EAST BAY DISCHARGERS AUTHORITY
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San Lorenzo, CA 94580-1841
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A Joint Powers Public Agency

Pursuant to the Governor's Executive Order N-25-20 the Regulatory Affairs Committee meeting scheduled for September 16, 2020 at 9:00 a.m. will be telephonic. The dial-in number for the meeting is +1 669 900 6833 with meeting I.D. #845 2357 7926. Members of the public are encouraged to dial-in to the meeting using the same number. https://us02web.zoom.us/j/84523577926

ITEM NO. 12

REGULATORY AFFAIRS COMMITTEE AGENDA

Wednesday, September 16, 2020
9:00 a.m.

East Bay Dischargers Authority
2651 Grant Avenue, San Lorenzo, CA 94580

Committee Members: Johnson (Chair); Lamnin

RA1. Call to Order

RA2. Roll Call

RA3. Public Forum

RA4. EBDA NPDES Performance – See Item OM4
(The Committee will review NPDES Permit compliance data.)

RA5. Reporting Checklist
(The Committee will review a checklist of completed regulatory reporting items.)

RA6. Nature-Based Solutions Update
(The General Manager will report on multi-benefit shoreline projects.)

RA7. Recycled Water in the San Francisco Bay Region
(The Committee will review a report by the San Francisco Regional Water Quality Control Board.)

RA8. BACWA Key Regulatory Issue Summary
(The Committee will review BACWA's issue summary.)

RA9. Motion Authorizing the General Manager to Execute a Work Order with Larry Walker Associates for a Dilution Study Related to Acceptance of Cargill Mixed Sea Salt Brine for Discharge at the EBDA Outfall in the Amount of $56,617
(The Committee will consider the motion.)

RA10. Adjournment

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

(Any member of the public may address the Commission at the commencement of the meeting on any matter within the jurisdiction of the Commission. This should not relate to any item on the agenda. It is the policy of the Authority that each person addressing the Commission limit their presentation to three minutes. Non-English speakers using a translator will have a time limit of six minutes. Any member of the public desiring to provide comments to the Commission on an agenda item should do so at the time the item is considered. It is the policy of the Authority that oral comments be limited to three minutes per individual or ten minutes for an organization. Speaker's cards will be available in the Boardroom and are to be completed prior to speaking.)

(In compliance with the Americans with Disabilities Act of 1990, if you need special assistance to participate in an Authority meeting, or you need a copy of the agenda, or the agenda packet, in an appropriate alternative format, please contact the Administrative Assistant at the EBDA office at (510) 278-5910 or juanita@ebda.org. Notification of at least 48 hours prior to the meeting or time when services are needed will assist the Authority staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.)

(In compliance with SB 343. related writings of open session items are available for public inspection at East Bay Dischargers Authority, 2651 Grant Avenue, San Lorenzo, CA 94580. For your convenience, agenda items are posted on the East Bay Dischargers Authority website located at http://www.ebda.org.)

The next Regulatory Affairs Committee meeting is scheduled for Wednesday, November 18, 2020 at 9:00 a.m.

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA4 EBDA NPDES PERFORMANCE – NPDES PERMIT

Please see the Operations and Maintenance Committee agenda, Item No. OM4 for permit compliance data.

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA5 REPORTING CHECKLIST

Recommendation
For the Committee's information only; no action is required.

Background
Authority staff maintains a checklist of all regulatory reporting and related tasks to ensure timely and complete reporting.

Discussion
The following checklist is extracted from a complete list of routine regulatory activities addressed throughout the year. The following items were completed during the period of March 1 – August 31, 2020; there are no outstanding activities.

Regulatory Authority	*Required Action*	*Occurrence*	*Date Submitte*
Bureau of Automotive Repairs	Smog 2008 Ford Ranger in even years	Biennial	3/5/2020
Bureau of Automotive Repairs	Annual reporting transmittal 2008 Ford Ranger	Annual	3/12/2020
Fair Political Practices Commission	*Statement of Economic Interests, Form 700* filing with Alameda County	Annual	3/31/2020
Alliant Insurance Services, Inc	Public Official Bond Renewal - HC	Annual	4/16/2020
Bay Area Air Quality Management District	Pay renewal fee for *Permit to Operate* Plant #13187	Biennial	4/16/2020
State Controller	Government Compensation in CA Report	Annual	4/20/2020
State Water Resources Control Board	Influent and Recycled Water Volumetric Reporting	Annual	4/23/2020
State Water Resources Control Board	NPDES Quarterly (Jan-Mar) Reports	Quarterly	4/30/2020
Bay Area Air Quality Management District	Complete *Data Update* form Plant #14531	Annual	5/11/2020
Bay Area Air Quality Management District	Renew *Permit to Operate* Plant #14531	Annual	5/11/2020
Bay Area Air Quality Management District	Renew *Permit to Operate* Plant #13187	Biennial	5/19/2020
ADP Business Payroll	Print Payroll Quarter-End Tax Returns	Quarterly	5/22/2020
Alliant Insurance Services, Inc	Auto Physical Damage Insurance Renewal	Annual	5/22/2020
Alliant Insurance Services, Inc	CSRMA Property Insurance Program Renewal	Annual	5/27/2020
State Compensation Insurance Fund	Workers' Compensation Insurance Renewal	Annual	5/28/2020
Regional Monitoring Program % SFEI	4th Quarter Partipant fee (billed annually in October)	Quarterly	6/15/2020
State Compensation Insurance Fund	Payroll Report, Semi-Annual Jan 01 - Jul 01	Semi-Annual	6/30/2020
County of Alameda, Clerk/Recorder	Statement of Facts/Roster of Public Agencies Filing (FY changes to Commission)	Annual	7/3/2020
Secretary of State	Statement of Facts/Roster of Public Agencies Filing (FY changes to Commission)	Annual	7/3/2020
State of California Govt Code 53065.5	Annual Posting Reimbursement Report over $100 to EBDA Website	Annual	7/4/2020
Local Agency Formation Commission	File JPA Amendments within 30 days after the effective date per SB 1266.		7/15/2020
Bay Area Air Quality Management District	Pay renewal fee for *Permit to Operate* Plant #14531	Annual	7/15/2020
CalPERS	Post Commission approved Compensation Plan to EBDA website	Annual	7/20/2020
Department of Toxic Substances Control	EPA ID Number (CAL000072039) Verification	Annual	7/29/2020
State Water Resources Control Board	NPDES Quarterly (Apr-Jun) Reports	Quarterly	7/30/2020
State Water Resources Control Board	NPDES Semi-Annual (Jan-Jun) Reports	Semi-Annual	7/30/2020
CalPERS	SSA Annual Information Request	Annual	8/5/2020
Bay Area Air Quality Management District	TRANSFER OWNERSHIP - Plant #14530	Annual	8/7/2020
Bureau of Labor Statistics	Report monthly employment figures	Monthly	8/12/2020
ADP Business Payroll	Print Payroll Quarter-End Tax Returns	Quarterly	8/21/2020
Regional Water Quality Control Board	Recycled Water monthly reports	Monthly	8/28/2020
State Water Resources Control Board	NPDES monthly reports	Monthly	8/28/2020
System for Award Management	Annual Renewal	Annual	8/28/2020

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA6 NATURE-BASED SOLUTIONS UPDATE

Recommendation
For the Committee's information only; no action is required.

Background
Wetlands, horizontal levees, and other "Nature-Based Solutions" (NBS) have the potential to provide multiple benefits including water quality improvement through reduction of nutrients and contaminants of emerging concern, creation or restoration of habitat, and protection from sea level rise.

Discussion
Because NBS have such great potential to provide multiple benefits to ecosystems and communities at lower cost than conventional technologies, a number of projects are moving forward in parallel to identify specific NBS opportunities and advance the concepts toward implementation. In this report, staff will provide updates on several of these ongoing efforts.

HASPA Shoreline Master Plan
The Hayward Area Shoreline Planning Agency (HASPA) is currently in the process of developing a Shoreline Master Plan for the area between Highway 92 and Bockman Canal. EBDA staff has been working closely with the HASPA team. Design alternatives were identified, and a preferred alternative is being developed. Each HASPA design alternative included features planned as part of the Transforming Shorelines project described in the next section. Specifically, the Master Plan includes a horizontal levee south of Bockman Canal consistent with the First Mile project, as well as nature-based features at the oxidation ponds in Hayward. The HASPA process has been a helpful head start for these two projects, as the HASPA team has consulted with key stakeholders including resource agency staff to inform the proposed solutions. Staff is continuing to coordinate with HASPA's consultants and with East Bay Regional Park District (EBRPD) staff as the Master Plan nears completion.

Transforming Shorelines
The Transforming Shorelines Project, led by San Francisco Estuary Partnership (SFEP), contains a number of components aimed at advancing NBS at wastewater treatment plants. Elements include:

- Establishment of the Transforming Shorelines Collaborative, a stakeholder group that will collaborate on challenges and opportunities associated with NBS projects around the Bay, including San Leandro, Hayward, Oro Loma, and others
- Development of a toolkit for NBS at wastewater treatment plants, including cost-benefit analysis
- Continued UC Berkeley research at the Oro Loma Horizontal Levee demonstration project, including study of reverse osmosis (RO) concentrate treatment
- A feasibility study for NBS at the Hayward Ponds
- Design and environmental permitting of the EBDA First Mile horizontal levee project

EBDA will lead the Hayward and First Mile projects with support from SFEP and the EBDA

Member Agencies. The Transforming Shorelines Project is funded by a grant from the EPA Water Quality Improvement Fund. In November 2019, the Commission approved Resolution 19-42 authorizing the General Manager to enter into a funding agreement with the Association of Bay Area Governments, SFEP's parent agency. Per that agreement, SFEP will pass through grant funds to EBDA to reimburse the Authority for consultant costs associated with the Hayward and First Mile projects.

In coordination with SFEP and EBRPD, EBDA staff has developed a Request for Proposals (RFP) seeking an engineering and environmental consultant for the Hayward and First Mile projects. The RFP will be distributed to potentially interested firms and posted on EBDA's website in September, with a goal of awarding the contract at the Commission's November meeting. Following consultant selection and development of a work plan, staff and the consultant will initiate public and stakeholder outreach associated with the project, likely in early 2021.

BACWA NBS Study

As part of the renewed Nutrients Watershed Permit, which became effective on July 1, 2019, the wastewater agencies around the Bay committed to spending $500k through BACWA to evaluate opportunities for using NBS to reduce nutrient loads to the Bay while achieving the other benefits related to habitat and climate resilience, and associated costs. This study is intended to be a companion to the regional study of the cost of nutrient reduction through conventional treatment technology funded by BACWA and developed by HDR under the last permit term. Under the new permit, BACWA will also be funding a regional summary of nutrient reductions through water recycling to complete the menu of options.

BACWA contracted with San Francisco Estuary Institute (SFEI) to perform the NBS study. SFEI has completed an initial desktop analysis to identify opportunities for horizontal levees and open water wetlands near each treatment plant. This preliminary desktop analysis will be provided to the Regional Water Quality Control Board by December, following agency review. The next phase will include further refinement of opportunities using site-specific information, and development of cost estimates. Since there is considerable potential overlap between the BACWA study and the Transforming Shorelines project, as well as work SFEI is doing on nature-based shoreline adaptation for other projects, core staff from SFEP, SFEI, and EBDA are meeting regularly to ensure that the projects are coordinated and complement each other rather than duplicating efforts.

