BACWA
BAY AREA
CLEAN WATER
AGENCIES

Executive Board Meeting
AGENDA
Fri, July 17, 2020 9:00 AM - 1:00 PM (PDT)
https://global.gotomeeting.com/join/951823605
You can also dial in using your phone.
United States: +1 (872) 240-3311
Access Code: 951-823-605

Agenda Item		Time	Pages
ROLL CALL, INTRODUCTIONS, AND TELECONFERENCE ETIQUETTE		**9:00 AM**	
PUBLIC COMMENT	Instructions for Commenters	**9:03 AM**	
CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER		**9:04 AM**	
CONSENT CALENDAR		**9:05 AM**	
1 June 19, 2020 BACWA Executive Board Meeting Minutes			**3-10**
2 June 12, 2020 NMS Steering Committee Meeting Minutes			**11-15**
3 May 2020 Treasurer's Reports			**16-26**
APPROVALS AND AUTHORIZATIONS		**9:06 AM**	
4 Approval: Payment #1 to NMS - $1.0M			**27-29**
5 Authorization: EDAR WateReuse for FY21			**30-31**
6 Authorization: EDAR Day Carter Murphy			**32**
7 Authorization: EDAR TDC Environmental			**33-37**
POLICY/STRATEGIC		**9:30 AM**	
8 Discussion: Nutrients			
a. Regulatory			
i. NST meeting agenda			**38-39**
ii. NBS CMG meeting			**40-52**
b. Technical Work			
i. Article on Horizontal Levee Pollutant removal	Link to Article		
ii. Ongoing work on designating subembayments			
9 Discussion: COVID Issues Roundtable			
BREAK	**10:45 AM**		
10 Discussion: WBE Working Group			**53**
11 Discussion: PFAS - Update on State Water Board Order, and R2 Study			**54-55**
12 Discussion: CASA engagement in Statewise Exfiltration Issues			**56**
13 Discussion: Sea Level Rise/Climate change planning requirements			
14 Discussion: SWB Toxicity Provisions update	Link to provisions		**57-60**
15 Informational: ReNUWIt update	Link to full report		**61-74**
16 Informational: Enterococcus Background Final Report			**75-83**
17 Informational: BAPPG Support for AB1672			**84-85**
OPERATIONAL		**11:45 AM**	
18 Discussion: Strategic Planning			**86-87**
19 Discussion: Meeting Calendar for FY21			**88**
20 Discussion: Topics for August and September Strategy Sessions			**89-91**
21 Informational: RPM Recruitment			**92-93**
22 Informational: CEU Certificates			**94**
REPORTS		**12:15 PM**	
23 Committee Reports			**95-96**
24 Member Highlights			**97**
25 Executive Director Report			**98-99**
26 Regulatory Program Manager Report			**100**
27 Other BACWA Representative Reports			
a. RMP Technical Committee	Mary Lou Esparza, Yuyun Shang, Samantha Engelage		

b. RMP Steering Committee	Karin North; Robert Wilson; Eric Dunlavey		
c. Summit Partners	Lorien Fono; Lori Schectel		
d. ASC/SFEI	Lorien Fono; Eileen White		
e. Nutrient Governance Steering Committee	Eric Dunlavey; Eileen White; Lori Schectel		
e.i Nutrient Planning Subgroup	Eric Dunlavey		
e.ii NMS Technical Workgroup	Eric Dunlavey		
f. SWRCB Nutrient SAG	Lorien Fono		
g. NACWA Taskforce on Dental Amalgam	Tim Potter		
h. BAIRWMP	Cheryl Munoz; Linda Hu; Lorien Fono		
i. NACWA Emerging Contaminants	Karin North; Melody LaBella		
j. CASA State Legislative Committee	Lori Schectel		
k. CASA Regulatory Workgroup	Lorien Fono		
l. ReNUWIt	Jackie Zipkin; Karin North		
m. ReNUWIt One Water	Jackie Zipkin, Eric Hansen		
n. RMP Microplastics Liaison	Artem Dyachenko		
o. Bay Area Regional Reliability Project	Eileen White		
p. WateReuse Working Group	Cheryl Munoz		
q. San Francisco Estuary Partnership	Eileen White; Lorien Fono		
r. CPSC Policy Education Advisory Committee	Colleen Henry		
s. California Ocean Protection Council	Lorien Fono		
t. Countywide Water Reuse Master Plan	Karin North, Pedro Hernandez		
u. CHARG - Coastal Hazards Adampation Resiliancy Group	Jackie Zipkin		
33 **SUGGESTIONS FOR FUTURE AGENDA ITEMS**		**12:27 PM**	
NEXT MEETING		**12:28 PM**	
The next regular meeting of the Board is scheduled for August 21, 2020 from 9:00 am to 4:00 pm via videoconference.			
ADJOURNMENT		**12:30 PM**	

Executive Board Meeting Minutes

June 19, 2020

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Lori Schectel (Central Contra Costa Sanitary District); Amit Mutsuddy (City of San Jose); Eileen White (East Bay Municipal Utility District); Jacqueline Zipkin (East Bay Dischargers Authority); Amy Chastain (San Francisco Public Utilities Commission).

Other Attendees:

Name	Agency/Company
Eric Dunlavey	City of San Jose
Lorien Fono	BACWA
Alina Constantinescu	LWA/ BACWA
Jennifer Dyment	BACWA
Leah Walker	City of Petaluma
Tom Hall	EOA
Holly Kennedy	HDR
Karin North	City of Palo Alto
James Graydon	Woodard & Curran
Jennie Pang	SFPUC
Dan Frost x	Central San
Mary Lou Esparza	Central San
Amanda Roa	Delta Diablo
Azalea Mitchell	City of San Mateo
Alex Johnson	The Freshwater Trust
Chris Thomas	The Freshwater Trust
Erik Ringelberg	The Freshwater Trust
Jason Myers	The Freshwater Trust
Sasha Harris-Lovett	The Freshwater Trust
Kara Nelson	UC Berkeley
Tony Rubio	Sanitary District No.5 of Marin County

Lori Schectel started meeting at 9:04

Review of meeting protocols: ED shared telecommunication rules and voting guidelines, and asked board members using camera through the first few roll-call items, requested meeting feedback, etc.

PUBLIC COMMENT – None

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER –Freshwater Trust logging in at 10am to present and Item 16 moved to end of meeting.

CONSENT CALENDAR

1 May 15, 2020 BACWA Executive Board Meeting Minutes.

2 June 4, 2020 Special BACWA Joint Meeting with RWB Minutes

3 April 2020 Treasurer's Reports – BACWA ED mentioned production of written summary report.

Consent Calendar Items 1, 2 and 3: *A motion to approve was made by EBMUD, Eileen White and seconded by EBDA, Jacqueline Zipkin. The motion was approved unanimously.*

APPROVALS & AUTHORIZATIONS

4 Approval: FY21 Staff Consulting Amendments/Agreements – BACWA ED and AED contract for services for FY21.

Item 4: *A motion to approve was made by EBDA, Jacqueline Zipkin and seconded by SFPUC, Amy Chastain. The motion was approved unanimously.*

5 Approval: Amendment #2 for LWA RPM Support FY21 – Noted dated error in packet. December 31, 2020 is contract end date. Short discussion of LWA contract and RPM recruitment. San Jose recommend overlap of LWA contractor and new RPM.

Item 5: *A motion to approve was made by San Jose, Amit Mutsuddy and seconded by EBMUD, Eileen White. The motion was approved unanimously.*

6 Approval: Approval of Contract with Carollo Engineers for FY21 AIR Committee Support

Item 6: *A motion to approve was made by Central San, Lori Schectel and seconded by SFPUC, Amy Chastain. The motion was approved unanimously.*

7 Approval: TDC Environmental, LLC FY21 Consulting Agreement Amendment for BAPPG Support

Item 7: A *motion was made and seconded.*

8 Approval: Stephanie Hughes FY21 Consulting Agreement Amendment for BAPPG Support

Item 8: *A motion to approve was made by Central San, Lori Schectel and seconded by San Jose, Amit Mutsuddy. The motion was approved unanimously.*

9 Approval: Support for ReNUWIt – Board members asked for information on ReNUWIt current and future plans. Action item: City of Palo Alto said she would share ReNUWIt links and information with BACWA to share with board.

Item 9: *A motion to approve was made by EBDA, Jacqueline Zipkin and seconded by EBMUD, Eileen White. The motion was approved unanimously.*

10 Approval: FY21 Agreement for BACWA Support of BABC

Item 10: *A motion to approve was made by San Jose, Amit Mutsuddy and seconded by SFPUC, Amy Chastain. The motion was approved unanimously.*

11 Approval: FY21 Agreement for Carollo Support of BABC

Item 11: *A motion to approve was made by San Jose, Amit Mutsuddy and seconded by EBMUD, Eileen White. The motion was approved unanimously.*

12 Approval: Resolution to Designate Signatory for BACWA JPA – BACWA ED explained process and answered several Board questions.

Item 12: *A motion to approve was made by San Jose, Amit Mutsuddy and seconded by EBDA, Jacqueline Zipkin. The motion was approved unanimously.*

13 Approval: Amendment to BACWA Contracting Policy and Procedure – BACWA ED reviewed contracting changes and answered several questions.

Item 13: *A motion to approve was made by San Jose, Amit Mutsuddy and seconded by Central San, Lori Schectel. The motion was approved unanimously.*

14 Approval: Resolution recognizing Leah Walker's contributions to the POTW community – BACWA ED summarized Leah Walker's long time and significant contributions to BACWA community.

Item 14: *A motion to approve was made by EBDA, Jacqueline Zipkin and seconded by SFPUC, Amy Chastain. The motion was approved unanimously.*

POLICY/STRATEGIC **10:00 AM**

15 Discussion: Nutrients

a. Regulatory

i. Regional Water Board Watershed Permit 3.0 vision – BACWA ED reviewed the Water Board's Vision for the Permit and proposed reconvening Nutrient Strategy Team to discuss further. One item for discussion is for BACWA to develop our own vision, instead of working to revise the Water Board's version. Topics of interest are how should load caps be implemented, trading framework, and early actors concept. BACWA ED asked when Nutrient Strategy Team should reconvene. EBMUD suggested starting dialogue after July BACWA Board Meeting and then have a formal meeting in August. San Jose talked about possibility virtual Pardee Meeting and invite Water Board people.

Action items: BACWA Staff to review and send out calendar invites for rest of year. BACWA staff to schedule Nutrient Strategy Team meeting after July BACWA Board Meeting and will update Nutrient Strategy Team list and ensure representation.

ii. Nutrient Trading - Freshwater Trust Presentation – Alex Johnson gave presentation at 10:15 am. Point to Point trading basics from work in Central Valley. Freshwater Trust started work in 2016 on nutrient credit trading program with EBMUD. Water trading program has proven to be a reliable and common place approach to compliance. Summarized trading scenarios: trading between point to point, multiple facility trading without a centralized exchange or administrator, point source credit exchange, or a combination of options. Recommendations from previous analysis were to utilize a watershed overlay permit which lays the groundwork for a multiple facility trading program by a third party to assist with administration. Develop trading ratios to account for the attenuation of benefits between subembayments with compliance & reconciliation period for permit compliance. Reviewed Basin Plan approach to water management in Central Valley. General discussion and technical questions followed presentation. The Freshwater Trust provided links and will provide presentation for posting on BACWA website.

b. Technical Work

i. May 21 Dissolved Oxygen in LSB Workshop Debrief – BACWA ED said SFEI had two workshops in May focused on developing acceptable dissolved oxygen levels for Lower South Bay. San Jose summarized Virginia Province Toolbox Approach.

ii. OPC Ocean Acidification/Hypoxia Staff Report – BACWA ED stated OPC was meeting today to review modeling that extends from LA up to Bay Area. Revisiting this item at

September Steering Committee meeting. Not clear how these projects will interface and affect BACWA agencies at this point.

c. Governance Structure

i. Nutrient Technical Workgroup - Meeting May 29, 2020 – BACWA ED said meeting was primarily about project disruptions due to COVID. Will review in fall when field monitoring restrictions become clear.

ii. April 23 Planning Subcommittee Meeting # 47 – BACWA ED provided summary.

iii. NMS Assessment Framework Meeting June 8, 2020 – BACWA ED provided summary.

BREAK **10:45 AM**

16 Discussion: SARS-CoV-2 Sampling in Wastewater - Presentation by Kara Nelson, UC Berkeley professor who studies control and detection of pathogens in water. Presentation noted that optimizing the methods to measure SARS-CoV-2 in wastewater is difficult but they are close to establish standards. Also researching implementing infrastructure at scale in Bay Area. By September goal is to have a lab that can process samples from all around the bay. UCB is working to establish a working group to help guide this effort and BACWA will receive an invitation with first meeting in mid-late July and a smaller steering working group – with BACWA ED and EBMUD members. BACWA ED noted that the BACWA Lab Committee has a spreadsheet with agencies that are currently collecting wastewater samples for SARS-CoV-2 sampling; ED will provide info to UCB.

EBDA stated CASA requested more funding from CDC on this topic and individual agencies are also asking for funds. UCB stated foundations are being asked for funds to pay for regional monitoring, but it is important to seek additional funding. UCB reviewed costs; the costs of analysis would be covered by private funds while agencies would cover cost of collection of sample and submission to UCB lab. EBMUD mentioned that there were firms available to collect samples if agencies do not have staff capacity.

Action item – BACWA to provide contacts to UCB

17 Discussion: CEC White Paper - Final Draft – BACWA ED referred to document link and mentioned it was a living document so available to update as information becomes available.

18 Discussion: PFAS - Update on State Water Board Order, and R2 ESL – BACWA ED mentioned that EOA was successful in engaging region 2 on study. Next step is to work with state water board staff on scoping.

19 Discussion: Update on Chlorine Residual Basin Plan Amendment – BACWA ED and RPM participated at Lab Committee meeting with ELAP Director and staff.

20 Discussion: Potential Exfiltration Regional Study –BACWA ED will monitor Region 9 developments on this issue and provide updates as needed.

21 Discussion: Sea Level Rise/Climate change planning requirements - ED reported that at the Joint meeting, RWB staff said that they would like some information on what agencies were doing (if anything) to plan for climate change and sea level rise. BACWA ED plans to discuss issue at the next collection systems meeting.

22 Discussion: SWB Toxicity Provisions update - BACWA ED referred to summary from RWB staff in the packet; we will talk more about this items at July board meeting.

OPERATIONAL **11:45 AM**

23 Discussion: Status of reserves and phasing for FY21 - BACWA ED presented slide on how the phasing of $2.8 million payment to SFEI in FY21. BACWA will bring $1 million payment to SFEI board in July for approval.

24 Discussion: Succession Planning FY21 – BACWA ED referred to tables in packet and position vacancies. A Board member noted the importance of dedesignating Board members and alternates who no longer participate in BACWA.

25 Discussion: Meeting Calendar for FY21 – BACWA ED most meetings are the 3rd Friday of the month. Pardee Meeting will be video conference Sept 24 & 25. Annual meeting in February 2021. CASA is moving their annual meeting online in August, BACWA ED suggested BACWA attend and learn from their experience hosting this remotely.

26 Discussion: RPM Recruitment - BACWA ED stated she needs selection committee for RPM recruitment – Central San and San Jose members volunteered to be on selection committee.

27 Discussion: BayCAN membership - BACWA ED summarized Bay Area Climate Adaptation network membership. BACWA summarized that BayCAN seems primarily for networking. Membership is $1500 annually. Group discussion agreed that we should renew membership.

REPORTS **12:15 PM**

28 Committee Reports – BACWA ED and RPM, no additional comments.

29 Member Highlights – Central San reported that one staff member tested positive for COVID-19 and testing was provided for other staff who had direct and indirect contact with COVID positive staff person. San Jose contract staff tested positive for COVID-19 and notices were sent out to staff regarding COVID-19 testing. Board members thanked current Board Chair for her leadership this past fiscal year.

30 Executive Director Report – BACWA ED thanked Central San board chair for service and referred to report in packet.

31 Regulatory Program Manager Report – no additional comments.

32 Other BACWA Representative Reports

a. RMP Technical Committee Mary Lou Esparza, Yuyun Shang, Samantha Engelage

b. RMP Steering Committee Karin North; Robert Wilson; Eric Dunlavey

c. Summit Partners Lorien Fono; Lori Schectel

d. ASC/SFEI Lorien Fono; Eileen White

e. Nutrient Governance Steering Committee Eric Dunlavey; Eileen White; Lori Schectel

e.i Nutrient Planning Subgroup Eric Dunlavey

e.ii NMS Technical Workgroup Eric Dunlavey

f. SWRCB Nutrient SAG Lorien Fono

g. NACWA Taskforce on Dental Amalgam Tim Potter

h. BAIRWMP Cheryl Munoz; Linda Hu; Lorien Fono

i. NACWA Emerging Contaminants Karin North; Melody LaBella

j. CASA State Legislative Committee Lori Schectel

k. CASA Regulatory Workgroup Lorien Fono

l. ReNUWIt Jackie Zipkin; Karin North

m. ReNUWIt One Water Jackie Zipkin, Eric Hansen

n. RMP Microplastics Liaison Artem Dyachenko

o. Bay Area Regional Reliability Project Eileen White

p. WateReuse Working Group Cheryl Munoz

q. San Francisco Estuary Partnership Eileen White; Lorien Fono

r. CPSC Policy Education Advisory Committee Colleen Henry

s. California Ocean Protection Council Lorien Fono

t. Countywide Water Reuse Master Plan Karin North, Pedro Hernandez

u. CHARG - Coastal Hazards Adaptation Resiliency Group Jackie Zipkin

33 SUGGESTIONS FOR FUTURE AGENDA ITEMS

NEXT MEETING

The next regular meeting of the Board is scheduled for July 17, 2020 from 9:00 am to 12:30 pm via videoconference, to be followed by a Nutrient Strategy Team meeting in the afternoon.

ADJOURNMENT 1:05 PM

San Francisco Bay Nutrient Management Strategy (NMS) Steering Committee Meeting

Date/Time: June 12, 2020, 9:00 AM to 12:45 PM

Location: WEBCONFERENCE

Chair: Thomas Mumley

Steering Committee Attendees

Organization	First	Last	Role	Present	Comments
BASMAA	Adam	Olivieri	Member		
	Tom	Hall	Alternate	x	
	Matt	Fabry	Alternate		
	Geoff	Brosseau	Alternate		
BACWA	Eileen	White	Member	X	
	Lori	Schectel	Alternate	X	
	Eric	Dunlavey	Member	X	
	Jackie	Zipkin	Alternate	X	
Cal DFW	Becky	Ota	Member		
	Bill	Paznokas	Alternate		
Delta Stewardship Council	Rainer	Hoenicke	Alternate		
U.S. Geological Survey	Deb	Stoliker	Member	X	
NOAA Fisheries	Joe	Dillon	Member		
	Brian	Meux	Alternate	X	
Regional San	Lisa	Thompson	Member	x	
San Francisco Baykeeper	Ian	Wren	Member	X	
South Bay Salt Pond Restoration Project	David	Halsing	Member	X	
Interagency Ecological Program	Steve	Culberson	Member	X	
SFCWA	Lynda	Smith	Member	X	
	Frances	Brewster	Alternate		
	Stephanie	Fong	Alternate		
U.S. EPA	Terry	Fleming	Member	X	
	Luisa	Valiela	Alternate		
U.S. FWS	Leanna	Zweig	Member		
WSPA	Kevin	Buchan	Member		
	Mike	Armour	Alternate		
Ocean Protection Council	Justine	Kimball	Member	x	

Central Valley Water Board	Adam	Laputz	Member		
	Janis	Cooke	Alternate	X	
	Christine	Joab	Alternate		
SF Bay Water Board	Tom	Mumley	Member		
	Richard	Looker	Alternate		

Additional Attendees
Lorien Fono, BACWA
Melissa Foley, SFEI, Facilitation
David Senn, SFEI, Science Manager, Program Coordinator Team
Robert Schlipf, Water Board
SFEI staff
Amit Mutsuddy, City of San Jose
Karin North, City of Palo Alto
Mary Lou Esparza, CCCSD

1. **Welcome, Introductions and Agenda Review**

   The Chair gave a quick overview of the meeting agenda, and the zoom tools for interaction. He directed a role call of attendees.

2. **Decision: Approve Prior SC Meeting Summaries**

   A motion to approve the minutes of the March 13, 2020 Steering Committee was made by Eric Dunlavey, and Terry Fleming seconded the motion. The motion carried unanimously.

3. **Information: Action items**

   The Chair asked if there were any questions about the action items. There were none.

4. **Information: Planning Subcommittee Report Out**

   All the items that were discussed in PSC meetings are reflected in today's agenda, such as staffing challenges related to COVID, the Program Plan, Charter Revisions, and the USGS program.

5. **Information: NMS Program Update**

   The packet contains a detailed description of the NMS program update. Several Synthesis efforts are delayed and will be rolled into next year. The LSB DO Synthesis report is the exception, and is moving ahead. About 2.5 months of filed work, and 1.5 months of moored sensor work are lost due to COVID. There will be ~$100k of program management funds left at the end of the year due to unfilled positions. A new modeler has recently been hired, and a position was offered to a more junior modeler, who would also be working on synthesis projects. The biogeochemical field program is delayed due to COVID. A new postdoc will join the project in August, and hopefully field work will be possible at that point. A postdoc application for funding for $225K Delta Science Fellowship was successful, and covers 85% of a new staff member.

The NMS will be looking for a program manager. This role has so far been filled by the current team of scientists, although that takes time away from technical work. They are considering ways to move forward with this effort.

The multi-year coastal exchange modeling project, where we are supporting work by a postdoc based at UCLA and UCSC, is kicking off. The first meeting is scheduled for later in June or July. The OPC will be considering contributing $998K in funding to this project, to examine anthropogenic impacts in the So Cal Bight, up to Monterey Bay and the SF Bay, and river contributions. They will be working with the Water Board to develop linkages between nutrient loads and biological processes. There was a request to have a detailed Steering Committee agenda meeting on this topic.

6. **Discussion: FY2021 Program Plan**

The Chair and Science Manager gave an overview of how they will manage the discussion about the program plan and specific projects. The goal for this agenda item is to propose a motion and adopt a plan for FY21. The Science Manager showed an interactive spreadsheet allowing consideration of different funding scenarios. SFEI staff gave an overview of input received at the NTW meeting on 5/29, including contingency planning for reduced fieldwork related to COVID. There's a tradeoff between investing in synthesis work and moving forward with field work. There was a discussion about COVID-related fieldwork constraints, and that there would be a reduction of uncertainty by the September meeting. There were three different scenarios ("B", "C", and "D", in order of increasing COVID-related. impacts to the program) to compare to the business as usual scenario ("A").

The science team is proposing moving two moored sensors from the LSB to the shoals in the South Bay in response to model outputs showing lack of spread of a tracer to the channel. This geographic location needs further scrutiny. There was a discussion about leveraging the new monitoring stations for use looking at parameters in support of other RMP programs.

