Bay Area Clean Water Agencies Water Quality Trading Program Development

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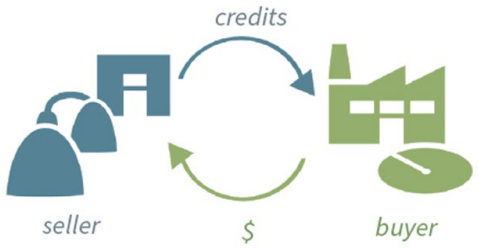
What is Water Quality Trading?

- A voluntary, market-based Clean Water Act compliance strategy.
- Allows a permitted discharger to purchase compliance credits created by another source.
- Can result in better economic and ecological outcomes than may be achieved independently.



WQT enables coordination and collaboration among WWTPs that can benefit communities and ratepayers.

How Does Trading Work?

- WWTPs that reduce pollutant loads below their effluent limit can sell those excess reductions (i.e., credits)
- Credits measured in same units and time period as the permit *(TIN kg/day in the dry season)*
- Credit trades verified using existing monitoring and reporting
- San Francisco Bay Program will be governed by a "Trading Framework" that will provide certainty about requirements, mechanics

Types of Trading Programs

Point-to-Point Source

- Buy/sell unused effluent limits
- Co-fund treatment plant upgrades

Nonpoint-to-Point Source

- Implement projects that reduce nutrient loading to watershed (i.e., wetlands, ag practices, eel grass, etc.)

WQT Programs in the United States

Supported by EPA Federal policies (2003, 2009, 2019, 2020)

Upheld by federal courts & endorsed by the State Water Board

Active trading programs in Connecticut, Virginia, Maryland, Wisconsin, California, and Oregon

Case Study: Long Island Sound, CT

Participants: 79+ POTWs

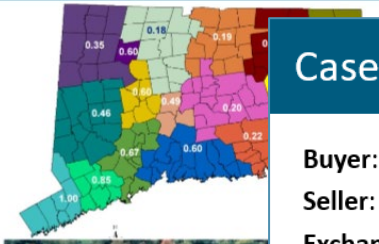
Trading Mechanism: Credit Exchange managed by DEP using standard rates set by Nutrient Credit Advisory Board

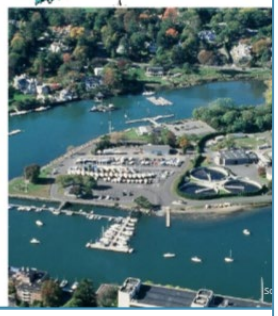
Driver: Nitrogen TMDL: 65% reduction in nutrient loading from baseline levels by 2014
General Permit: Implements the TMDL and creates framework for permittees

Options:

- Technological solutions for facility to achieve individual compliance with General Permit
- Purchase excess pollution reductions from another facility to achieve joint compliance

With trading program: $300 – 400 million saved by not forcing all municipalities to upgrade at once





Case Study: Chesapeake Bay Exchange, VA

Buyer: 130+ Wastewater Treatment Plants

Seller: Other Point Sources or the Exchange

Exchanges: Virginia Nutrient Credit Exchange Association or directly between sources

Driver: Chesapeake Bay TMDL: Mandates tributary specific nutrient reductions
Virginia General Permit: Implements WLAs and guides trading activities

Compliance Options:

- Upgrade facility for individual compliance
- Purchase credits on the Exchange
- Independent trades between sources
- Bubble WLAs for multiple facilities in close proximity and under same ownership

Why Consider Water Quality Trading?

COST SAVINGS.
Meet aggregate load targets without every facility independently building treatment.

COST SAVINGS


COLLABORATION

COLLABORATION.
Watershed-wide coordination and shared solutions.

FLEXIBILITY.
Purchase credits or co-fund treatment upgrades rather than pursuing a full capital project.


FLEXIBILITY


ENVIRONMENTAL BENEFIT

ENVIRONMENTAL BENEFIT.
Safeguards ensure water quality improvements.

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Perspectives Shared with The Freshwater Trust

- Strong support for trading as an **efficient** and **flexible** compliance alternative
- **Minimize risk** and **maximize** certainty for participants
- **Bay-wide** trading program based on aggregate limits
- **Effective, equitable outcomes** for ratepayers
- Fosters **coordination** and **collaboration** to meet Bay's nutrient reduction goals

WQT in San Francisco Bay

- Facilities planning capital upgrades can evaluate whether over-treating could generate revenue through credit sales.
- Facilities facing difficult or expensive upgrades can evaluate whether buying credits is a more cost-effective option.
- WQT preserves future flexibility, even for those unsure if they will buy or sell credits.

100% of eligible facilities are interested in a WQT program

Source: GAR 2026 & Interviews

2026 Workplan

1. Outreach to BACWA Members, Experts & Stakeholders
2. Evaluation of Credit Supply, Demand, Timing & Costs
3. Scientific Basis & Watershed Modeling
4. Evaluate Regulatory & Jurisdictional Constraints
5. Draft Trading Framework

Goal: Proposed *Draft Water Quality Trading Framework* in late 2026

Next Step: *Workshop on August 31st*

Trading Overview Two-Pager

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BACWA BAY AREA CLEAN WATER AGENCIES

HDR

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?

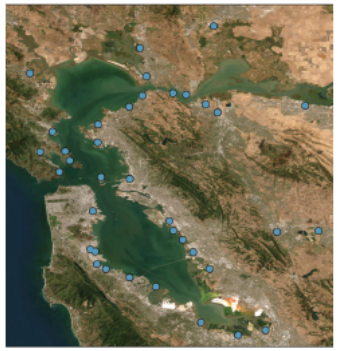
Water quality trading (WQT) is a voluntary, market-based compliance strategy authorized under the Clean Water Act. It allows a regulated discharger to purchase credits from another source, frequently resulting in better economic and ecological outcomes than may be achieved with each discharger acting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

We Need You!

It is important to engage to make sure your perspectives are considered.

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