



County of San Diego

DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY
FOOD, WATER, AND HOUSING DIVISION

BEACH & BAY WATER QUALITY MONITORING PROGRAM

Phone: (619) 338-2073 | www.sdbeachinfo.com | www.sdcdehq.org



Water Quality Sampling Frequently Asked Questions Droplet digital polymerase chain reaction (ddPCR) method

Last Updated 9/15/2026

1. Where does the County of San Diego sample beach water?

County of San Diego, Department of Environmental Health and Quality (DEHQ), Beach and Bay Water Quality Program samples the recreational waterways throughout the county, south from the Tijuana border to Trestles beach to the north. The water is tested for bacterial levels at approximately 45 beaches throughout the county. The program's mission is to notify the public of results/health risks so they can make an informed decision about where to swim. DEHQ partners with other agencies that also share their water quality sample results from other beaches. All sampling locations can be found at sdbeachinfo.com.

2. What do the different signs at the beach mean?

- **Advisory** - An advisory is issued when the beach water exceeds state bacterial standards.
- **Warning** - A warning is issued when the beach water exceeds state bacterial standards and there is a south swell (transboundary flows), which may bring sewage contaminated water.
- **Closure** - A closure is issued when there are sewage or chemical releases, when the TJ River is flowing, or when sewage can be detected by water odor or discoloration.

3. When will an advisory, warning, or closure be lifted?

- **Advisory** - An advisory is lifted when water sample results are within state standards.
- **Warning** - A warning is lifted when water sample results are within state standards and south swell (transboundary flows) conditions are not present.
- **Closure** - A closure is lifted when sewage or chemical contamination is no longer visibly present in the water.

4. Where can I see the current status of beach water in San Diego County?

Current results are posted on sdbeachinfo.com.

5. Why is the water closed for recreational use?

A water contact closure is issued when there are sewage or chemical releases, when the Tijuana River is flowing, or when there are odors or discoloration of water due to sewage.

6. What is the ocean water tested for?

The ocean water is tested for Enterococcus bacteria which can indicate the presence of a variety of pathogens that can cause illness, such as bacteria, viruses, and protozoa. For more information regarding pathogens found in waters contaminated with sewage or runoff, visit our brochure in [English](#), [Arabic](#), [Farsi](#), [Korean](#), [Mandarin](#), [Somali](#), [Spanish](#), [Tagalog](#), [Vietnamese](#).

For information on advisories and closures, or if you have additional questions, please visit www.sdbeachinfo.com, email beachandbay.deh@sdcounty.ca.gov, or call our hotline at (619) 338-2073.



7. How is the water tested?

The water is tested by using a molecular method called droplet digital polymerase chain reaction or ddPCR for short. ddPCR counts the enterococcus DNA fragments present in the water sample.

8. How long does the test (ddPCR) take?

Sample results are reported the same day samples are collected and results are posted on the Beach and Bay website: sdbeachinfo.com.

9. Does the new test (ddPCR) count the dead bacteria? And can dead bacteria make me sick?

The ddPCR method tests for Enterococcus DNA (live or dead bacteria), a Fecal Indicator Bacteria, which are commonly found in human or animal feces and are indicators of pathogens that contaminate water and can cause illness.

More information:

[Historical Ocean Illness Survey](#)

[High sensitivity of children to swimming-associated gastrointestinal illness](#)

[Rapidly measured indicators of recreational water quality and swimming-associated illness at marine beaches: a prospective cohort study](#)

10. What illnesses can contaminated water cause?

The most common symptoms of recreational water illness are diarrhea, skin rashes, ear pain, cough or congestion, and eye pain.

11. How long do you anticipate the increases in closures in the South County Beaches?

There are many factors that affect water quality at San Diego County Beaches. One factor that affects South County beaches are southern swells (transboundary flows), which are more common during summer months and can bring sewage contaminated water north across the international border. This sewage contaminated water is causing the increase in bacteria levels and closures at South County beaches. The ocean water is sampled daily at South County beaches.

12. What are the benefits of ddPCR?

The ddPCR method is more accurate than the culture method and impacted less by environmental factors, allowing it to be more accurate in measuring bacteria and illness risk, and more protective of public health. The ddPCR method provides faster, same-day results. When beaches have bacteria levels that exceed State health standards and advisories or closures are required to be posted, DEHQ is able to lift them faster by using ddPCR.

13. What is the difference between the City of San Diego samples and the County samples?

The County of San Diego Beach and Bay program focuses on testing ocean water to ensure it is safe for recreation, using the ddPCR method (same day results). The City of San Diego focuses on testing discharges from treated effluent from the South Bay International Wastewater Treatment Plant, using the culture method (next day results).

14. The water looks and smells clean. Is it still contaminated?

Even if ocean water may look visually clean and not have an odor, it may still have bacteria levels that exceed State health standards. You cannot see or smell bacteria and there are many [pathogens found in waters contaminated with sewage or runoff that can cause illnesses](#). This is why an ADVISORY is issued when the water exceeds state bacteria standards, and a WARNING is issued when there is a south swell (transboundary flows) bringing water north from Mexico.



15. Will I get cited if I choose to go in the water when the beach is closed?

Check with your local lifeguard. It would depend on the location of the beach and the local ordinance.

16. What other jurisdictions utilize PCR for recreational water monitoring in the US?

Water Testing Methods by City	<u>San Diego, CA</u>	<u>Chicago, IL</u>	<u>Racine, WI</u>	<u>Milwaukee, WI</u>	<u>State of Michigan</u>
Test Method	ddPCR	qPCR	qPCR	dPCR (Primary) qPCR (2nd) - Colilert	qPCR - MF - Enumeration
Bacteria Tested	Enterococcus	Enterococcus	E. Coli	E. Coli, Microbial Source Tracking	E. Coli
Body of Water Tested	Ocean Beaches and Bay	Fresh Water Beaches and Lakes	Fresh Water Beaches and Lakes	Fresh Water Beaches - Rivers - Stormwater	Fresh Water Beaches and Lakes

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