The Science Manager asked for approval of a proposed motion to approve the NMS FY21 Program Plan allowing for flexible implementation and contingencies. The strategy agreed on was a version of the "C" scenario with potentially more activity to the extent possible. SFEI staff will report to the Steering Committee in September, when course correction can take place based on the COVID-related restrictions at that point. Terry Fleming made a motion to approve this plan and it was seconded by Tom Hall. The motion passed unanimously.

Action items: Agendize science plan revisions for September meeting.

7. **Discussion: Charter Revisions & Membership**

The Chair gave an overview of the proposed edits to the Charter, which are intended to provide a reflection of current operations, which have evolved from the time that the Charter was framed. The edits will deemphasize the need for facilitation. There will be a vote on any outstanding items at the September meeting.

There were three items that the Steering Committee was requested to give feedback on as follows:

Membership – Several members have not been engaged, although it hasn't been difficult to raise a quorum. Those members who haven't been participating will be given a final chance to reengage prior to being dropped from the Steering Committee.

Quorum – The proposal will change the definition of a quorum from two-thirds to one half of the steering committee members. This would change the number for a quorum from 12 to 9.

Contingency related decision making during special circumstances –A proposal was circulated by the Science Manager prior to the March meeting. It would allow decisions to be made via email.

There was a review of other items as well, such as the role of the Planning Subcommittee, as well as external peer review. There is also a section about public communications strategy, and what should be the scope and type of public outreach appropriate for the NMS. The revisions propose appointing a meeting Chair at the beginning of each year. At the September meeting, there will be a proposal about potentially raising the authorization levels for the Science Manager.

Eric Dunlavey made a motion to appoint Tom Mumley as the Chair for the remainder of the calendar year. Eileen White seconded the motion. The motion was approved unanimously.

The Steering Committee was asked to vote on support for adopting the proposed changes, with the outstanding items to be voted on in September. Eileen White made a motion to approve, and it was seconded by Terry Fleming. The motion was approved unanimously.

The Science Manager asked if there were any other recommendations for amendments. There were none. There is a significant discussion in the Charter about peer review. The Steering Committee was asked to consider what is the necessary level of review. It was noted that individual projects are already getting peer reviewed. The question about whether we need to budget for peer review will be posed to the Steering Committee before the June meeting each year. There was no interest in pursuing peer review this year. A member pointed out that these reviews are very resource-intensive.

Action items: Bring back further Charter revisions in September meeting

8. **Other Business Items**

Status of USGS coordination regarding monitoring agreement – There is an option to extend the agreement for another year, although there are some issues related to funding sources that will need to be worked out. A longer agreement will take longer to establish. There are concerns that it's getting too late to develop an alternative if we're not able to extend the program past this year. The USGS will present a range of scenarios to the NMS by Fall 2020. Budget decisions at USGS will not be made until December.

The Chair asked the group if there were any other updates. San Jose has been supporting fish trawling in the LSB. That work was paused due to COVID, but resumed in May, and will go out again on 6/13.

The new OPC representative was asked to give an update on the modeling project or other nutrient priorities' modelling project will extend for two years, if approved next week. They will

give a more detailed description of that workplan and how it dovetails with the work that's ongoing in the Bay Area. An OAH workgroup has been working on a monitoring gaps analysis. This report will be presented at next week's meeting as well. The Chair asked whether it would be useful for the NMS to brief the OPC on activities in Northern California. A presentation at a meeting may be too rushed, so we'll consider appropriate venues for that kind of communication.

Action item: Work with Justine on information item for OPC modeling efforts impacting Northern California.

Adjourned at 12:26

Bay Area Clean Water Agencies
A Joint Powers Public Agency
Leading the Way to Protect our Bay

June 26th, 2020

MEMO TO: Bay Area Clean Water Agencies Executive Board

MEMO FROM: Damien Charléty, Treasurer, East Bay Municipal Utility District

SUBJECT: Eleventh Month FY 2020 Treasurer's Report

As required by section eight of the Joint Powers Agreement establishing the Bay Area Clean Water Agencies (BACWA) and California Government Code Sections 6500 et seq., attached is the BACWA Treasurer's Report for the period covering **July 1, 2019 through May 31, 2020** (Eleven months of Fiscal Year 2020). This report covers expenditures, cash receipts, and cash transfers for the following BACWA funds:

- Bay Area Clean Water Agencies (BACWA),
- BACWA Legal Reserve Fund (Legal Rsrv),
- Water Quality Attainment Strategy (WQA CBC),
- Bay Area Biosolids Coalition (BABC),
- Bay Area Chemical Consortium (BACC),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84)

Houck, Matt

From: Charléty, Damien
Sent: Friday, June 26, 2020 3:23 PM
To: Houck, Matt
Subject: RE: BACWA - May 2020 Treasurer's Report

Approved.

From: Houck, Matt
Sent: Friday, June 26, 2020 1:42 PM
To: Charléty, Damien
Subject: BACWA - May 2020 Treasurer's Report

Hi Damien,

Please approve BACWA - May 2020 Treasurer's Report for distribution.

Thanks,

Matt Houck

Accountant I
East Bay Municipal Utility District
375 11TH St, MS 402, Oakland, CA 94607
P 510-287-0238

Fund Balances

In FY20 BACWA has three operating funds (BACWA, Legal, and CBC) and two pass-through funds for which BACWA provides only contract administration services (WOT & Prop 84).

BACWA Fund: This fund provides the resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on May 31, 2020 was $1,334,889 which is significantly higher than the target reserve of $199,709 which is intended to cover 3 months of normal operating expenses based on the BACWA FY20 budget. $359,664 of the ending fund balance is shown on the BACWA Fund & Investments Balance Report May 31, 2020 as obligated to meet ongoing operating line item expenses for BAPPG Committee Support, Legal services, IT services, Board meeting expenses, accounting services and BACWA staff support. This leaves actual unobligated excess funds of $775,516 (i.e., actual fund balance of $975,225 less target reserves) as of May 31, 2020. As the details of the costs of the various regulatory requirements included in the 2nd Nutrient Watershed Permit become better defined, these excess funds may be transferred to the CBC fund and used to offset potential Nutrient Surcharge increases to the BACWA members.

CBC Fund: This fund provides the resources for completing special investigations as well as meeting regulatory requirements. The ending fund balance on May 31, 2020 was $1,804,157, which is significantly higher than the target reserve of $1,000,000. $633,587 of the ending balance is obligated to meet line item expenses for completion of the Group Annual Report contract, the Chlorine Residual BPA work, completion of the NBS Study and for technical support. This leaves an actual unobligated excess fund balance of $170,570 (i.e., actual fund balance of $1,170,570 less target reserves) as of May 31, 2020. Total Disbursements for FY20 from the CBC Fund include the funding the Nutrient scientific investigations as required by the Nutrient Watershed Permit in the amount of $2.4M (i.e., $2.6M less the $200k advanced payment made in FY19). As the strategy to fund compliance with the 2nd Nutrient Watershed Permit becomes better defined, any excess CBC funds could be used to offset potential Nutrient Surcharge increases to the BACWA members.

Legal Fund: This fund provides for needed legal services. The ending balance was $300,000 which is at the target reserve of $300,000.

Budget to Actual

The BACWA Annual Budget includes all expected revenues as well as budgeted expenses. Transfers are made from the BACWA Fund and/or the CBC Fund to balance the Annual Budget if expenses exceed revenues and vice versa. It is therefore important to achieve the anticipated revenues and not exceed the budgeted expenses on an annual basis in order to maintain the BACWA and CBC Fund balances at the levels projected in the 5 Year Plan.

Revenues as of May 31, 2020 (92% of the FY) are at 100.74%. In addition, we are expecting another fund transfer from BABC for BACWA's administrative support fees and an affiliate contribution from the City of Berkeley. Currently there is nothing invested in "Higher Yield Investments". A $300,000 bond matured in August and was never reinvested due to market conditions. That explains why only $1,588 has been earned to date.

Overall Expenses as of May 31, 2020 (92% of the FY) are at 89.78% We anticipate less budgeted expenses this FY due to COVID-19. COVID-19 has resulted in the cancellation of multiple in-person meetings and trainings and eliminated the costs associated with that.

Those needing additional explanation are:

Administration: This category is 74% expended at 92% of the FY due to the timing of invoices.

Communication: This category is 45% expended at 92% of the FY due primarily to timing of invoices.

Legal: This category is 74% expended at 92% of the FY due primarily to timing of invoices.

Committees: This category is 69% expended at 92% of the FY due to timing of invoices and cancelled in-person meetings and trainings. Some of the line items within this series are over budget due to incorrect billing, related to the multiple transitions in staff this FY. However the Committees series should not go over budget this FY and we do not anticipate incorrect billing issues going forward.

Line items: EB Meetings, Annual Meeting, Pretreatment, InfoShare Groups, Annual Meeting, Watershed, Legal Regulatory Support are 10% over budget. There was also an unbudgeted expense of $25,000 for Koff & Associates to fund the ED recruitment effort.

FY 2020
BACWA BUDGET to ACTUAL

BACWA BAY AREA CLEAN WATER AGENCIES

BACWA FY20 BUDGET	Line Item Description	FY 2020 Budget	Actual May 2020	Actual % of Budget May 2020	Variance	NOTES
REVENUES & FUNDING						
Dues	Principals' Contributions	$506,774	$506,775	100%	$1	**FY20:** 2% increase. 5 @ $101,355
	Associate & Affiliate Contributions	$184,111	$185,712	101%	$1,601	**FY20:** 2% increase. 13 Assoc: $8,364; 45 Affiliate: $1,675. One collection member cancelled in FY19
Fees	Clean Bay Collaborative	$675,000	674,250	100%	-$750	Prin: $450,000; Assoc/Affil: $225,000
	Nutrient Surcharge	$1,700,000	1,700,000	100%	$0	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions	$0	$0	0%	$0	
Other Receipts	AIR Non-Member	$6,936	$6,936	100%	$0	2% increase (Santa Rosa)
	BAPPG Non-Members	$3,876	$3,876	100%	$0	2% increase (Sta Rosa, Sac Reg'l, Vacaville) $1,292/each
	Other	$0	$2,550	0%	$2,550	
Fund Transfer	Special Program Admin Fees	$5,100	$8,421	165%	$3,321	
Interest Income	LAIF	$20,000	$52,828	264%	$32,828	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments	$18,000	$1,588	9%	-$16,413	Alternative Investment Interest (Legal & CBC Funds invested in AltInv)
	Total Revenue	**$3,119,797**	**$3,142,936**	**100.74%**	**$23,139**	

BACWA FY20 BUDGET	Line Item Description	FY 2020 Budget	Actual May 2020	Actual % of Budget May 2020	Variance	NOTES
EXPENSES						
Labor						
	Executive Director	$207,531	$168,560	81%	-$38,971	ED requested 2.9%; $99.77/hour; contract based on full time same as FY 19, 2080 hrs
	Assistant Executive Director	$100,907	$54,860	54%	-$46,047	4.5% CPI (SF Bay Metro Area Dec 2018); $63.07/hour; Reflects 1600 hours/yr (1500 FY 19 + 100 hrs additional for FY 20)
	Regulatory Program Manager	$137,727	$107,763	78%	-$29,964	4.5% CPI (SF Bay Metro Area Dec 2018); $100.16/hour; Reflects 1375 hours/yr (1250 FY 19 + 125 additional hrs for FY 20)
	Total	**$446,165**	**$331,183**	**74%**	**-$114,982**	
Administration						
	EBMUD Financial Services	$41,616	$17,810	43%	-$23,806	2% increase
	Auditing Services	$5,240	$3,500	67%	-$1,740	New contract with Auditors through EBMUD & MAZE
	Administrative Expenses	$7,803	$3,341	43%	-$4,462	2% increase. Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	$4,682	$4,696	100%	$14	2% increase
	Total	**$59,341**	**$29,347**	**49%**	**-$29,994**	
Meetings						
	EB Meetings	$2,601	$1,361	52%	-$1,240	2% increase. Catering, Venue, other expenses
	Annual Meeting	$12,000	$13,928	116%	$1,928	2% increase. Catering, Venue, other expenses
	Pardee	$6,242	$5,835	93%	-$407	2% increase. Catering, Venue, other expenses
	Misc. Meetings	$5,202	$693	13%	-$4,509	2% increase. Hol & Comm Chair Lunch, Staff Mtgs, Fin Comm, Summit Ptnrs, CASA, NACWA Tech WS, Low Flow WS
	Total	**$26,045**	**$21,817**	**84%**	**-$4,228**	
Communication						
	Website Hosting (Computer Courage)	$600	$600	100%	$0	Paid in advance in FY19 to lock in lower rate
	File Storage (Box.net)	$750	$720	96%	-$30	
	Website Development/Maintenance	$1,500	$618	41%	-$882	Domains (due again in FY20), website changes
	IT Support (As Needed)	$2,600	$637	25%	-$1,963	
	Other Commun (MS, SM, Backup, PollEv)	$1,750	$680	39%	-$1,070	MS Exchange, Survey Monkey (incr in FY20), Carbonite, Doodle Polls, PollEv, GoToMtg
	Total	**$7,200**	**$3,255**	**45%**	**-$3,945**	
Legal						
	Regulatory Support	$2,653	$3,561	134%	$908	2% increase
	Executive Board Support	$2,133	$0	0%	-$2,133	2% increase

FY 2020
BACWA BUDGET to ACTUAL

EXPENSES						
	Total	**$4,786**	**$3,561**	**74%**	**-$1,225**	
Committees						
	AIR	$76,000	$38,006	50%	-$37,994	$75k consulting support, $1k misc expenses
	BAPPG	$100,000	$106,893	107%	$6,893	Includes CPSC @ $10,000, OWOW @ $10,000, and Pest. Reg Spt. @ $15,000, Paid Baywise Hosting in FY19 to lock in rate
	Biosolids Committee	$1,000	$0	0%	-$1,000	
	Collections System	$1,000	$0	0%	-$1,000	
	InfoShare Groups	$1,000	$1,100	110%	$100	Funds for 2 workgroups (Asset Mgmt & O&M - AM on hiatus in FY20)
	Laboratory Committee	$1,000	$0	0%	-$1,000	
	Permits Committee	$1,300	$569	44%	-$731	all meetings moved to include lunch hour for commuting purposes
	Pretreatment	$2,000	$3,402	170%	$1,402	FY20: Includes $1,000 for training
	Recycled Water Committee	$1,000	$0	0%	-$1,000	
	Misc Committee Support	$45,000	$8,329	19%	-$36,671	
	Manager's Roundtable	$1,000	$372	37%	-$628	
	Total	**$230,300**	**$158,671**	**69%**	**-$71,629**	
Collaboratives						
	Collaboratives					
	State of the Estuary (SFEP-biennial)	$0	$0	0%	$0	Bienniel in Odd Fiscal Years. (Paid bienniely in odd years for even year conference)
	Arleen Navarret Award	$2,500	$0	0%	-$2,500	Bienniel in Even Fiscal Years. Increase in FY20
	FWQC (Fred Andes)	$7,500	$0	0%	-$7,500	
	Stanford ERC (ReNUWIt)	$10,000	$0	0%	-$10,000	
	Misc	$5,000	$1,600	32%	-$3,400	BayCAN, NBWA
	Total	**$25,000**	**$1,600**	**6%**	**-$23,400**	
Other						
	Unbudgeted Items					
	Other	$0	$25,000	0%	$25,000	Koff & Associates
		$0	**$25,000**	**0%**	**$25,000**	
Tech Support						
	Technical Support					
	Nutrients					
	Watershed	$2,000,000	$2,400,000	120%	$400,000	1st year of 2nd WS Permit less $200k paid in advance in FY19
	NMS Voluntary Contributions	$0	$0	0%	$0	
	Additional work under permit	$100,000	$37,799	38%	-$62,202	Includes HDR PO for $225k spread out over FY20-24.
	Regional Study on Non-Gray Scape	$500,000	$48,853	10%	-$451,147	New Line item in FY20
	Member Voluntary Nutrient Contributions	$0	$0	0%	$0	
	Nutrient Workshop(s)	$0	$0	0%	$0	Pilot Studies/Plant Review/Innovative Technologies
	General Tech Support	$52,020	$42,401	82%	-$9,619	2% increase.
	Risk Reduction	$20,000	$12,500	63%	-$7,500	$50,000 over 5 years (FY19-FY23) 2 Contracts for $25,000 each over FY19, 20, & 21
	Total	**$2,672,020**	**$2,541,553**	**95%**	**-$130,468**	
	TOTAL EXPENSES	**$3,470,857**	**$3,115,986**	**89.78%**	**-$354,871**	
	NET INCOME BEFORE TRANSFERS	**-$351,060**				
	TRANSFERS FROM RESERVES	**$351,060**				aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge
	NET INCOME AFTER TRANSFERS	**$0**				
	TOTAL OPERATING BUDGET	**$798,837**				
	OPERATING RESERVE	**$199,709**				

BACWA Fund Report as of May 31, 2020

BACWA FUND BALANCES - DATA PROVIDED BY ACCOUNTING DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	OUTSTANDING ENCUMBRANCES	MONTH-END UNOBLIGATED FUND BALANCE
800	BACWA	1,185,382	723,941	574,434	1,334,889	359,664	975,225
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000
805	CBC	1,926,714	2,418,995	2,541,552	1,804,157	633,587	1,170,570
	SUBTOTAL 1	*3,412,096*	*3,142,936*	*3,115,986*	*3,439,046*	*993,251*	*2,445,795*
802	BABC	-	299,805	75,980	223,825	-	223,825
806	BACC	-	-	*1,563*	(1,563)	-	(1,563)
810	WOT	322,375	-	46,211	276,164	-	276,164
	SUBTOTAL 2	*322,375*	*299,805*	*123,754*	*498,426*	-	*498,426*
811	PRP84	161,590	180,059	(2,859)	344,508	-	344,508
	SUBTOTAL 3	*161,590*	*180,059*	*(2,859)*	*344,508*	-	*344,508*
	GRAND TOTAL	**3,896,061**	**3,622,800**	**3,236,881**	**4,281,980**	**993,251**	**3,288,729**

Top Chart: Reflects CASH on the Books — Includes Encumbrances
Bottom Chart: Reflects CASH in the Bank — Includes Payables (bills received but not paid)
Allocations: Priority for non-liquid investments

BACWA INVESTMENTS BALANCES - DATA PROVIDED BY TREASURY DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	RECONCILIATION TO FINANCIAL STATEMENTS	MONTH-END RECONCILED FUND BALANCE	UNINVESTED CASH BALANCES	LAIF INVESTMENTS AMOUNTS	LAIF INVESTMENTS PERCENTAGE	ALTERNATIVE INVESTMENTS AMOUNTS	ALTERNATIVE INVESTMENTS IDENTIFIERS	ALTERNATIVE INVESTMENT INSTRUCTIONS AND NOTES
800	BACWA	1,185,382	723,941	574,434	1,334,889	64,813	1,399,702	1,241,259	158,443	7%	-		priority # 3 for allocation
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000	-	300,000	13%	-		priority # 1 for allocation
805	CBC	1,926,714	2,418,995	2,541,552	1,804,157	-	1,804,157	-	1,804,157	80%	-		priority # 2 for allocation
	SUBTOTAL 1	3,412,096	3,142,936	3,115,986	3,439,046	64,813	3,503,859	1,241,259	2,262,600	100%	-		
802	BABC	-	299,805	75,980	223,825	-	223,825	223,825	-	0%	-		pass-through funds, no allocation
806	BACC	-	-	1,563	(1,563)	-	(1,563)	(1,563)	-	0%	-		
810	WOT	322,375	-	46,211	276,164	-	276,164	276,164	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	322,375	299,805	123,754	498,426	-	498,426	498,426	-	0%	-		
811	PRP84	161,590	180,059	(2,859)	344,508	-	344,508	344,508	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 3	161,590	180,059	(2,859)	344,508	-	344,508	344,508	-	0%	-		
	GRAND TOTAL	**3,896,061**	**3,622,800**	**3,236,881**	**4,281,980**	**64,813**	**4,346,793**	**2,084,193**	**2,262,600**	**-**			
						verification	0	-	-		-		

To be used to cover Reconciliation to Financial Statements ($0)

Reconciliation to Trial Balance - accrual basis

Per Report above:						
General	3,142,936	STB	1493	2,262,600		
WOT	299,805	STB	1505	2,084,193		
PROP	180,059			**4,346,793**	-	
subtotal	**3,622,800**	STB	2135	(64,813)		
				4,281,980	-	

Billings-Pending Receipts

4686	Mem Contrib	750
4687	Transfer	-
4690	Assoc Contrib	1,675
4696	Other	-
4731	State Grant	-
4732	Grant Retention	(180,059)
subtotal		**(177,634)**

Trial Balance Revenue Accounts

4411	Interest	(54,415)
4686	Mem Contrib	(1,368,275)
4687	Transfer	(121,726)
4690	Assoc Contrib	(187,388)
4696	Other	(1,713,362)
4731	State Grant	-
4732	Grant Retention	-
subtotal		**(3,445,165)**
Difference		**0**

BACWA Revenue Report as of May 31, 2020

Year to date

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
800	Bay Area Clean Water Agencies	0408511	Administrative & General	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011099	BDO Member Contributions	506,774	-	-	-	-	506,775	-	506,775	(1)
800	Bay Area Clean Water Agencies	1011108	BDO Other Receipts	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011109	BDO Fund Transfers	5,100	-	-	-	-	-	8,421	8,421	(3,321)
800	Bay Area Clean Water Agencies	1011117	BDO- Interest Income from LAIF	20,000	-	-	-	-	-	8,083	8,083	11,917
800	Bay Area Clean Water Agencies	1011133	BDO Assoc.&Affiliate Contr	184,111	-	-	-	-	110,407	-	110,407	73,704
800	Bay Area Clean Water Agencies	1014251	BDO Non-Member Contr BAPPG	3,876	-	-	-	-	3,876	-	3,876	-
800	Bay Area Clean Water Agencies	1014252	BDO Non-Member Contr AIR	6,936	-	-	-	-	6,936	-	6,936	-
800	Bay Area Clean Water Agencies	1014511	BDO-Alternative Investment Inc	18,000	-	-	-	1,588	-	-	1,588	16,412
800	Bay Area Clean Water Agencies	1015265	BDO Other Receipts (Misc)	-	-	-	-	-	2,550	-	2,550	(2,550)
800	Bay Area Clean Water Agencies	1015266	BDO Affiliate/Associate Dues	-	-	-	-	-	38,525	-	38,525	(38,525)
800	Bay Area Clean Water Agencies	1015267	BDO Affil/CS/Assoc Dues	-	-	-	-	-	36,780	-	36,780	(36,780)
	BACWA TOTAL			**744,797**	**-**	**-**	**-**	**1,588**	**705,849**	**16,504**	**723,941**	**20,856**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	-	-	-	674,250	-	674,250	750
805	WQA-CBC	1011108	BDO Other Receipts	1,700,000	-	-	-	-	1,700,000	-	1,700,000	-
805	WQA-CBC	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	44,745	44,745	(44,745)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	-	-	-
	WQA CBC TOTAL			**2,375,000**	**-**	**-**	**-**	**-**	**2,374,250**	**44,745**	**2,418,995**	**(43,995)**
	TOTAL			**3,119,797**	**-**	**-**	**-**	**1,588**	**3,080,099**	**61,249**	**3,142,936**	**(23,139)**