Future Grant Opportunities

EBDA staff is working with SFEP and other partners to identify grant opportunities that would provide funding to continue the NBS work described above. EBDA, SFEP, Oro Loma, and researchers at UC Berkeley are working on a Letter of Interest for a Coastal Resilience grant program administered by the California Ocean Protection Council (OPC) with funds from Proposition 68. Under this grant, the team proposes to continue the research at the Oro Loma Horizontal Levee Demonstration Project. The project would extend and expand the research and monitoring of RO concentrate begun under the Transforming Shorelines project, and reconfigure other cells within the living laboratory in an effort to perform value engineering and optimize the design of horizontal levee systems. This value engineering effort would feed

directly into design and implementation of the First Mile project, along with other horizontal levee projects that are in various stages of development around the Bay. The Letter of Intent for this grant will be submitted on September 14, 2020. If deemed eligible, a full proposal will be due on November 13, 2020, and project selection is expected in February 2021.

Working with SFEP, EBDA staff also submitted a concept proposal for California Department of Water Resources (DWR)'s Coastal Watershed Flood Risk Reduction Grant Program. The concept included $9.7 million for implementation of the First Mile project. DWR responded confirming that the project met eligibility criteria for the grant. However, based on discussions with SFEP and East Bay Regional Park District, EBDA staff has determined that it is premature to submit a full proposal for First Mile implementation funding at this time. The project will be better placed for funding once the design has proceeded and additional discussions have taken place regarding future governance for the project. At that time, likely around one year from now, staff will work with partners to secure grants from the San Francisco Bay Restoration Authority, Integrated Regional Water Management funding, and/or other sources for implementation.

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA7 RECYCLED WATER IN THE SAN FRANCISCO BAY REGION

Recommendation
For the Committee's information only; no action is required.

Background
The Authority and its Member Agencies are engaged in water recycling to offset potable water uses including irrigation and power plant cooling. Regionally, statewide, and nationally, regulatory agencies and many stakeholders are focused on increasing water recycling to further offset potable water use, create resilient supplies, and reduce pollutant loading to the Bay and ocean.

Discussion
At its September 9, 2020 meeting, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) received a summary of the status of water recycling in the Bay Area. Regional Water Board's staff report for this item is attached and contains a helpful status report on recycling totals, innovative projects, regulatory environment, and drivers and challenges for expansion.

As noted in Item No. RA6, the Bay Area Clean Water Agencies (BACWA) is currently engaged in an effort to summarize the potential for nutrient discharge reduction associated with planned expansion of recycled water projects. EBDA and its members are participating in this study and in collaborations with the Regional Water Board on recycling efforts. EBDA's current recycling project to irrigate the Skywest Golf Course is continuing on a temporary basis as the City of Hayward evaluates future use of the Skywest site and expansion of its recycled water service.

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Margaret Monahan and Melissa Gunter)
MEETING DATE: September 9, 2020

ITEM: **7**

SUBJECT: **Recycled Water in the San Francisco Bay Region –** Information Item

DISCUSSION: This item summarizes the status of recycled water production and use, and our regulatory oversight over those, in the San Francisco Bay Region. Recycled water is a reliable alternative water supply that can help California communities become more resilient in the face of climate uncertainty, particularly by increasing the long-term reliability and sustainability of water supply sources.

Recycled water is treated wastewater that is productively reused. The term typically has been applied to domestic wastewater treated via centralized publicly owned treatment facilities that is distributed via purple pipe. Demand for and acceptance of recycled water are expanding and now also include decentralized, onsite non-potable water treatment and reuse, along with the recycling of wastewater that does not include domestic wastewater.

Recycled water production and use have been increasing regionally, from about 30,000 acre-feet per year in 2001 to 64,000 acre-feet per year in 2019. This is about nine percent of the total recycled water use statewide. The largest quantity of regionally recycled water used in 2019 was for industrial applications, followed by landscape and golf course irrigation. Onsite reuse of graywater, rainwater, and stormwater is also increasing, but remains a small percentage of the total recycled water use.

The State Water Resources Control Board (State Water Board) adopted an amendment to the Water Quality Control Policy for Recycled Water (Recycled Water Policy) on December 11, 2018 (effective on April 8, 2019). The amendment includes numeric goals for the use of recycled water, two narrative goals to encourage recycled water use in groundwater-overdrafted and coastal areas, and statewide requirements to report annually on the volume of recycled water produced.

We are implementing the actions necessary to achieve the Policy goals, with our current focus being the transition of existing recycled water programs from a regional order to the State Water Board's Water Reclamation Requirements for Recycled Water Use (Statewide General Order) for recycled water uses to provide statewide consistency. Over the past year, we worked collaboratively with our recycled water permittees to transition 22 of the programs to the Statewide General Order in April 2020. In addition to the Statewide General Order, the State Water Board's General Waste Discharge Requirements for Small Domestic Wastewater

Treatment Systems provide regulatory coverage for recycled water projects under certain conditions.

Using the above tools, we are working to permit several innovative recycled water projects, including onsite recycled water projects at technology company office campuses, which will combine domestic wastewater with harvested rainwater for treatment and reuse to flush fixtures and for irrigation.

The following sections provide: background information; a summary of recycled water production volumes and uses in our region; a discussion of the Recycled Water Policy; implementation actions our Region is taking; and perspectives on the future of recycled water, highlighting both innovative recycled water projects and challenges associated with increasing and expanding recycled water use.

Background

Recycled water is wastewater that has undergone treatment so that it can be reused for other purposes. Title 22 of the California Code of Regulations (CCR) (Title 22) has the primary regulations that govern the production and use of recycled water from municipal or domestic sources, with the allowable use based on the level of treatment. The lower level of treatment results in "undisinfected secondary" quality, which can be used for flushing sanitary sewers, and the more advanced "disinfected tertiary" quality, which may be used for uses including toilet flushing and irrigating residential landscaping. This information item is focused on recycled water from municipal sources, but we also touch on other forms of water recycling, such as onsite reuse of alternate water sources such as greywater (wastewater generated from showers and sinks, excluding domestic sewage), rainwater, and industrial process water.

Recycled water is an important component of building California's water resilience. The Water Resilience Portfolio Report developed by several state agencies in response to Governor Newsom's Executive Order N-10-19 states that climate change will increase water supply challenges throughout the state. The State Water Board recognizes that recycled water is a reliable alternative water supply that can assist California communities in becoming more resilient in the face of climate uncertainty. Many of the actions the State Water Board and regional water boards are taking in implementing the Recycled Water Policy and permitting recycled water projects work to fulfill the Water Resilience Portfolio goals, including:

- Secure sustainable groundwater supplies by supporting sustainable use;
- Preserve groundwater basin quality to enable large-scale water recycling;
- Recycle at least 2.5 million acre-feet per year in the next decade;
- Support statewide source control programs for constituents of emerging concern;
- Modernize water data systems; and
- Help regions prepare for inevitable drought

San Francisco has been a leader in water recycling since the completion in 1932 of the first recycled water treatment plant in California, the McQueen Treatment

Plant near Golden Gate Park. The Bay Area has a long history of regional recycled water planning. In the early 1990s, following years of drought and facing uncertain future water supplies, Bay Area wastewater and water public utilities formed a partnership with the United States Bureau of Water Reclamation and the California Department of Water Resources to study the feasibility of a regional approach to water recycling. Similarly, water supply and clean water agencies throughout the North Bay counties of Marin, Sonoma, and Napa have been meeting since the early 2000s to investigate opportunities to expand the use of recycled water for agricultural and other purposes.[1] In 1996, the Board adopted General Water Reuse Requirements Order R2-1996-011 (Regional General Order) to serve as a region-wide general permit for publicly owned wastewater and water agencies that recycle municipal wastewater. The Regional General Order streamlined the permitting process, supported local water reuse programs, and served as a model for the Statewide General Order.

The success of the recycled water program in our Region is due in significant part to the collaborative relationship between the recycled water entities and the Regional Water Board. Working partnerships include the Bay Area Clean Water Agencies (BACWA), a joint powers agency formed by wastewater treatment agencies in the Region. We engage with their recycled water committee to communicate about municipal wastewater community issues and recycled water projects, and to build regional collaboration. With no budgeted staff resources for recycled water permitting and oversight, we depend on those collaborative relationships to facilitate the program's development and implementation.

Recycled Water Production and Uses

The Water Resilience Portfolio Report and the Recycled Water Policy set a goal of increasing recycled water use in California to at least 2.5 million acre-feet per year by 2030. To evaluate current statewide recycled water use and opportunity, the Policy requires annual volumetric reporting of wastewater and recycled water. The first volumetric reports, for 2019, were submitted in June 2020.

In July 2019, the State Water Board issued an order to update recycled water monitoring and reporting programs to implement the Recycled Water Policy monitoring requirements statewide. The Order requires wastewater treatment plants and recycled water producers to electronically submit annual reports of volumetric data for influent (what is coming into the treatment plant), effluent produced (volume of wastewater treated), effluent discharged (where is the water going), and recycled water used.

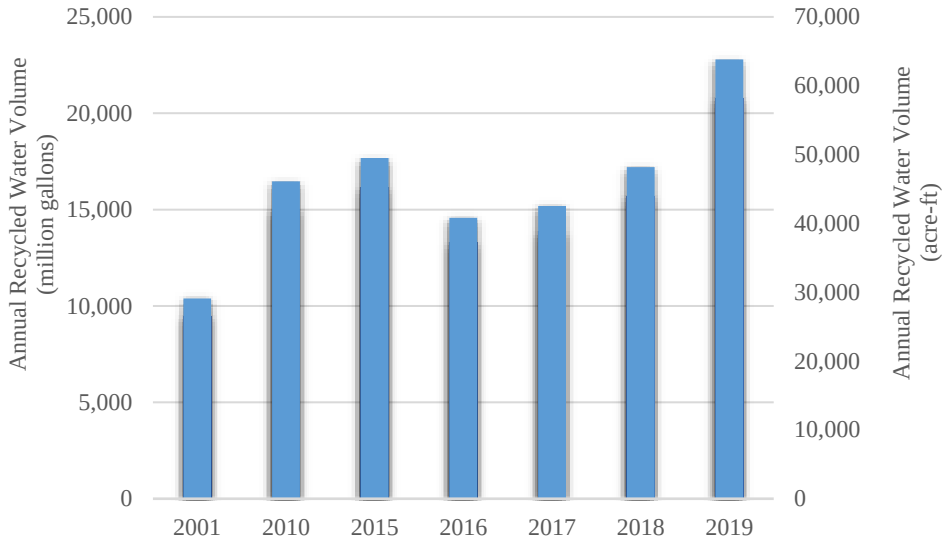
Based upon the 2019 data submitted to date, Bay Area wastewater treatment plants are recycling approximately five percent of their effluent. Treatment plants generated approximately 1.2 million acre-feet (AF) or (392,103 million gallons)

[1] Bay Area Clean Water Agencies. "Bay Area Integrated Regional Water Management Plan – Wastewater and Recycled Water Functional Area Document." March 3, 2006. https://bacwa.org/wp-content/uploads/2007/09/10385-Water-Recycling-IRWMP-3-3-06.pdf

and recycled 63,809 AF (20,792 million gallons).[2] Statewide, the reported volumes of effluent and produced recycled water for 2019 were 187 million AF, and approximately 697,358 AF, respectively, a recycling rate of about 3.7 percent.

