April 22, 2022

Christina Toms
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

VIA EMAIL: Christina.Toms@waterboards.ca.gov

Subject: Comments on the proposed Basin Plan amendment on Climate Change and Aquatic Habitat Protection, Management, and Restoration

Dear Christina Toms:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on the proposed Basin Plan amendment on Climate Change and Aquatic Habitat Protection, Management, and Restoration ("Basin Plan amendment") and the accompanying draft Staff Report. BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health.

As previously noted in our July 7, 2021 comments on the Basin Plan Triennial Review[1] that prioritized preparation of this Basin Plan amendment, BACWA supports the incorporation of climate change considerations into the Basin Plan. BACWA and its member agencies have been examining the vulnerability of our facilities to sea level rise, as well as our ability to help reduce greenhouse gas emissions with a broad portfolio of waste-to-energy programs. Several BACWA member agencies are involved with Baylands restoration or shoreline resiliency projects that involve use of wastewater in wetlands; such projects are, in large part, a response to rising sea levels. Our specific comments on the proposed Basin Plan amendment and draft Staff Report are listed below, and are followed by additional recommendations related to wastewater NPDES permitting.

Comments on Proposed Basin Plan Amendment

1. Remove the design standard for locating horizontal levees behind tidal wetlands.

[1] BACWA Comments on the 2021 Basin Plan Triennial Review. July 7, 2021 letter to Sami Harper, San Francisco Bay Regional Water Quality Control Board. Available online at https://bacwa.org/wp-content/uploads/2021/07/BACWA-Triennial-Review-Ltr-2021-07-07.pdf

BACWA supports the intent of the proposed Basin Plan amendment, which will improve dredge and fill permitting procedures. The draft Basin Plan amendment has a potential nexus with NPDES discharge permitting in Section 4.27, paragraph 4.f, which identifies ecotone and treated-wastewater horizontal levees as a preferred nature-based design feature. We particularly appreciate that the text provides flexibility with respect to specific design conditions for dredge or fill projects, such as the reference to gradual slopes that are "typically 15:1" (Proposed Basin Plan Amendment, page 10). This flexibility is important for projects to move forward into design and construction.

BACWA recommends maximizing design flexibility by removing the implied requirement for treated-wastewater horizontal levees to be placed adjacent to tidal wetlands. Horizontal levees and ecotone slopes do not necessarily need to be placed behind tidal wetlands for erosion control. In some situations, a horizontal levee may itself be a replacement for traditional rip-rap that would attenuate wave energy and protect the flood control levee core. In reality, horizontal levees and ecotone slope variants will be placed in various locations and not always adjacent to tidal wetlands.

While the proposed Basin Plan amendment does not strictly require a tidal wetland in front of a proposed horizontal levee, the proposed language would discourage their use in areas where a tidal wetland habitat may be infeasible and/or undesirable due to site-specific conditions. The proposed markup to page 10 is shown below:

> Ecotone and treated-wastewater horizontal levees with gradually sloped (typically 15:1 horizontal to vertical ratio or greater) bayward sides that can increase the footprint and functions of the estuarine-terrestrial transition zone at the landward edge of tidal wetlands. Ecotone levees are levees that support estuarine-terrestrial transition zone habitats. When designed to include the subsurface seepage of treated wastewater, they are often called horizontal levees. Ecotone levees create estuarine-terrestrial transition zones and attenuate wave energy; horizontal levees can perform these functions and restore freshwater-brackish-saline wetland gradients that have largely been lost throughout the Estuary. ~~**Ecotone and horizontal levees are best suited for locations where they will be fronted by tidal wetlands, both to improve landscape-scale ecological functions and to reduce the risk of erosion of the levee toe.**~~ They typically require considerable volumes of material to construct, and therefore should be built as far landward as feasible to minimize settling and maximize the footprint of in-estuary habitat restoration. Both levee types should be carefully monitored and, if needed, adaptively managed to ensure their long-term resilience and functionality.

2. Incentivize multi-benefit projects by acknowledging water quality benefits during dredge and fill permitting.

While there is broad conceptual support among BACWA member agencies for nature-based climate solutions, project implementation can be sidelined by practical considerations such as cost and complex mitigation requirements. For example, sea level rise adaptation projects may result in "temporal losses" to wetlands, with immediate wetland loss and/or type conversion that is offset by future habitat benefits. BACWA therefore appreciates the Regional Water Board's

inclusion of the San Francisco Partnership's Estuary Blueprint/CCMP, the San Francisco Bay Shoreline Adaptation Atlas, and the Aquatic Resource Type Conversion Evaluation Framework as tools to develop sensible mitigation requirements for sea level rise adaptation projects.