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
802	BABC	1011099	BDO Member Contributions	-	-	-	-	-	186,500	-	186,500	(186,500)
802	BABC	1011109	BDO Fund Transfers	-	-	-	-	113,305	-	-	113,305	(113,305)
	BABC TOTAL			**-**	**-**	**-**	**-**	**113,305**	**186,500**	**-**	**299,805**	**(299,805)**
810	WOT	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	-	-	-
	WOT TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
811	PROP 84	1011142	Administrative Support	-	-	-	-	-	-	-	-	-
	PROP TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Grand Total			**3,119,797**	**-**	**-**	**-**	**114,893**	**3,266,599**	**61,249**	**3,442,741**	**(322,944)**

BACWA Expense Detail Report for May 31, 2020

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR						-						
AS-Executive Director	1011123	207,531	(47,500)	47,500	-	-	118,136	168,560	-	-	286,696	(79,165)
AS-Assistant Executive Directo	1011124	100,907	(8,353)	(8,353)	-	-	58,353	54,860	-	-	113,213	(12,306)
AS-Regulatory Program Manager	1011149	137,727	46,438	31,842	-	-	105,339	119,648	-	(11,885)	213,102	(75,375)
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	41,616	-	-	-	-	23,806	17,810	-	-	41,616	-
AS-Audit Services	1014512	5,240	-	-	-	-	5,240	5,240	3,500	(5,240)	8,740	(3,500)
BDO Other Receipts	1011108	-	-	-	-	-	-	-	25,000	-	25,000	(25,000)
AS-BACWA Admin Expense	1011118	7,803	-	-	299	-	-	-	3,508	(167)	3,341	4,462
AS-Insurance	1011126	4,682	-	-	-	-	-	-	4,696	-	4,696	(14)
MEETINGS												
GBS-Meeting Support-Annual	1014514	12,000	-	-	-	-	-	-	14,198	(270)	13,928	(1,928)
GBS-Meeting Support-Exec Bd	1014513	2,601	-	-	-	-	1,418	823	538	-	2,779	(178)
GBS-Meeting Support-Misc	1014516	5,202	-	-	-	-	-	-	693	-	693	4,509
GBS-Meeting Support-Pardee	1014515	6,242	-	-	-	-	-	-	5,835	-	5,835	407
COMMUNICATION												
CAR-BACWA File Storage	1014518	1,500	-	-	-	-	-	-	720	-	720	780
CAR-BACWA IT Software	1014520	1,750	-	-	40	-	-	-	680	-	680	1,070
CAR-BACWA IT Support	1014519	2,600	-	-	637	-	2,600	-	637	-	3,237	(637)
CAR-BACWA Website Dev/Maint	1011116	600	-	-	-	-	-	-	618	-	618	(18)
CAR-BACWA Website Hosting	1014517	750	-	-	600	-	-	-	600	-	600	150
LEGAL												
LS-Executive Board Support	1011110	2,133	-	-	-	-	2,133	-	-	-	2,133	-
LS-Regulatory Support	1011107	2,653	-	-	-	-	69	3,561	-	-	3,630	(977)
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	(2,580)	2,580	-	-	37,768	37,232	774	-	75,774	226
BC-BAPPG	1011147	100,000	(18,088)	18,088	5,130	-	4,802	66,198	40,695	-	111,695	(11,695)
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,000	-	-	-	-	-	-	1,100	-	1,100	(100)
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-	-	-	174	395	-	569	731
BC-Pretreatment Committee	1011146	2,000	-	-	-	-	-	-	3,402	-	3,402	(1,402)
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Manager's Roundtable	1014777	1,000	-	-	-	-	-	186	186	-	372	628
BC-Miscellaneous Committee Sup	1011104	45,000	-	-	-	-	-	-	8,329	-	8,329	36,671
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	2,500	-	-	-	-	-	-	-	-	-	2,500
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-	-	-	-	1,600	-	1,600	3,400
CAS-PSSEP	1011112	-	-	-	-	-	-	-	-	-	-	-
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		**798,837**	(30,083)	91,657	6,706	-	**359,664**	**474,292**	**117,704**	**(17,562)**	**934,098**	(135,261)
TECH SUPPORT												
WQA-CE Addl Work Under Permit	1014254	100,000	-	-	-	-	182,201	37,799	-	-	220,000	(120,000)
WQA-CE-Technical Support	1011127	52,020	(19,594)	28,094	-	-	238	40,378	2,023	-	42,639	9,381
WQA-CE Risk Reduction	1014023	20,000	-	-	-	-	-	-	12,500	-	12,500	7,500
WQA-CE-Nutrient WS Permit Comm	1014021	2,000,000	-	-	-	-	-	-	2,400,000	-	2,400,000	(400,000)
WQA-CE-Nature Based Solutions	1015367	500,000	-	-	-	-	451,148	48,853	-	-	500,001	(1)
TECH SUPPORT (CBC) TOTAL		**2,672,020**	**(19,594)**	**28,094**	**-**	**-**	**633,587**	**127,030**	**2,414,523**	**-**	**3,175,139**	**(503,119)**
GRAND TOTAL		**3,470,857**	**(49,677)**	**119,751**	**6,706**	**-**	**993,251**	**601,322**	**2,532,227**	**(17,562)**	**4,109,237**	**(638,380)**
BABC												
AS-Assistant Executive Directo	1011124	-	-	-	-	-	-	316	-	-	316	(316)
Administrative Support	1011142	-	-	-	-	-	-	-	-	3,321	3,321	(3,321)
BDO Contract Expenses	1011143	-	-	-	5,837	-	-	-	54,719	-	54,719	(54,719)
AS-Regulatory Program Manager	1011149	-	-	-	-	-	-	2,905	69	-	2,974	(2,974)
Collateral Development	1015374	-	-	-	-	-	-	-	14,650	-	14,650	(14,650)
BABC TOTAL		**-**	**-**	**-**	**5,837**	**-**	**-**	**3,221**	**69,438**	**3,321**	**75,980**	**(75,980)**
BACC												
Administrative Support	1011142	-	-	-	-	-	-	1,471	92	-	1,563	(1,563)
BACC TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**1,471**	**92**	**-**	**1,563**	**(1,563)**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	5,361	5,100	10,461	(10,461)
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	35,750	-	35,750	(35,750)
		-	**-**	**-**	**-**	**-**	**-**	**-**	**41,111**	**5,100**	**46,211**	**(46,211)**
GRAND TOTAL (BDO, CBC, BABC, BACC, WOT)		**3,470,857**	**(49,677)**	**119,751**	**12,543**	**-**	**993,251**	**606,014**	**2,642,868**	**(9,141)**	**4,232,991**	**(762,134)**

BACWA Expense Detail Report for May 31, 2020

DEPTID	DEPARTMENT	EXPENSE TYPE	AMENDED BUDGET	CURRENT PERIOD				YEAR TO DATE				OBLIGATED	UNOBLIGATED
				ENC	PV	DA	JV	ENC	PV	DA	JV		
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Fund Transfers	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Administrative Support	-	-	-	-	-	-	-	-	(2,859)	(2,859)	2,859
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Contract Expenses	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Regional Green Infrastructure	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Hacienda Ave Green St Improvem	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Sears Point Wtlnd & Wtrshd Res	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Bay Friendly Landscape TP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Weather Based Irrigation Cntrl	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Toilet & UR	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Toilet & UI	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Clothes Washrs	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Napa Co. Rainwater HP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Conservation Program Admin	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Flood Infrastructure Mapping T	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Stormwater Improvements & PBP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Richmond Shoreline & San PFP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Pescadero Integrated FRAH	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Restoration Guidance, San FC	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Stream Restoration in North BD	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Watershed Program Admnstrtn	-	-	-	-	-	-	-	-	-	-	-
	PRP84 TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(2,859)**	**(2,859)**	**2,859**

BACWA Revenue Report as of May 31, 2020

DEPTID	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
811	Prop84BayAreaIntegRegnlWtrMgmt	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011142	Administrative Support	-	-	-	-	-	35,739	-	35,739	(35,739)
811	Prop84BayAreaIntegRegnlWtrMgmt	1011691	Water Efficient Landscape Reba	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011702	Sears Point Wtlnd & Wtrshd Res	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011705	Regional Green Infrastructure	-	-	-	-	-	116,839	-	116,839	(116,839)
811	Prop84BayAreaIntegRegnlWtrMgmt	1011706	Hacienda Ave Green St Improvem	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011707	WQ Improve Flood Mgmt & EP	-	-	-	-	-	2,836	-	2,836	(2,836)
811	Prop84BayAreaIntegRegnlWtrMgmt	1011911	Stream Restoration w/Schools i	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011912	Flood Infrastructure Mapping	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012209	Water Efficient LRP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012210	Bay Friendly Landscape TP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012211	Weather Based Irrigation Cntrl	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012212	High Efficiency Toilet & UR	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012213	High Efficiency Toilet & UI	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012214	High Efficiency Clothes Washrs	-	-	-	-	-	2,458	-	2,458	(2,458)
811	Prop84BayAreaIntegRegnlWtrMgmt	1012215	Napa Co. Rainwater HP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012216	Conservation Program Admin	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012218	Stream Restoration in North BD	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012219	Flood Infrastructure Mapping T	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012220	Stormwater Improvements & PBP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012221	Richmond Shoreline & San PFP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012222	Pescadero Integrated FRAH	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012223	Restoration Guidance, San FC	-	-	-	-	-	15,353	-	15,353	(15,353)
811	Prop84BayAreaIntegRegnlWtrMgmt	1012224	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012225	Watershed Program Admnstrtn	-	-	-	-	-	6,834	-	6,834	(6,834)
	PROP 84 TOTAL			**-**	**-**	**-**	**-**	**-**	**180,059**	**-**	**180,059**	**(180,059)**

BACWA EXECUTIVE BOARD AUTHORIZATION REQUEST

AGENDA NO.: 4

FILE NO.: 21-13

MEETING DATE: July 17, 2020

TITLE: Request for BACWA 2nd Watershed Permit funding commitment - first installment of $1,000,000

☐ **RECEIPT** ☐ **DISCUSSION** ☐ **RESOLUTION** ☒ **APPROVAL**

RECOMMENDED ACTION

Authorize first installment of payment in the amount of $1,000,000 to San Francisco Estuary Institute (SFEI) in order to comply with the provisions of the 2nd Watershed Permit for FY20.

SUMMARY

The Watershed Permit for Nutrients from Municipal Wastewater Dischargers to San Francisco Bay, NPDES Permit No. CA 0038873 adopted May 8, 2019, requires the commitment of $2,200,000 per year from POTW Dischargers as a collective effort to fund needed scientific studies as part of the implementation of the Regional Water Quality Control Board's Nutrient Management Strategy. The commitment is on a fiscal year basis and began July 1, 2019. BACWA's role in meeting this commitment is to collect the needed funds from its membership and provide those funds for the undertaking of the scientific studies. The identification of the studies to be undertaken is through a stakeholder governance Steering Committee on which BACWA holds two seats. Several studies are ongoing as a result of approvals of programs and projects by the Steering Committee.

Due to the importance of accelerating the pace of the scientific studies to obtain results that will inform management actions in the 3rd Watershed Permit, BACWA is reallocating how the funds are delivered to SFEI over the five-year permit term. The $2,200,000 per year over five years totals $11,000,000. The following chart reflects BACWA's planned schedule to deliver the $11,000,000 to make the bulk of the funds available sooner:

FY19 (advance)	FY20	FY21	FY22	FY23	FY24	Total
$200,000	$2,400,000	$2,800,000	$2,600,000	$2,000,000	$1,000,000	**$11,000,000**

This authorization of payment in the amount of $1,000,000 to SFEI will partially meet the obligation for the first year of the Discharger's annual obligation under the five-year Watershed Permit per the above schedule. The purpose of delivering the payment in two installments is to ensure continuity in the Science Program in FY21. The first installment draws on BACWA's reserves. The second installment of up to $1,800,000 will be brought to the Executive Board for approval after the FY21 nutrient surcharge revenues are received from member agencies.

FISCAL IMPACT

This payment and subsequent annual payments to fund the scientific studies are collected from the BACWA membership through a Nutrient Surcharge that is included on the annual dues invoices to the BACWA members, as well as a drawdown of BACWA reserves, as authorized by BACWA's Executive Board. Funds are currently available in the BACWA CBC Fund to pay the $1,000,000 invoice.

ALTERNATIVES

1. Do not fund the Commitment. This alternative is not recommended since the payment is a regulatory requirement. BACWA members who do not participate in the payment of the Nutrient Surcharge will have individual permits issued by the Water Board.
2. Wait until later in the fiscal year and pay the entirety of BACWA's obligation to SFEI. This alternative is not recommended since SFEI may not have the reserves to support the nutrient science program continuously until BACWA collects the FY21 Nutrient Surcharge from its members.

Attachments: SFEI Invoice

Approved: Date:

Amit Mutsuddy, Chair
BACWA Executive Board

Invoice

San Francisco Estuary Institute
4911 Central Ave.
Richmond, CA 94804
EIN 94-2951373

June 30, 2020
Project No: 1092.90
Invoice No: 1092902

Bay Area Clean Water Agency
PO Box 24055, MS702
Oakland, CA 94623

Project 1092.90 Modeling Lower South Bay Sloughs/Creeks/Ponds (City of Palo Alto)
Attn: Lorien Fono

Professional Services from July 01, 2020 to June 30, 2021

Fee	**30,000.00**
Total this Invoice	**$30,000.00**

Contact Lawrence Leung at 510-746-7356 or lawrence@sfei.org for questions.

BACWA EXECUTIVE DIRECTOR ACTION REQUEST

AGENDA NO.: 5
FILE NO.: 20- 43
MEETING DATE: July 17, 2020

TITLE: BACWA Executive Director Authorization of Additional Research for WRAP Action Item 2.2.16

☐**RECEIPT** ☐**DISCUSSION** ☐**RESOLUTION** ☒**APPROVAL**

ACTION

Authorize payment of $5,000 in support of Bay Area case studies research for Water Reuse Action Plan Item 2.2.16.

SUMMARY

As specified in the EPA National Water Reuse Action Plan (WRAP), Task 2.2.16 "Support Local and Regional Reuse Projects by Identifying Challenges, Opportunities and Models for Interagency Collaboration," identifies institutional challenges to water reuse and recommends strategies to facilitate interagency collaboration. BACWA supported this action item in comments to EPA on December 16, 2019. The task provides for the development of four (4) geographically diverse case studies and evaluation of a number of factors including:

- project drivers and motivations for implementation of water reuse projects;
- fragmentation of benefits and costs accruing to the various water cycle stakeholders;
- administration of regulations as they affect interagency cooperation;
- legislative mandates, funding opportunities and other state and federal incentives;
- the role of agreements in allowing agencies to work together as "virtual utilities"; and
- examples of how utility managers and other stakeholders can resolve challenges and work together to lead successful, interjurisdictional water reuse programs.

According to the terms of this agreement, Principal Investigator and Technical Team will develop additional case studies to the extent funded by Project Participants. WateReuse will serve as fiduciary agent, invoicing Project Participants for funds committed to the project and paying invoices submitted by Principal Investigator for worked performed by Technical Team out of project funds.

Project proponents for WRAP Action Item Task 2.2.16 attended the March 20, 2020 BACWA Executive Board meeting to ask for funding which would allow the project to focus on Bay Area case studies. At the April 17, 2020 BACWA Executive Board meeting, the Board agreed to support this effort at a $5,000 level, from the FY20 budget, and consider additional funding in FY21.

FISCAL IMPACT

The funding for this effort will come from the Miscellaneous Collaboratives Line item, which will be exceeded. Since other collaboratives were budgeted but not funded in FY20, the Collaboratives category as a whole will be under budget.

ALTERNATIVES

No other alternatives were considered as the Executive Board gave direction to authorize this funding.

Approved:

Lorien Fono
BACWA Executive Director

Date:

June 30, 2020

BACWA EXECUTIVE DIRECTOR ACTION REQUEST

AGENDA NO.: 6
FILE NO.: 20- 41
MEETING DATE: July 17, 2020

TITLE: BACWA Executive Director Authorization of increased Fiscal Year 2020 Executive Board Legal Support.

☐**RECEIPT** ☐**DISCUSSION** ☐**RESOLUTION** ☒**APPROVAL**

ACTION

Increase authorization of Day Carter Murphy support by $4385 to $6518.

SUMMARY

On June 21, 2020 BACWA's Executive Director approved a $2133 amendment to our contract with Day Carter Murphy to provide Executive Board Legal Support. In March 2020, the Aquatic Science Center, a Joint Powers Authority to which BACWA is a signatory, contacted BACWA with concerns that BACWA had not designated a signatory, per Government Code 6509. BACWA's Board agreed to seek legal assistance to better understand the impacts and significance of designating a signatory to our Joint Powers Authority, as well as recommending a process to complete this task. BACWA worked with Day Carter Murphy to develop a plan to adopt a resolution designating Central Contra Costa Sanitary District at the June 19, 2020 Executive Board Meeting. The level of effort for this support exceeded the previously approved contract level by $4385, for a total of $6518.

FISCAL IMPACT

The funding for the contract with Day Carter Murphy will exceed the budgeted line item by $4385 due to unanticipated expenses.

ALTERNATIVES

No other alternatives were considered for these contracts as the terms of these agreements are consistent with BACWA contracting policies.

Approved: Date:

June 22, 2020

Lorien Fono
BACWA Executive Director

BACWA EXECUTIVE DIRECTOR ACTION REQUEST

AGENDA NO.: 7
FILE NO.: 20- 41
MEETING DATE: July 17, 2020

TITLE: Executive Director Authorization for Amendment #4 to the Agreement with TDC Environmental, LLC for BAPPG Pesticide Regulatory Support

☐**RECEIPT** ☐**DISCUSSION** ☐**RESOLUTION** ☒**APPROVAL**

ACTION
Authorize Amendment #4 to the contract with TDC Environmental, LLC to track pesticide regulatory activities through the US Environmental Protection Agency (EPA) Office of Pesticide Programs and California Department of Pesticide Regulation (CDPR); provide key points for comment letters; communicate with pesticide regulatory agencies; and leverage opportunities to prevent pollution at the source through regulatory and/or policy actions, in an amount not to exceed $60,000 for Fiscal Year 2020 (FY20). This is an increase of $5,000 over Amendment #2.

SUMMARY

At the June 15, 2018 Executive Board Meeting, the BACWA Executive Board approved a contract with TDC Environmental LLC to provide support to BACWA/BAPPG on regulatory, technical, and outreach issues related to emerging contaminant priorities, with a focus on pesticides. The contract allows for up to four one-year extensions, and was amended to include $30,000 for FY20 on June 21, 2019. Work under this contract is described in the attached Scope of Work, and includes the tracking of pesticide-related regulatory activities by the EPA and CDPR and making recommendations regarding regulatory participation and other follow-up steps, including recommending key points for comment letters, reviewing draft comment letters, setting up meetings with key staff at the pesticide regulating agencies to continue educating them about downstream wastewater impacts from their actions to register and/or re-register pesticide uses, and working to change the tools and information used in the registration processes to be protective of wastewater. Contract Amendment #2 increased the contract to $55,000 for FY20. (Note that Contract Amendment #3, approved June 19, 2020, pertains to FY21.)

US EPA updated its pesticides regulatory schedule late this spring, in parallel with issuing an unprecedented number of pesticides risk assessments and proposed decisions, most of which were not on BAPPG's "crystal ball" schedule that was based on EPA's public schedule prior to the unanticipated update. Additionally, EPA has recently made unexpected precedent-setting moves around replacing its risk assessments with a new approach that incorporates Endangered Species Act compliance, but omits POTWs entirely. To maintain efforts on pools/spas/fountains and pyrethroid insecticides, and to address the new ESA risk assessment, TDC prepared 10 separate letters for submittal in 17 EPA dockets, all of which are due between July 2 and 6.

Due to this exceptional and unscheduled EPA activity in June 2020 on items that are high priority, precedent-setting, and necessary to "seal the deal" on long-term efforts, TDC environmental has exhausted the funds in their contract prior to completing desired work within the current fiscal year. If authorized, TDC Environmental LLC invest time equaling $3,500 to $5000 in excess of the funding for the existing contract.

FISCAL IMPACT
The funding for this contract is consistent with the FY20 workplans and budget for BACWA and Special Programs. Sufficient funds are available in the Miscellaneous Committee Support budget line item.

ALTERNATIVES

1. Do not fund increase in contract and do not complete letter writing activities. This alternative is not recommended since this work will assist BACWA with comment letters on important regulatory actions that can reduce wastewater pollution from pesticides and other products at the source. In addition, the staff at the San Francisco Regional Water Quality Control Board is supportive of this work by BACWA, and views this as part of the proactive approach it would like to see BACWA pursuing to prevent pollution at the source. The Regional Water Quality Control Board dedicates staff resources to participate in BACWA's monthly Pesticide Steering Committee and submits comment letters that echo BACWA's key points.

Approved:  Date: June 22, 2020

Lorien Fono
BACWA Executive Director

Amend 4 TDC

AMENDMENT NO. 2
TO AGREEMENT BETWEEN
BAY AREA CLEAN WATER AGENCIES and
TDC Environmental, LLC
FOR
BAPPG Pesticide Regulatory Support

This Amendment No. 2 is made this 22nd day of June 2020, in the City of Oakland and County of Alameda, State of California, to that certain agreement of June 15, 2018, Amendment No. 1 of June 21, 2019, and Amendment No. 2 of February 21, 2020, by and between TDC Environmental LLC and Bay Area Clean Water Agencies, (BACWA) (the "Agreement") in consideration of the covenants hereinafter set forth.

1. BACWA and TDC Environmental, LLC agree to a new contract amount of $60,000.00 for BAPPG Pesticide Regulatory Support for Fiscal Year 2020.

2. Except as herein expressly modified, the Agreement will remain in full force and effect.

BAY AREA CLEAN WATER AGENCIES

By _____ Date 6/22/2020

Lori Schectel, Chair
BACWA Executive Board

By _____ Date June 19, 2020

Kelly Moran
TDC Environmental

Jennifer Dyment

From: Lorien Fono
Sent: Monday, June 22, 2020 12:22 PM
To: Jennifer Dyment; Lori Schectel
Subject: FW: Contract amendment for additional 5K
Attachments: TDC Environmental Contract Amendment # 4 FY20-signed.pdf; EDAR TDC Amend #4 FY20.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Lori, BAPPG requested last-minute funding from our miscellaneous committee support pot to fund unexpected last-minute pesticides activities this fiscal year, to the tune of $3.5-5K. I told them I would authorize a contract increase. I've copied their explanation and request below.

Jennifer, could you work up this contract and EDAR into Hellosign, and the once we've signed, can you can let Matt know we request that he increase the PO?

From: Cleave, Autumn <ACleave@sfwater.org>
Sent: Thursday, June 11, 2020 3:52 PM
To: Lorien Fono <lfono@bacwa.org>
Cc: Joe Neugebauer - West County Wastewater District (jneugebauer@wcwd.org) <jneugebauer@wcwd.org>; Robert Wilson (rwilson@cityofpetaluma.org) <rwilson@cityofpetaluma.org>
Subject: RE: BAPPG Budget

Hi Lorien,
Thank you, we appreciate your assistance. The below is from Kelly. Let me know if you have any questions.

