



THE TIDINGS

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New Study Sheds Light on Nutrients in Lake Merritt

By James Robinson

Lake Merritt is currently listed on the **303(d) list of impaired waters** due to low dissolved oxygen and excess organic matter. A new nutrient monitoring study conducted during the summers of **2024 and 2025** is part of an ongoing effort to better understand the problem—and ultimately help remove the lake from that list.

Lake Merritt is a **tidally influenced urban estuary**, meaning its water is shaped by two major sources: tidal flows from San Francisco Bay through the Lake Merritt Channel, and freshwater entering from creeks such as Glen Echo Creek. Understanding how these waters mix—and what nutrients they carry—helps scientists evaluate conditions that affect algae growth, oxygen levels, and the overall health of the lake.

For the full article of *The Tidings* in color, visit <https://lakemerrittinstitute.org/tidings>

The study was conducted by the San Francisco Bay Regional Water Quality Control Board. From **June through October 2024**, researchers collected monthly water samples from **nine locations** around the lake, the channel, and nearby creeks. They analyzed the samples for several nutrients, including forms of **nitrogen and phosphorus**, as well as dissolved organic carbon.

These nutrients play an important role in aquatic ecosystems. When nutrient levels are high, they can fuel **algae growth**, which may eventually reduce the amount of oxygen available for fish and other aquatic life.

What the Study Found

The monitoring revealed several important patterns.

First, nitrogen levels inside the lake were lower than in nearby Bay water or creek inflows. This suggests algae and other organisms are **quickly using available nitrogen** as it enters the lake.

Second, nutrient levels in Lake Merritt more closely matched those in San Francisco Bay than those in local creeks. This indicates **that tidal exchange with the Bay strongly influences the lake's water quality**.

Third, researchers found that **nitrogen—not phosphorus**—appears to limit algae growth in the lake. This means that strategies focused only on reducing phosphorus are unlikely to significantly reduce algae levels.

Finally, the study estimated that **more than 99 percent of the nutrients entering the lake come from Bay inflows**, not local creeks. In other words, the daily movement of tides plays the dominant role in shaping the lake's nutrient conditions.

What Comes Next

Scientists will continue studying these patterns as part of long-term restoration efforts. In summer 2026, researchers plan to deploy a Submersible Ultraviolet Nitrate Analyzer (SUNA)—a sensor that continuously measures nitrate levels in the water.

By combining this new data with measurements of algae and dissolved oxygen, researchers hope to gain a clearer picture of how nutrient cycles affect the lake's ecosystem.

The goal is simple but important: better science to guide better solutions, helping ensure that Lake Merritt remains a healthy habitat for wildlife and a vibrant resource for the community that surrounds it.

Read the **Lake Merritt Nutrient Analysis Report (2026)** and learn more about the **Lake Merritt Advance Restoration Plan Project**:

https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/LakeMerrittAdvanceRestoration.html

A Day In the Life of Lake Supervisor, Alfredo Sanchez

By Kathleen Nay

Meet Alfredo Sanchez. You probably already know him; as the Lake Supervisor, he interacts with everyone who shows up to steward the lake. But what is a Lake Supervisor, anyway? What keeps Alfredo busy all day? I called him to find out.

Alfredo, thanks for making time to chat! Most people know you from leading volunteer groups, but I'm sure there are aspects of your job that folks don't get to see! How would you sum up your job in one sentence?

I do my best to help people deepen their sense of stewardship of the lake, and to also expand on the facts and history that might go unnoticed when people treat the lake as just a park, instead of a historical site or a fascinating environmental window into the Bay Area.

That's so thoughtful. When you arrive at the lake in the morning, what's the first thing you notice?

Immediately, it's the way the light is playing on the lake's surface.

Poetic! (He laughs.)

From there, I zoom in to the details. How much trash is out there, in what areas? Where does it seem to be flowing from, and where is it flowing to? I'm making a mental map about where to send volunteers.

Is there such a thing as a typical day? If so, what does it look like?

Tuesdays are a pretty typical day. When I get in, I start prepping for volunteers. That entails going around to each equipment locker to ensure they're unlocked, stocked, and ready when volunteers arrive.

Back at the Boat House, I touch base with all the volunteers, letting them know about upcoming outreach opportunities or events, and how we've been doing in terms of trash [volumes].

After that, everyone breaks into groups. That's when the phone calls and texts start to roll in about stuff that I'll need to attend to. Sometimes folks need an extra hand to pull out something heavy, or there's a request for equipment. I'm roaming the lake zones — Embarcadero, East 18th, Glen Echo, and Lake Chalet. I drop in, say hello, and assist where needed. That takes up the whole cleanup duration! By the time volunteers are wrapping up, I'm coming to retrieve the bags [of collected trash] and get ready to dispose of them.

By the afternoon, I've picked up all the bags and I'm making a final circle around the lake to make sure there's no stray equipment, the boxes have been locked, and that everything gets put away. I take a little break, then head home!