The Recycled Water Policy stipulates twelve recycled water use categories, including agricultural irrigation, industrial applications (e.g., cooling towers and process water), and other non-potable uses (e.g., dust control, sewer flushing, and fill stations). Prior to electronic reporting, recycled water data were collected via surveys and permittee-submitted annual reports and thus, the recycled water use categories varied. Further data analysis will be conducted to understand differences in the data sets and changes over time. The estimated volumes of recycled water produced in the Region have generally increased over time (Fig. 1).

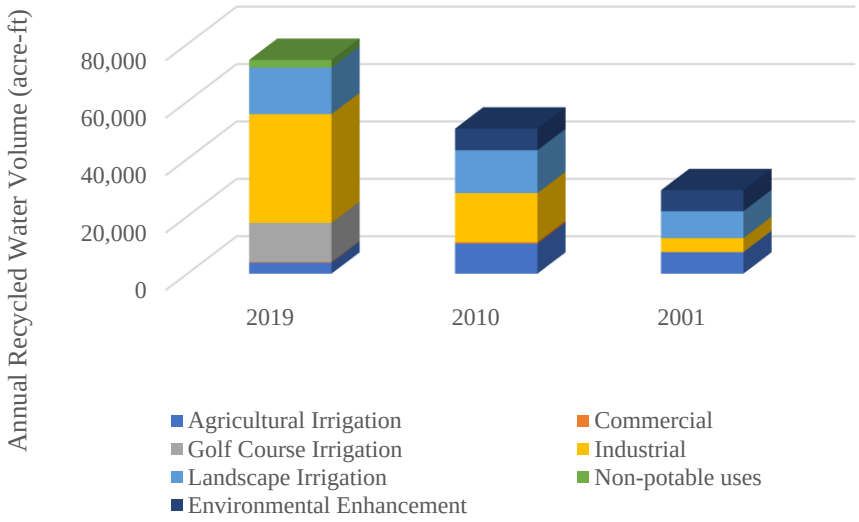
Figure 1: **Recycled Water in San Francisco Bay Region**



Recycled water production volumes per use category in the Region are depicted in Figure 2. The largest quantity of regionally recycled water used in 2019 was for industrial applications, which is also the use with the greatest volume increase between 2010 and 2019, followed by landscape and golf course irrigation. The environmental enhancement use that appears in 2001 and 2010 was not a reportable category in 2019, and thus does not appear since the use has been recategorized, although the uses are continuing. It typically includes natural system restoration, wetland/marsh applications, and wildlife habitat such as a duck pond served by the City of Palo Alto.

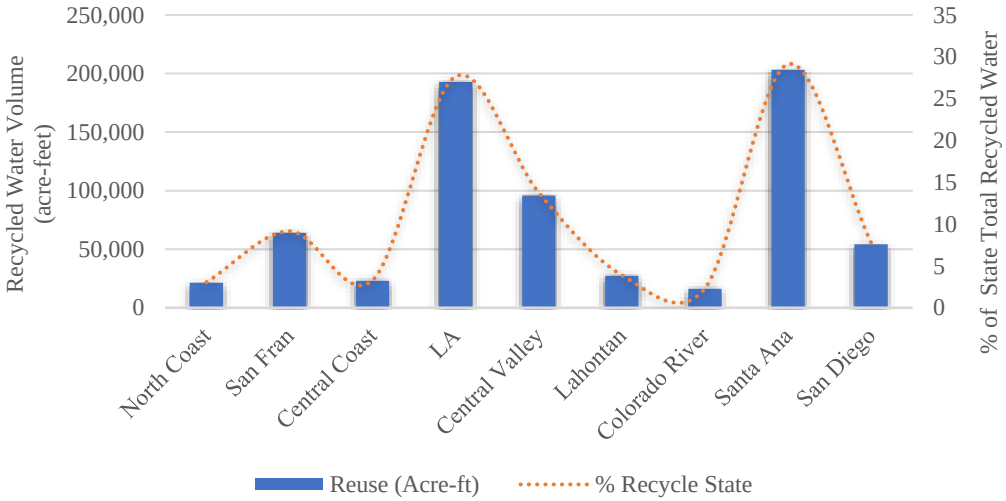
[2] The reported recycled water volumes are not final since approximately thirteen percent of the permittees statewide have not completed their electronic volumetric reporting in GeoTracker ESI (Electronic Submittal of Information).

Figure 2: **San Francisco Bay Region Annual Recycled Water Volumes by Use**



The reported 2019 recycled water volumes were also compared across the regional boards and to the total statewide volume (Fig. 3). The largest volumes of recycled water were produced in the Santa Ana and Los Angeles regions, collectively contributing to approximately 57% of recycled water produced in the state.

Figure 3: **Regional Water Board 2019 Recycled Water Volumes**



Recycled Water Policy and Transition of Permittees to the Statewide Recycled Water General Order

The Recycled Water Policy was first adopted by the State Water Board in 2009 to encourage the safe use of recycled water, to set goals for streamlining permitting, and to investigate constituents of emerging concern. The State Water Board adopted an amendment to the Recycled Water Policy on December 11, 2018

(effective on April 8, 2019), to address advancements in recycled water and regulatory developments, such as the Sustainable Groundwater Management Act and potable reuse regulations. The Policy amendment includes numeric recycled water use goals, and provisions for improvements to the tracking and reporting of recycled water production and for the promotion of basin-wide management of salts and nutrients in groundwater. One of the Policy's implementation actions is to improve recycled water permit consistency, to allow more efficient planning by recycled water programs and more efficient permitting by the Water Boards. To improve consistency, the State Water Board adopted the 2016 Statewide General Order, which was modeled after our Region's 1996 Regional General Order. The Statewide General Order conditionally delegates authority to the recycled water permittees, such as a municipality, who can then manage their own water recycling program for their city or service area and issue water recycling permits to users within their program. This provides a streamlined permitting pathway for non-potable recycled water projects and is intended to expand non-potable reuse statewide. The Recycled Water Policy amendment set requirements for the regional boards to transition existing recycled water programs to the State General Order for statewide consistency.

In our Region, there are 49 recycled water projects or programs under Water Reclamation Requirements (WRRs) and additional projects that recycle onsite under Waste Discharge Requirements (WDRs). In accordance with the Recycled Water Policy, we worked collaboratively with our permittees under the Regional General Order to transition 22 of the programs to the State General Order in April 2020. We minimized staff administrative work in transitioning the permittees to the State General Order by implementing a streamlined process and issuing one Notice of Applicability and Monitoring and Reporting Program for all permittees. We collaborated with the permittees throughout the process to keep them informed as well as receive their input on proposed changes as compared to the Regional General Order.

The next steps in our permitting process include transitioning another four permittees under the Regional General Order, once their recycled water engineering reports have been updated and approved. The remaining recycled water permittees, who are enrolled under individual WRRs, will be assessed and transitioned to the Statewide General Order on a case-by-case basis as appropriate. We will consider additional streamlining opportunities in permitting, such as for single entities that currently have more than one recycled water permit. Following the transition of all the recycled water permittees from the Regional General Order to the Statewide General Order, we will ask the Board to consider rescinding the Regional General Order.

Another implementation action of the Recycled Water Policy is for each Regional Water Board to evaluate its region's groundwater basins for salt and nutrient threats by April 2021. The evaluation will result in the identification of basins, through a resolution or executive officer determination, where salt and nutrient management planning is needed to achieve water quality objectives in the long term.

Future of Recycled Water

To help address the need for a statewide strategy to improve water supply resilience and advance water reuse statewide over the next 30 years, in 2019 WateReuse California[3] developed the California WateReuse Action Plan.

Several of the Action Plan's proposed actions are related to recycled water regulations and call on the State Water Board to develop statewide regulations for raw water augmentation and onsite reuse, and to update existing non-potable recycled water regulations. Assembly Bill 574 (Quirk 2017) established a 2023 legislative deadline for the development of statewide regulations for raw water augmentation. AB 574 requires that the State Water Board develop the regulations with the advice of an expert panel. Senate Bill 966 (Wiener 2018) requires the State Water Board to adopt regulations for risk-based water quality standards for the onsite treatment and reuse for non-potable end uses in multifamily residential, commercial, and mixed-use buildings by December 2022. This will enable and authorize local communities to establish their own onsite water recycling programs, providing guidance and predictability in designing, permitting, installing, and operating onsite systems. SB 966 was sponsored by the San Francisco Public Utilities Commission (SFPUC).

SFPUC has contributed to the development of a risk-based pathogen reduction framework and has incorporated it into their Non-potable Water Program, which provides a permitting process for the collection, treatment, and reuse of alternate water sources for non-potable uses. To support collaboration with permitting recycled water projects, the Regional Board adopted Water Reclamation Requirements for the City and County of San Francisco's Non-Potable Water Program in 2017.

The WateReuse Action Plan calls for the State Water Board to update Title 22 water recycling criteria and use requirements for all non-potable recycled water projects in the state. These regulations have not been updated in nearly 20 years and contain a number of outdated and overly prescriptive requirements for non-potable recycled water use that are not needed for the protection of public health or the environment. Maintaining outdated regulatory requirements deters the development of new non-potable recycled water uses and increases operating costs for existing recycled water projects.

Within our region, we strive to provide scale-appropriate, protective regulatory approaches to permitting and the development of water quality monitoring criteria to support the proliferation of recycled water. This is supported by referencing and incorporating findings and guidance into our permitting efforts resulting from research conducted by trusted, informed, and educated sources. Examples include

[3] WateReuse California is a state section of the WateReuse Association with the mission to promote responsible stewardship of California's water resources by maximizing the safe, practical, and beneficial use of recycled water and by supporting the efforts of the of WateReuse Association. The WateReuse Association was founded by water leaders in California thirty years ago and is the nation's only trade association solely dedicated to advancing laws, policy, funding, and public acceptance of recycled water. WateReuse represents a coalition of utilities that recycle water, businesses that support the development of recycled water projects, and consumers of recycled water.

addressing the risk-based pathogen log reduction framework supported by SB 966 through permit conditions and monitoring requirements. In 2019, we applied a flexible yet protective permitting approach to the use of secondary treated effluent at the Bel Marin Keys interagency, multi-benefit wetland restoration project for soil conditioning and compaction, dust control, and plant irrigation. Our overarching approach to recycled water projects is to align with Title 22 water recycling criteria while collaboratively providing flexibility when there is no threat to public health.

Our region is also requiring all major municipal wastewater dischargers in the Region to evaluate water recycling opportunities as part of the NPDES Nutrients Watershed Permit as a potential option to reduce the nutrient load of wastewater discharged to the Bay. This will inform the regulatory and the wastewater community of the extent that dischargers may be able to reduce nutrient loads while providing additional environmental and societal benefits through water recycling (e.g., reduced natural water resource diversion, reduced demand for potable water). The Nutrients Watershed Permit requires the submittal of a Recycled Water Scoping and Evaluation Plan (submitted November 2019) and a Final Report describing the results of the evaluation and implementation by July 2023. BACWA is also involved with developing and reviewing these plans.

Innovative Recycled Water Project Highlights

Advanced purified water projects, aimed at producing potable (drinking) water, are in the planning stages throughout the Region and include the 2014 commencement of the operation of the Santa Clara Valley Water District's (Valley Water's) Silicon Valley Advanced Water Purification Center. Valley Water's goal is to develop recycled water to provide for at least 10 percent of the total county water demands by 2025. SFPUC is involved through its PureWaterSF project, which is a research project that explores how to treat and reliably produce purified water on a building scale using wastewater generated onsite to meet or exceed drinking water standards.