Best,
Autumn

Due to exceptional and completely unscheduled EPA activity this month on items that are high priority, precedent-setting, and necessary to "seal the deal" on long-term efforts, Tammy Qualls and I have exhausted the funds in our contract prior to completing desired work within the current fiscal year. It is not my practice nor my desire to exceed my budget on a contract. While I am committed to completing work to meet BACWA's needs, I would be most grateful if it were possible to cover my time for this enormous load of unexpected work.

As you know, US EPA updated its pesticides regulatory schedule late this spring, in parallel with issuing an unprecedented number of pesticides risk assessments and proposed decisions, most of which were not on our "crystal ball" schedule, which was based on EPA's public schedule prior to the unanticipated update. Additionally, EPA has recently made unexpected precedent-setting moves around replacing its risk assessments with a new approach that incorporates Endangered Species Act compliance, but omits POTWs entirely. To maintain our efforts on pools/spas/fountains and pyrethroid insecticides, and to address the new ESA risk assessment, we found ourselves preparing 10 separate letters for submittal in 17 EPA dockets, all of which are due between July 2 and 6.

To try to fit these in within the current fiscal year budget, we shifted lead authorship of three letters to another BAPPG contract (Stephanie Hughes), who had unexpended funds due to the shelter-in-place order and has the appropriate expertise for these three letters. Our MS4 partners planned to request a comment period extension for the most expensive letter (fipronil), which would have deferred these costs until new new BACWA FY, but then (to my surprise) decided not to incur the expense of the extension request process, leaving us the inability to shift these costs into the new fiscal year. The Carbaryl ESA precedent was also a great surprise, particularly after receiving positive responses to our comments on the methodology. Due to its precedent-setting nature, it would be unwise not to prepare comments despite the July 2 deadline.

Our costs for all of the work are higher than before due to the loss of the subsidy provided by CASQA, which used to fund download of the multiple EPA documents associated with each pesticide action and the development of the email cc lists (both of these tasks are handled by Ms. Qualls).

An additional unexpected cost has occurred due to a beta test process for a coming update to EPA's electronic docket system (where all the information to comment on resides, and where comments are submitted. This system, run by the Regulations.gov Federal Government wide process, is currently effectively unusable every Tuesday and Thursday due to forcing all users to a beta website that is not completely populated with documents and for which all links we have do not work.

The net result of all of this is that I expect to invest time equaling $3,500 to $5000 in excess of the funding for my contract. As I stated above, I am committed to fulfilling my responsibilities to BACWA, but if it were possible to pay for some or all of Tammy's and my time, I would be most grateful.

Nutrient Strategy Team Meeting

Friday July 17, 2020

1:00 pm – 3:00 pm

(following the BACWA Board Meeting)

https://global.gotomeeting.com/join/951823605

United States: +1 (872) 240-3311 Access Code: 951-823-605

1. Welcome and Introductions – **1:00 pm**

2. Background – **1:10**
    a. History of the Nutrient Management Strategy (NMS) Science Program for SF Bay
    b. Nutrient Watershed Permit 1.0 – key points
    c. Nutrient Watershed Permit 1.0 outputs
    d. Nutrient Watershed Permit 2.0 – key points
    e. Current Status and timeline for Nutrient Watershed Permit 2.0
    f. Role of the Nutrient Strategy Team

3. Water Board's Vision Document – **1:20**
    a. Load caps and potential further load reductions based on science
    b. Assessment framework for basis of impairment
    c. Permitting approach:
        i. Ongoing monitoring/modeling program
        ii. load targets based on baseline data from 2014-2017
        iii. Regional Planning to reduce nutrient loads and impacts
        iv. Corrective Action Plans

4. Response to the Water Board – **1:45**
    a. Start with Water Board's vision for WSP or develop our own?
        i. Arguments for antidegradation concept/load caps driven by policy rather than science

b. If imposed, how should load caps be implemented?
    i. Averaging period
    ii. Consideration of interannual variability
c. Trading framework
    i. Develop key questions and timeline
    ii. Work with NMS on subembayment designation
    iii. Who makes decisions about load reductions within a subembayment?
d. Nature based solutions: potentials areas for implementation
e. Early actors concept
    i. Included in WSP versus in Regional Planning effort?

5. Other issues – **2:30**
    a. Lack of resources due to pandemic situation
    b. Lack of scientific certainty
    c. Role of assessment framework
    d. Others?

6. Engagement with the Water Board – **2:50**
    a. Strategy and timeline

7. Adjourn

Nature-Based Solutions for Nutrient Management

CMG Meeting #7

July 10, 2020

BACWA BAY AREA CLEAN WATER AGENCIES

SFEI AQUATIC SCIENCE CENTER

Agenda Overview

1. Introductions
2. Project progress and updates
3. NbS Survey Synthesis and update
4. Progress report on desk-based analysis
5. CMG member updates on aligned projects
6. Plan for next meeting

Recently Completed, Ongoing, and Upcoming Action Items

- Issued Request for Information / survey with HDR
- Progressed in the desk-based analysis and initial site-specific evaluations
- Coordination with Transforming Shorelines and Adaptation Atlas Phase 2
- Identification of projects/partners with a nexus to NbS for wastewater treatment - ongoing with BCDC/SFEI via EcoAtlas
- On-track to meet permit requirement to identify potential NbS opportunities, by WRRF, in December 2020.

Project Budget Summary

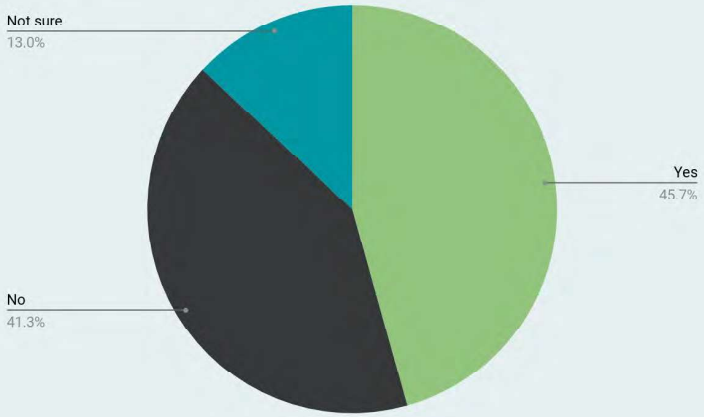
Task	Billed To Date	Budget	% Expend	Balance
Task 1: Project Administration and Management	$12,491	$45,000	28%	$32,509
Task 2 Scoping and Evaluation Plan	$17,372	$75,000	23%	$57,628
Task 3: Integrated Planning/Fundraising	$22,951	$20,000	115%	-$2,951
Task 4: Total: Evaluation Plan Implementation				
Subtask A: Discharger Survey	$8,882	$31,877	28%	$22,996
Subtask B: Desk-Based Analysis	$14,447	$67,450	21%	$53,003
Subtask C: Site-Specific Outreach and Investigation	$56	$68,920	0%	$68,864
Subtask D: Site-Specific Evaluations	$1,032	$191,753	1%	$190,721
Total	**$77,231**	**$500,000**	**15%**	**$468,542**

Nutrient Watershed Permittee Survey

- Joint request for information from HDR (recycled water) and SFEI (NbS)
- Complete responses to the web-based NbS survey from 33 of 37 permittees
- Results will be combined into a memorandum for input at next quarterly CMG meeting to inform which sites should be selected for site-specific investigation

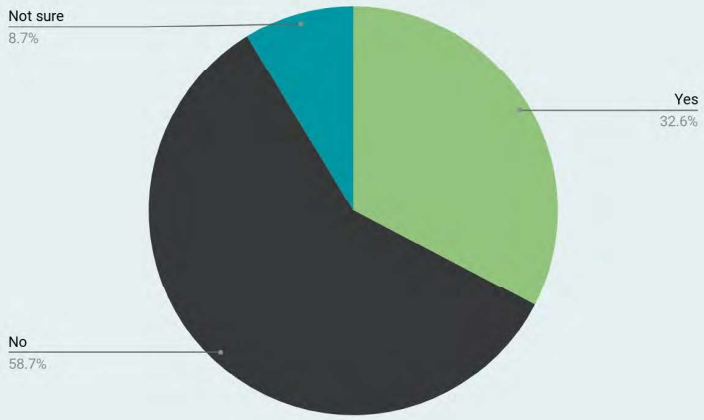
Survey

Has your agency considered nature-based solutions for wastewater treatment/ disposal?



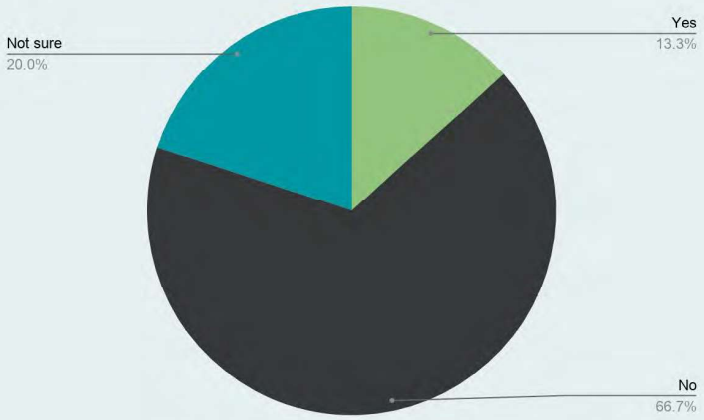
Survey

Has your agency prepared any reports related to the planning or evaluation of NbS for wastewater treatment?



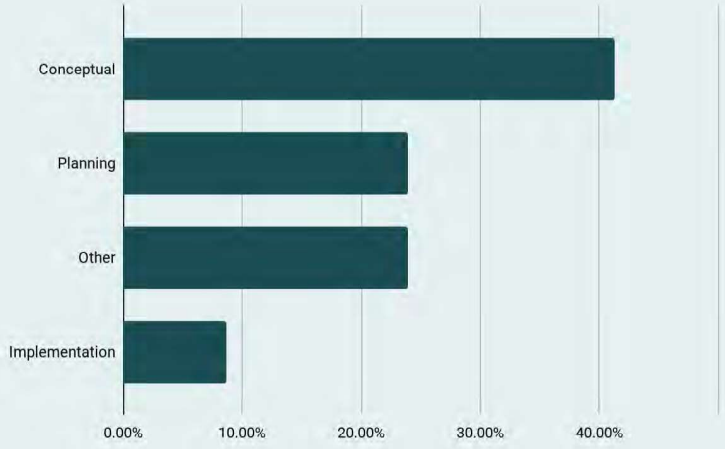
Survey

Do your capital improvement plans consider or plan for implementation of NbS for wastewater treatment or other purposes?



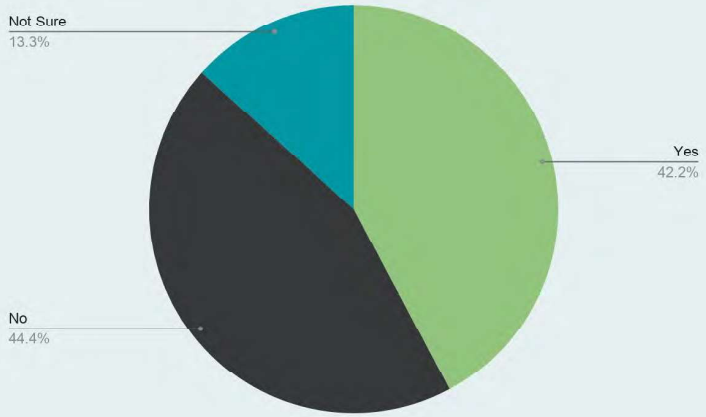
Survey

Describe the level of planning/ implementation performed to date.



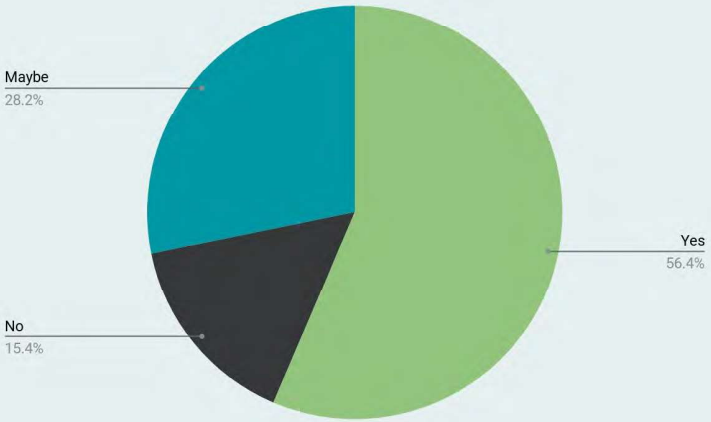
Survey

Has your agency prepared any reports related to sea-level rise assessment or adaptation?



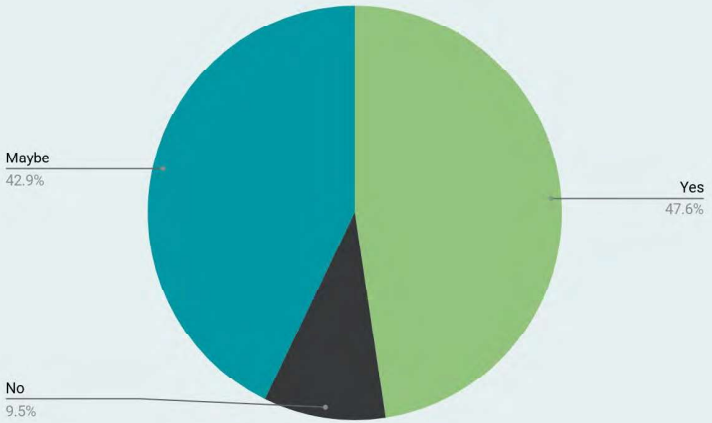
Survey

Is your agency interested in potentially participating in the alternatives development process?



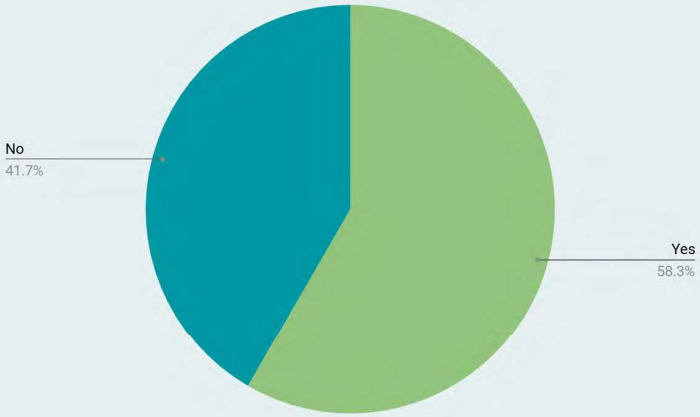
Survey

Is your agency interested in exploring partnerships with other agencies and landowners?



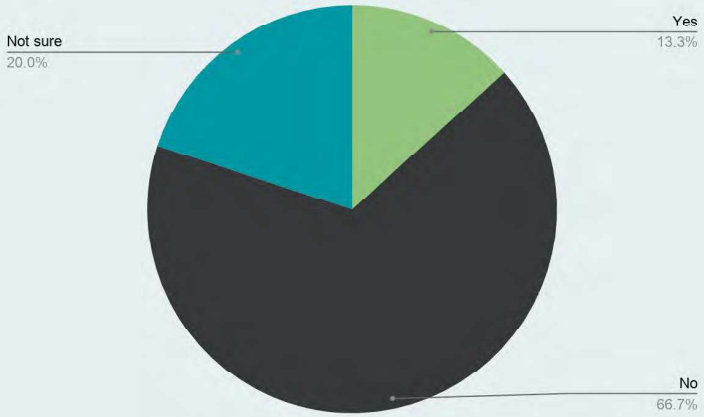
Survey

Are you able to identify potentially suitable sites for NbS within your service area or nearby areas?



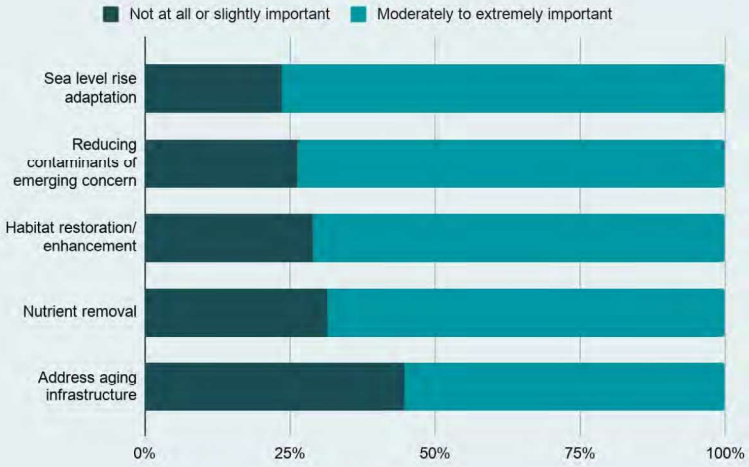
Survey

Do your capital improvement plans consider or plan for implementation of NbS for wastewater treatment or other purposes?



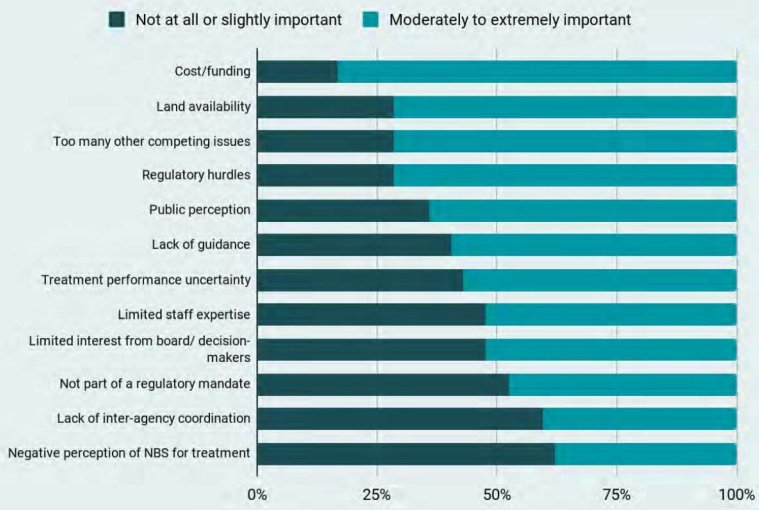
Survey

Rate your agency's interest in pursuing NbS according to the following objectives:



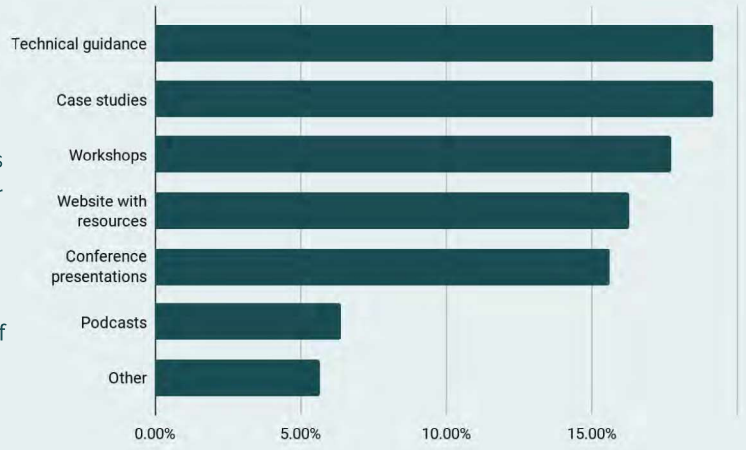
Survey

Rate the following factors, in terms of preventing or constraining your agency's adoption of NbS for wastewater treatment:



Survey

What kinds of tools or resources would help you or your agency improve understanding of the applicability of NbS to your work?



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Research article

A mixed-methods approach to strategic planning for multi-benefit regional water infrastructure

Sasha Harris-Lovett[a,c,*], Judit Lienert[b], David Sedlak[c,d]

[a] Energy and Resources Group, University of California, Berkeley, United States
[b] Eawag: Swiss Federal Institute of Aquatic Science and Technology, Switzerland
[c] Engineering Research Center for Reinventing the Nation's Urban Water Infrastructure (ReNUWIt), United States
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Nutrient management
Wastewater treatment
Stakeholder analysis

ABSTRACT

Finding regional solutions for water infrastructure and other environmental management challenges requires coordination, communication, and a shared understanding among different stakeholders. To develop a more versatile and collaborative decision-making process for nutrient management in the San Francisco Bay Area, we used a mixed-methods approach consisting of stakeholder analysis with cluster analysis, multi-criteria decision analysis (MCDA), and scenario planning. These methods allowed us to identify agreements and disagreements in stakeholder objectives and preferences, clarify ways in which different options could meet the goals of diverse stakeholders, and elucidate how scientific uncertainty about technical performance and future conditions could affect management strategies. Results of the analysis indicate that several non-conventional nutrient management options like constructed wetlands and increased water recycling for irrigation met the goals of many stakeholders under a variety of future scenarios. A comparison of MCDA results with a more traditional 'cost-efficiency' measure (i.e., optimizing for the lowest cost per mass of nutrients removed) revealed little correlation

water

MDPI

Article

Towards a New Paradigm of Urban Water Infrastructure: Identifying Goals and Strategies to Support Multi-Benefit Municipal Wastewater Treatment

Sasha Harris-Lovett [1,2,*], Judit Lienert [3] and David L. Sedlak [2,4]

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Abstract: Over the past decade, water professionals have begun to focus on a new paradigm for urban water systems, which entails the recovery of resources from wastewater, the integration of engineered and natural systems, and coordination among agencies managing different facets of

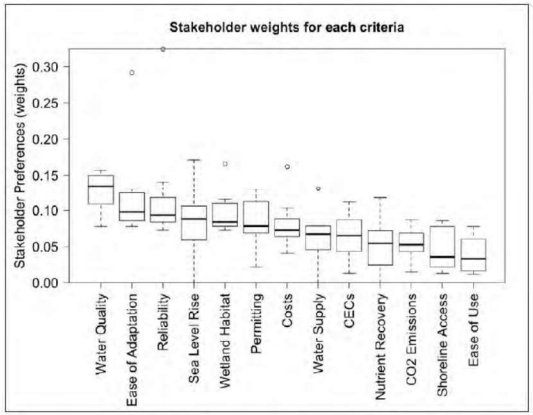


Figure 2. Relative weights of goals for Bay Area nutrient management derived from interviews with nine stakeholders. Boxplot midlines denote median values of responses, boxes represent the interquartile range, and whiskers extend to 1.5 times the interquartile range. Outliers are marked with a circle. Each stakeholders' total weights are added to one.

