

Adventures in Optimization

BACWA Nutrient Infoshare #1

June 1, 2026



Agenda

1. Introduction and agenda Review
2. Nutrient Removal Optimization – Problem solving, lessons learned, and unanticipated impacts on treatment
 - a. **City of San José** - Bryan Berdeen
 - b. **City of Benicia** – Andy Morris
 - c. **EBMUD** – Kristine Yung
 - d. Q&A
3. Regulatory Updates
 - a. Compliance Schedule Basin Plan Amendment
 - b. Nutrient Trading
4. Next Infoshare meeting

Regulatory Updates

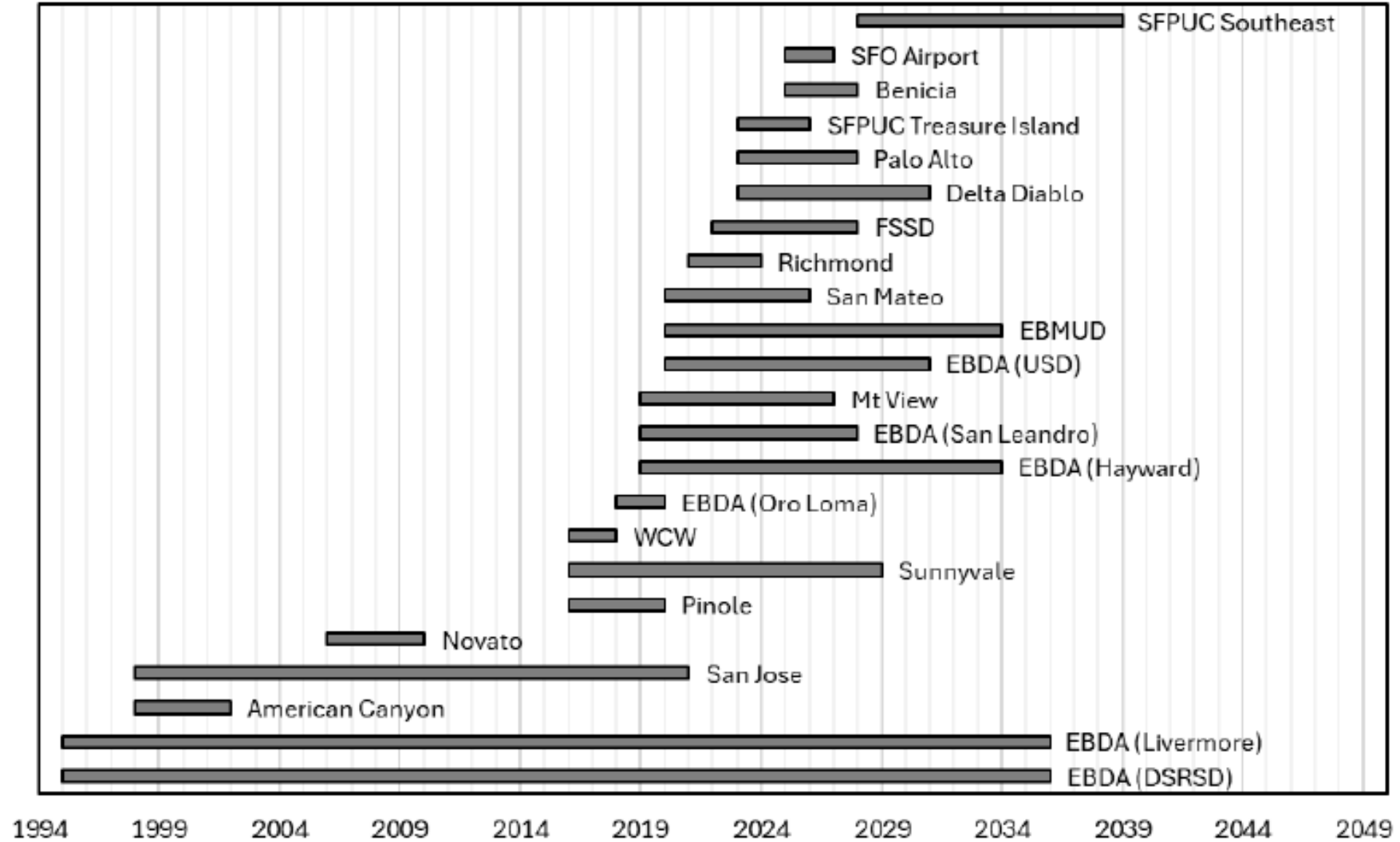


Figure 4. Estimated Timelines for Completed, In-Progress, and Planned Projects

Compliance Schedule Basin Plan Amendment

Compliance Schedule Basin Plan Amendment:

- Permit provides up to 10 years to comply with permit limits
 - This is the maximum provided by the State Compliance Schedule Policy
- SF Bay Water Board recognized 10 years is not achievable for some projects, and approved a resolution directing staff to find regulatory mechanisms to grant more time
- SF Bay Water Board is pursuing a non-TMDL Basin Plan Amendment to extend compliance schedules up to 15 years for *some* projects
 - Basin Plan would be approved by State Board and EPA, and override the state Policy
 - Qualifying projects still need to demonstrate they are moving as quickly as possible

