions, portions of the creek may range from nearly freshwater to brackish conditions. This variability is an important consideration when evaluating water quality, as applicable objectives for certain pollutants, including bacteria and metals, can differ based on salinity. Because salinity varies substantially across the watershed and over time, San Diego Coastkeeper evaluates Chollas Creek as a variable-salinity (brackish) system when determining the most appropriate water quality objectives for data interpretation.

NUTRIENTS

Nutrients are naturally occurring in aquatic systems and can be beneficial. However, excess nitrogen and phosphorus can fuel algal growth, reduce water clarity, and lower oxygen levels, stressing fish and other aquatic life.



Data Collection:

Nitrogen & Phosphorus

Support plant growth, but too much can trigger harmful algal blooms.

Total Suspended Solids & Total Dissolved Solids

Measure particles in the water that reduce clarity & transport pollutants.

Field Parameters

Temp., pH, dissolved oxygen, salinity, conductivity & turbidity — overall water conditions & ecosystem health.

Results:

Nitrogen and phosphorus concentrations frequently exceeded applicable water quality objectives throughout the 2025 monitoring period. Nitrogen (water quality objective: 1.0 mg/L) exceeded standards 50% of the time across sites, while phosphorus (water quality objective: 0.1 mg/L) exceeded standards 75% of the time, indicating widespread nutrient enrichment within the creek. Phosphorus concentrations were consistently highest at the tributary site (Rigel St.), where the highest levels were observed 50% of the time, suggesting this inflow may be a key source of nutrient inputs to the system.

Total Phosphorus

All Sites
75% fail



Pass
Fail

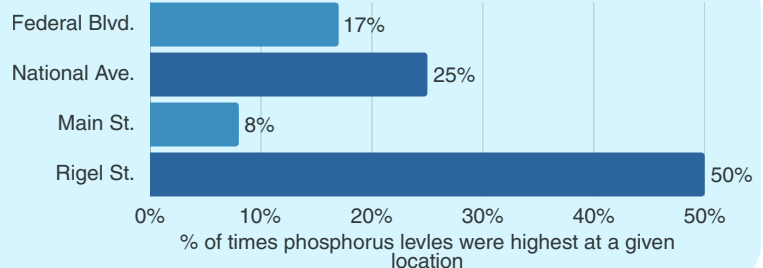
Total Nitrogen

All Sites
50% fail



Pass
Fail

Highest Phosphorus Levels



Nitrogen and phosphorus concentrations exceeded applicable water quality objectives at all monitoring sites following storm events in September and November, highlighting the influence of stormwater runoff on nutrient loading throughout the watershed. These patterns point to ongoing contributions from upstream and tributary sources, particularly during wet weather when stormwater transports nutrients into the creek. Elevated nutrient levels increase the risk of excessive algal growth, reduced water clarity, and low dissolved oxygen conditions, all of which can stress aquatic life. Continued monitoring is critical to better understand spatial patterns, identify priority source areas, and inform strategies to reduce nutrient inputs to the watershed.

Sources of excess nutrients:

Urban Runoff



Dog Poop



Fertilizer and landscaping

Stormwater Runoff



Industrial Areas



Parking Lots

Illicit Discharges



Dumping



Wastewater Discharge

In-stream Sources



Decomposition of organic matter



Algal growth & die-off

BACTERIA



E. coli fecal bacteria are used as an indicator for the potential presence of pathogens in freshwater systems, as established in the California Regional Water Quality Control Board's Water Quality Control Plan for the San Diego Basin. Because *E. coli* is a key indicator of fecal contamination in inland waters, elevated levels can **signal the presence of disease-causing organisms**. High concentrations of *E. coli* in creeks such as Chollas Creek pose a health risk to individuals who may come into contact with the water, potentially leading to waterborne illnesses and infections.

Results:

E. coli concentrations exceeded applicable water quality thresholds 66.7% of the time across monitoring sites in Chollas Creek, indicating widespread and frequent bacterial impairment throughout the watershed. Enterococci, while not a primary indicator for freshwater systems, also exceeded water quality objectives 66.7% of the time, further reinforcing the presence of elevated fecal indicator bacteria.

E. Coli

All Sites
66.7% fail



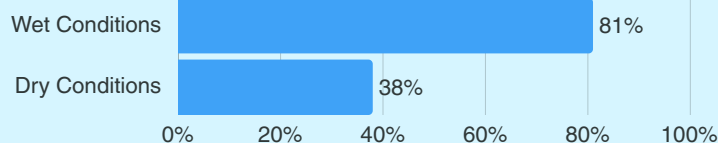
Enterococci

All Sites
66.7% fail



E. Coli

% of Samples Exceeding Standards



The highest bacterial concentrations were generally observed following storm events, consistent with stormwater-driven transport of pollutants into the creek. However, elevated levels were also recorded during dry weather conditions, suggesting that bacterial contamination is not solely event-driven and may reflect persistent or chronic sources within the watershed. The occurrence of exceedances under both wet and dry conditions highlights ongoing water quality concerns and underscores the importance of continued monitoring to better understand spatial patterns, temporal variability, and potential source contributions.