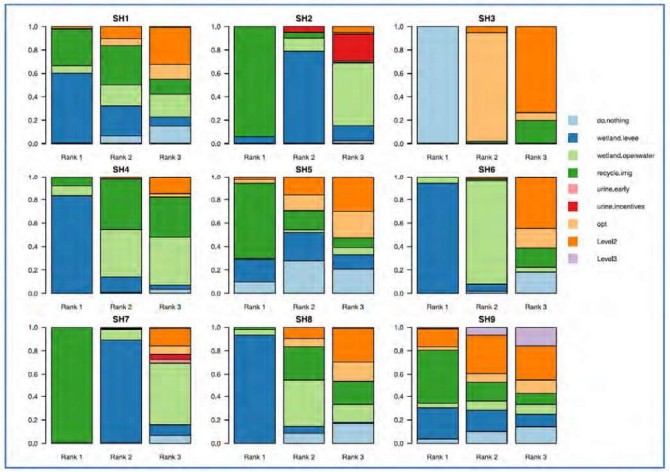


Fig. 3. The probability of the top three ranked options for each of nine stakeholders (SH) given uncertainty in attribute predictions, Status quo scenario. Color coding options see legend and Table 1. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

Table 3. Perceived barriers to planning and implementation of multi-benefit wastewater systems.

Category	Barrier	Primary Concern	Description
Institutional	Leadership	Who is in charge?	There is concern that multi-benefit infrastructure projects would lack leadership because they bridge mandates of existing institutions. Another type of concern is that lack of institutional leadership would lead to conflicts because each institution is accountable to different board members and/or constituents.
	Collaboration	Can managers of separate organizations effectively collaborate?	There is concern about the complexity of collaboration across institutions for wastewater treatment, water supply, habitat restoration, and others to implement multi-benefit projects. Project implementation depends on social networks that individuals have established because the institutional connections are lacking. Planning for a sea level rise is particularly challenging because no one agency is currently tasked with it.
	Permitting	Can multi-benefit projects fit into existing regulatory permit structures?	There is a difficulty for obtaining regulatory permits for multi-benefit projects primarily due to a lack of regulatory precedent for many of these systems (e.g., wetlands for wastewater treatment would likely vary seasonally in their nutrient removal efficacy) or for innovative technologies that have less of a track record.
	Risk tolerance	Can decision makers tolerate the higher level of risk needed to adopt innovative technologies?	There is a difficulty in adopting innovative multi-benefit technologies because of a strong value among wastewater utility managers for technologies that can reliably comply with regulations. Multi-benefit wastewater infrastructure projects that rely on natural systems for water treatment (e.g., constructed wetlands) or those that depend on the public to employ new technology (e.g., source-separating toilets) are inherently less reliable than traditional infrastructure where most ambient conditions are controlled.
Social	Public opinion	For decentralized options, can the public agree to interact more with wastewater treatment?	There is a concern that some multi-benefit technologies (e.g., urine source-separation with nutrients recovery) could require a behavior change from users. Citizens may have to shift from having little role in wastewater treatment (currently limited to flushing the toilet and paying a sewage bill) to taking a more active role. While some stakeholders found the idea repugnant, others thought there might be a learning curve with an education campaign.
	Public compliance	How do we ensure compliance for technologies that require user responsibility?	There is skepticism that the public can be relied upon to consistently participate in decentralized technologies like urine source separation.
Technical	Effects on existing treatment	How will new treatment options change the function of existing systems?	There is concern that innovative technologies may change the composition of influent or effluent existing wastewater treatment plants. For example, decentralized or satellite water recycling technologies might result in less influense to municipal wastewater treatment plants.

Questions & feedback

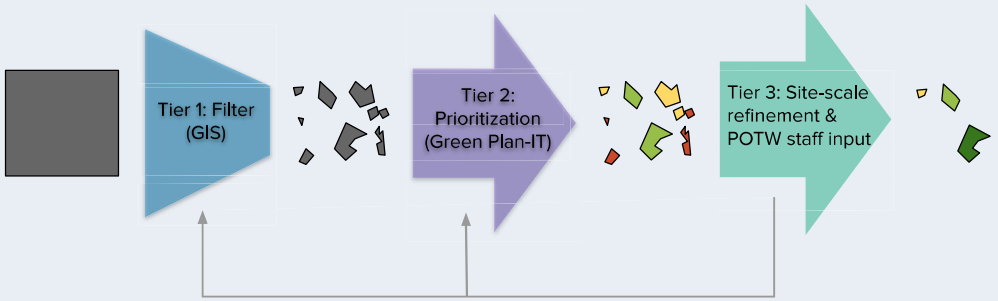
Desk-based Study for Opportunities

- GIS-based analysis to identify WRRFs with high NbS potential
- Initial results go to GreenPlanIT for results to partly satisfy permit obligations
- Site-specific reports shall be generated for each WRRF and refined where appropriate
- Selection of WRRFs for site visits and subsequent alternatives investigations will follow.

Open Water Wetland Suitability Analysis

Photo: David Sedlak

Open Water Wetlands Suitability Analysis



Tier 1 (Filter) "Knockout" Criteria

- Topography
  - **Too steep** (slope > 8%)
  - **Too high** (>100'/30m elevation)
  - **Too low** (Below mudflat elevation - Adaptation Atlas, z* < -0.14)
- Land cover
  - **Developed** (NLCD low, medium, or high intensity development)
  - **Tidal marsh habitat** (BAARI)
  - **Future tidal marsh & SBSP project ponds** (Restoration in progress or planned)
  - **Open water** (BAARI)
  - **Landfill**
- Size
  - **Too small** (less than 0.5 acres)

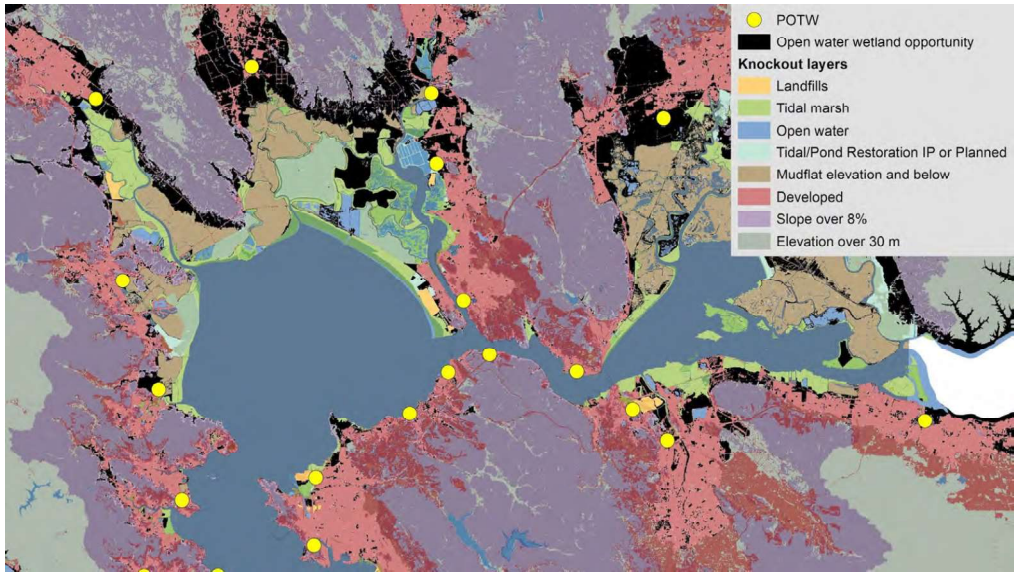
Tier 2: Ranking Criteria - Physical Characteristics

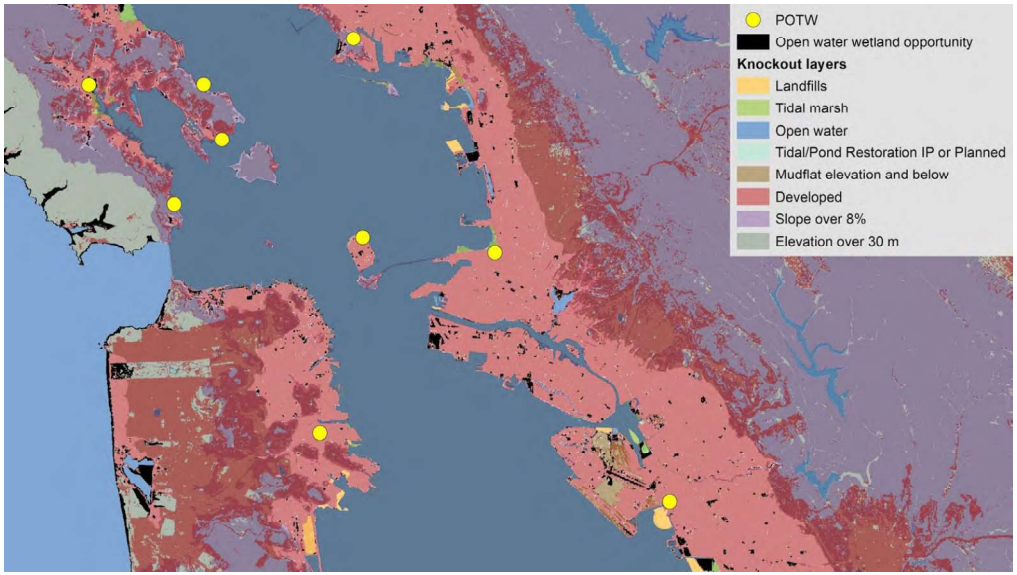
GreenPlan IT Criteria	Example suitability rankings (not yet set)		
	High	**Medium**	**Low**
Site grade	<3%	3-5%	>5%
Land use/habitat classification	agriculture	salt pond	urban park
Distance from wastewater source	< 0.5 mile	0.5 - 1 mile	> 1 mile
Elevation difference from wastewater source	<20'	20-40'	>40'
Size	>10 ac	5-10 ac	<5 ac

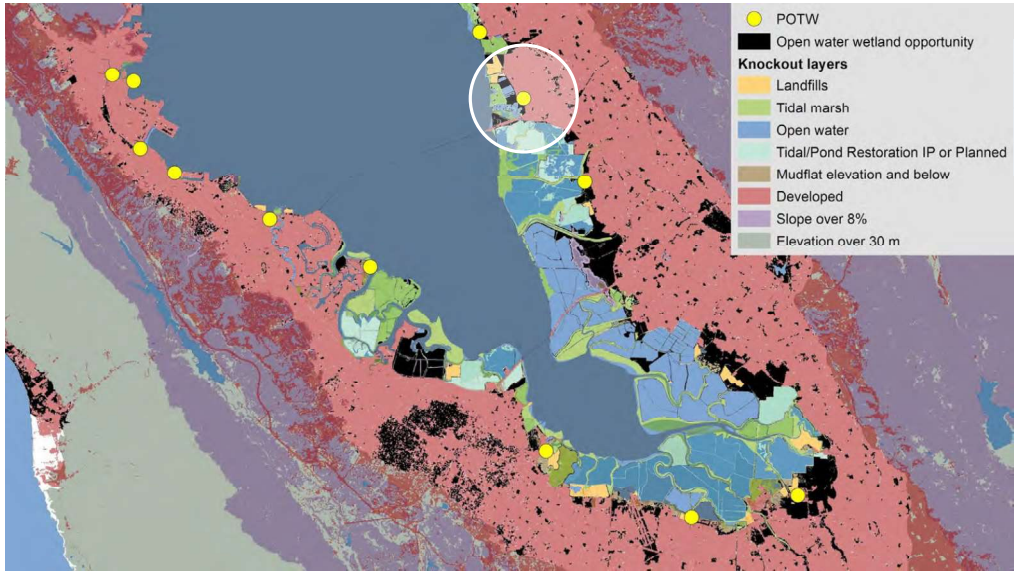
Tier 3: Ranking Criteria - Other Considerations

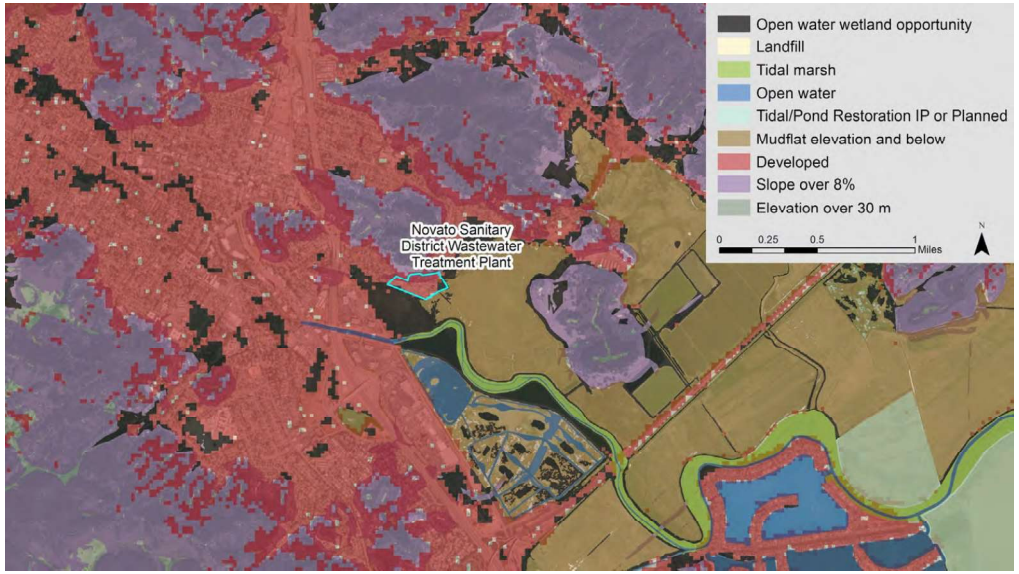
1) Nutrient load reduction
2) Habitat improvement (qualitative assessment)
3) SLR adaptation (vulnerability and consideration of alternative uses)

Tier 1 (Filter) Results
Eliminating unsuitable sites









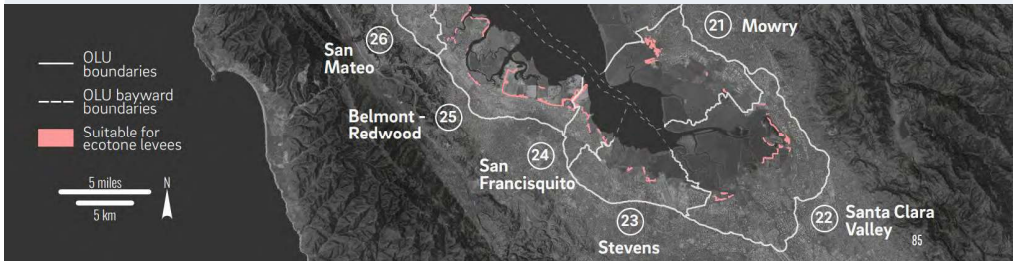
Questions & feedback

Horizontal levees

Oro Loma horizontal levee. Photo: SFEP

Ecotone levees: Adaptation Atlas method

- Broader definition
- At tidal marsh elevation
- Adjacent to developed areas
- Marsh wide enough to support a levee with 1:30 slope



Goals

- Capture missed opportunities
- Update and expand input data sources
- Focus on identifying wastewater seepage slope opportunities for multi-benefit levees

Revised method

- Same basic protocol as Phase I
- Updated some input datasets
- Created more expansive development layer
- Created more expansive marsh layer
- Output levees categorized by type

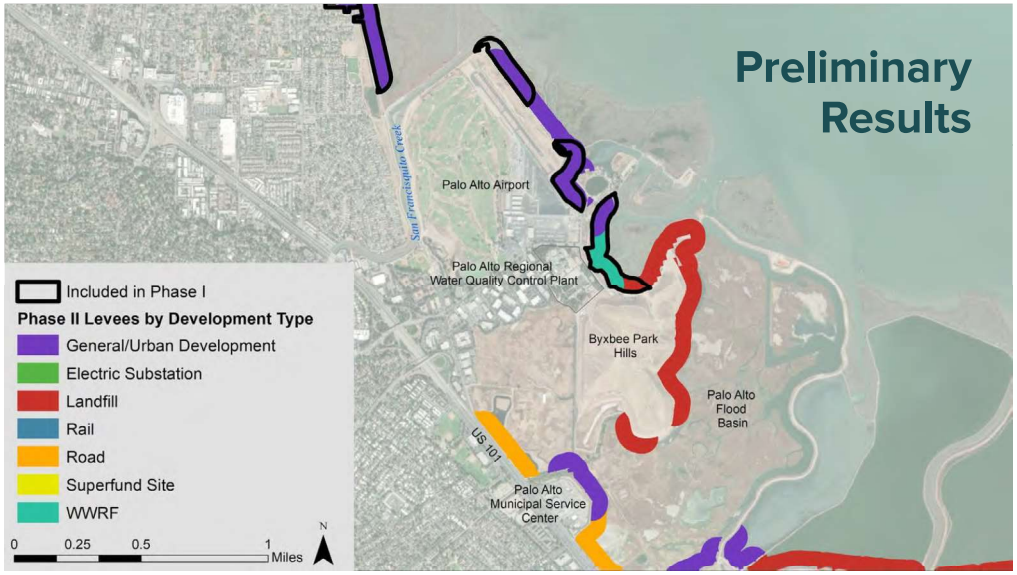
Expanded Inputs

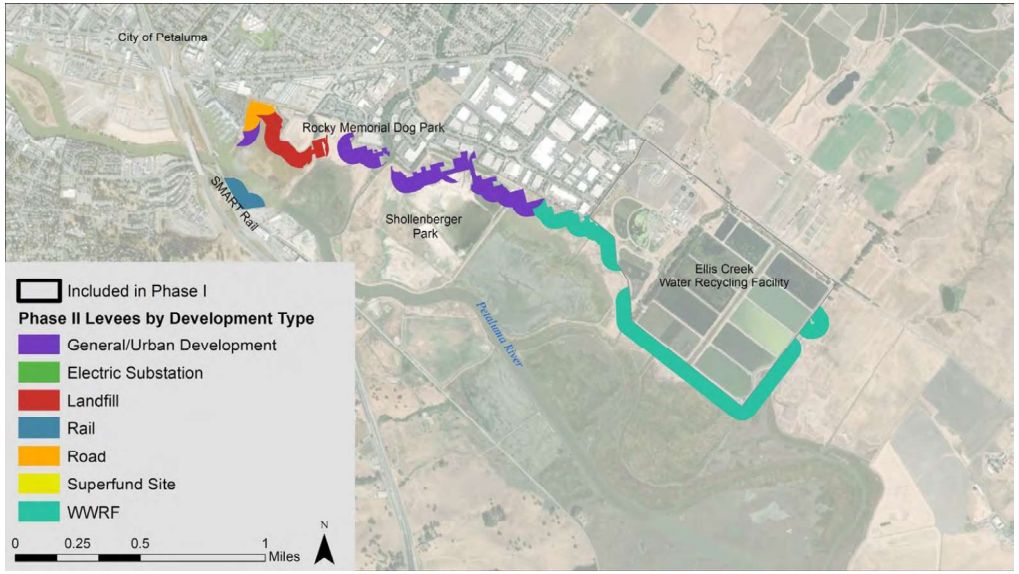
Development

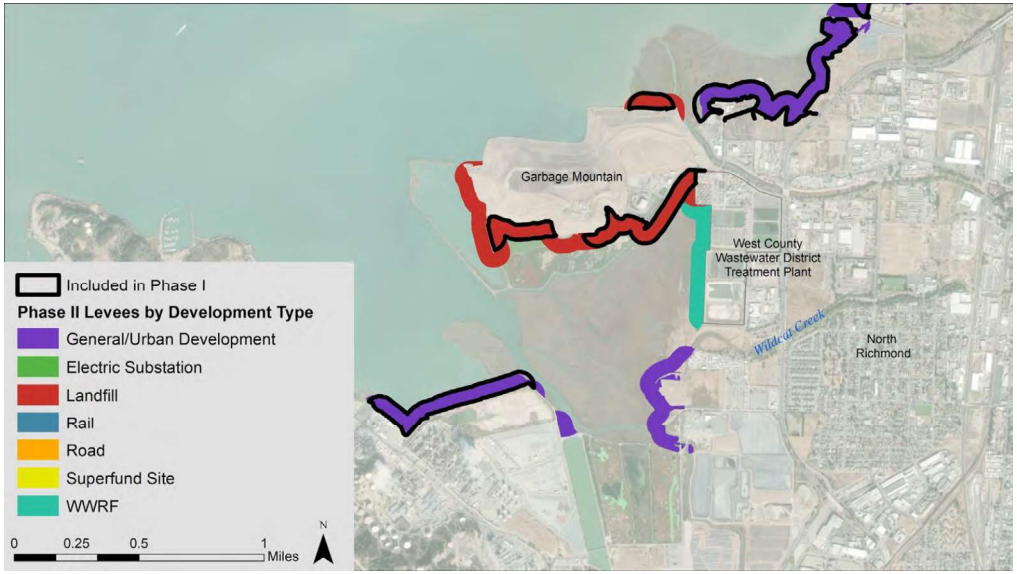
- Urban development (updated)
- Developed baylands
- Wastewater treatment plants
- Superfund sites
- Road and rail buffers
- Landfills
- Electric substations

Marsh

- Marsh elevation
- Undeveloped migration space (updated)
- Recently restored/planned tidal marsh restoration







Next steps

- Refine suitability mapping
- Ranking in GreenPlanIT
- Zooming in on specific POTWs
- Tradeoffs and opportunities
  - Ecological connectivity
  - Nutrient reduction
  - SLR adaptation potential

Integrating Adaptation Atlas & BACWA efforts

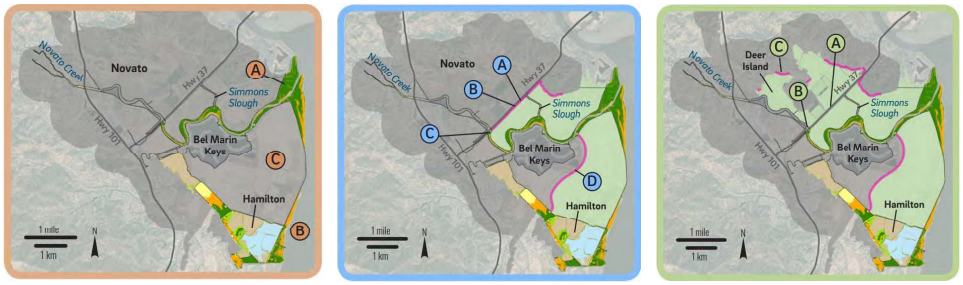
BACWA NBS (regional and site scale)

- Evaluating nature-based adaptation for WWTPs in OLU context
- Quantifying nutrient reduction opportunities for Nutrients Permit
- Deep dive at 10 sites

Adaptation Atlas Phase II (regional and site scale)

- Considering freshwater inputs, flood protection, wildlife benefits
- Sea level rise adaptation and ecological resilience focus
- Deep dive at 3-5 case study sites

Example: alternative adaptation strategies



Novato OLU case study from Marin Adaptation Framework

Evaluating tradeoffs

Benefit	Indicator	Units	Strategies: Hold the line	Buffer with open space	Maximize habitat
Cost considerations					
Low cost construction	Fill volume for ecotone levees[1]	million cubic yards	● 0.00	○ 2.22	○ 2.25
Low cost maintenance	Linear distance of existing shoreline protection that would need to be raised or maintained[2]	miles	○ 21	● 11	● 9
Supporting services					
Biodiversity support (habitat, species)	Projected area of marsh in 2030	acres	○ 980	◒ 1,136	● 1,276
Cultural/social services					
Recreation	Length of new trails[3]	miles	○ 0	◒ 3.2	● 4.2

Adaptation Pathways

Seabright State Beach: *Public Property: Incremental Retreat*

PHASE	ADAPTATION STRATEGY	SECONDARY CONSEQUENCES OF STRATEGY	TRIGGER(S) TO NEXT PHASE	PATHWAY VISUALIZATION
Existing	Dune restoration Wide beach	Improved beach habitat, wide beach	Dune failure, narrowing of beach width, loss of public use and access	
1	Dune construction/ Living shoreline with cobble	Improved beach habitat, potential impact on dredging	Dune failure, narrowing of beach width, cliff erosion	
2	Managed retreat: 1- way traffic, maintain lateral cliff & beach access	Loss of one lane traffic	Cliff erosion	
3	Managed retreat: No vehicle access, maintain rec/ped access	Loss of road and parking (retain sidewalk)	Cliff erosion, loss of public use and access	
4a	Managed retreat: Remove vulnerable private infrastructure	Loss of private property- maintenance of bluff top public access	NA	
OR 4b	Armor: Construct armor to protect private property	Private property maintained, loss of public access	NA	

Source: City of Santa Cruz

Questions & feedback

Working Group to Establish Bay Area Regional Monitoring Program for SARS-CoV-2 in Wastewater
Draft of Working Group Charge (June 12, 2020)

Monitoring for SARS-CoV-2 in wastewater has the potential to provide early warning about Covid-19 trends days or weeks before information is available from individual testing, hospital admission, or mortality statistics. Asymptomatic individuals and infected individuals who do not access health care still excrete the virus, so wastewater monitoring would provide insight into the state of Covid-19 in the community that goes beyond what is possible through these other sources of data. A successful regional demonstration project can support efforts at the state and federal levels that aim to provide guidance to and coordination among regions. The metropolitan San Francisco Bay Area, which has shown early leadership in addressing the pandemic, is an ideal place to conduct such a demonstration project.

