



January 29, 2024

Eileen White
Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: BACWA Concerns Related to the 3rd Nutrient Watershed Permit Compliance Timelines

Eileen White and Regional Water Board Staff,

The Bay Area Clean Water Agencies (BACWA) would like to express our appreciation for the opportunity to engage with you on the 3rd Nutrient Watershed Permit. As you know, our 37 members who discharge to the San Francisco Bay are committed to protecting the San Francisco Bay and taking a thoughtful, strategic approach to reducing nutrient discharges while maximizing other ecological and regional community benefits. The nutrient load reduction requirements being contemplated by the San Francisco Bay Regional Water Quality Control Board (Water Board) will represent the most significant simultaneous investment of public resources in treatment upgrades across our region since the inception of the Clean Water Act in the 1970s. If the reductions are to be achieved using conventional technologies, they will cost in the range of eleven billion dollars for our region, which is more than four thousand dollars per household. As such, we believe we must proceed carefully and strategically to maximize the benefits of this work to the community that we serve.

BACWA supports the scientific process used to establish final Baywide nutrient load limitations, and our members are planning and implementing projects to achieve future nutrient load limitations. That said, we have significant concerns that a 10-year compliance schedule will be insufficient to support projects to reduce nutrients on a regional basis due to equally urgent but competing capital priorities, and will serve to actively disincentivize recycled water and nature-based solutions for nutrient reduction. It will also force competition between agencies for resources, thus driving up total costs for our region. We are urging the Water Board to consider alternative regulatory mechanisms to allow our members an extended timeline for compliance.

Ongoing projects

BACWA has been participating in the Regional Nutrient Management Strategy with the Water Board, local scientific community, and other key stakeholders to ensure a thoughtful science-based approach to nutrient management in San Francisco Bay for well over a decade. In that time, we have contributed nearly \$17 million in support of scientific studies and science communication. Even before the harmful algal bloom in 2022, we understood the need to implement nutrient control to offset increased nitrogen loads due to population growth. Because of this anticipated need,

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several of our agencies have already embarked on upgrades to reduce nutrients in synergy with other major improvements that were needed at their facilities. A list of the ongoing projects at the larger agencies (>10 mgd) is provided below:

Agency	Description	Anticipated Completion	Cost (\$M)
Union Sanitary District	Addition of Biological Nutrient Removal	2029	\$509
City of Hayward	Replacement of trickling filters with oxic/anoxic secondary treatment	2029	\$299
City of San Leandro	Engineered wetland	2025	\$7
City of Palo Alto	Convert secondary treatment to three-step activated sludge configuration and intensify treatment via membrane aerated biofilm reactors.	2028	\$193
City of San Mateo	New headworks, primary sedimentation system, a secondary MLE process to achieve nitrification/denitrification, membrane bioreactors, and wet weather equalization.	2026	\$458
City of Sunnyvale	New MLE-configured Conventional Activated Sludge system to operate in parallel with the existing treatment system	2027	\$300

Other agencies, such as the City of San José, West County Wastewater District, and Oro Loma Sanitary District, have already optimized and/or completed upgrades that significantly reduce nutrient discharges.

New projects

Before the summer 2022 harmful algal bloom, our members were envisioning that the next watershed permit would contain load caps to constrain future load increases, and were planning to achieve those caps. We recognize that the 2022 event was a “game changer” that necessitates significant nutrient reductions. Public agencies’ planning and implementation processes are limited by public outreach and environmental review timelines, funding availability, and engineering/logistical constraints, as our members are concurrently undergoing other significant capital upgrades to keep their aging facilities operational. Since the 2022 event, our members have done what is essentially turning on a dime in the public infrastructure world, to move forward with the following non-exhaustive list of *new* projects:

Agency	Description	Anticipated Completion
EBMUD	Biological Nutrient Removal (BNR) during summer months	2023 (further improvements anticipated in 2024 and 2025)
SFPUC	Sidestream Treatment	2026
Central San	Secondary Improvements	2028 - 2031
Delta Diablo	Secondary Improvements	2029
FSSD	Secondary Improvements	2025
SVCW	Sidestream Treatment	2029

Besides these projects, within the next permit term, we anticipate other new efforts including piloting innovative technology, expansion of Title 22 recycled water programs, and optimization of existing secondary treatment processes.

Multi-benefit projects

While we recognize the need to reduce nutrients, we are also committed to planning projects that will allow our communities to realize impactful co-benefits to our communities. For example, nutrient reduction in conjunction with recycled water will bolster our region’s drought resiliency. Nature-based solutions will enhance Bayshore habitat, provide sea level rise resilience and protect upgradient infrastructure, and provide a recreational benefit to the community. While some uncertainty will always exist about the level of nutrient reduction required for Bay protection, projects implemented with these co-benefits will provide certain and immediate value to the communities who fund them.

Agencies such as Central San and Silicon Valley Clean Water are making material progress toward large-scale recycled water projects that could significantly reduce our region’s reliance on imported water supply. Agencies such as the City of Palo Alto, Fairfield-Suisun Sewer District, Oro Loma Sanitary District, and the City of Hayward, are moving forward with nature-based solutions that will serve as models for the region. The Watershed Permit should be structured to give managers contemplating these projects the regulatory certainty they need to move forward with implementation, with their associated extended implementation timelines.