Sources of bacteria:

Stormwater Runoff:

#1 Driver of Bacterial Spikes

- Urban runoff
- Pet feces
- Wildlife inputs
- Industrial site runoff



Dry Weather Sources:

- Leaking wastewater infrastructure
- Illicit discharges
- Sediment reservoirs
- Concentrated wildlife activity



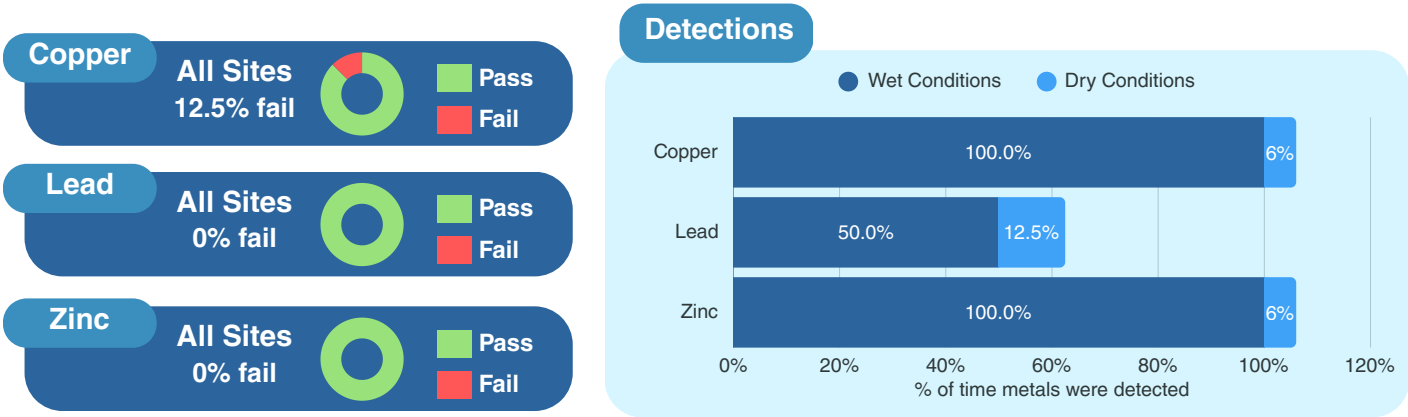
METALS



Heavy metals such as copper, lead, and zinc are routinely monitored throughout Chollas Creek due to their persistence in the environment and their potential to accumulate in sediments and aquatic organisms over time. The creek has a long history of influence from industrial activity and urban runoff, which can contribute metal inputs to the watershed through stormwater and legacy contamination. Tracking these metals remains critical for understanding current water quality conditions, identifying potential sources of pollution, and protecting the ecological health of the creek and downstream receiving waters.

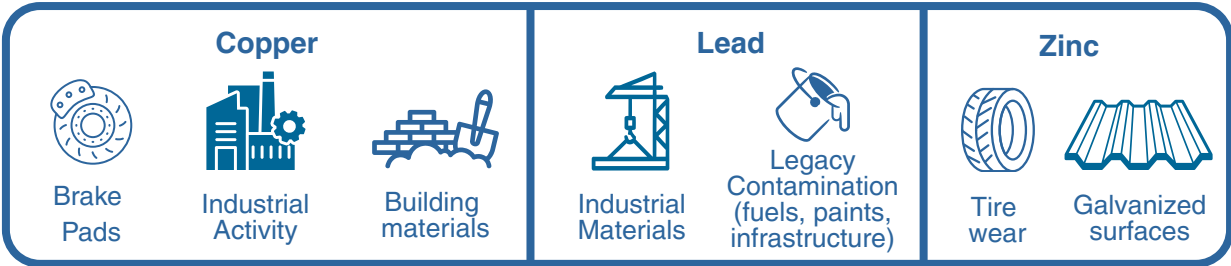
Results:

In 2025, **copper, lead, and zinc were generally detected at low levels** across monitoring sites in Chollas Creek. Copper exceeded applicable water quality objectives 12.5% of the time, while zinc and lead did not exceed objectives at any point during the monitoring period, indicating generally low concentrations relative to regulatory thresholds.



Metal detections were strongly associated with storm events. Outside of wet weather conditions, metals were rarely detected throughout the year. Following storm events, copper and zinc were detected in 100% of samples, while lead was detected 50% of the time, suggesting that stormwater runoff is a key driver of metal transport into the creek. These patterns indicate that while baseline metal concentrations are typically low, wet weather conditions can mobilize and deliver metals into the system. Continued monitoring during storm events is important to better understand the timing, magnitude, and potential sources of metal inputs within the watershed.