To bring a regional monitoring program to reality by Fall 2020, a high level of coordination is needed between researchers developing the testing methods, laboratories with potential to conduct testing, wastewater agencies that can provide samples, and public health decision makers. We aim to coordinate a regional wastewater monitoring working group, meeting (virtually) once per month this summer. The group would be guided by a core **steering committee** consisting of ~10 engaged individuals, drawing from wastewater professionals, public health officials, and researchers.

Working group charge: Define the specific outcomes for a regional monitoring program, share information, and address critical issues such as:

- *Sampling location and frequency:* Which wastewater sampling locations and frequency are most useful to inform regional public health decision-making in the Bay Area? Which wastewater sampling locations and frequency are feasible, given current capacity and resources? What are potential avenues for expanding sampling capacity?
- *Laboratory testing protocols:* How can laboratory testing best be conducted to ensure comparable results across the region? What are potential avenues for expanding testing capacity?
- *Data analysis:* What types of statistical and other data analysis are needed to interpret the results in ways that are useful for decision making? Who has access to the data and who will conduct the analysis?
- *Costs:* What resources are available to pursue wastewater monitoring for SARS-CoV-2 in the Bay Area? What are potential avenues for acquiring needed funds/equipment/staffing?
- *Short- and long-term needs:* What is needed to start a wastewater monitoring program for SARS-CoV-2 as soon as possible? What is needed to sustain it for the longer term, should that be necessary?
- *Communication of results:* How should results be communicated to be most effective for decision-making? Who should have access to results?

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Evaluation of the Science Used as the Basis for Drinking Water Criteria for PFOA and PFOS in California
July 6, 2020

A diverse group of water and wastewater stakeholders, including the California Association of Sanitation Agencies (CASA), recently engaged GSI Environmental Inc. (GSI) to evaluate the science and assumptions used by the Office of Environmental Health Hazard Assessment (OEHHA) in developing its recommendations for Notification Levels (NLs) for PFOA and PFOS. The accompanying report contains GSI's independent evaluation of this science. Below are some of the most significant conclusions to be drawn from the evaluation, and CASA's perspective on the potential impact of OEHAA's recommendations:

Conservative Assumptions in OEHHA's Recommendations are Inconsistent with Prop 65 and Federal Documents

The methods and assumptions used by OEHHA to support recommended water concentrations of PFOA and PFOS are extremely conservative and result in recommended NLs and SWRCB Response Levels (RLs) lower than current average background blood serum levels in California adults. Perhaps most significantly, OEHHA assumed that PFOS is carcinogenic based on a single animal study even though it does not meet the standards for being labeled carcinogenic as required by Proposition 65. The fact that PFOS is not being regulated as a carcinogen under another California regulatory program, Proposition 65, creates a substantial inconsistency within the State's regulatory approach to PFOS. Indeed, the US EPA reviewed the same study of PFOS carcinogenicity as OEHHA and concluded that it was inadequate to support a quantitative assessment of PFOS carcinogenicity. Moreover, the lifetime drinking water consumption rate used in the OEHHA calculations is assumed to be roughly 50 percent more than federal guidelines (3.71 L/d vs 2.5 L/d). This too is highly conservative.

OEHHA's Recommended NLs are not Expected to Result in Significant Public Health Benefits

Background blood serum levels of PFOA and PFOS are already below levels associated with the noncancer Reference Levels for PFOA and PFOS calculated by OEHHA. This brings into question whether further reductions in PFOA and PFOS exposure through the ingestion of drinking water or the reduction in effluent concentrations would result in measurable public health benefit. For context, blood serum levels of PFOA and PFOS in the US population have decreased by over 60 percent and 80 percent respectfully since 2002, corresponding to the phase out of their production in the US. These decreases were the result of effective management of PFAS in commerce. OEHHA assumed that drinking water is assumed to contribute 20 percent of a person's daily exposure to PFOA and PFOS, which brings into question whether stringent drinking water limits will have any measurable effect on body burden. Finally, since most exposure to PFAS comes from sources other than drinking water, setting water quality criteria at or below background is not likely to have a significant effect on reducing the population's exposure to PFAS. Also of significance is that neither the general population nor workers exposed to high levels of

PFOA and PFOS have experienced the effects that serve as the basis for the NL recommendations (liver and pancreatic tumors), which draws the veracity of the agency's assumptions into question.

Wastewater and Biosolids Related Observations from CASA

CASA notes that while OEHHA's focus has been on making recommendations for drinking water standards, low drinking water standards will almost certainly translate to lower treatment plant discharge standards and potentially to biosolids management, which would significantly impact the wastewater community. Because PFAS are ubiquitous in the influent waste streams, sanitation agencies have relatively few strategies they can use to reduce levels of PFAS in effluent discharges and biosolids. PFAS are pervasive in today's society and found in virtually every American household in products as diverse as non-stick cookware, stain resistant upholstered furniture and carpets, wrinkle free and water repellant clothing, cosmetics, lubricants, food, paint, pizza boxes, popcorn bags and many others. Wastewater treatment plants do not produce or use PFAS but merely manage what they receive, and concentrations in municipal effluent and biosolids are generally orders of magnitude lower than at sites of heavy PFAS user (firefighting training sites, etc.) or industrial users (chrome platers, etc.). Finally, since biosolids application sites have minimum depth to groundwater requirements, which are typically greater than 25 feet, there should be minimal impact to water from such recycling.

Conclusion

In summary, OEHHA stacks conservatism on top of conservatism in calculating its recommended NLs for PFOA and PFOS in barely detectable parts per trillion. Setting drinking water criteria as recommended by OEHHA and their extrapolation to effluent or biosolids limits offers virtually no benefit to public health while being extremely expensive to implement. There is also concern that these criteria will reduce the viability of many recycled water programs, resulting in greater dependence on imported water sources. More specific discussion of the derivation of the NLs is contained in GSI's full evaluation, these are simply the highlights of some of the most significant consequences of OEHHAs approach in deriving the NLs.

Exfiltration

TO: Industry professionals, collection system managers, attorneys, CASA Associates

FROM: CASA, CVCWA, CASSE, BACWA, SCAP, CWEA

SUBJECT: Request for Exfiltration Related Documents, Studies and Information

The sanitary sewer collection system sector in California is increasingly being challenged by litigation and regulatory requirements related to alleged sewage leakage from sewer system pipes and infrastructure. The use of Clean Water Act Citizen Lawsuits is expanding against collection system agencies, and more and more now include allegations that sewer collection systems are the cause of environmental impairment, groundwater pollution, stormwater discharges to waters of the US, or the transmission of chemical contaminants improperly discharged to sewers resulting in impacts on groundwater. Recently the State Water Resources Control Board staff indicated that some language to address exfiltration would likely be included in the revisions to the Sanitary Sewer Waste Discharge Requirements (WDR) while the Region 9 RWQCB has required thirteen agencies along the San Diego River to essentially prove sewer lines along the river are not exfiltrating and causing increased illnesses in surfers in San Diego. City and County storm water agencies are seeing expanding litigation against their MS4 systems from supposed exfiltration of sewers to storm systems that result in contamination of Waters of the US.

Currently across California there is no consistent, cohesive messaging from sewer system programs regarding the prevalence of and true impacts from exfiltration from sewer systems, nor are there any definitive research findings or other materials to rely upon in contextualizing the issue. Most engineering professionals and agencies contend that exfiltration is limited based on both design principals and practical experience, and that the many operations and maintenance improvements resulting from the WDR have found sewer systems have limited pipe damage, undercutting the allegations that exfiltration is a serious issue for the public and the environment.

The six professional associations identified above recently convened a brainstorming session to determine how to address the issue of exfiltration and its true impacts on the operations and maintenance of sewer systems and environment in which they operate. They determined that the first step to deal with the issue of exfiltration would be to develop a listing of the available literature, agency studies, research projects, and lawsuits and/or settlements available from across the state related to the issue of exfiltration. **As such we are requesting any members submit a list or bibliography of documents, studies, settlement agreements, enforcement orders, research efforts, or formal discussion groups or persons knowledgeable on the specific issue of exfiltration here in California or anywhere else in the United States or across the world.**

Please submit your list or bibliography at your earliest convenience to Jared Voskuhl at the California Association of Sanitation Agencies (CASA) at jvoskuhl@casaweb.org. CASA has agreed to begin the process of creating a single location or clearing house for exfiltration information leading to the development of a consistent and coordinated message on this important expanding issue for all sewer system programs, especially as we navigate the revisions to the WDR. The six professional associations will evaluate the responses and then determine the next steps in the development of a coordinated philosophy and information clearing house for the industry or determine the need for additional research or evaluations to assure a scientific-based understanding of the prevalence of exfiltration and the real impacts therefrom.

CC Paul Causey, Chair CASA Collections Work Group

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT AND PUBLIC STAFF WORKSHOP

TOXICITY PROVISIONS AND PROPOSED ESTABLISHMENT OF THE WATER QUALITY CONTROL PLAN FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES OF CALIFORNIA

NOTICE IS HEREBY GIVEN that the State Water Resources Control Board (State Water Board) will receive public comments on revisions to the October 19, 2018 versions of the *Draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions* (hereafter the "Toxicity Provisions") and the *Draft Staff Report, Including Substitute Environmental Documentation, for the Proposed Establishment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions* (hereafter the "Staff Report") reflected in the July 7, 2020 versions of the Toxicity Provisions and the Staff Report.

The July 7, 2020 versions are also known as the *Second Revised Draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions* and the *Second Revised Draft Staff Report, Including Substitute Environmental Documentation, for the Proposed Establishment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California; and Toxicity Provisions*.

The State Water Board has developed the proposed Toxicity Provisions to establish numeric water quality objectives for both acute and chronic toxicity, and a program of implementation to protect aquatic life beneficial uses. The State Water Board is also proposing to establish the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (ISWEBE Plan), which will be a single planning document that includes all the water quality control plan provisions adopted by the State Water Board that relate to surface waters other than open bays and the ocean.

DOCUMENT AVAILABILITY

The October 2018 Toxicity Provisions and Staff Report are currently available, and the July 2020 Toxicity Provisions and Staff Report will be available on or before July 7, 2020. Responses to written comments submitted during the October 19, 2018 to December 22, 2018 comment period will be available by July 7, 2020, or shortly thereafter.

Documents will be available on the Statewide Toxicity Provision's web site at: https://www.waterboards.ca.gov/water_issues/programs/state_implementation_policy/tx_ass_cntrl.html.

You may request a paper copy by contacting Zane Poulson at (916) 341-5488 or via email at Zane.Poulson@waterboards.ca.gov.

SCOPE OF WRITTEN COMMENTS

The State Water Board will receive written comments, input, recommendations, and additional evidence directly related to the differences between the October 2018 versions and the July 2020 versions of the Toxicity Provisions and the Staff Report. Any specific written comment or evidence that is unrelated to the differences between the October 2018 Toxicity Provisions and Staff Report and the July 2020 Toxicity Provisions and Staff Report will not be accepted.

The public comment period for the October 2018 version of the Toxicity Provisions and Staff Report began on October 19, 2018, and ended on December 22, 2018. The first revised drafts of the Toxicity Provisions and Staff Report were released publicly on July 25, 2019. Written comments on the July 2019 versions were not solicited. Additional changes were made and included in the July 2020 versions of the Toxicity Provisions and Staff Report, also known as the second revised drafts.

*Appendix J. Evaluating Laboratory Performance with the Chronic Ceriodaphnia dubia Reproduction Toxicity Tes*t and *Appendix K. Survey of Laboratory Toxicity Testing Logistical Capacities* of the Staff Report were released for public comment on December 24, 2019, and comments were due on February 10, 2020. Written comments and evidence related to Appendix J and Appendix K will not be accepted during this public comment period.

Comments received during the December 24, 2019 to February 10, 2020 comment period unrelated to the appendices were not accepted. Therefore, any written comments submitted during the December 24, 2019 to February 10, 2020 public comment period related to the differences between the October 2018 and July 2020 versions of the Toxicity Provisions and Staff Report should be resubmitted during this public comment period.

SUBMISSION OF WRITTEN COMMENTS

Written comments must be received no later than **12:00 noon on August 24, 2020**, and addressed to:

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
P.O. Box 100, Sacramento CA 95812-2000 (mail)
1001 I Street, 24th Floor, Sacramento, CA 95814 (hand delivery)

Please indicate in the subject line: "**Comment Letter – Toxicity 2018 to 2020 Changes**"

Comment letters may be submitted electronically, in portable document format (PDF) if less than 15 megabytes in total size, to the Clerk to the Board via e-mail at commentletters@waterboards.ca.gov. If the file is greater than 15 megabytes in total size, the comment letter may be submitted by mail, hand delivery, or fax to (916) 341-5620. Couriers delivering hard copies of comment letters must check in with lobby security personnel, who can contact Ms. Townsend at (916) 341-5600.

PUBLIC WORKSHOP

NOTICE IS ADDITIONALLY HEREBY GIVEN that the State Water Board will hold a public staff workshop to provide information about the differences between the October 2018 and July 2020 versions of the Toxicity Provisions and Staff Report. The workshop is intended to assist the public with formulating written comments, and to assist staff in better understanding written public comments when received.

Public Staff Workshop
Wednesday, July 29, 2020, 1:00 to 4:00 p.m.
No Physical Meeting Location
Video and Teleconference Only

As a result of the COVID-19 emergency and the Governor's Executive Orders to protect public health by limiting gatherings and requiring social distancing, the public hearing will occur solely via remote presence. Links for the meeting, including a phone call option, will be posted on https://video.calepa.ca.gov/

For those who only wish to watch the hearing, the customary webcast remains available at https://video.calepa.ca.gov/ and should be used UNLESS you intend to comment.

For those who wish to speak during the workshop, additional information about participating telephonically or via the remote meeting solution is available here: https://www.waterboards.ca.gov/board_info/remote_meeting/

A quorum of the State Water Board members may be present at the public staff workshop; however, no board action will be taken. The State Water Board will schedule a subsequent meeting at which it will consider adopting the proposed Toxicity Provisions.

Additional information on the workshop, including meeting procedures and information on making presentations, can be found at the State Water Board calendar web site at: https://www.waterboards.ca.gov/board_info/calendar/.

FUTURE NOTICES

Any changes regarding the release of the July 2020 Toxicity Provisions and Staff Report or the responses to comments, the public comment period, or the date, time, and place of the workshop will be noticed through the list serve e-mail distribution list and on the State Water Board's web site. Any person desiring to receive future notices must sign up for the list serve e-mail distribution list by accessing the E-mail List Subscription form, selecting the box for '**Freshwater Plan and Policies**' (located within the section entitled '**Water Quality**'), and providing the required information. The subscription form is located at the Email List Subscription Form web site at: http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.html.

CONTACT INFORMATION

Please direct questions regarding this notice or the Toxicity Provisions to Zane Poulson at (916) 341-5488 (Zane.Poulson@waterboards.ca.gov), 1001 I Street, 15th Floor, Sacramento, CA 95814.

July 7, 2020
Date

Jeanine Townsend
Clerk to the Board

ReNUWIt

Re-inventing the Nation's
URBAN WATER INFRASTRUCTURE

Ninth-Year Annual Report

Director Richard Luthy; Deputy Director David Sedlak

April 2020

Partner institutions:
Colorado School of Mines
New Mexico State University
Stanford University
UC Berkeley

A National Science Foundation Engineering Research Center since 2011
Cooperative Agreement No. EE-1028968

Innovation (NAWI), a $25M/year US Department of Energy-funded research center headquartered at the Lawrence Berkeley National Laboratory. ReNUWIt researchers focused on desalination, concentrate management and resource recovery will continue their laboratory and testbed research as part of NAWI. Finally, ReNUWIt is continuing its efforts to extend its messages of urban water innovation through various convenings and workshops at the regional, national and international scales.

Highlighted Achievements

I. Integrated Systems Testbeds

- A mobile testbed for assessing a ReNUWIt technology for obtaining energy during anaerobic treatment of wastewater—CHARGE (coupled hybrid anaerobic reactor for generation of energy)—was deployed at a facility operated by IAB member South Platte Water Renewal Partners.
- A BIOCHARge (biofiltration with controlled hydraulics and reactive geomedia) testbed was installed in Fort Collins, CO, in partnership with researchers from Colorado State University and IAB member Geosyntec Engineers.
- The Oro Loma Living Levee testbed was retrofitted to enable testing of the potential for using the system to treat reverse osmosis concentrate produced by IAB member Valley Water.

II. Enabling Technologies & Cross Cutting Activities

- A team of ReNUWIt researchers and IAB members in the Colorado Front Range was awarded first prize in the WEFTEC LIFT Intelligent Water Systems Challenge for their research advances on systems for using real time control to improve the performance of water treatment technologies.
- ReNUWIt organized and led two interactive workshops with utilities, regulators and other stakeholders in the San Francisco Bay Area to advance the adoption of innovative water technologies and management practices as part of the Bay Area One Water Network.
- NMSU's Professor Pei Xu co-hosted the Two Nations One Water conference in Las Cruces, NM in April 2019 with the theme of adaptive water strategies for managing drought at the triple point of New Mexico, Texas and Chihuahua Mexico. The conference drew over 200 participants from academia, industry, local and federal agencies, border communities, consultants, and farmers and was sponsored by several ReNUWIt IAB members.

III. Fundamental Science & Engineering

- ReNUWIt researchers launched two new projects on innovative approaches for reverse osmosis treatment of brackish groundwater at the Brackish Groundwater National Desalination Research Facility in New Mexico.
- Research from ReNUWIt researchers provided new insight into the sources and fate of potentially toxic oxidation byproducts and waterborne pathogens in recycled water intended for potable water reuse.

IV. University Education

- Three ReNUWIt graduate students were recognized with first prize honors in regional and national competitions for their ability to translate research ideas into actionable business and action plans. This included the 2019 NSF ERC program's Perfect Pitch competition.

- Four ReNUWIt doctoral students gained experience working with IAB members and Innovation Partners, three of which were funded by the NSF INTERN program. These interactions strengthen the pipeline of students from ReNUWIt that have brought new types of systems-level thinking into the workforce.
- A diverse cohort of 14 undergraduates and non-thesis Master's students gained experience with research and learned about the ways in which urban water is being reinvented through their participation in the ReNUWIt Research Scholars (RRS) program. Initial tracking of alumni of the program suggests that the experiences fostered a greater interest in advanced degrees and learning in the area of urban water infrastructure.

V. Pre-college Education

- A total of 17 teachers became better acquainted with research and urban water issues through ReNUWIt's Research Experience for Teachers (RET) Program during summer 2019, which included partnership with CSM's Water-energy Education for the Next Generation (WE^2NG).
- Several hundred young learners engaged with our Stormwater Design Challenge at water fairs and local classroom visits.
- The student-produced podcast *Water You Talking About?* now has over 7000 listens and is in its fifth season.

VI. Innovation and Technology Transfer to Member Firms

- ReNUWIt industry partner Elephant Butte Irrigation District built a second riparian rehabilitation site at Rincon Valley, NM, which is referred to as Rincon WHEN (Water Habitat Energy Nexus).
- The Integrated Decision Support Tool (i-DST), which enables users to compare various distributed stormwater treatment technologies, including ReNUWIt-developed N Thrust technologies such as BIOCHARge, along several environmental, social and economic performance metrics is undergoing beta-testing nationally under a range of watershed conditions.
- ReNUWIt maintained an active innovation ecosystem through continued collaboration with IAB members and innovation partners.

VII. Culture of Inclusion and Diversity

- ReNUWIt's Inclusive Excellence Initiative (IEI) launched a web-based, interactive resource (inclusive.renuwit.org) that provides actionable tips for creating more inclusive classrooms, laboratory groups, and peer-to-peer interactions.
- Student-initiated efforts to reform graduate school admissions processes advanced through a pilot-test of approaches for assuring greater equity and inclusion in admissions decisions in UC Berkeley's environmental engineering program. ReNUWIt team members are working with leaders in their respective departments and colleges to analyze, extend and formalize these efforts more broadly.
- Latinx/Hispanx participation in ReNUWIt approached national engineering and ERC averages for graduate students and exceeded those averages for undergraduate students. URM participation exceeded national engineering averages for graduate and undergraduate students and was near ERC averages for graduate students.

VIII. ***New Partnerships/Collaborations Formed***

- ReNUWIt team members from all four campuses are serving as part of the National Alliance for Water Infrastructure (NAWI), a multi-year effort to advance desalination technology which is funded by the US Department of Energy at a baseline level of $25M/year for at least five years.
- ReNUWIt strengthened its partnerships with the National Water Research Institute (NWRI), Imagine H2O and BlueTech Research with the goal of building greater recognition for the role of innovation in the solution of urban water infrastructure problems.

High-Level Response and Status to SWOT

In the Year 8 review of ReNUWIt, the Site Visit Team recommended continuation of support and did not specify any major concerns. As a result, a high-level response to the Year 8 SWOT is not included here. Responses to the comments received from the SVT are found at the end of each appropriate section.

