

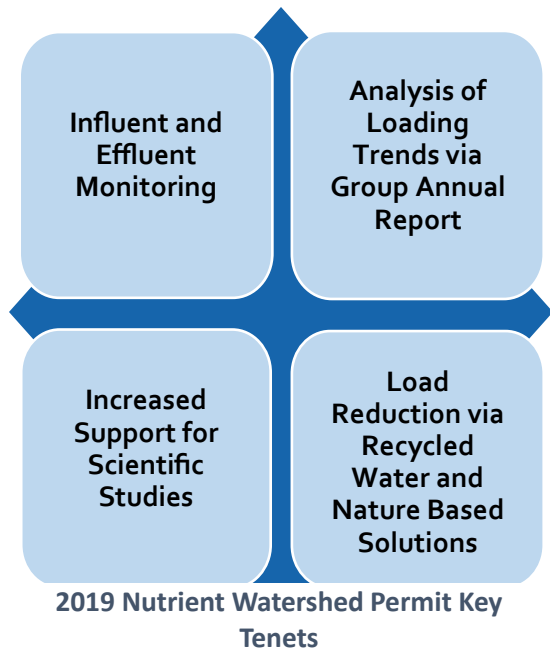


Nutrient Watershed Permit Negotiations

September 2023 Status Update

Background

The [Nutrient Watershed Permit](#) (Watershed Permit), first issued by the San Francisco Bay Regional Water Quality Control Board (Water Board) in 2014 and most recently reissued in 2019, governs nutrient discharges from POTWs to the San Francisco Bay. The key tenets of the current Watershed Permit are below:



- **Monitoring** of nitrogen and phosphorus species in effluent, and in influent for larger agencies.
- **Group reporting of loads to the SF Bay**, with analysis of observed trends. [See the latest Group Annual Report](#).
- **Support for scientific studies** to better understand the impact of nutrients on the Bay. The scientific effort is led by the San Francisco Estuary Institute (SFEI), and guided via the [Nutrient Management Strategy](#), a collaborative governance effort that includes stakeholders throughout the region.
- **Evaluation of nutrient load reduction opportunities** by recycled water, and by nature-based solutions. These [two studies were completed and submitted](#) to the Water Board on July 1, 2023. The 2014 Watershed Permit required an evaluation of nutrient removal opportunities by optimization, sidestream treatment and upgrades, and [was submitted](#) in 2018. Together, the three studies provide a range of approaches to reducing nutrients.

The Bay Area Clean Water Agencies ([BACWA](#)) has provided a mechanism for group compliance with the permit provisions, and has served as a venue for group negotiation of permit provisions with the Water Board. The Water Board plans to reissue the Nutrient Watershed Permit in 2024, when the 2019 permit expires.

Establishment of nitrogen limits

BACWA and the Water Board have been discussing the 2024 reissuance of the Watershed Permit for several years. Based on our scientific understanding, nitrogen is the primary nutrient of concern in the San Francisco Bay, since limiting its concentration can limit algal growth. Loads to the Bay during the dry season appear to have the greatest impact on the Bay, since during the dry season there is more sunlight available for algal growth, and less flushing of the Bay. Prior to summer 2022, it had been anticipated that the 2024 Watershed Permit would include dry season nitrogen load caps based on current performance. However, in the summer of 2022, a harmful algal bloom in the San Francisco Bay resulted in a large fish kill. Another algal bloom occurred in 2023. While we do not fully understand the triggers for these blooms, we do understand that nutrients contribute to the magnitude of algal blooms once initiated. As a result, the Water Board has informed BACWA that it intends to require nitrogen load reductions in the 2024 Watershed Permit.

As of August 2023, BACWA and Water Board staff are in conversation about how to implement nutrient load reductions within the 2024 Watershed Permit, including details related to the magnitude and timing of load reductions. There is still significant uncertainty in the science about what nutrient levels would be protective of San Francisco Bay.