Potential Sources:



PROGRAM ACHIEVEMENTS

This program has been successful in numerous ways, helping us meet our goals and expand our reach to community members from a variety of educational, professional, and social backgrounds. Program goal metrics are shown for January 2025-December 2025.



Environmental Stewardship

8

Sampling events with San Diego Canyonlands fellows and volunteers

+ This included 2 rounds of sampling for PFAS “forever chemicals” and HF183, a genetic marker indicating human sewage in the water (reports pending)

Equitable Access

7

\$60 Stipends to support volunteers

+ Communications and resources in English and Spanish

Workforce Development

5

Professional recommendations for volunteers

+ Virtual and Hands-on training in water quality sampling and data collection

Community Engagement

- Expanded volunteer opportunities for outreach and community events, including participation at the Elementary Institute of Science’s (EIS) Open House, the Urban Collaborative Project’s Transportation Justice Fair, the San Diego Natural History Museum Garden Fair, and tabling at the closing event for the first-ever San Diego Climate Week in Downtown San Diego
- Hosted a field trip for the EIS youth summer camp at Chollas Lake
- Coordinated a University of San Diego (USD) lab tour for the Groundwork San Diego - Chollas Creek Green Team
- Participating partner organization with The San Diego Natural History Museum [Anchoring Healing Through Nature initiative](#)

“When you volunteer you’re getting to experience San Diego in a different light, and it opens your mind up to how we affect our environment and how our environment affects us.”
- Nolan, volunteer



FUTURE ACTIONS

Coastkeeper will continue monitoring Chollas Creek through 2026, giving us a 3 year dataset that provides a baseline of water quality in the Creek to help inform future actions to protect and restore it. In 2027, we will focus on monitoring during and after stormwater events to assess pollution hotspots, identify sources, and push for targeted infrastructure fixes to capture and treat polluted runoff.



Secure Long-Term Stormwater Funding

Secure a long-term source of funding to address the City of San Diego's \$5 billion and growing stormwater infrastructure deficit. The lack of funding has led to chronic stormwater pollution of Chollas Creek, severe flooding impacts to the local community and a stormwater system that is near collapse. Coastkeeper supports a dedicated sales tax increase that would be restricted to funding stormwater and other essential city infrastructure, ensuring investments that would reduce flooding, green urban neighborhoods and reduce pollution of our shared waterways.

Pinpoint Pollution Sources

Identify and address pollution sources, in addition to stormwater runoff, that are adding harmful levels of bacteria, nutrients and metals to the Creek, adversely affecting water quality and the wildlife that depends on it.

Develop Statewide Stormwater Permits

Ensure that the State Water Quality Control Board develops a statewide CII ("Commercial, Industrial and Institutional) stormwater permit to address currently unregulated properties that contribute to urban stormwater pollution, including in Chollas Creek watershed.

Work With Partner Organizations

Partner with San Diego Canyonlands and Renascence on the Swan Canyon Project, an initiative to conduct canyon restoration, stormwater monitoring, and community outreach in this beautiful urban canyon in the Chollas watershed.

Advance Current Initiatives

Actively support and engage with Groundwork San Diego-Chollas Creek and the City of San Diego to advance the Chollas Blue Green Vision, a community-based initiative to advance green infrastructure solutions like bioswales, rain gardens and street trees to capture and naturally treat stormwater.

ACKNOWLEDGEMENTS

This program would not have been a success without the amazing support of our program funders, our San Diego Coastkeeper staff, partners, and, most importantly, our extensive list of committed and valuable volunteers!

Community Partners

- [San Diego Canyonlands](#)
- [Groundwork San Diego-Chollas Creek](#)
- [Elementary Institute of Science \(EIS\)](#)
- [The San Diego Natural History Museum](#)

Program Funders

- Page Family Foundation
- [Think Blue San Diego](#)
 - *Project SWELL* Education Program and Stormwater Outreach

Product Sponsors

- Dr. Bronner's

Program Staff

- Laura Fuller, Community Science Director
- Marie Diaz, Interim Community Science Director
- Lesly Gallegos-Stearns, Volunteer and Outreach Manager
- Elyse Farwell, Education Manager
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"Coastkeeper has connected me further with our environment and allowed me to help our precious water resources. I always look forward to working with the incredible team and dedicated volunteers."
~ Madelyn, California Climate Action Corps Fellow, San Diego Canyonlands



Get Involved

Create an account on our volunteer platform:



<https://sdcoastkeeper.galaxydigital.com>

Get monthly volunteer opportunities sent to your inbox:



<https://bit.ly/4mEq7ve>