Translational Research Partner Firm	Project Title	Funding Level	Funding Sources
USBR/BGNDRF University of North Texas Colorado State University	Improving crop yield and soil salinity by cost-effective integration of microbial community, hydrology, desalination, and renewable power	$1.575k	NSF INFEWS
OCWD Valley Water	Quantifying the contribution of disinfection byproducts to the toxicity of wastewaters purified for potable reuse: which byproduct classes matter?	$155k	NSF CBET
Colorado Springs Utilities Carollo	Mobile and demonstration-scale DPR system for research and education	$350k	Colorado Water Conservation Board

Table 8.6 ERC Start-Up Firms (ERC Table 3-3)

Name of Firm	Date Established	Principal & Relationship to ERC	Funding Status	Technology	Market Impact or Societal Benefit
N-Gen Corporation	2012	Yaniv Scherson, ReNUWIt Alumnus	NSF AIR grant, USDOE Grant	CANDO	Reduces aeration energy by 20%. Reduces biosolids by 60%. Recovers energy from nitrogen.
ElectroSan	2014	Wiliam Tarpeh, ReNUWIt Alumnus	VentureWell E-Team Stage 1 grant	Ion exchange and electrochemical stripping for nitrogen recovery from urine	Nitrogen recovery from urine

8.5 Transition Phase Plans

Our future plans at ReNUWIt involve implementation of the strategy described in Chapter 5, Strategic Plan, of this report. Specific actions that are currently under development to meet our goals are listed below.

Continue existing efforts and develop new technology diffusion activities to transfer ReNUWIt technologies into practice

We anticipate that targeted technology diffusion activities will be scheduled as appropriate for individual technologies. Activities will include a Bay Area One Water Network large gathering in fall 2020 as well as additional workshops in 2021. Workshop reports will also be distributed widely and posted on the Bay Area One Water Network (www.bayareawater.org) and ReNUWIt websites (http://renuwit.org/highlights/reports/). ReNUWIt will also engage with WateReuse and the USEPA to advance the *Water Reuse Action Plan*. ReNUWIt researchers from Stanford and CSM gathered in California in June 2019 to have a workshop on anaerobic mainstream wastewater treatment; this conversation is expected to lead to a larger workshop incorporating IAB members as well as other relevant stakeholders. Other technology diffusion activities include sessions at conferences (e.g., NWEA/CWEA/AWWA/WateReuse/Johnson Foundation at Wingspread) and webinars.

Guidance manuals for BIOCHARge and BEST installation and maintenance (N3.2/N3.3/N3.4/N3.8), stormwater BMP co-benefits assessment tool (U2.12), and design of subsurface wetlands (N1.3) will also be widely disseminated. The unit process open water wetland (UPOW) maintenance manual has already been published in a peer reviewed journal (Silverman et al., 2019) and a guidance document is available on the ReNUWIt website at http://renuwit.org/highlights/reports/. In Year 9, a synthesis paper was also written with N and U Thrust researchers describing ReNUWIt BIOCHARge unit process (Boehm et al., 2020). Additional synthesis papers are planned for Year 10. Training sessions on how to use ReNUWIt tools (U1.2 IRIPT and U2.12 i-DST) are also planned to facilitate their uptake and support users of those tools.

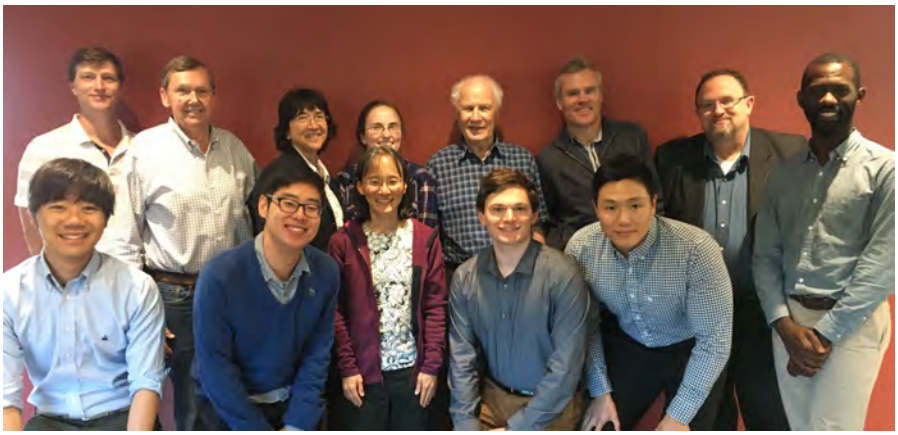

Figure 8.11 Anaerobic mainstream workshop in Stanford, CA on June 6, 2019.

Creation and support for the innovation ecosystem and urban water reinvention

As part of our transition strategy, we are engaging stakeholders regionally in the San Francisco Bay Area, the Front Range, and the southwest with the goal of obtaining support for our reinvention efforts beyond the period of NSF ERC program support. ReNUWIt researchers are building a stakeholder consortium and developing regional partnerships to brainstorm solutions for overcoming institutional barriers to urban water reinvention. This involves organizing workshops on overcoming water rights barriers to stormwater beneficial use in the Front Range where water rights policies and laws are restrictive. Policy work is being conducted in collaboration with the CWCB to enable stormwater beneficial use for new developments.

ReNUWIt researchers from NMSU, in collaboration with researchers at the University of Texas El Paso, Texas A&M, and the New Mexico Water Resources Research Institute, organized the "Two Nations One Water" conference in Las Cruses, NM. This workshop was sponsored by several IAB members, including the City of Las Cruces and El Paso Water, as well as USBR and the International Boundary and Water Commission. ReNUWIt's RILO and Professor Pei Xu participated in an interactive panel focusing on innovative technologies for alternative water supplies and water purification.

The California-based ReNUWIt campuses are also pursuing a Bay Area One Water Network to continue to achieve the promise of more robust solutions to our water supply challenges in the

Bay Area. Fifteen Bay Area utilities, agencies and cities provided financial support in 2019 in addition to support provided by the EPA and a NSF Supplement. The intent is to align the region through technology sharing, develop regional strategies for Bay Area sustainable water supplies, and assess partnership opportunities. Both ReNUWIt IAB members as well as other supporters have been actively involved in the first two Bay Area One Water Network workshops and have championed the concept of the network. Additional discussion of regional efforts and the sustainability plan is in Section 5.1, Value Added and Broader Impacts.

ReNUWIt with support from the EPA and Meridian Institute, and The Johnson Foundation will host a facilitated workshop at the Johnson Foundation at Wingspread in November 2020 to address opportunities and challenges related to urban stormwater capture for water supply. This will bring together about 30 experts and thought leaders from across the US, and representative from national agencies, e.g., National Assn. of Municipal Stormwater Agencies, WateReuse, etc.

Continue to recruit and retain industry innovators and early adopters to support and shape ReNUWIt research

The focus will be on continuing to make progress for the 14 ongoing testbeds and to bring the two upcoming testbeds—Mines Campus PG BIOCHARge and Golden BEST—online to support our BIOCHARge and BEST stormwater research. These projects encompass a large majority of our IAB members and are likely to sustain active engagement. A third upcoming testbed is the modified dry well design in Los Angeles for enhanced removal of stormwater contaminants prior to recharge.

Obtain support from industry partners for ReNUWIt's sustainability plan

We appreciate the need to engage IAB member support during our transition years and will build upon the model that we have already established as we implement the self-sufficiency plan as outlined in Chapter 11. We anticipate that IAB members will continue to be interested in teaming on projects that are directly relevant to their future needs as described in Chapters 5 and 11. Discussions are underway about the creation of an annual innovation-focused meeting that would capture the spirit of ReNUWIt and expand its scope beyond the four partner campuses. In Year 9, ReNUWIt engaged several organizations, including the National Water Research Institute (NWRI), Imagine H2O and NAWI in discussions about an initial joint event. The event, which is described in more detail in Chapter 5 of this report, will engage our IAB members with the goal of retaining the relationship that they have had with our research team.

Continue to facilitate communication between industry members, researchers, and students

Fostering an active innovation ecosystem is one of ReNUWIt's highest priorities and we believe that it is critical to continue to engage our IAB members and expand the discussion to a broader set of stakeholders as we move into our next phase. As part of ReNUWIt's transition plan described in Chapter 11, we will continue to seek IAB and SAB comments on ways in which ReNUWIt may further engage the community of researchers and practitioners in non-research activities that are relevant to ReNUWIt's overarching goal of advancing urban water reinvention.

For example, workshops and larger meetings of the Bay Area One Water Network will engage many organizations and cities from the IAB and beyond. We have also been discussing opportunities to include a ReNUWIt (or ReNUWIt and beyond) session coupled with well-attended conferences, such as the Association of Environmental Engineering and Science Professors (AEESP) Annual Meeting, to maintain connections between industry members, researchers, students, and ReNUWIt alumni.

ReNUWIt researchers also received valuable feedback at the January 2019 and 2020 SAB meetings regarding how ReNUWIt can impact the research and wider practitioner communities through the publication of synthesis papers in peer-reviewed journals and publications in more practitioner-read outlets, as well as through ongoing participation in conferences and workshops. The first of these synthesis papers has been accepted for publication by (Boehm et al., 2020) and is being published in an open access format to facilitate dissemination beyond academia. These activities will involve the participation of the entire innovation ecosystem in future conferences and workshops focused on innovation for urban water management as well as other activities designed to facilitate technology diffusion.

Continue to support preparation of students to reinvent urban water infrastructure

We believe that the training of students and postdocs is necessary to create the workforce needed to reinvent urban water infrastructure. To continue our support of training activities, we will seek opportunities to increase engagement between students and IAB members. One aspect of this effort is being led by the Student Leadership Council, which has worked with IAB members to promote interactions at the off-cycle IAB meetings (e.g., the student-organized IAB career panel held at the fall 2019 IAB meeting in Golden, CO) and through biweekly student-led seminars to which IAB members are invited to participate both as speakers as well as in the audience. In Year 9, five students participated in NSF INTERN positions with industry partners and five additional students are applying for NSF INTERN funding for 2020/2021.

8.6 Year 8 SWOT (May 2019)

The annual SWOT analysis was conducted by our IAB SWOT committee led by Rula A. Deeb (Geosyntec) and supported by Megan Plumlee (OCWD), and David Pettijohn (LA Department of Water and Power). The SWOT committee collected input from the larger IAB and summarized the responses in the SWOT analysis. The results of this analysis are shown below.

8.6.1 Year 8 IAB SWOT Analysis

Strengths:

- Big picture vision and strong emphasis on an important topic, WATER!
- ReNUWIt program is interdisciplinary, covering a wide range of water-related research that offers “something for everyone”
- Continually increasing university-industry partnerships, including projects, with faculty and students who are passionate about water
- University talent is focused on applied research to address water industry needs

Alternative Paths to Sustaining ReNUWIt's Mission

In planning for self-sufficiency as we approach the transition from NSF ERC funding, ReNUWIt aims to continue support for the four overarching goals of ReNUWIt: 1) Advancing the reinvention of urban water; 2) Developing technologies and concepts to support urban water reinvention; 3) Gaining recognition as a global leader in the field of urban water reinvention; and 4) Preparation of students to lead efforts to reinvent urban water infrastructure. With that in mind, ReNUWIt has been pursuing three paths (Figure 11.6) to self-sufficiency.

Path 1: Increase Federal and Non-Federal Support of ReNUWIt Activities

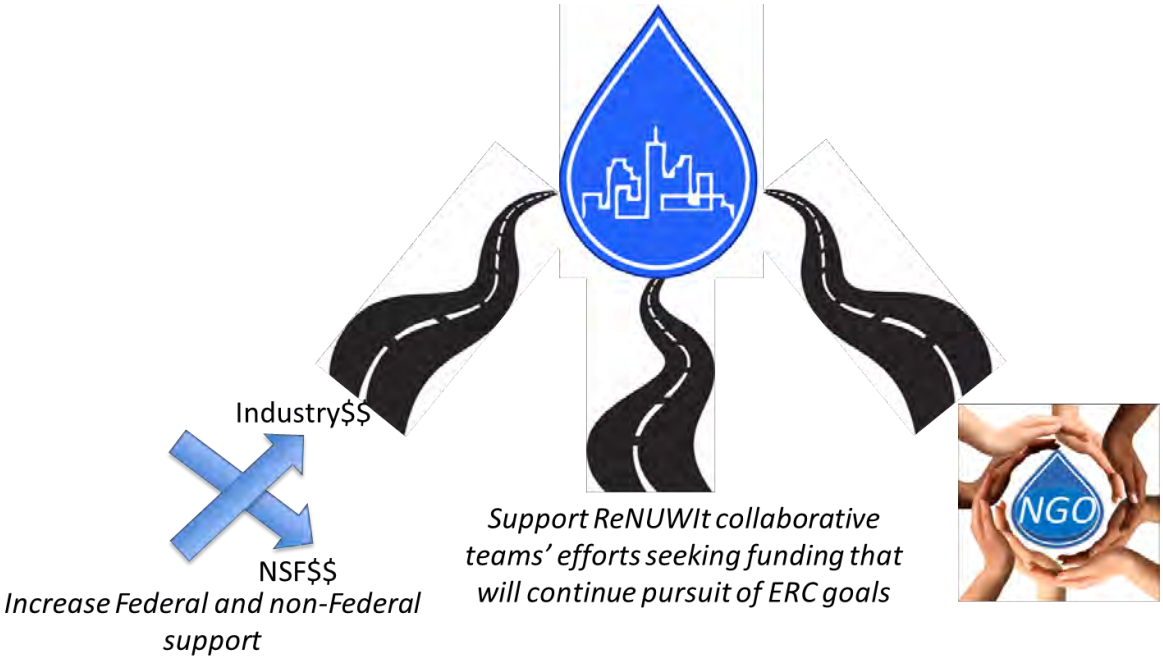

Figure 11.6 Three paths to sustaining the pursuit of the goals of ReNUWIt.

The first approach that aims to support self-sufficiency beyond NSF funding for the ERC focuses on increasing sources of financial support from our IAB members, outside industries, state and regional governmental agencies and foundations. Building upon the successful network of industry partners, ReNUWIt researchers in partnership with IAB members, have been pursuing extramural grants for research projects of mutual interest from government or non-profit sources. Industry partners benefit from access to validated pilot testing facilities, personnel and laboratory analyses, and working with unbiased researchers from an established research center focused on water technology innovation. ReNUWIt PIs and their students will benefit from continued involvement in ReNUWIt through connection to a network of leading industry partners, funding support for students working on industry-academia partnership projects, and opportunities to work directly with these partners on research supporting innovation in the urban water sector. Several examples of such relationships have already been developed in ReNUWIt, including the following with federal or non-federal support:

- Project N1.8 (Hybrid treatment of reverse osmosis concentrate from potable reuse systems) has received over $500k in funding from Valley Water to support one UC Berkeley and one Stanford PhD student for three years. This project continued in Year 9 with a grant of an additional $286k from the California State Water Resources Control Board.

- Project E3.4 (Alternative potable reuse treatment trains) with support from the Water Research Foundation (WRF) (~$210k from WRF, and an additional $500k from the US Department of Defense). This work includes pilot testing with SNWA and evaluates the effectiveness of alternative reuse treatment trains with a focus on aerobic primary anaerobic treatment followed by either MF-RO-AOP or MF-ozone-BAF-GAC.

- Project E2.11 (Anaerobic secondary treatment using the SAF-MBR) received approximately $2M from the California Energy Commission as part of four-year, $3.2M effort. About $1.5M supports ReNUWIt investigators for research and testing. This project will continue through Years 9 and 10. Additional support was provided by Singapore PUB and gift funds for comparison of particle versus gas sparging for membrane performance, and efficient dissolved methane management.

- Project U2.12 (Integrated decision support tools for life-cycle cost and performance assessment and optimization of green, grey, and hybrid stormwater infrastructure) that received $1.95M in support from the USEPA for a four-year project (through Year 10).

- Project N3.8 (Prevention of sediment recontamination by improved BMPs to remove organic and metal contaminants from stormwater runoff) is a three-year $1.5M project (through Year 10) supported by the USDOD on improved BMPs, and a collaboration among CSM, Stanford, and Geosyntec. This could transition to a demonstration project through the USDOD's ESTCP program after NSF ERC support concludes.

- Project E3.5 (Innovative algal/membrane hybrid system for sustainable wastewater treatment and potable water recovery) is funded by a three-year $400k US Bureau of Reclamation grant (through Year 10), in addition to $400k in-kind support from local cities and utilities. The Brackish Groundwater National Desalination Research Facility (BGNDRF) is also serving as a field site for this project.

Consultation with IAB members has provided ERC leadership with several suggestions about how to maintain and potentially increase the level of support from IAB members and the greater utility sector. In general, the approaches involve closer interactions with IAB members on technologies that are being considered for adoption. This could be a useful means of diffusing ReNUWIt technology, but it might not provide finding for the development of new ideas. Examples included:

- Increase interactions with the new WRF, possibly providing a valuable academic perspective that WRF currently lacks. ReNUWIt's director, for example, serves on WRF's academic council, and ReNUWIt's Deputy Director and WRF's CEO were part of the Johnson Foundation's report on potable reuse.

- Fill a niche that would be valued by the industry by providing unbiased third-party evaluators of the technical, life-cycle, and cost comparison across alternative technologies being considered by the industry. This might be achieved, for example, through dissemination/application of ReNUWIt's U Thrust decision-making tools.

- Serve as a bridge between students and industrial research projects, helping to identify students to run pilot tests through internships that are also guided by ReNUWIt PIs. Project E2.16 is an example of this kind of relationship on phosphorus recovery with Denver Metro, who is working with Leaders Innovation Forum for Technology (LIFT) as testbed facility for new technologies with space available for piloting innovative water technologies.

We are currently exploring mechanisms for continuation of ReNUWIt's convening legacy to engage IAB members with ERC PIs and students. IAB members indicated that this is one of the best vehicles to continue these relationships. This could involve a meeting registration fee to defray meeting costs as opposed to the annual IAB membership dues that will be harder to justify after NSF support ceases. This same guidance will assist us in planning for a non-governmental organization (Path 3). ReNUWIt's SAB members have endorsed this approach and encouraged us to pursue multiple avenues to self-sufficiency. Several SAB members also suggested that it might be possible for ReNUWIt researchers to obtain significant amounts of direct support from utilities on an ongoing basis, provided that they could nurture the relationship and demonstrate value to the utilities. Such a model could replace a significant fraction of the base NSF support, provided that ReNUWIt PIs identify challenges the utilities face that could be addressed through ReNUWIt graduate student research. In our Year 8 report, we stated that we aimed to start at least one new IAB-funded project at each school in Year 8. In Year 9, we have also seen new industry-funded projects at each campus:

- U3.8, characterizing, categorizing, and communicating next-generation nutrient removal processes for resource recovery with WRF (funding) and the New York City Department of Environmental Protection (in-kind) (Stanford)
- E2.24, high recovery reverse osmosis with innovative 3D printed open flow channel spacers and electromagnetic field with funding from USBR, New Mexico Water Resources Research Institute, and HydroFLOW (in-kind) (NMSU)
- E3.7, mobile and demonstration-scale DPR system for research and education with Innovation Partner the Colorado Water Conservation Board (funding), Colorado Springs Utilities, and IAB member Carollo (CSM)
- N3.8, prevention of sediment recontamination by improved BMPs with USDOD's SERDP program (funder) and partnering with IAB member Geosyntec (Stanford and CSM)
- N3.9 (upcoming), enhanced removal of stormwater runoff contaminants in a dry well with IAB member LADWP, LA County Public Works, LASAN, and Innovation Partner Southern California Coastal Water Research Program (SCCWRP) (Stanford and UC Berkeley)

Path 2: Support ReNUWIt Collaborative Teams Seeking Continued Funding

The second path to sustainability that the Leadership Team supported involved new center-like opportunities (i.e., grants in excess of $2M/yr) that will continue to support the goals of ReNUWIt. To differentiate it from the existing program, the effort will need to focus on a smaller subset of ReNUWIt's strategic research plan and will likely have to consider aspects of research that are outside of ReNUWIt's existing portfolio. Collaborators with expertise in some of these areas may also need to be brought into the effort. Examples of topics in which ReNUWIt investigators are well positioned to make contributions that will further urban water reinvention include the urban food-energy-water nexus, smart water infrastructure innovation, decentralized urban water systems, resource recovery, stormwater for recharge, and advances in modular water treatment technologies.

We are able to report now that a subset of ReNUWIt research teams—with representation from each campus—are playing major roles in leading the recently-funded National Alliance for Water Innovation (NAWI). The center, which is led by Lawrence Berkeley National Laboratory (LBL) has been funded at a base level of $25M/year for at least five years through the USDOE Energy-Water Desalination Hub call for proposals. The LBL team also includes researchers from three of the four NEWT ERC member campuses, the University of Texas at Austin, NREL and Oak Ridge National Laboratory. Improving desalination in the municipal water sector through the use of modular desalination systems and the integration of sensors and actuators—two priority areas for ReNUWIt's E Thrust—are major themes for NAWI.

Figure 11.7 NAWI's focus is on early-stage research on desalination and associated water-treatment technologies to secure affordable and energy-efficient water supplies for the United States from nontraditional water sources. Its initial five-year research program will be guided by an annual road-mapping process designed to engage stakeholders from the water-treatment and water-use sector, and by an annual request-for-proposal process to solicit research ideas through a competitive, peer-reviewed process.

Path 3: ReNUWIt Partnership with Non-Profit Organizations

The third path that ReNUWIt has been exploring involves partnering with a non-profit organization that focuses on engaging the community of researchers and stakeholders in activities that align with the goals of ReNUWIt. This follows the path taken by the SynBERC ERC that launched the Engineering Biology Research Consortium (EBRC) non-governmental organization (NGO) to advance a research agenda in the area of synthetic biology. A ReNUWIt-related NGO could serve as a forum for exchange of ideas and creation of cutting-edge demonstration projects related to ReNUWIt's overarching goals with strong participation from thought leaders from the water industry, academia, and government. We have explored this

option but have decided to partner with existing NGOs that are pursuing similar goals rather than creating a new NGO.

One tangible activity that we are pursuing is to hold conferences and workshops related to water innovation with the goal of using the group's convening power to bring together stakeholders who normally do not interact and obtain recognition for the need to reinvent urban water infrastructure. During Year 8, we held informal discussions with thought leaders in the water sector to gauge support for this approach. One key observation from these discussions is that there are already many conferences and workshops that address different aspects of urban water systems (e.g., AWWA, National Association of Clean Water Agencies, National Municipal Stormwater Alliance, Water Reuse Association, Water Quality Association, WEFTEC; and WRF). Any new meeting initiated by ReNUWIt would have to distinguish itself from the crowd.

Another key observation is that every region that faces urban water challenges would benefit from discussions on innovation and partnerships. In Year 9, ReNUWIt engaged with one of its innovation partners (e.g., NWRI) to explore mechanisms for holding an annual or bi-annual meeting on water innovation that would bring together leaders from the water industry, technology investors, progressive utilities and leading academia to highlight exciting developments in the water sector, identify opportunities, and barriers to innovation. After receiving support for this concept from NWRI's board, we began discussions with Imagine H2O, a Bay Area-based NGO that focuses on innovation and entrepreneurship in the water sector. We also began discussions with the leadership of NAWI (i.e., the USDOE Desalination Hub) about their involvement. Although the COVID-19 pandemic has presented challenges to our effort to plan a joint meeting, discussions are progressing about the possibility of joining the presentation of the Clarke Prize with Imagine H2O's annual water week to create a high-profile event dedicated to urban water infrastructure reinvention.

