



September 30, 2019

State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

VIA EMAIL: [input@waterresilience.ca.gov](mailto:input@waterresilience.ca.gov)

**Subject:** BACWA comments on California Water Resilience Portfolio Initiative

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to comment on California's Water Resilience Portfolio Initiative. 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.

### **One Water approach is key to resilience**

BACWA would like to stress that true resilience requires considering the water system as a whole – the One Water approach. Potable, recycled water, wastewater, stormwater, and coastal Management agencies will all need to be engaged in an ongoing dialog with each other, as well as State Agencies, to ensure that all of the aspects of planning for climate change consider the entire picture. Potable water augmentation in the face of future droughts cannot proceed without consideration of all the other aspects of our water environment.

As an example of cross-disciplinary impacts, our agencies' experience with low influent flows during the recent drought highlighted the necessity of planning for the impacts of one part of the water system on other parts. Water conservation is often thought of as a "free" means to augment potable water supplies. However, in 2012 through 2016, low flows resulting from conservation and low groundwater tables led to process impacts at wastewater treatment plants as water in collection systems stagnated and became anaerobic. Low flows also meant that water reuse programs had less feed water available for producing recycled water. These unintended

consequences of low flows are captured in the Public Policy Institute of California's report, *Managing Wastewater in a Changing Climate*<sup>1</sup>.

### **Much of BACWA's regional coordination on climate resiliency issues is being managed through the Nutrient Watershed Permit Process**

As the wastewater community invests in upgrades of our aging wastewater system infrastructure, we are seeking optimum beneficial reuse opportunities. BACWA is currently engaged in several efforts relating to climate resiliency Under the Second Nutrients Watershed Permit issued (Watershed Permit) earlier this year (R2-2019-0017), BACWA is working to identify plans and opportunities for reduction of nutrient loads to the Bay through both water recycling and use of nature-based solutions related to shoreline resilience, as described below.

#### *Recycled Water*

BACWA members' primary mission is to protect public health and the environment. A key way to accomplish this goal is to optimize beneficial reuse of treated wastewater. As part of compliance with the Watershed Permit, BACWA is engaged in an effort to collect information about planned recycled water projects throughout our Region, and to calculate the associated nutrient load reduction if they were to be implemented. In keeping with our recognition of possible cross-disciplinary and cross-media impacts, this project will also include qualitative identification of adverse effects and benefits from each project (e.g., reduction of natural water resource diversion, reduction of potable water demand, increase of nutrient concentration discharged to the bay, reduction of chemical fertilizer reliance, etc.); assessment of feasibility, efficacy, and reliability for each project (e.g., low reliability for recycled water fill stations); and identification of potential challenges to implementation (e.g., regulatory barriers, disposal of concentrate from reverse osmosis (RO) treatment).

#### *Shoreline resilience*

BACWA's members are on the front lines in terms of being confronted by and working to respond to climate change and sea level rise. By definition, wastewater facilities are at the low point in the watershed, which means, in the Bay Area, they are often located on shorefront property. BACWA agencies are collaborating on holistic approaches to provide resilience to changing climate conditions.

As part of the first Nutrient Watershed Permit, issued by the Water Board in 2014 (R2-2014-0014), BACWA developed a map of the wastewater plants around the Bay and their likely flood

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<sup>1</sup> Managing Wastewater in a Changing Climate full report available at: <https://www.ppic.org/wp-content/uploads/managing-wastewater-in-a-changing-climate.pdf>

impacts from sea level rise over the next 100 years<sup>2</sup>. Individual plants are working to address these vulnerabilities through planning and design efforts. These efforts are, by necessity, highly integrated with other stakeholders including flood control agencies, transit agencies, resource agencies, and others.

In compliance with the current watershed permit, BACWA is engaged in a study of nature-based solutions to reduce nitrogen loads, focused on wetlands projects. The study will provide an estimate of nitrogen and phosphorous (total phosphorus) discharge reductions associated with each wetland project. Like the Recycled Water Evaluation described above, BACWA will identify ancillary adverse effects and ancillary benefits from each project (e.g., removal of emerging contaminants, creation of habitat, or protection against sea level rise), assess the feasibility, efficacy, reliability, and cost-effectiveness of each project; and identify potential challenges to implementing each project (e.g., regulatory barriers).

Some of the most exciting projects in which our members are engaged are those that provide multiple benefits including habitat enhancement, sea level rise resilience, and water quality improvement. One such example is the development of horizontal levees. Piloted at Oro Loma Sanitary District, the concept is now being explored for full scale implementation at Palo Alto, West County, East Bay Dischargers Authority, and others. A grant from EPA Region IX's Water Quality Improvement Fund is helping to facilitate regional collaboration and information sharing on these projects, and to develop design and cost-benefit tools. Based on the Oro Loma experience, we anticipate challenges permitting these projects. Streamlining and coordinating permitting across state agencies is one opportunity for the state to provide support through this resilience initiative.

### **Funding remains a key concern**

Utilizing multi-benefit projects such as water recycling and horizontal levees to help adapt to climate change in conjunction with conventional treatment to ensure protection of the water quality of the Bay could cost billions of dollars to implement, which substantially exceeds current local, state, and federal funding sources and will require new federal, state, and local funding options and partnerships.

Building environmental resilience into critical public infrastructure leads to community resilience and subsequently enhances economic resilience. We would be pleased to discuss

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<sup>2</sup> See Nutrient Reduction Study, Figures 30 and 31, on pages 69 and 70, available at: [https://bacwa.org/wp-content/uploads/2018/06/BACWA\\_Final\\_Nutrient\\_Reduction\\_Report.pdf](https://bacwa.org/wp-content/uploads/2018/06/BACWA_Final_Nutrient_Reduction_Report.pdf)

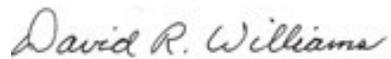
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climate resilience with you further as this project unfolds, and look forward to engaging in an ongoing stakeholder process.

Respectfully Submitted,

A handwritten signature in cursive script that reads "David R. Williams".

David R. Williams, P.E.

Executive Director

Bay Area Clean Water Agencies

cc: BACWA Board

Stefanie Olson, BACWA Recycled Water Committee Co-Chair

Justin Waples, BACWA Recycled Water Committee Co-Chair