New municipal scale recycled water projects in the Region include SFPUC's Westside Recycled Water Project and the West Bay Sanitary District's Sharon Heights Recycled Water Facility. SFPUC's Westside project will retrofit the existing Oceanside wastewater treatment plant to provide recycled water to Golden Gate Park and the Lincoln Park Golf Course. The Sharon Heights recycled water project, by contrast, is a satellite treatment facility that redirects and treats wastewater from the sanitary sewer collection system for recycled water uses of golf course irrigation and a Caltrans truck fill station, and discharges the solids back into the sanitary sewer collection system for treatment at a different facility.

Another innovative recycled water treatment project is the upgraded City of Petaluma's Ellis Creek Water Recycling Facility, which blends leading-edge treatment technologies with natural processes. A component of the wastewater treatment process is polishing wetlands, which use natural treatment processes to remove nutrients and metals from the wastewater.

Finally, the Microsoft Silicon Valley and Google Bay View office campuses are combining domestic wastewater with harvested rainwater for treatment and reuse on campus for flushing fixtures and irrigation. The Microsoft and Google Bay View projects also include low impact development designs for stormwater management. Two additional projects, by Facebook and at Google's Charleston East campus, integrate smaller, decentralized, onsite water systems into the larger centralized systems by collecting and treating water onsite to serve non-potable needs, thus reducing the demand for potable water for those needs.

Challenges

California has ambitious goals for recycled water use, but there are numerous challenges with increasing the use of recycled water that we must continue to work to overcome. First are monetary challenges in the form of infrastructure investments and treatment upgrades. In some areas, recycled water project infrastructure investments are not yet economically viable when compared to other sources of water.

It also remains challenging for prospective recyclers to navigate the several agencies involved in recycled water regulations and permitting. This is being improved for non-potable reuse projects by transitioning existing and enrolling new recyclers in the Statewide General Order, as described above. However, projects still face regulatory uncertainty in areas such as onsite reuse of non-potable water and direct potable reuse.

Technical challenges can also make it difficult to use recycled water. For example, reverse osmosis, a form of treatment technology used to filter water for high quality reuse, produces a concentrated brine, which has disposal impediments. Elevated total dissolved solids in recycled water can be an impediment to using it for irrigation. There are data gaps and research needed to verify the efficacy of new treatment technologies, improve monitoring for pathogens, identify and manage constituents of emerging concern (CECs), and optimize pollutant source control. Finally, despite decades of what is essentially potable reuse of recycled wastewater by communities along river systems (e.g., along the Colorado), public perception remains a significant challenge to the potable use of recycled water, which continues to be addressed through the WateReuse Communications Collaborative Group framework and terminology for discussing water reuse with the public.

The Water Boards are working to address many of these challenges. The State Water Board Division of Financial Assistance is working to fund recycled water projects. For example, the SFPUC's Westside and West Bay Sanitary District's recycled water projects received funding from the Clean Water State Revolving Fund administered by the State Water Board. The updates to the Recycled Water Policy and concerted efforts to implement the Policy actions, as well as ongoing recycled water research funded by the State Water Board, are addressing some of the challenges.

In addition to the Recycled Water Policy actions discussed above, the Policy includes updated monitoring requirements for CECs, as well as two bioanalytical

screening tools to evaluate bioactivity in recycled water resulting from estrogenic and dioxin-like constituents, based on the recommendations of the most recent Science Advisory Panel for CECs in Recycled Water. Our Region is currently leading a statewide CECs project to synthesize and evaluate the significance of available CECs water quality data including ambient data (water, sediment, and aquatic biota in river, stream, estuary, bay, and marine waters), as well as pathways data (wastewater, stormwater, and recycled water), and to identify priorities for management and monitoring. The Aquatic Science Center is conducting the synthesis in collaboration with the Water Boards' CECs Initiative Team and stakeholders, thereby building on the knowledge base from our San Francisco Bay Regional Monitoring Program Emerging Contaminants Workgroup.

Finally, Regional Water Board staff continue to stay engaged in recycled water discussions with stakeholders. We recently participated in a focus group of thought leaders connected to onsite non-potable water projects and programs to identify institutional, regulatory, and social challenges with implementing onsite urban water management technologies and reuse. The research effort will result in a report that addresses novel ways for overcoming the challenges, create new strategic options for utilities, and provide policy advice.

Summary

Water recycling enhances the sustainability and effective use of water resources and is a reliable and environmentally sensitive means to expand California's available water resources and reduce the demand on freshwater systems. Recycled water production and use have increased over time in our Region and there are several innovative recycled water projects and long-term initiatives currently under way. Regional efforts are under way to identify opportunities to increase recycled water use from the current five percent of the Region's effluent that is currently being recycled.

We are working diligently to implement the actions necessary to achieve the Recycled Water Policy goals. Despite the challenges associated with increasing recycled water use, numerous efforts are being made to overcome those challenges, from development of new recycled water regulations to recycled water research efforts.

RECOMMEN-DATION: No action needed; information item

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA8 BACWA KEY REGULATORY ISSUE SUMMARY

Recommendation
For the Committee's information only; no action is required.

Background
Periodically, BACWA's Regulatory Program Manager updates a Key Regulatory Issues Summary that contains succinct information on regulatory issues of interest to Bay Area wastewater agencies. The Summary matrix contains background, challenges and recent updates, next steps for BACWA, and links to key resources and documents.

Discussion
The most recent issue summary is attached. Previous versions are available at https://bacwa.org/regulatory-issues-summaries/.

KEY REGULATORY ISSUE SUMMARY
Updated September 3, 2020

Action items for member agencies are in **bold**

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
NUTRIENTS IN SAN FRANCISCO BAY – SCIENCE			
• San Francisco Bay receives some of the highest nitrogen loads among estuaries worldwide, yet has not historically experienced the water quality problems typical of other nutrient-enriched estuaries. It is not known whether this level of nitrogen loading, which will continue to increase in proportion to human population increase, is sustainable over the long term. • Because of the complexity of the science behind nutrient impacts in the SF Bay, stakeholders in the region are participating in a steering committee to prioritize scientific studies and ensure that all science to be used for policy decisions is conducted under one umbrella.	• For FY20, BACWA contributed the $2.2M required by the Watershed Permit, as well as "frontloading" additional funds that would be subtracted from future permit years. Moving the funding up will accelerate the pace of the science that will be used for management decisions for the third Watershed Permit. • Agencies are conducting effluent monitoring for nutrients under the watershed permit. • Current scientific efforts are focused on expanding monitoring data, modeling, and work exploring the linkage between nutrients, dissolved oxygen, and harmful algal species. • Future studies will be focused on the science needed to inform the development of nutrient load caps for the third Nutrient Watershed Permit.	• BACWA and the Regional Water Board are discussing the possibility of an extension of the current permit term to increase scientific certainty prior to making management decisions. • Continue to participate in steering committee, and planning subcommittee, and provide funding for scientific studies. • Participate in the Nutrient Technical Workgroup, which is a venue to provide technical input to the process, and is open to the public, as well as small technical subgroups addressing items such as the Assessment Framework. • Restarted the Nutrient Management Strategy meetings.	BACWA "Other Useful Nutrient Documents" Page: http://bacwa.org/nutrients/other-useful-nutrient-documents/ SFEI Nutrient Science Plan Documents: http://sfbaynutrients.sfei.org/books/reports-and-work-products

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
SF BAY NUTRIENT WATERSHED PERMIT			
• The first nutrient watershed permit was adopted in April 2014. The second Nutrient Watershed Permit (NWP) was adopted May 8, 2019 with an effective date of July 1, 2019. • The second NWP includes: ○ Continued individual treatment plant nutrient monitoring and reporting; ○ Continued group annual reporting; ○ Significantly increased funding for science; ○ Regional assessment of the feasibility and cost for reducing nutrients through nature-based systems and recycled water; ○ Establishing current performance for TIN, and "load targets" for nutrient loads based on 2018 load data plus a 15% buffer for growth and variability ○ Recognition of "early actors" who are planning projects that will substantially decrease TIN loads. • Through the nutrient surcharge levied on permittees, BACWA funds compliance with the following provisions on behalf of its members: ○ Group Annual Reporting ○ Optimization and Facilities Upgrade Studies (first permit term) ○ Regional Studies on Nature Based Systems and Recycled Water (second permit term) ○ Support of scientific studies through the RMP at $2.2M per year through the five-year permit term.	• BACWA submitted a final report on Nutrient Treatment by Optimization and Upgrade on June 26, 2018. An agency-customizable presentation, and a brochure to educate governing boards and the public were made available to our members. • BACWA and SFEI most recently submitted a science implementation plan and schedule update on February 1, 2020. • All agencies covered by the Nutrient Watershed Permit participated in the first four group Annual Reports, submitted in 2015, 2016, 2017, and 2018. Agencies are now reporting to BACWA via a data sheet developed by the consultant. An updated data sheet was distributed to agencies that accounts for changes in the monitoring and reporting program in the second Watershed Permit, including the following: ○ The second watershed permit reporting period is now based on water year, through September 30, instead of permit year, through June 30. The first Group Annual Report under the new permit was submitted Feb 1, 2020. ○ Agencies with flows greater than 10mgd are required to conduct influent monitoring. ○ Organic nitrogen and soluble reactive phosphorus are no longer required to be monitored in effluent. • Agencies with plans to substantially reduce nutrients are recognized in 2nd Watershed Permit Fact Sheet.	• **Agencies continue to report nutrient monitoring to the Water Boards through CIWQS and to BACWA via the data sheet.** • **Agencies with plans to implement projects that will substantially reduce nutrient loads should keep the Regional Water Board and BACWA apprised, to get credit for "early actions".** • **Work with HDR and SFEI as needed to collect information for Nutrient Removal by Recycled Water Evaluation and the Nature-Based Systems study.** Agencies provided preliminary information in June 2020. • Begin discussions about development of a potential Nutrient Trading framework. • BACWA has reconvened the Nutrient Strategy Team (NST) that will negotiate with the Regional Water Board to develop the tenets for the 3rd Watershed Permit.	Second Nutrient Watershed Permit: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2019/May/6_ssr.pdf Optimization/Upgrade Study Final Report: https://bacwa.org/wp-content/uploads/2018/06/BACWA_Final_Nutrient_Reduction_Report.pdf Optimization/Upgrade Report Presentation: https://bacwa.org/wp-content/uploads/2019/03/bacwa_brochure_presentation_20190312.pptx Optimization/Upgrade Report Brochure: https://bacwa.org/wp-content/uploads/2019/03/BACWA-2019-Nutrient-Brochure_Final_20190301.pdf BACWA Nutrient Annual Reports: http://bacwa.org/document-category/nutrient-annual-reports/