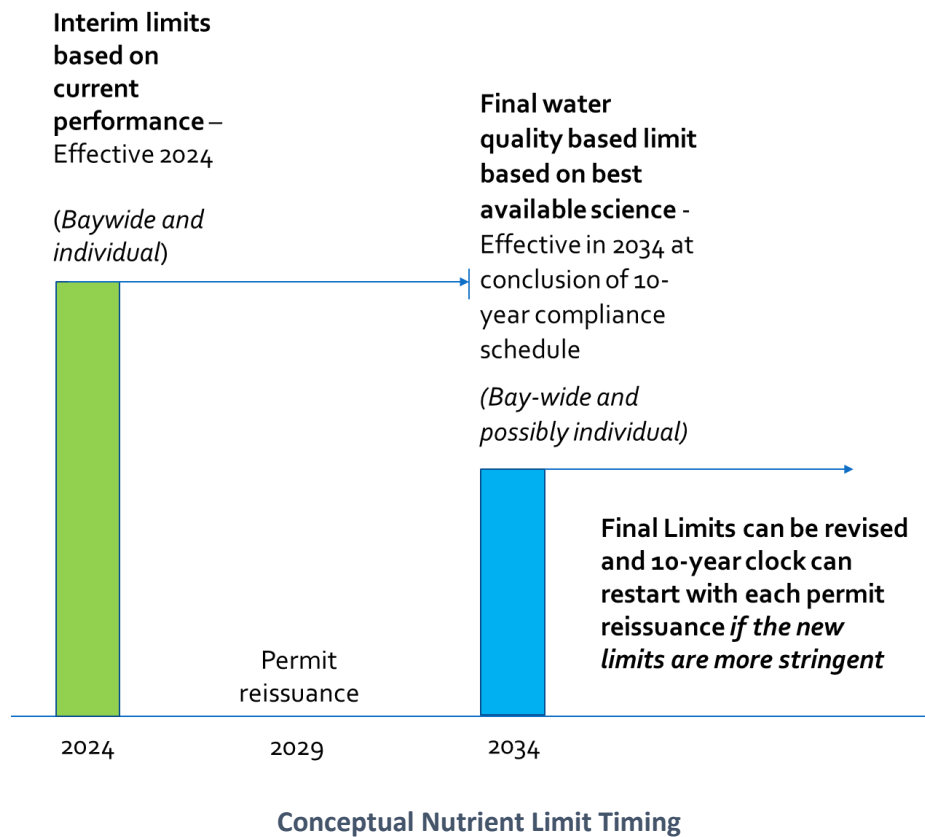
The Water Board has stated that they intend to make a finding of Reasonable Potential that wastewater discharges may cause or contribute to an exceedance of the San Francisco Bay Region's Basin Plan's narrative biostimulatory objective, which states:

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. Changes in chlorophyll a and associated phytoplankton communities follow complex dynamics that are sometimes associated with a discharge of biostimulatory substances. Irregular and extreme levels of chlorophyll a or phytoplankton blooms may indicate exceedance of this objective and require investigation.

BACWA and Water Board staff are working with SFEI's science team to translate the narrative objective to numeric, water-quality based effluent limits. It is anticipated that the effluent limits will be expressed as Bay-wide, mass-based effluent limits for total inorganic nitrogen that apply only during the dry season (May to October). The Water Board has stated that each agency will also be given an individual final limit, but BACWA's position is that individual limits are premature, as both the science, as well as agencies' planning efforts, are still in rapid development.

As the limits are established, the Water Board plans to issue a [compliance schedule](#), which would give permittees 10 years to achieve the final limits. If ongoing scientific research indicates that the final limits established in 2024 are not sufficiently protective, then the limit may be revised at future permit reissuances, with the 10-year clock able to restart with each reduction in the limit.

While agencies are working to meet the final limits, they will be given interim limits based on current performance. These will be expressed as both a Bay-wide limit and as individual limits; exactly how current performance will be defined remains under discussion. An agency that exceeds its individual limit will not be found to be in non-compliance unless the Bay-wide limit is also exceeded. These interim limits may be updated at the 2029 Watershed Permit reissuance based on performance data at that time. The timing and establishment of interim and final limits is illustrated below:



BACWA's Vision for the 2024 Watershed Permit

BACWA and its members are committed to the protection and enhancement of the San Francisco Bay ecosystem. As such, we understand the importance of implementing projects that will reduce nutrient loading to the Bay. We also understand that there is significant uncertainty regarding the impacts of our actions, and the worst possible outcome is to spend billions of public dollars and not have a positive effect on the environment. As such, it is of utmost importance that we proceed with care, and work with the Water Board to craft a thoughtful and strategic permit.

There are three broad categories under which BACWA members are proceeding with nutrient reduction projects:

- **Near-term actions** that can be implemented quickly and relatively cheaply. These projects include optimization of existing facilities, use of emerging technology to achieve nutrient removal using existing processes, and adaptation of excess dry weather capacity to implement nutrient treatment. While these projects can be brought online in the near term, they typically have limited potential for large-scale nitrogen load reductions.
- **Synergistic upgrades** that are consistent with agencies' capital planning schedules and priorities. Many agencies are in planning and construction of upgrades, several of which are expected to

be commissioned over the term of the 2024 Watershed Permit. An agency that has not yet begun the upgrade planning process may take over ten years to complete construction.

- **Multi-benefit projects** such as nature-based solutions and recycled water. These projects provide drought resilience, shoreline protection, and/or habitat enhancement, and are therefore highly desirable where feasible. However, they may take longer than traditional upgrades to implement since they are dependent on external factors such as multi-agency permitting, interagency agreements, land acquisition, and others.

Since the Watershed Permit will establish limits on a Bay-wide basis, our region has a unique opportunity to pursue an “all of the above approach” with each agency selecting a path that makes sense for their facility and community. We also have the opportunity to establish a trading program that would allow agencies with higher barriers to removing nutrients to support agencies that can move more quickly and cheaply to remove nutrients.

Our current challenge is to structure the Watershed Permit in support of this multipronged approach. A Watershed Permit that does not leave room for flexibility would result in insufficient time for community engagement, lack of consideration for competing environmental priorities, stranded capital assets, and higher costs due to competition among agencies for funding, contractors, and other resources.

BACWA’s vision for the 2024 Watershed Permit is to structure the required nutrient load reductions such that member agencies can (1) reduce nutrient loads quickly where possible, (2) plan for synergistic upgrades, and (3) have sufficient time to pursue multi-benefit projects as a preferred solution to address nutrients.

BACWA will provide periodic updates as the negotiation process continues to evolve.