What's something you do regularly that most people would never guess is part of your job?

Documenting things around the lake. Most of the way people interact with me is at safety orientations, talking or teaching them about the lake. But maybe they're not aware [I also report] possible spills and their sources. I check out odd smells. There is a degree of reporting and paperwork, and if I'm in my truck staring at my phone, it's because I'm typing out an email!

If someone followed you around for a day, what would surprise them most by 3:00 pm?

Maybe that I don't stop! (He laughs.) I'm working the whole day. There is plenty to do. People would be surprised by the volume of trash that does get pulled out. Sometimes volunteers are aware of all the trash they didn't get. But if they were to come with me, they'd realize that there were people elsewhere at the lake who also pulled out trash. It piles up so high on the truck that I can't see through the rearview mirror.



That's pretty astonishing. As a volunteer I fill, at most, two or three bags per shift — but I've never thought about what it looks like collectively.

What have YOU found surprising as you've grown in the role? And how long have you been Lake Supervisor?

Five years — time flies! I started at the end of 2020. During COVID, it really was more about managing and organizing volunteers on a cleanup [with social distancing]. But we've started to include more education; we want all our volunteers to learn something about the place they're committing service to.

I love that. From your perspective, what makes a volunteer day feel successful?

When volunteers feel that everything is already set up for them. When I'm able to successfully put in face time with every volunteer.

And when I hear positive feedback: people proud of work they did, happy they made an impact. It's not just about the volume of trash or the area we covered, but people's sense of accomplishment. When they leave feeling they did something meaningful, it ignites that sense of stewardship that makes them want to come back.

I will say, you're good at putting in face time. As a volunteer, I've noticed you always say hi and know everybody's name. If donors or volunteers could help with one thing right now, what would you point to?

It would be to increase our base of donors. Reach out to your friends and family about the value of becoming a member of LMI. We're proud that our donors' money goes directly into our cleanups and education. We don't use donations on outreach, advertising, or marketing — which [might] make us look more professional in the grand scheme. Whatever money you give goes to bags, pickers, nets, hand sanitizer, and testing kits.

Has your relationship with the lake changed since you started this role?

Yeah! I know the lake better now than when I just drove past or as a parkgoer. Now I know how biodiverse it is, the specific challenges it faces as a home for wildlife, and also as a recreation site for folks who need some peace and serenity. It's given me a deeper appreciation for how complicated the region's challenges are. The lake is a microcosm of both the challenges Oakland faces and the things people love about living here.

You see opportunities as well. It's not this overwhelming problem where there's nothing I can do but resign myself to apathy. A group of dedicated neighbors or friends can get a lot done. People organize their day to come together, clear trash out, and create social bonds. We have a wonderful, dedicated contingent that comes every week for a couple hours, and the lake is better for it. All of us get to enjoy those couple-hours worth of work and their impacts.

Now for some rapid-fire questions. What's something exciting on the horizon at LMI?

We're hosting more field trips! And expanding our curriculum for different grade levels. Students can learn to identify wildlife, and engage in citizen science like taking field notes, looking through a microscope, or doing water testing. We want to make that an integral part of what LMI is, instead of just a volunteer organization that cleans up the lake.

Next lightning question: what's always in your truck?

Garbage bags; gloves for myself and some spares; hand sanitizer; a couple of first aid kits; my clipboard and a notepad.

Last question: What's the weirdest thing you've ever found at the lake?

In 2021, I pulled a large plastic tub out of the lake. It looked like it had been set on fire, but when I opened it up, there was someone's pet cat with all these beautifully-arranged flowers around it. It looked like they had attempted to give their pet a viking funeral.

Wow!

Yeah! It was... a very sweet sentiment? I wondered what that person was going through. They created a bed of flowers, and artfully arranged wreaths around their pet, then lovingly tucked it inside and set it adrift, presumably on fire.

That's quite the story.

You know, furniture, mattresses, clothing, backpacks; whatever odd things that people throw in the lake, nothing else has reached that level of, "wow, this is something else."

Interesting. You never know what you'll find. Catch Alfredo at the lake Tuesdays through Saturdays. 😊

EVENTS AT LAKE MERRITT



Saturday, April 18, 2026 9:30AM

Oakland's 32nd Annual Earth Day to celebrate our planet with a day filled with sustainability, community, and environmental action!

Join **Lake Merritt Institute** volunteers and honor our beautiful city with a lake cleanup.

Register online at: lakemerrittinstitute.org



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Oakland Women's Rowing Club

Founded in 1916, the Oakland Women's Rowing Club's mission is to foster the love of the outdoors, to promote team spirit, and to promote the art of rowing among the women of Oakland and the Greater Bay Area
www.owrcrowers.org



Are you a local business or organization interested in partnering with us to support Oakland's Crown Jewel? Ask us about sponsorship opportunities in 2026 at info@lakemerrittinstitute.org

For questions and comments please email us at info@lakemerrittinstitute.org.

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