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
CHLORINE RESIDUAL COMPLIANCE			
• The Basin Plan chlorine residual effluent limit is 0.0 mg/L. Chlorine residual is the most frequent parameter for violations for Region 2 POTWs, however, because there are 24 hourly reporting events each day, the "opportunities" for violations are enormous. However, the actual violation rates are infinitesimal (~0.001%). • Agencies are overdosing their effluent with the dechlorination agent, sodium bisulfite, to prevent chlorine violations, a practice which costs more than $1 million regionally each year.	• The Regional Water Board has worked with BACWA to develop a Basin Plan Amendment (BPA). BACWA has retained consultant support for this effort. • **A draft BPA was released August 18, 2020. Comments are due October 2 and adoption is anticipated at the November Board meeting.** • The draft BPA includes: ○ A 0.013 mg/L Water Quality Objective , which will be applied as a WQBEL in permits, calculated incorporating dilution. The WQBEL will be applied as a one hour average. ○ A Minimum Level (ML), or Reporting Limit of 0.05 mg/L for online continuous monitoring system.	• **Discuss BPA and prepare comments on the draft BPA (due October 2, 2020).** • **Work with shallow water dischargers (no dilution credits) in advancing additional information to the Board in support of increasing the proposed 0.05 mg/L ML (although these agencies will still benefit from the proposed one-hour averaging period).**	Basin Plan Amendment support Scope of Work: https://bacwa.org/wp-content/uploads/2018/01/EOA-Inc.-SOW-Budget.pdf SF RWQCB CEQA Scoping meeting May 22: https://www.waterboards.ca.gov/sanfranciscobay/press_room/R2%20TRC%20BPA%20CEQA_Scoping_Mtg%20Lyris%20Notice.pdf Proposed BPA and Draft Staff Report released August 18, 2020. https://www.waterboards.ca.gov/sanfranciscobay/public_notices/Chlorine%20BPA%20Draft%20Staff%20Report%20%20BPA%208.18.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
PESTICIDES			
• Pesticides are regulated via FIFRA, and not the Clean Water Act. POTWs do not have the authority to regulate pesticide use in their service area, but may be responsible for pesticide impacts to their treatment processes or to surface water. • Through BAPPG, BACWA aims to proactively support a scientifically sound pesticide management program that will not impact POTWs' primary functions of collecting and treating wastewater, recycling water, and managing biosolids.	• Beginning 2016, EPA has been reviewing the registration of several key pesticides, a task it conducts once about every 15 years. • BACWA has funded consultant support to write comment letters advocating for the consideration of POTW and surface water issues during EPA's risk assessments as part of reregistration. Funding was increased from $30K to $60K in FY20/21. • The Regional Water Board leverages BACWA's efforts to provide their own comment letters to EPA. • With chronic toxicity limits likely in the near term, POTWs will be in compliance jeopardy if pesticides contribute to toxicity. • Baywise.org has launched webpages on flea and tick control messaging to pet owners and veterinarians.	• Continue to comment on pesticide reregistrations. • Work with veterinary associations on messaging with respect to flea and tick control alternatives. • Continue to develop summary of EPA actions on pesticides. • Look for opportunities to work with CalDPR on pesticides research.	BACWA Pesticides Regulatory Update and Call to action: https://bacwa.org/wp-content/uploads/2016/02/BACWA-Pesticide-Regulatory-Update-2016-1.pdf BACWA Pesticide Regulatory Support Page: https://bacwa.org/document-category/pesticides-regulatory-support/ Baywise flea and tick pages: https://baywise.org/

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
MERCURY/PCB WATERSHED PERMIT			
• Mercury/PCB Watershed Permit was reissued on 11/8/17 with 1/1/18 effective date. The Watershed Permit is based on the TMDLs for each of these pollutants. • Aggregate PCB and mercury loads have been well below waste load allocations through 2016. • Method 1668C for measuring PCB congeners has not been promulgated by EPA. Data collected during the first permit term varied widely depending on which laboratory performed the analyses. BACWA Laboratory Committee developed an updated PCB Protocol to reduce variability between laboratories running Method 1668C, effective January 1, 2014. Data have been more consistent since the distribution of this document.	• The 2017 watershed permit reduces monitoring frequencies via Method 1668C for agencies with design flows of less than 50 mgd. It also incorporates the laboratory guidance from the BACWA PCB Protocol. • The permit requires continued risk reduction program funding and annual reporting of effort. BACWA is repeating its grant program that it established as part of the previous permit. In summer 2018, two $25,000 grants were awarded, to APA Family Support Services (now complete) and the California Indian Environmental Alliance (ongoing through 2020).	• Continue outreach to dentists on amalgam separation through BAPPG and BACWA's pretreatment committee. • Schedule risk reduction presentations by the grantees to the Regional Water Board in 2021.	2017 Mercury/PCB Watershed Permit: http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0096.pdf Risk Reduction Materials from 2012 and 2017 Permit term: https://bacwa.org/mercurypcb-risk-reduction-materials/ Updated BACWA PCBs Protocol: https://bacwa.org/wp-content/uploads/2014/02/PCBs-Sampling-Analysis-and-Reporting-Protocols-Dec13.pdf
ENTEROCOCCUS LIMITS			
• In August 2018, the State Water Board adopted new statewide bacteria water quality objectives and implementation options to protect recreational users from the effects of pathogens in California water bodies. The objectives and implementation options are a new part 3 of the Water Quality Control Plan for the SIP and Ocean Plan. • The Objectives were approved by the Office of Administrative Law in February 2019 and by EPA in March 2019	• The new enterococcus objective for saline waters is a six-week rolling geometric mean of enterococci not to exceed 30 cfu/100 mL, calculated weekly, with a statistical threshold value of 110 cfu/100 mL, not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. • The Regional Water Board has been granted dilution credit upon request when implementing the new objectives in NPDES permits.	• BACWA worked with SFEI and funded a study of background enterococcus levels in the SF Bay. Surface water samples were collected in July (dry season) and January (wet season) throughout the Bay. Samples from all stations were below the 30 CFU/100 mL WQO, justifying allowing for dilution credits when implementing the WQO. **The study was completed and submitted in June 2020.**	SWB Bacterial Objective page: https://www.waterboards.ca.gov/bacterialobjectives/ SFEI Final Report on Enterococci in the SF Bay: https://bacwa.org/wp-content/uploads/2020/08/BACWA-2020_Enterococci-report_final.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
STATE WATER BOARD TOXICITY PROVISIONS			
• The State Water Board has been working since before 2012 to establish Toxicity Provisions in the SIP that would introduce uniform Whole Effluent Toxicity Requirements for the State • Draft State Toxicity Provisions posted October 2018, with **a Second Revised Draft released July 7, 2020.** The Provisions would establish: ○ use of Test of Significant Toxicity (TST) as statistical method to determine toxicity replacing EC25/IC25 (with concerns it will lead to more false positive results); ○ numeric limits for chronic toxicity for POTWs >5mgd and with a pretreatment program; smaller POTWs would receive effluent targets and only receive limits if Reasonable Potential is established; ○ Regional Water Board discretion on whether to require RPAs for acute toxicity; ○ for POTWs with *Ceriodaphnia dubia* as most sensitive species, numeric targets rather than limits until after completion of state-wide study on lab/ testing issues (Dec. 31, 2023). During individual permit reissuances since 2015, the Regional Water Board has been performing RPAs for chronic toxicity and giving chronic toxicity limits to agencies with Reasonable Potential.	• Key issues for BACWA continue to be: ○ default of numeric effluent limits for all POTWs >5mgd, without first establishing reasonable potential, ○ reasonable potential analysis methodology, ○ MMEL testing schedule and laboratory capacity, ○ test species variability ○ sensitive species screening requirements • Since 2016, agencies have had the option to skip sensitive species screening upon permit reissuance and pay the avoided funds to the RMP to be used for CECs studies. If agencies are required by the provisions to do sensitive species screening, this will reduce RMP funds by approximatly $100K per year. • BACWA has joined SCAP, CVCWA and NACWA in a lawsuit alleging EPA did not follow proper procedure in requiring use of the TST, which has not been officially promulgated. The lawsuit was dismissed on Statute of Limitation grounds, but the group has filed an appeal. • BACWA hosted a toxicity workshop for its members in September 2017.	• **BACWA submitted comments on the Second Revised Draft Provision on August 24, 2020.** The comments were limited to revisions made in this Second Revised Draft (July 2020). The letter focused on the application of numeric effluent limits for POTWs >5mgd, without first establishing reasonable potential and requested toxicity targets, instead of limits, for POTWs without reasonable potential. • Collaborate with State Water Board, CASA and POTWs Statewide on the special study on the *Ceriodaphnia dubia* test method. • Continue to work with Regional Water Board on language for implementing Toxicity Provisions in Region 2 NPDES Permits.	SWRCB Toxicity Page: http://www.swrcb.ca.gov/water_issues/programs/state_implementation_policy/tx_ass_cntrl.shtml Toxicity Workshop Presentations: https://bacwa.org/bacwa-toxicity-workshop-september-18-2017/ BACWA Dec 2018 Comments on Toxicity Provisions: https://bacwa.org/document/bacwa-comments-on-toxicity-provisions-12-21-18/ BACWA Feb 2020 Comments on MMEL scheduling: https://bacwa.org/wp-content/uploads/2020/02/BACWA-Tox-Provisions-App-K-to-Staff-Report-comments-2-10-2020.pdf BACWA Aug 2020 Comments on Second Draft of Toxicity Provisions: https://bacwa.org/wp-content/uploads/2020/08/BACWA-Comments-on-2020-Toxicity-Provisions-Update.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
COMPOUNDS OF EMERGING CONCERN			
• Pharmaceuticals and other trace compounds of emerging concern (CECs) are ubiquitous in wastewater at low concentrations and have unknown effects on aquatic organisms. • The State Water Board is considering developing a Pilot CECs Monitoring Plan for the State**.** • Region 2's CEC strategy focuses on monitoring/tracking concentrations of constituents with high occurrence and high potential toxicity. Much of what the State Water Board is considering for its Pilot Monitoring Plan is already being implemented in Region 2 through the RMP.	• The Regional Water Board has stated that voluntary and representative participation in RMP CECs studies is key to avoiding regulatory mandates for CECs monitoring. These studies are informational and not for compliance purposes. BACWA developed a White Paper on representative participation to be used to support facility selection for these studies. It is intended to be a living document with ongoing updates • Microplastics have been a focus of the RMP in recent years. BACWA has participated in the Workgroup and developed a POTW Fact Sheet. One conclusion of the RMP work is that POTWs contribute much lower microplastic loads than stormwater. • DDW has adopted a definition of Microplastics in Drinking Water (expected to apply to other matrices such as wastewater and stormwater)..	• **Continue to participate in the RMP CEC Workgroup and solicit agency participation for future studies.** • Provide ongoing updates to White Paper for use by the RMP in selecting representative POTWs for participation in CEC studies, and develop a proposal for ongoing monitoring. • Continue tracking State Water Board and Ocean Protection Council actions re: microplastics.	RMP CEC Workgroup: http://www.sfei.org/rmp/ecwg#tab-1-4 BACWA CECs White Paper: https://bacwa.org/document/bacwa-cec-white-paper-updated-june-2020/ BACWA Microplastics Fact Sheet: https://bacwa.org/wp-content/uploads/2019/09/BACWA-Microplastics-flyer.pdf SFEI Microplastics Science Strategy: www.sfei.org/documents/microplastic-monitoring-and-science-strategy-san-francisco-bay SWRCB Microplastics in Drinking Water page: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/microplastics.html