Factors impacting project timelines

The Water Board is proposing to use the State Water Board’s 2008 Compliance Schedule Policy (Policy) to support the 3rd Nutrient Watershed permit. The Policy allows a maximum of 10 years to comply with new permit limitations. BACWA is concerned that 10 years is inadequate for a large agency to perform a major upgrade, especially with agencies competing for funding and contractors and conflicting with other capital improvements already planned during this time frame. Even worse, this regulatory timeline will dissuade agencies from pursuing recycled water, nature-based solutions, and innovative technologies.

Because of the regional scope of the requirement to reduce TIN loading, project timing is likely to be impacted by the limited contractors and skilled laborers qualified to perform large-scale construction in the region. The competitive bidding environment will also have an impact on project

costs. This limitation necessitates a longer implementation period for projects throughout our region to minimize costs to the public.

While a large agency performing an upgrade in this challenging bidding environment will be pushing up against the 10-year compliance schedule, agencies implementing recycled water, nature-based solutions, or needing to pilot innovative technologies before full scale implementation will find this timeline impossible to meet, for the reasons below. Managers contemplating alternative strategies for nutrient removal will be faced with a choice of going the “tried and true” route to assure compliance, or risking compliance jeopardy if they proceed with a project with multiple benefits.

Recycled Water – In addition to the construction-related challenges described above, the implementation of a recycled water project requires agreements between wastewater agencies and water supply agencies as a precondition to the project. Enhanced public outreach is also often needed to bolster public acceptance of the project, all of which lengthens the project timelines.

Nature-Based Solutions – Implementing a nature-based solution requires overcoming the construction and public outreach hurdles described above. Additionally, permits must be obtained from multiple agencies that have jurisdiction over the Bayshore, and land must be acquired where the agency does not already own land to site the project.

Innovative Technologies – Traditional nitrogen reduction is energy-intensive, contributes to greenhouse gas emissions, and requires a large land area. Several agencies are interested in pursuing innovative technology that will reduce energy, chemical use, emissions, and footprint, as well as technologies that will improve effluent quality in preparation for water recycling. Piloting emerging technologies before implementation is a critical step to project acceptance, and lengthens project timelines.

Affordability considerations are also of utmost importance to project phasing, as limited grants and loans are available at any given time to defray the direct cost of these improvements to the public. These improvements must also be coordinated with capital projects needed to maintain existing levels of treatment and service that are either planned or already underway. Many agencies have reached their bonding limit and without financial assistance will need to pass along the project cost directly and immediately to their communities, having a significant and steep impact on rates. The California State Clean Water Revolving Fund will not have the capacity to fund new projects for several years, and future total annual funding levels are expected to be a drop in the bucket compared to our regional needs. Project phasing and a compliance schedule extending beyond 10 years will allow longer-term financial planning to minimize the financial burden on the community.

Because of these factors, BACWA is proposing to conduct a regional special study that will allow coordination between agencies and facilitate project implementation as agencies compete for limited contractors and funding. This special study will provide a roadmap for meeting permit limits, and identify steps that agencies can take to meet a range of nutrient limits based on ongoing scientific studies.

A successful permit supports a timeline that allows thoughtful investments in nutrient reduction

While meeting a 10-year compliance timeline is not assured even for traditional upgrades, timing is an even more critical consideration for agencies who envision projects with multiple benefits or implementing innovative technologies, as described above. Implementing a strict 10-year compliance schedule will disincentivize the exploration of these non-traditional multi-benefit projects whose managers will prioritize compliance with the letter of the permit.

Your staff have proposed the establishment of a Baywide load limit that will equal the sum of individual agency load limitations. BACWA is recommending that the Water Board impose a Baywide load limitation but defer establishing individual load or other final effluent limitations until the fourth Watershed Permit, with the ultimate goal of compliance after 15-20 years. This approach has the following benefits:

- Establishing the Baywide limit will signal to agencies the immediate need to enhance their efforts to reduce nutrients.
- Delayed establishment of individual final limits will give agencies planning large projects time to plan for these lower numbers, which could be expressed as targets for individual agencies, without fear of stranded assets.
- An extended timeline will allow early actors who have already completed or are in the midst of upgrades an opportunity to “move to the back of the line” in the context of regional planning, as outlined in the 2019 Watershed Permit, and to begin evaluating the technical and financial feasibility of additional reductions.
- Future individual load limits can reflect the results of the proposed special study to plan and allow for phased nutrient removal on a regional basis.
- Future individual load limits can be more precisely informed by further knowledge gained from planned nutrient Science Program monitoring and modeling efforts. This strategy will also provide the science program to come up with adaptive management strategies and post bloom action plan
- Beginning a new compliance schedule only upon the adoption of the later-imposed individual agency limits will allow the needed time for major upgrades as well as multi-benefit projects to come to fruition.

Extending the regulatory timeline is the primary concern to our members as we plan and implement the improvements that all regional stakeholders want to see. We are happy to discuss alternative approaches, including working with the State Water Board to explore an exception to the 10-year limitation in their Compliance Schedule Policy, or to review the use of technology-based requirements, or the TMDL or 208 Plan processes as alternate pathways, but it is paramount that the Water Board establish a feasible compliance pathway for our members who are working diligently to protect our region’s water quality as well as the communities we serve.

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As always, I'm happy to discuss this further. I can be reached by email at lfono@bacwa.org and by phone at 510-684-2993.

Best regards,

A handwritten signature in black ink that reads "Lorien Fono". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Lorien Fono
Executive Director
Bay Area Clean Water Agencies

Cc: BACWA Executive Board
BACWA Nutrient Strategy Team