BACWA supports the Regional Water Board's efforts to incentivize multi-benefit climate adaptation projects that offer flood protection, habitat enhancement, and water quality benefits. Although flood protection benefits are referenced throughout the proposed Basin Plan amendment (for example, paragraph 2 of section 4.27), water quality benefits are scarcely mentioned. Treated-wastewater horizontal levees can remove nutrients and trace organic contaminants[2], and water quality benefits are a factor worthy of consideration when costly dredge and fill permitting requirements are being developed. To provide an incentive for multi-benefit projects, BACWA requests explicit consideration of water quality benefits during the dredge and fill permitting phase. The proposed markup to page 12 is shown below:

> **d. Type conversions:** Some dredge or fill activities may convert one type of water of the state to another (e.g., salt pond to tidal flat/tidal wetland), or convert one component of the estuarine wetland ecosystem to another (e.g., tidal wetland to estuarine-terrestrial zone, tidal wetland to high tide refugia, or tidal wetland to tidal channel). The overall impacts of proposed wetland type conversions can be assessed using technical guidance such as the Aquatic Resource Type Conversion Evaluation Framework.
> …
> iv. Is the proposed type conversion consistent with strategies developed by collaborations of stakeholders to achieve regional goals such as **enhancing water quality,** recovering rare and/or historic habitat types, improving landscape connectivity/complexity, and/or supporting long-term habitat resilience?

Comments on Draft Staff Report

There is a typographical error in the draft Staff Report. The most recent triennial review was completed in 2021, not 2020. The proposed correction to page 2-2 of the Draft Staff Report is shown below.

> The Water Board therefore identified a climate change amendment to the Water Quality Control Plan for the San Francisco Basin (Basin Plan) as a high priority in its 2015, 2018, and **2021** ~~2020~~ Triennial Reviews of the Basin Plan.

Recommendations for Future Basin Plan Amendments

BACWA continues to support nature-based solutions to sea level rise that incorporate beneficial reuse of treated wastewater, such as horizontal levees. Accelerating nature-based climate

[2] California Regional Water Quality Control Board, San Francisco Bay Region & The San Francisco Estuary Partnership, July 2018. *Treatment Wetlands and Sea Level Rise: Ensuring the San Francisco Bay Water Board's Wetland Protection Policies are Climate Change Ready*. White paper available online at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/climate_change/EPA_WetlandsGrant_FinalWhitePaper_clean_2018-0801.pdf

solutions into infrastructure is one of the State's priority actions in the 2021 California Climate Adaptation Strategy, and the State Water Board has also prioritized the use of natural infrastructure for shoreline protection in its 2022 Strategic Work Plan.

While the proposed Basin Plan Amendment will facilitate dredge and fill permitting of these projects, it does nothing to facilitate NPDES permitting of wastewater discharges to such projects. We therefore encourage the Regional Water Board to address this gap with future Basin Plan modifications to Prohibition 1 of the Basin Plan, which prohibits discharges to shallow waters except for in certain situations listed in Section 4.2 of the Basin Plan. Climate change adaptation is not specifically cited as one of the allowable considerations in seeking an exception.

BACWA acknowledges and respects the concerted efforts of NPDES division staff to identify permitting pathways for nature-based solutions. Regional Water Board staff recently prepared a draft document titled "NPDES Permitting for Nature-Based Solutions," which helpfully identifies how treatment wetlands and horizontal levees can qualify for one of the allowable exceptions to Prohibition 1 of the Basin Plan. While BACWA appreciates the efforts of current NPDES division staff to creatively accommodate horizontal levee projects, a more robust approach would be to revise the Basin Plan and/or Policy 94-086 to more specifically allow shallow water discharges that have an environmental benefit related to climate change adaptation.

BACWA appreciates the opportunity to comment on the Basin Plan amendment and thanks you for considering our input. We look forward to continuing to work with your staff to identify and implement nature-based solutions to the climate crisis.

Respectfully Submitted,

Lorien Fono, Ph.D., P.E.
Executive Director
Bay Area Clean Water Agencies

cc: BACWA Executive Board
Thomas Mumley, San Francisco Bay Regional Water Quality Control Board