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PER- AND POLYFLOUROALKYL SUBSTANCES (PFAS)			
• Per- and polyfluoroalkyl substances made substances (PFAS) are a large group of human-made substances that are very resistant to heat, water, and oil. PFAS have been used extensively in surface coating and protectant formulations; common PFAS-containing products are non-stick cookware, cardboard/paper food packaging, water-resistant clothing, carpets, and fire-fighting foam. • Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are two types of PFAS that are no longer manufactured in the US; however, other types of PFAS are still produced and used in the US. • All PFAS are persistent in the environment, can accumulate within the human body, and have demonstrated toxicity at relatively low concentrations. PFOA and PFOS were found in the blood of nearly all people tested in several national surveys. • Potential regulatory efforts to address PFAS focus on drinking water in order to minimize human ingestion of these chemicals, although regulators have also expressed concern about uptake into food from land applied biosolids.	• In Aug 2019, DDW lowered the drinking water notification levels (NLs) to 6.5 ng/L for PFOS and 5.1 ng/L for PFOA (lowest detection possible at the time). In Feb 2020, DDW also lowered the 'response levels' (RLs) to 10 ng/L for PFOA and 40 ng/L for PFOS. • Under AB756 (July 2019), DDW can order public water systems to monitor PFAS, consumers must be notified if NLs/RLs are exceeded, and water sources must be removed from service or blended/ treated if RLs are exceeded (if possible). DDW has requested OEHHA develop NLs for seven other PFAS compounds and public health goals for both PFOA and PFOS, the next step in establishing drinking water MCLs. • In 2019, **the SWRCB developed a phased investigation action plan** requiring testing of drinking water systems and site investigations at high risk locations for PFAS. Investigative orders are issued as follows: ○ Mar/Apr 2019 - landfills and airports and adjacent public water systems ○ Oct 2019 - chrome-platers ○ **July 2020 - POTWs** ○ TBD late 2020 - refineries & bulk terminals	• **The July 2020 SWRCB investigative Order for POTWs is not applicable to Region 2 agencies. Instead, BACWA worked with RWB staff and obtained State Water Board approval to fund and conduct a regional study through the RMP.** • SFEI is conducting this study in two phases: ○ In Phase 1, up to 15 representative facilities (to be selected) will collect samples in Q4 2020 for influent, effluent, RO concentrate, and biosolids. SFEI will analyze data and prepare report (anticipated May 2021). ○ To inform the selection of representative facilities, SFEI developed a questionnaire; response from BACWA agencies is requested by 9/4. ○ Phase 2 will be conducted in Summer/ Fall 2021 and will be designed based on recommendations from Phase 1 report. • The Summit Partners are holding a PFAS Workshop on the SWRCB investigative order for POTWs on September 16. • BACWA will continue collaboration with Summit Partners as well as tracking developments at the State and Regional level.	CASA Factsheet: https://casaweb.org/wp-content/uploads/2019/10/4-CASA_PFASFactSheet4.pdf SWRCB website: https://www.waterboards.ca.gov/pfas/ OEHHA Notification Levels for Drinking Water: https://oehha.ca.gov/water/notification-levels-chemicals-drinking-water EPA PFAS Resources https://www.epa.gov/pfas EPA PFAS Action Plan (updated Feb 2020) https://www.epa.gov/sites/production/files/2020-01/documents/pfas_action_plan_feb2020.pdf SWRCB Investigative Order for POTWs: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2020/wqo2020_0015_dwq.pdf Region 2 PFAS Study Phase 1 Scope of Work: https://bacwa.org/wp-content/uploads/2020/08/4c-BACWA-PFAS-SOW_20200816.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
SSS WDR REISSUANCE			
• The State Water Board plans to reissue the SSS WDR in 2021. • They have sought out early stakeholder engagement through outreach to CASA and the Regional Associations, and NGOs. • Goals for the update are: ○ Effective spill response ○ Proactive planning and management ○ Transparent reporting ○ "Feasible and reasonable" regulations - good faith effort to comply - personnel, budget, equipment by governing board	• The State Water Board has identified the following as key issues to be included: ○ Reporting of PSL spills ○ Improvement of CIWQS data quality ○ Study of the impact of exfiltration ○ Updated SSMPs that are more enforceable ○ Potential incentives for well performing systems • CASA provided proposed redlines to the SSS WDR on the text of the SSS WDR, as well as the proposed SSMP outline. They have been meeting with the State Water Board regularly during 2019.	• Comment on draft SSS WDR when available for public comment. The State Water Board has not provided an updated schedule for the anticipated draft.Discuss response to issues such as exfiltration via BACWA's Collection Systems Committee.	SWB SSS WDR page: https://www.waterboards.ca.gov/water_issues/programs/sso/ CASA SSS WDR Redlines: https://bacwa.org/document/sss-wdr-casa-redlines-8-29-18/ CASA SSS WDR MRP Redlines: https://bacwa.org/document/casa-sss-mrp-redlines-08-29-18/

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
ELAP UPDATE			
• In August 2015, the State Water Board contracted with Southern California Coastal Water Research Project (SCCWRP) to establish and facilitate an Expert Review Panel to conduct an examination of ELAP, California's laboratory certification body. • The Expert Review Panel concluded that ELAP's current regulations are inadequate. The Panel recommended that ELAP adopt the laboratory standard established by The NELAC Institute (TNI) as the most viable option for California. • The Environmental Laboratory Technical Advisory Committee (ELTAC) was established to assist ELAP in technical matters that impact the laboratory community. The committee is composed of representatives from the laboratory community and data users, and have represented the POTW laboratory community during this process. • AB 1438 was signed into law on Sept 28, 2017 and became effective January 1, 2018. The bill sets the stage for ELAP to adopt TNI standards.	• Draft Regulations that included adopting most of the TNI standard for laboratories were released for public comment on October 11, 2019. Minimal revisions were proposed in February 2020 and **regulations were adopted May 2020.** • Adoption of TNI standards poses a challenge since there are more than 1000 individual requirements in the full document. Initial costs may include ○ hiring staff to handle TNI-related paperwork; ○ hiring consultants to setup the TNI documentation framework; ○ purchasing Laboratory Information Management System (LIMS) software; ○ purchasing documents and training material from TNI, etc. • The new standards could be a particular burden on small municipal laboratories, which may choose to close if they cannot economically meet the new standards. • BACWA submitted comments on the draft regulations aimed at improving clarity and implementability of TNI. The comments also addressed the enforcement provisions and lack of due process therein.	• Requirements in the newly-adopted regulations are to be implemented within three years of the regulations effective date. The estimated effective date is October 2020, however, a final date has not yet been set as the regulations has not yet been filed with the Office of Administrative Law. BACWA is tracking these final steps toward effectiveness of regulations. • Continue to work through BACWA's Laboratory Committee to support dischargers and mitigate the burden of the newly-adopted requirements. In June 2020, ELAP staff presented at the Lab Committee meeting. In September, the Committee held a special meeting to discuss information requests in SWRCB ELAP Pre-Assessment letters.	State Water Board's ELAP page: http://www.waterboards.ca.gov/drinking_water/certlic/labs/elap_regulations.shtml BACWA Comment letter on Draft Regulations: https://bacwa.org/wp-content/uploads/2019/12/BACWA-comments-ELAP-Regs-12-20-19.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
PHASE-OUT OF BIOSOLIDS AS ALTERNATIVE DAILY COVER			
• Regulatory drivers are indicating that biosolids used as alternative daily cover (ADC) or disposed in landfills will be phased out: ○ AB 341 set a goal to recycle 75% of solid waste by 2020 and CalRecycle's plan to achieve that goal called for a marked, but unquantified, reduction of organics to landfills. ○ SB 1383, adopted in September 2016 requires organics diversion: -50% by 2020 (relative to 2014) -75% by 2025 (relative to 2014) ○ In 2020, CalRecycle will count green waste as disposal (per AB 1594), rather than diversion, even when used as ADC.	• While the regulations don't explicitly forbid biosolids disposal/reuse in landfills, it is assumed that since biosolids are a relatively "clean" waste stream that can be easily diverted, landfills will stop accepting biosolids. • In the 2018 BACWA Biosolids survey, more agencies reported that they are developing plans for the phase-out than in the 2016 Survey. • The latest draft of proposed regulations was posted on April 20, 2020, with adoption on July 1, 2020. The regulation will become effective in 2022, and enforceable in 2024. Issues of concern are: ○ Diverted biosolids must be anaerobically digested and/or composted to qualify as landfill reduction. ○ Language that would prohibit local ordinances restricting biosolids land application has been softened. ○ Procurement of renewable natural gas for renewable energy generation, use as a low carbon fuel, and pipeline injection has been included in the draft language. Regarding biosolids cake/products, procurement requirements are implied for biosolids compost only. ○ Current regulatory language implies that incineration and surface land disposal sites are "landfills" for accounting purposes.	• Consider ways to build a market for compost and other soil amendment products from biosolids, using lessons learned in the Pacific Northwest and Midwest. • Actively work through CASA with California Air Resource Board, CalRecycle, State Water Resource Control Board, and California Department of Food and Agriculture to mutually develop sustainable long-term options for the beneficial use of biosolids. • Follow efforts of the BABC, investigating all-weather options for biosolids management (including innovative technologies generating energy and other useful bioproducts from biosolids). BABC is a BACWA Project of Special Benefit, beginning in FY20. • Participate in BAAQMD's Methane Expert Panel to educate their staff on how to address implementation of SB 1383 at the Air District level. • Following the release of the next draft regulation, participate in discussions/efforts with CASA and CalRecycle to modify the regulatory language that implies incineration and surface land disposal sites are landfills.	BACWA 2016 Biosolids Trends Survey Report: https://bacwa.org/wp-content/uploads/2017/08/BACWA-2016-Biosolids-survey-report.pdf 2018 BACWA Biosolids Survey: https://www.surveymonkey.com/r/7Q3PDY9 CASA White Paper on Biosolids Use in Landfills: https://bacwa.org/wp-content/uploads/2017/01/1-11-17-Sustainability-for-biosolids-use-at-landfills.pdf BABC website: http://www.bayareabiosolids.com/ CASA Comments on proposed SB 1383 Implementation Regulation: https://bacwa.org/wp-content/uploads/2019/09/7-17-19-CASA-Comments-SB-1383-Regs3.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
CLIMATE CHANGE MITIGATION			
• CARB's Climate Change Scoping Plan Update lays out the approach for the State to meet its greenhouse gas (GHG) emissions reduction targets through 2030, including additional policies to achieve 40% reduction below 1990 levels by 2030: ○ Short-lived climate pollutants (i.e., methane) ○ Carbon sequestration on Natural and Working Lands ○ Largest emitters (transportation, electricity, and industrial sectors) • SB 1383 (Short-Lived Climate Pollutant Reduction) calls for: ○ 40% methane reduction by 2030 ○ 75% diversion of organic waste from landfills by 2025 ○ Policy and regulatory development encouraging production/use of biogas • BAAQMD developed a Clean Air Plan that requires GHG emissions reduction on track with CARB's 2030 and 2050 targets. • BAAQMD has proposed the development of Regulation 13 (climate pollutants) targeting GHG emission reductions related to organics diversion and management.	• CARB states POTWs are part of the solution for reducing fugitive methane, and encourages diversion of organics to POTWs to use excess digester capacity and produce biogas. However, diversion also increases biosolids, which also need to be diverted from landfills. • Many POTWs are exploring energy generation, but BAAQMD TAC regulations could make such programs more difficult to implement. Direct injection of biogas to PG&E's pipelines or use as a transportation fuel may be more efficient. OSHA's PSM Standards, triggered by use of biogas offsite (if managing over 10k lbs of biogas onsite), may cause pipeline injection to be cost-prohibitive. CalOSHA has verbally agreed with scenarios exempt from PSM standards. • CARB's previous interest in nitrous oxide emission estimates and/or emission factors for POTWs has shifted to toxic air contaminants. See BAAQMD Rule 11-18. • BAAQMD is developing a suite of Rules under Regulation 13 for climate pollutants methane and nitrous oxide ○ Rule 13-1 (significant methane releases) - Postponed indefinitely in favor of source specific rules. ○ Rule 13-2 (organic material handling) – Postponed indefinitely to develop Rules 13-3 and 13-4. ○ Rule 13-3 (composting operations) and Rule 13-4 (anaerobic digestion and sewage treatment) – Suspended due to COVID-19.	• Work with CASA to look for opportunities for POTWs to help the State meet GHG reduction goals. • Look for opportunities to inform BAAQMD on the opportunities and challenges for climate change mitigation by Bay Area POTWs. • Work with PG&E and BAAQMD to explore options for POTWs to inject biogas into PG&E pipelines. Note: CASA has been discussing the barriers to pipeline injection with CPUC staff and they have proposed reducing their standard from 990 Btu/scf to 970 Btu/scf. • Engage in development of Regulation 13 Rules, which are intended to govern climate pollutants, odors, VOCs and TACs from POTWs and anaerobic digesters. Continue to work with BAAQMD staff to provide information and education about anaerobic digesters and POTW operations. Participate in the Methane Expert Panel and the Organic Recovery Technical Working Group, as well as comment on draft Rules.	Climate Change Scoping Plan: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf CARB Short Lived Climate Pollutant Reduction Strategy: https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf SB 1383: http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_1351-1400/sb_1383_bill_20160919_chaptered.htm BAAQMD Clean Air Plan: http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans BAAQMD Regulation 13 http://www.baaqmd.gov/rules-and-compliance/rules/regulation-13-climate-pollutants BACWA Comments on Regulation 13: https://bacwa.org/wp-content/uploads/2019/07/BACWA-AIR_FINAL_Comment-Letter_Regulation13_Rules_24_071219.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
CLIMATE CHANGE ADAPTATION			
• In 2017, the State Water Board adopted a Climate Change Resolution addressing mitigation and adaptation. One of the requirements is that Regional Water Boards will make recommendations to the State Water Board on the need to modify permits and other regulatory requirements to reduce vulnerability of water and wastewater infrastructure to flooding, storm surges, and sea level rise. • The Regional Water Board identified Climate Change and Wetland Policy Update as the highest priority Basin Planning project in their 2018 Triennial Review. • In April 2019, Governor Gavin Newsom signed Executive Order N-10-19 directing State Agencies to recommend a suite of priorities and actions to build a climate-resilient water system and ensure healthy waterways through the 21st century.	• The State Water Board is planning a data request that they will send to all permitted facilities (collection systems and POTWs) in the State to better understand to what extent agencies are performing climate change vulnerability assessments and/or investing in adaptation measures. They plan to use this information to determine the need for funding assistance or permit requirements for climate change planning. • The Regional Water Board hosted a workshop on its Wetlands Policy 94-086 on August 14 and solicited stakeholder input on potential revisions to the Policy. • BACWA provided the Regional Water Board staff specific case studies of wetlands projects that are being considered as well as written comments regarding Policy revisions that would help incentivize the development of wetlands projects by wastewater agencies, and reduce permitting hurdles.	• Continue to coordinate with State Water Board on the status of their data request on climate change planning, so members can provide the information they request as effectively as possible. Survey expected to be release at the beginning of 2021. • Continue to work with Regional Water Board to look for regulatory solutions to encourage wetlands projects for shoreline resiliency. • BACWA to review Governor's Water Resilience Portfolio initiative, released in 2020.	State Water Board 2017 Climate Change Resolution: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/rs2017_0012.pdf Regional Water board Wetlands Policy Page: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/climate_change/wetland_policies.html BACWA Comments on Wetlands Policy: https://bacwa.org/wp-content/uploads/2018/09/BACWA-comments-Wetland-Policy-9-14-18.pdf Governor's Final Water Resilience Portfolio: http://waterresilience.ca.gov/ BACWA Comments on Resilience Portfolio: https://bacwa.org/wp-content/uploads/2019/10/BACWA-Water-Resilience-Portfolio-10-01-19.pdf