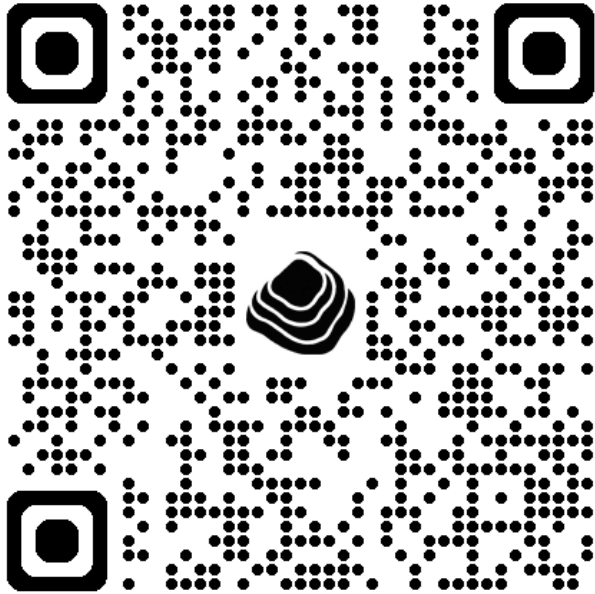
Projects that will likely qualify for extended compliance schedules

1. Recycled water
2. Nature Based Solutions
3. Innovative pilots that extend the timeline of implementation
4. Projects that go significantly below the agency's limit
5. Projects that begin construction by 2029/2030 but are not completable by 2034 due to the realities of construction

Next steps on Compliance Schedule Basin Plan Amendment

- BACWA supporting CEQA Development - Consultant selected based on qualifications; contract set for approval June 5
- Regional Water Board is shopping a revised version of the Basin Plan Amendment with USEPA, State Water Board and other stakeholders
 - Draft language expected within next few weeks
- Preliminarily targeting Regional Water Board adoption in spring 2027

Update on Trading



[Link here](#)



San Francisco Bay Water Quality Trading Program: Designing a Program for Wastewater Treatment Plants

In recent years, the San Francisco Bay has experienced an increased frequency and severity of harmful algal blooms (HABs). In July 2024, the Regional Water Quality Control Board adopted the Nutrient Watershed Permit (Nutrient Permit), establishing nitrogen discharge limits for wastewater treatment plants (WWTPs) across the San Francisco Bay. The Nutrient Permit is intended to reduce the potential for HABs by requiring a 40% reduction in total inorganic nitrogen (TIN) loading from WWTPs by 2034. Satisfying the Nutrient Permit's final limits will require costly facility upgrades—estimated at approximately \$11 billion. In response, many dischargers have expressed interest in water quality trading as a compliance option to help reduce financial and operational burdens while achieving water quality improvements.

What Is Water Quality Trading?

Water quality trading (WQT) is a voluntary, market-based compliance strategy authorized under the Clean Water Act. It allows a regulated discharger to purchase credits from another source, frequently resulting in better economic and ecological outcomes than may be achieved with each discharger acting alone.

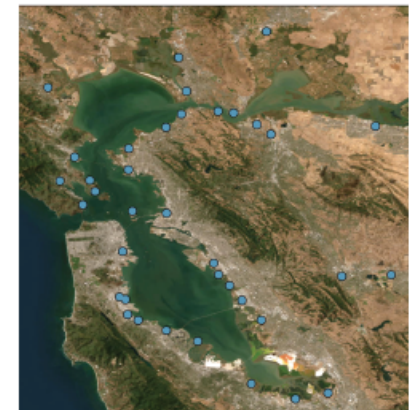
San Francisco Bay Context

In San Francisco Bay, the diversity of WWTP circumstances reflects the diversity of the Bay itself. Some facilities can reduce nitrogen loads below their permit limit more efficiently than others due to available space, existing infrastructure, or economies of scale. Facility changes are paid for from a variety of sources, including bonds, customer rate increases, loans, and grants. By allowing the Bay's regulated dischargers to look beyond an individual facility to consider nutrient reduction opportunities throughout the watershed, participants in a trading program can pursue the most efficient and cost-effective compliance strategies while reducing nutrient loading to the Bay. WQT enables collaboration between WWTPs that can ultimately benefit communities and ratepayers.

EXAMPLE CREDIT TRADE



A watershed-wide program to reduce nutrients in the San Francisco Bay could include voluntary trades between wastewater treatment plants. One regulated discharger with high permit compliance costs can purchase credits from another discharger that can achieve nutrient reductions more cost effectively.



Relevant San Francisco Bay WWTPs

Goals and Deadlines

DRIVER: Permit reporting deadline is April 1, 2027

GOAL: WQT Framework to WWTP - February 1, 2027

Monthly Schedule

- June: Data Analytics
- July: Options & Considerations Analysis
- August 31: Workshop
- Sept/Oct: Draft Framework
- November/December: Water Board Review
- February 1: BACWA Releases WQT Framework



What are we hearing? Participating in WQT

WQT Informs Pathway?

Yes - 15

No – 10 (in compliance, installing technology/upgrade)

WQT as only or primary option – 5 Facilities

Credit Buyers/Seller

Buyer – 12

Sellers – 11

Both - 5

Opportunity to Overtreat - 14

Potential
Collaborations



Webinar Series and Workshops

Webcast Series (Members Only – recordings will be made available publicly)

- SF Bay WQT Program Technical Update - June 24, 10am PT
- Lessons on WQT from Successful Programs - July 13, 10am PT
- Workshop Preparation - August 18, 2pm PT

Workshop

When: Monday, August 31st from 9:00 am to 3:00 pm

Where: EBMUD,
375 11th St
Oakland, CA 94607

Who: Only representatives of BACWA
members with nutrient limits

RSVP: Please RSVP by **August 3rd**
as space is limited



Next Infoshare meeting

Coming Fall 2026