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
TOXIC AIR CONTAMINANTS - BAAQMD RULE 11-18 AND AB 617			
• Regulation 11, Rule 18 (Rule 11-18), adopted November 15, 2017, is BAAQMD's effort to protect public health from toxic air pollution from existing facilities, including POTWs. • Per the Rule, BAAQMD will use toxic emissions inventories and proximity to the nearest receptor (residents or offsite workers) to conduct site-specific Health Risk Screening Analyses (HRSA). From HRSAs, BAAQMD will determine each facility's prioritization score (PS). BAAQMD will conduct Health Risk Assessments (HRAs) for all facilities with a cancer PS>10 or non-cancer PS>1.0. After verifying the model inputs, if the facility still has PS above that threshold, that facility would need to implement a Risk Reduction Plan that may include employing Best Available Retrofit Control Technology for Toxics (TBARCT). • AB 617 (Community Air Protection Program) – requires CARB to harmonize community air monitoring, reporting, & local emissions reduction programs for CAPs and TACs (and GHGs). Oakland and Richmond. POTWs within these communities may have to accelerate implementation of risk reduction measures.	• BACWA developed a White Paper on the BAAQMD Rule to describe its potential impacts on the POTW community. • In response to a request by BAAQMD, the AIR Committee delivered a letter report summarizing specific challenges that POTWs would face in complying with the rule due to budgeting and planning constraints related to being public agencies. • In response, BAAQMD moved all POTWs to Phase 2 to give sufficient time to update the model's inputs, and plan for emissions reduction or TBARCT, as needed. **Phase 2 begins in 2020** with data collection and verification, followed by the development of HRAs for facilities with a cancer PS>10 or non-cancer PS>1.0. Implementation of the Rule for Phase 2 facilities will be spread out over two years depending on the prioritization score. • AIR Committee gathered data on proximity factors from each facility and submitted to BAAQMD for updating prioritization scores, which will be use in HRA development. • Best Available Retrofit Control Technology (BARCT) Implementation Schedule for industrial Cap-and-Trade facilities was adopted by BAAQMD's Board of Directors at a public hearing on December 19, 2018.	• **Priority: Agencies should use the tool developed by the AIR Committee's Emissions Inventory Subcommittee to address emission contributions from influent flows, which will be used to update emissions inventory values.** • **Respond to BAAQMD data request in 2020. There will be a 60-day turn-around to comply with the data request.** • Track both AB 617's regulation development and expansion of the toxics compound list under AB 2588's Air Toxics Hot Spots Program. Draft regulatory language under AB 617 stated all uncovered POTWs >5 MGD and covered (primary) POTWs >10 MGD must monitor and report all compounds listed under AB 2588. The language had been temporarily removed, but 2020 amendments propose bringing the language back. CARB has agreed to give the wastewater sector time to develop a short-list of relevant compounds and perform a pooled emissions estimating effort to update outdated default emission factors (through 2026). CASA has a subgroup dedicated to this effort. Results could inform Rule 11-18 HRA's.	BAAQMD Rule 11-18 page: http://www.baaqmd.gov/rules-and-compliance/rule-development/rules-under-development/regulation-11-rule-18 Rule 11-18 Process Flowchart: https://bacwa.org/document/baaqmd-11-18-process-flowchart-08-17-17/ BACWA White Paper: https://bacwa.org/wp-content/uploads/2017/01/11-18-White-Paper_final-2.pdf BAAQMD page on AB 617: http://www.baaqmd.gov/rules-and-compliance/rule-development/barct-implementation-schedule CARB page on AB 617: https://ww2.arb.ca.gov/our-work/programs/criteria-and-toxics-reporting/ctr-regulation CARB page on AB 2588: https://ww3.arb.ca.gov/ab2588/2588guid.htm

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
RECYCLED WATER GENERAL ORDER			
• In response to the Governor's proclamation of a Drought State of Emergency, the State Water Board adopted a General Order on June 3, 2014 to streamline permitting for recycled water. The State Water Board reissued the General Order on June 7, 2016, making enrollment mandatory for Regional Permittees. • In May 2018, the State Water Board released Recycled Water Policy Amendments for Public Comment. The Recycled Water Policy governs the Recycled Water General Order. • The Amendments were adopted in December 2018.	• Key issues in the Recycled Water Policy Amendments are: ○ Introduces goal to increase recycled water where wastewater is otherwise discharged to ocean, bays, and estuaries. ○ Terminates Region 2 96-011 Recycled Water General Order three year after Policy Amendment adoption (April 2020). ○ Adds to the procedural burdens in obtaining Wastewater Change Petition. ○ Removes requirement for priority pollutant monitoring. • On April 8, 2020, SF Regional Water Board transitioned 96-011 permittees to the State General Order by issuing a NOA and modified MRP. BACWA had previously provided comments on the draft NOA and MRP documents. All permittees were transitioned with the exception of City of Livermore, Delta Diablo, Napa Sanitation, and SASM who have older Title 22 Engineering Reports; they will be enrolled at a later date following a review by DDW.	• Support member agencies as they implement new monitoring and reporting requirements. • BACWA Recycled Water Committee continues to collaborate with Regional Water Board staff. Recently, Committee leaders were invited to the give an update to Regional Water Board members on the transition to the General Order as well as recycled water projects and activities in the SF Bay area.	2016 State Recycled Water General Order: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2016/wqo2016_0068_ddw.pdf State Recycled Water Policy Amendment Page: https://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/index.html#amendment BACWA comments on Recycled Water Policy Amendments: https://bacwa.org/wp-content/uploads/2018/06/BACWA-RW-Policy-comments-6-26-18.pdf State Water Board 2001 Engineering Report Guidelines: https://bacwa.org/wp-content/uploads/2019/09/Engineering-Report-Preparation-Guidelines.pdf

"Parking lot" issues with no updates can be found in previous BACWA issues summaries.

ACRONYMS

ADC	Alternate Daily Cover
BAAQMD	Bay Area Air Quality Management District
BTU/SCF	British thermal units per standard cubic foot
CARB	California Air Resources Board
CASA	California Association of Sanitation Agencies
CAP	Criteria Air Pollutant
CEC	Compound of Emerging Concern
CIWQS	California Integrated Water Quality System
CVCWA	Central Valley Clean Water Agencies
CWEA	California Water Environment Association
EC25/IC25	25% Effect Concentration/25% Inhibition Concentration
ELAP	Environmental Laboratory Accreditation Program
ELTAC	Environmental Laboratory Technical Advisory Committee
EPA	United States Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FY	Fiscal Year
GHG	Greenhouse Gas
HRSA	Health Risk Screening Analyses
HRA	Health Risk Assessment
MCL	Minimum Contaminant Level (Drinking Water)
NACWA	National Association of Clean Water Agencies
NELAC	National Environmental Laboratory Accreditation Conference
NL	Notification Level
NWP	Nutrient Watershed Permit
PCB	Polychlorinated Biphenyl
POTW	Publically Owned Treatment Works
PS	Prioritization Score
QMS	Quality Management System
RL	Reporting Level
RMP	Regional Monitoring Program
RPA	Reasonable Potential Analysis
SCAP	Southern California Alliance of POTWs
SF Bay	San Francisco Bay
SFEI	San Francisco Estuary Institute
TAC	Toxic Air Contaminant
TMDL	Total Maximum Daily Load
TIN	Total Inorganic Nitrogen
TNI	The NELAC Institute
TST	Test of Significant Toxicity
WQBEL	Water Quality Based Effluent Limitation
WQO	Water Quality Objective

Agenda Explanation
East Bay Dischargers Authority
Regulatory Affairs Agenda
September 16, 2020

ITEM NO. RA9 MOTION AUTHORIZING THE GENERAL MANAGER TO EXECUTE A WORK ORDER WITH LARRY WALKER ASSOCIATES FOR A DILUTION STUDY RELATED TO ACCEPTANCE OF CARGILL MIXED SEA SALT BRINE FOR DISCHARGE AT THE EBDA OUTFALL IN THE AMOUNT OF $56,617

Recommendation
Approve a motion authorizing the General Manager to execute a Work Order with Larry Walker Associates in the amount of $56,617.

Background
At its July 2020 meeting, the Commission approved a non-binding Term Sheet with Cargill, Incorporated (Cargill) to jointly develop a project to introduce mixed sea salt (MSS) brine from Cargill's Newark facility into EBDA's system for discharge to San Francisco Bay. At its August 2020 meeting, the Commission approved a scope for Larry Walker Associates (LWA) to provide technical expertise on regulatory issues related to the brine project as part of the due diligence phase. LWA will assist the Authority in ensuring that the project does not present challenges to consistent compliance with the Authority's NPDES permit, and LWA's fees will be reimbursed by Cargill. LWA's scope under the approved contract includes review of technical issues and participation in meetings, but it does not include any new studies.

Discussion
As noted in last month's staff report, there were several due diligence tasks that required additional scoping and were therefore not included in the approved contracts. One of those was a dilution study to assess the impacts of brine on mixing at the Authority's outfall.

EBDA's NPDES permit includes a requirement to operate and maintain its outfall to ensure a minimum initial dilution of 79:1 (ratio after mixing in the receiving water). This dilution factor is applied to water quality criteria to establish the Authority's effluent limits, including ammonia. In the future, this dilution factor will also likely be applied to establish limits for chronic toxicity and total chlorine residual. The current 79:1 factor was determined through a dilution and mixing zone study conducted in 2006.

When EBDA staff and Cargill held a meeting with Regional Water Quality Control Board (Regional Water Board) staff to introduce them to the brine project, RWB staff was supportive of the project overall and did not identify any red flags. The one information gap they identified was the need for a new dilution and mixing zone study to establish whether the changes in density of the effluent associated with the addition of brine would change the dilution factor.

In the Due Diligence scope Authority staff previously provided to Cargill and the Commission, the dilution study was shown as an optional task to be completed if requested by the Regional Water Board and to be performed by Resource Management Associates (RMA). Based on subsequent discussions with RMA and LWA, Cargill and EBDA staff have determined that it is prudent to move forward at this time in advance of a formal request from the Regional Water Board. Staff further recommends that LWA take the lead. LWA will use RMA as a subcontractor to provide model parameters associated with conditions in the Bay. LWA recently performed similar mixing zone and dilution studies for Delta Diablo in support of their acceptance of City

of Antioch desalination brine, and for East Bay Municipal Utility District in support of their recent NPDES permit renewal. LWA is also familiar with the brine project through their work providing regulatory advice.

Per the attached letter, Cargill will reimburse the Authority for costs incurred associated with this LWA work order, including a 5% markup, consistent with other due diligence tasks.

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LARRY WALKER ASSOCIATES

September 4, 2020

Jacqueline Zipkin, P.E.
General Manager
East Bay Dischargers Authority
2651 Grant Avenue
San Lorenzo, CA 94580

By Email: jzipkin@ebda.org

Subject: Proposal for Services – Mixing Zone and Dilution Credit Study for the East Bay Dischargers Authority Outfall Diffuser (September 1 to December 31, 2020)

Dear Jackie:

Larry Walker Associates (LWA) is providing the following proposal to determine available dilution at the East Bay Dischargers Authority (EBDA) outfall diffuser. Cargill, Incorporated (Cargill) is developing a project to enhance recovery of Mixed Sea Salts (MSS) for additional product value and dissolve the residual MSS solids in Bay water for discharge to the EBDA wastewater system. EBDA and Cargill are currently developing an agreement for conveyance and disposal of the MSS brine in compliance with provisions specified in the EBDA Common Outfall NPDES permit No. CA0037869 (currently implemented as Order No. R2-2017-0016). Under this proposal, LWA and its subconsultant (RMA) will conduct a near-field dilution study to evaluate available dilution under representative discharge scenarios with the addition of MSS brine. The results of the study will be used to determine applicable dilution credits and to delineate regulatory mixing zones associated with initial dilution from the diffuser.

The NPDES permit includes a requirement for EBDA to operate and maintain its common outfall to ensure a minimum initial dilution of 79:1 (ratio after mixing in the receiving water). The 79:1 requirement was determined in 2006 by conservative dilution modeling conducted for a future, higher flowrate that is not currently permitted. Initial dilution is expected to change when modeling is conducted using updated EBDA effluent flowrate projections, representative receiving water characteristics, and the addition of MSS brine.

Scope of Services

LWA proposes to conduct a Mixing Zone and Dilution Credit Study to assist EBDA in determining appropriate dilution credits that reflect: (1) actual dilution that occurs in the Lower San Francisco Bay under varying conditions of tides and Delta outflow, (2) acute and chronic conditions for aquatic life criteria (e.g., ammonia), as well as

chronic toxicity testing conditions, and (3) effective and reasonable protection of the applicable beneficial uses in accordance with state and federal laws.

Task 1 – Establish Parameters for Near-Field Dilution Analysis

LWA will generate input values representing ambient conditions for the near-field modeling effort described under Task 2. This modeling approach is more cost-effective than completing a dye tracer study and is defensible based on past studies accepted by the San Francisco Bay Regional Water Quality Control Board (Regional Water Board). LWA will subcontract with RMA to utilize representative depth averaged tidal velocities in the vicinity of the EBDA outfall computed by RMA's Bay model. Velocities extracted from existing model simulation results performed for the Oro Loma Sanitary District deemed most representative of dry weather conditions will be provided. The use of non-zero ambient velocity can greatly increase ambient dilution estimates.

The following additional information will either be obtained from EBDA and Cargill or downloaded from online sources:

- Outfall/diffuser plans,
- EBDA contract requirements for outfall use,
- Recent effluent flowrates,
- Ambient density and stratification data,
- Recent effluent and MSS brine data to determine combined effluent density (i.e., salinity, total dissolved solids, electroconductivity), and
- Up to four (4) discharge flow scenarios. The scenarios are expected to include the discharge of EBDA effluent without MSS brine and combinations of EBDA effluent blended with MSS brine.

Any additional information or other details found to be necessary, will be requested by LWA as applicable.

Task 2 – Evaluate Near-Field Dilution

Near-field dilution will be evaluated through use of the Cornell Mixing Zone Expert System (CORMIX) plume model following USEPA guidance[1,2]. CORMIX is a model developed by Cornell University under contract with USEPA and has been used in Regional Water Board-approved dilution studies in the San Francisco Bay (e.g., North Bayside System Unit, Delta Diablo) and the Central Valley (e.g., Yuba City and Manteca). At EBDA's option, the plume modeling could be performed using VISUAL PLUMES, another USEPA-approved model. LWA will perform the plume modeling using diffuser design information and effluent flowrate information furnished by the EBDA and Cargill. Input data on bathymetry, current velocities, and ambient density

[1] U.S. EPA, *Technical Guidance Manual for Performing Waste Load Allocations Book III: Estuaries; Part 3, Use of Mixing Zone Models in Estuarine Waste Load Allocations*, EPA-80.-R-92-004, August 1992.
[2] U.S. EPA, *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March, 1991

will be determined from RMA modeling and knowledge of the San Francisco Bay. As requested, RMA will provide consultation and review of ambient data and modeling results to evaluate stratification conditions that may be appropriate for dilution modeling.

LWA will model up to four (4) discharge scenarios using different input parameters (e.g., effluent/MSS brine flowrates, density characteristics, Delta outflow conditions, tidal velocities, averaging periods, etc.) to determine representative dilution credits and mixing zone characteristics at the EBDA outfall diffuser. The Regional Water Board typically requires a Mixing Zone and Dilution Credit Study conducted under the following discharge conditions to support representative dilution credits:

- Acute Criteria (e.g., ammonia effluent limits) – Maximum flowrate of discharge, average tidal velocity 30 minutes before/after slack tide
- Chronic Criteria (e.g., ammonia effluent limits) – Average dry weather flowrate of discharge, median tidal velocity
- Chronic Toxicity Criterion (i.e., Instream Waste Concentration for chronic toxicity testing) - Maximum 4-day average flowrate of discharge, lowest 4-day average tidal velocity

The discharge scenarios and the representative discharge conditions will be developed through discussions with EBDA and Cargill. After the scenarios are identified, LWA will simulate near-field dilution under the selected discharge conditions and identify the associated near-field dilution and mixing zone characteristics (i.e., distance from diffuser, plume area, travel time). The results from the different scenarios will indicate the sensitivity of effluent dilution to varying conditions and averaging periods. The information will be used to formulate findings regarding dilution values that should be used in the derivation of effluent limits based on acute criteria, chronic criteria, and chronic toxicity test conditions.

Task 3 – Prepare Mixing Zone and Dilution Credit Study Technical Memorandum

The results of Tasks 1 and 2 will be summarized in a draft Technical Memorandum for the selected, representative discharge scenarios. Effluent limits for the constituents of concern will be determined using methodologies employed by the Regional Water Board in recent NPDES permits and the proposed State Toxicity Provisions[3]. A draft memorandum will be submitted to EBDA and Cargill for review and comment. After review, LWA will participate in a meeting with EBDA and Cargill to discuss the study results, resolve any outstanding comments, and determine the approach for finalizing the memorandum for submittal to the Regional Water Board. The final memorandum will be of sufficient length and detail to explain the near-field modeling process and provide support for the recommended dilution credits to be included in the reissued NPDES permit.

[3] State Water Resources Control Board, *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, July 7, 2020

Estimated Costs and Schedule

The estimated costs for the Mixing Zone and Dilution Credit Study are presented in **Table 1**. The costs shown include labor and other direct costs for LWA and subcontractor costs for RMA services. Labor costs for LWA staff are based on the hourly rate schedule in effect from July 1, 2020 through June 30, 2021. If requested, the incremental cost for modeling additional discharge scenarios is $1,000 per scenario.

The proposed schedule is outlined below.

- Develop scenarios and discharge conditions to be modeled – October 5, 2020
- Preliminary modeling results – October 19, 2020
- Draft memorandum– November 2, 2020
- Meet to discuss draft memorandum – Week of November 16, 2020
- Final memorandum – December 14, 2020

Table 1. Estimated Costs for Mixing Zone and Dilution Credit Study for the EBDA Outfall Diffuser

Task No.	Description	LWA Labor	Other Direct Costs[(a)]	Total Costs
1	Establish Parameters for Near-Field Dilution Analysis	$8,319	$3,960	$12,279
2	Evaluate Near-Field Dilution	$14,834	$11,616	$26,450
3	Prepare Mixing Zone and Dilution Credit Study Technical Memorandum	$17,888	--	$17,888
	Total	**$41,041**	**$15,576**	**$56,617**

(a) RMA assistance including 10% markup for subconsultant services

Thank you for the opportunity to provide this proposal for services. Please contact me at (530) 753-6400 or denisec@lwa.com if you have any questions or suggested changes to the information presented above.

Sincerely,

Denise H. Conners
Associate

9/9/2020

Ms. Jacqueline Zipkin, P.E.
General Manager
East Bay Dischargers Authority (EBDA)
2651 Grant Avenue
San Lorenzo, CA 94580

Jackie,

We received the scope and cost proposal for EBDA's Mixing Zone and Dilution Credit Study dated September 4, 2020 for Cargill's MSS Discharge Project. Per the previously agreed Term Sheet with EBDA's Commission, Cargill intends to reimburse EBDA for these estimated costs.

Sincerely,

Keith Schuessler
Solar Operations Leader
Assistant Vice President

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