There was considerable enthusiasm among members of ReNUWIt's IAB and SAB for the feasibility and potential impact of this plan. Many of our advisors expressed the opinion that the combination of well-respected NGOs and the research programs represented by ReNUWIt could provide an excellent forum for bringing together people that do not normally meet—mayors, tech providers, academics, urban planners and developers. Our advisors are helping us to identify additional partnering organizations, including Sustainable Silicon Valley, WRF, Rockefeller Foundation, the US Green Building Council, and the Emerson Collective. The critical challenge that ReNUWIt needs to address is to assess the degree of interest in such an event, assess a workable business model, and identify a means of assuring potential participants that the meeting is different from other industry- and academic-led conferences, with leading speakers giving presentations that can effectively engage audience members from the different groups, not just consultants, utility managers, and academics.

An initial activity to build support for ReNUWIt's future role as a thought leader and convener was launched in Year 8 as a "Bay Area One Water Network." This was an outcome from a ReNUWIt-sponsored meeting to discuss Bay Area regional partnerships for sustainable water. In Year 9, we held two facilitated workshops with representation from utilities, governmental organizations, and nonprofits, with one workshop on stormwater capture for water supply, and one workshop on centralized/decentralized reuse systems. The goals of the effort include:

building partnerships, creating opportunities to avoid disjointed efforts, identifying actions that may provide the biggest payoffs, and developing examples (case studies) of possible solutions. The workshops are an opportunity to highlight and recognize good work while discussing pathways for moving ahead. As an impartial entity, ReNUWIt is an appropriate convener to facilitate thought-provoking discussion and ways to galvanize action when there are many players. ReNUWIt was successful in raising funds from local and national sponsors to fund the workshops and pay for an experienced facilitator. Reports on the workshops and presentations are available at the Bay Area One Water Network website (bayareawater.org).

Figure 11.8 ReNUWIt convened two workshops of the Bay Area One Water Network. The second workshop, which was held at UC Berkeley, on December 17–18, 2019 examined drivers and shared goals for future water reuse projects in the Bay Area.

Sustaining Student Engagement

ReNUWIt Leadership has been actively engaging ERC students over the past year in discussions about continuation of center-wide activities that the students find most valuable. While some of this discussion revolves around continued financial support for research activities, the students have also expressed strong desire to continue engagement activities between the four participating campuses, IAB members, and test bed sites. Leadership recently convened a town hall with students to discuss their issues of concern and brainstorm ideas for sustaining center activities. Students are particularly interested in sustaining Diversity and Inclusion activities that have been recently initiated by the ERC, and possible pathways were identified for expanding these initiatives beyond the four participating ERC campuses. Some students have expressed the desire to directly translate best practices identified in ReNUWIt to similar efforts planned for NAWI. Other ideas have been discussed, but most importantly the students are planning to take active steps to identify additional pathways for continuation of ReNUWIt engagement and activities that they find most valuable.

11.3 Resources and University Commitment

The commitment of the four partner universities to ReNUWIt is demonstrated in a number of ways. The universities supported our efforts through the provision of a substantial cash matches and teaching release for key personnel. The universities also provide office and laboratory space, publicize our efforts and consider our needs in the hiring process. Each university provides cost share to expand our efforts.

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Enterococci in San Francisco Bay surface waters near seventeen deep water municipal wastewater discharges in dry and wet seasons

Report prepared for the **Bay Area Clean Water Agencies**

Submitted by **San Francisco Estuary Institute**

Author: **Melissa Foley (SFEI)**

SFEI Contribution #994

Date: June 2020

SAN FRANCISCO ESTUARY INSTITUTE and the AQUATIC SCIENCE CENTER

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Executive summary

Surface water enterococci concentration data in the deep areas of San Francisco Bay are sparse. A study was undertaken in the dry and wet season to measure enterococci concentrations near wastewater treatment plant outfalls to inform the San Francisco Bay Regional Water Quality Control Board's (SFBRWQCB) decision to allow dilution credit for the enterococci water quality criterion. Surface water samples were collected at sixteen stations in July (dry season) and January (wet season) throughout the Bay. Samples from all stations were below the 30 CFU/100 mL water quality criterion, but there was variability through the Bay and across seasons. Concentrations tended to be higher at stations in San Pablo Bay and Carquinez Strait than in Central and South Bays, and concentrations were higher at nearly all stations in the wet season compared to the dry season. This study represents the most comprehensive data set for surface water enterococci concentration in the deep water areas of San Francisco Bay and provides evidence that can be used by the SFBRWQCB to inform their decision to allow dilution credit when implementing the newly adopted enterococci water quality criterion.

Introduction

Enterococcus bacteria is the standard indicator of fecal contamination in marine waters. The Clean Water Act provides recreational water quality criteria for enterococci based on the correlation between observed enterococci concentration and human illness levels in swimmers (USEPA, 2012). In California, water contact recreation (i.e., full body contact) is one of the beneficial uses that serves as the basis for establishing water quality objectives. In March 2019, updates to the bacterial objectives for all surface waters, enclosed bays, and estuaries of California that have a beneficial use designation of water contact recreation (REC-1) was approved by the U.S. Environmental Protection Agency (SWRCB, 2019). In the updated Basin Plan, the enterococci water quality criterion was reduced from 35 CFU/100 mL to 30 CFU/100 mL. The averaging period for compliance was also changed from a geometric mean in a calendar month (not to exceed 240 MPN/100 mL) to a six-week rolling geometric mean calculated weekly (not to exceed 30 CFU/100 mL) and no more than 10% of samples can exceed 110 CFU/100 mL within a calendar month[1]. These new criteria will be implemented by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) through National Discharge Pollution Elimination System (NPDES) permits. The SFBRWQCB applied the previous enterococci criterion as end-of-pipe limits. With the new criterion, however, the SFBRWQCB has indicated a willingness to use mixing zones to calculate effluent limitations, where appropriate, based on updated background (ambient) enterococci data.

Enterococci data from beaches and shallow water areas of the Bay are abundant (e.g., Heal the Bay report cards), but may not be representative of the deep channel locations where

[1] CFU/100 mL and MPN/100 mL are roughly equivalent units for bacterial counts

municipal wastewater treatment plants (WWTPs) discharge to the Bay. Data have recently been collected near the deep water outfalls for some WWTPs (AMS, 2011, 2016; unpublished data from Central Contra Costa Sanitary District, 2011). However, limited enterococci data exist for surface water (AMS, 2011) throughout the deep water areas of the Bay that can be used by the SFBRWQCB to calculate mixing zone-based effluent limitations. To provide current background enterococci data to the SFBRWQCB, the Bay Area Clean Water Agencies (BACWA)—which includes members from many WWTPs around the Bay—funded a study to collect surface water samples throughout San Francisco Bay. This report details the results of the study that was conducted between July 2019 and January 2020.

Methods

Sampling locations were selected based on: 1) outfall locations of major WWTPs (Figure 1); 2) locations of previous studies; and 3) distance from San Francisco due to sample hold times. Deep water discharge locations in the Bay were prioritized over outfalls that discharge to creeks (American Canyon, Fairfield-Suisun, Napa, Petaluma, Sonoma Valley, Yountville, St. Helena, Calistoga, Mountain View, and Las Gallinas were excluded). The outfall for Novato Sanitary District is too shallow to sample via boat in all conditions. In addition, three Lower South Bay POTW outfalls (Palo Alto, Sunnyvale, and San Jose) were excluded from this study because any dilution credit is unlikely to change their operational practices.

Previous enterococci data have been collected near the outfalls of San Jose, East Bay Dischargers Authority (EBDA), and Central Contra Costa Sanitation District (CCCSD). The EBDA and CCCSD outfalls are included in the study. Delta Diablo was excluded from the main sampling because it is too far from San Francisco to adhere to the six-hour sample hold time for enterococcus samples, but they collected their own samples to coincide with the July sampling.

Water samples were collected by the San Francisco Public Utilities Commission (SFPUC) from one meter below the water surface on July 16-17, 2019 (dry season), and January 23-24, 2020 (wet season), to characterize background enterococci conditions in San Francisco Bay. Grab samples were collected in 100 mL sterile containers at 16 stations throughout the Bay in the dry season and 17 stations in the wet season that were between 500 and 1000 feet away from deep water WWTP discharge locations (actual sampled locations in Tables 1 and 2 in the Appendix). The extra sample in the wet season was collected near San Francisco North Point, which is only allowed to discharge during wet weather events. One field duplicate was collected on each sampling day. Sampling was conducted over two days in order to adhere to the sample hold time of six hours. All samples were delivered to Cel Analytical within six hours of the first sample collection time.

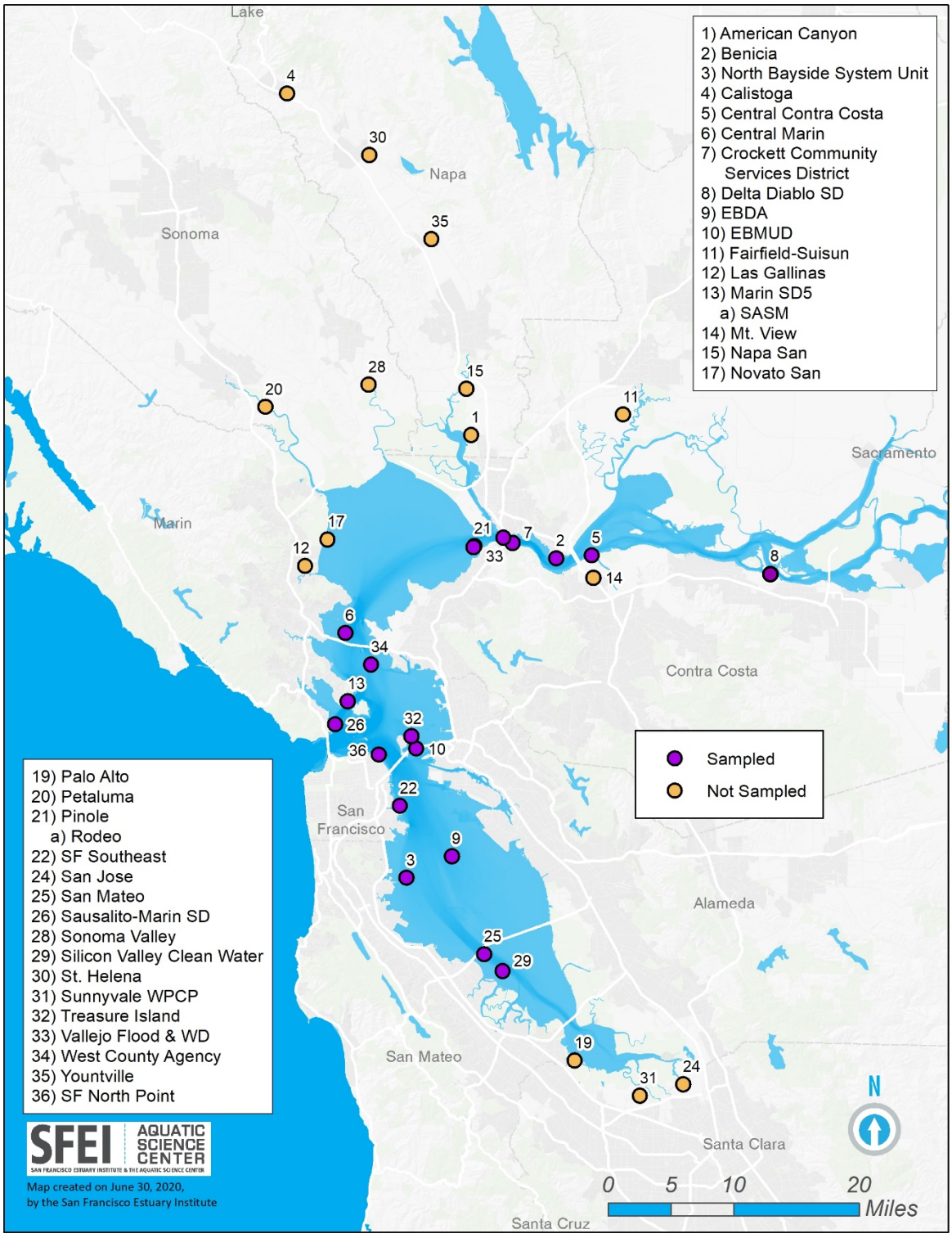

Figure 1. Outfall locations of all municipal wastewater treatment plants (WWTPs) that discharge to San Francisco Bay. Locations in purple denote the WWTP locations that were sampled as part of this study.

Dry season sampling (July 2019) began 56 days after the last rain event. Average discharge from the Sacramento River (USGS gage 11455420 at Rio Vista) for the two collection days was 7850 ft^3/s and -3442 ft^3/s from the San Joaquin River (USGS gage 11337190). Wet season sampling (January 2020) began two days after the last rain event of 0.4 inches at the Oakland Airport and seven days after a rain event of 1.1 inches. Average discharge from the Sacramento River (USGS gage 11455420 at Rio Vista) for the two collection days was 10770 ft^3/s and 1080 ft^3/s from the San Joaquin River (USGS gage 11337190).

Samples were analyzed using EPA Method 1600, whereby water was filtered through a membrane and incubated for 24 hours at 41°C on mEI agar. Colonies greater than or equal to 0.5 mm in diameter with a blue halo were enumerated. One lab blank and one reference sample were included in each batch. Membrane filtration was the method of choice for this study because a method detection limit lower than 10 CFU/100 mL was desired; the method detection limit was 1 CFU/100 mL.

Results

Enterococci concentrations varied throughout the Bay, as well as between seasons (Figure 2), ranging from below 1 CFU/100 mL to 11 CFU/100 mL. Many samples were at or below (marked with an asterisk in Figure 2) the method detection limit (MDL; 1 CFU/100 mL) for both dry and wet sampling events. Concentrations were lower during the dry season (July) than wet season (January), with the single exception of the sample collected nearest the Vallejo Flood and Wastewater District outfall. At that station, the enterococci concentration was twice as high during the dry season. Concentrations also were generally higher in both seasons at the five stations in or near to Carquinez Strait and at Central Marin Sanitation in San Pablo Bay than at stations in Central and South Bays. Those were the only stations where enterococci concentrations were greater than the MDL during the dry season. One station (North Point) was only monitored in the wet season, and had a low concentration similar to surrounding stations. The difference between dry and wet season samples was greatest near the outfalls of Benicia (station 2), San Francisco Southeast (station 13), San Mateo (station 16), and Central Contra Costa Sanitation District (station 1).

Discussion

All surface water samples measured near 17 municipal WWTP outfall locations were substantially below the 30 CFU/100 mL water quality criteria recently adopted for California waters designated as REC-1 in dry and wet weather sampling. The sampling locations were geographically distributed throughout the Bay, ranging from Carquinez Strait to South Bay. Although these grab samples represent a snapshot in time, the measured concentrations were consistent with other limited surface water samples collected near the East Bay Dischargers

Authority outfall (AMS, 2016; all but one sample were at or below 10 MPN/100 mL) and were lower than concentrations near the Central Contra Costa Sanitary District outfall (unpublished data, 2011). Concentrations did increase at most sites during the wet season. Water Year 2020 (October 2019 to October 2020) is thus far the fourth driest water year in San Francisco since record keeping began in 1850. With only one wet season sample, it is not possible to determine if enterococci concentrations would be higher during wetter years. Sampling in dry and wet seasons provides a range of possible conditions near WWTP outfalls throughout the Bay. This study represents the most extensive sampling of surface water enterococci concentration in deep channel areas for San Francisco Bay and provides evidence to the SFBRWQCB to inform their decision to allow dilution credit when implementing the newly adopted enterococci water quality criterion.

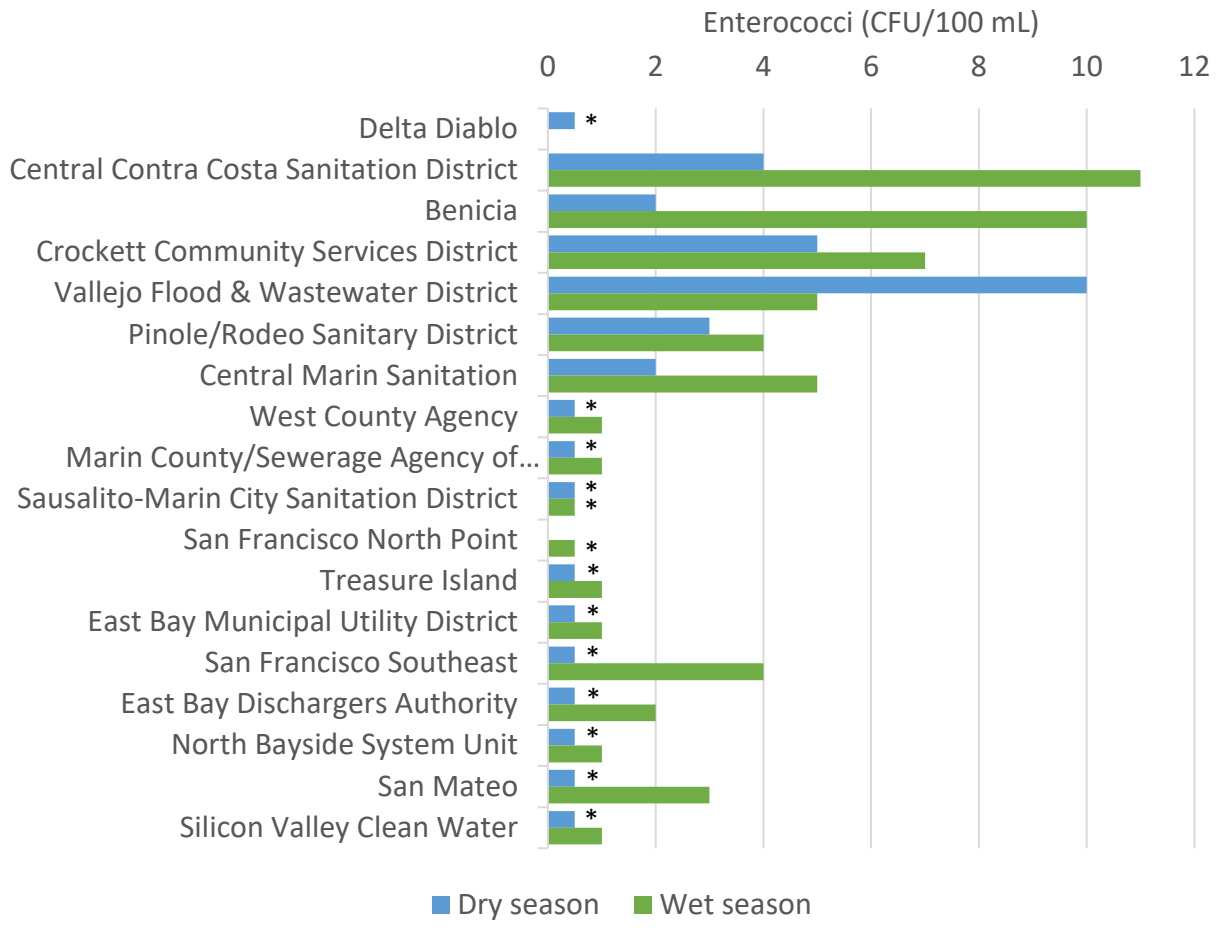

Figure 2. Enterococci concentration (CFU/100 mL) for dry (blue bars) and wet (green bars) season sampling near seventeen WWTP discharge locations. Asterisks denote samples below the method detection limit (1 CFU/100 mL).

Acknowledgements

Thank you to Ross Duggan, Pat Conroy, and Laura Targgart from the San Francisco Public Utilities Commission for collecting samples, Yeggie Dearborn at Cel Analytical for coordinating the lab analysis, and Pete Kauhanan at SFEI for creating the sampling map. Helpful edits were provided by Jay Davis, Tom Hall, Mary Cousins, Jennie Pang, and Amy Chastain. This study was funded by the Bay Area Clean Water Agencies (BACWA).

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Appendix

Table 1. July 2019 sampling locations and conditions.

Station	Latitude (degrees north)	Longitude (degrees east)	Station depth (ft)	Wind (kts)	Weather	Tidal conditions
Central Contra Costa Sanitation District	38.0462	-122.0989	18	6-10	Sunny	Ebb
Benicia	38.0393	-122.1486	14	1-5	Sunny	Ebb
Crockett Community Services District	38.0574	-122.2128	58	6-10	Sunny	Ebb
Vallejo Flood & Wastewater District	38.0909	-122.2550	16	1-5	Sunny	Ebb
Pinole/Rodeo Sanitary District	38.0819	-122.2738	9	6-10	Sunny	Flood
Central Marin Sanitation	37.9471	-122.4560	37	1-5	Sunny	Flood
West County Agency	37.9116	-122.4192	37	6-10	Sunny	Flood
Marin County/Sewerage Agency of Southern Marin	37.8684	-122.4516	98	6-10	Sunny	Flood
Sausalito-Marin City Sanitation District‡	37.8409	-122.4675	123	6-10	Sunny	Flood
Treasure Island	37.8310	-122.3594	41.3	6-10	Sunny/clear	Flood
East Bay Municipal Utility District	37.8180	-122.3491	27.4	1-5	Sunny/clear	Flood
San Francisco Southeast	37.7514	-122.3702	38.9	0	Sunny/clear	Flood
EBDA	37.6945	-122.2957	23.7	6-10	Sunny/clear	Flood
North Bayside System Unit	37.6664	-122.3575	17.2	0	Sunny/clear	Slack
San Mateo	37.5797	-122.2436	45.1	1-5	Sunny/clear	Slack
Silicon Valley Clean Water	37.5629	-122.2185	9.7	1-5	Sunny/clear	Slack

Table 2. January sampling locations and conditions.

Station	Latitude (degrees north)	Longitude (degrees east)	Station depth (ft)	Wind (kts)	Weather	Tidal conditions
Central Contra Costa Sanitation District	38.0468	-122.0990	26	0	Clear	Flood
Benicia	38.0400	-122.1510	18	0	Clear	Flood
Crockett Community Services District	38.0574	-122.2134	70	0	Clear	Flood
Vallejo Flood & Wastewater District	38.0890	-122.2532	24	0	Clear	Flood
Pinole/Rodeo Sanitary District	38.0525	-122.2724	15	0	Clear	Flood
Central Marin Sanitation	37.9473	-122.4566	26	0	Clear	Ebb
West County Agency	37.9133	-122.4186	36	1-5	Clear	Ebb
Marin County/Sewerage Agency of Southern Marin	37.8696	-122.4514	102	1-5	Clear	Ebb
Sausalito-Marin City Sanitation District‡	37.8441	-122.4693	97	1-5	Clear	Ebb
North Point*	37.8085	-122.4033	18	1-5	P. cloudy	Slack
Treasure Island	37.8310	-122.3594	50	1-5	P. cloudy	Slack
East Bay Municipal Utility District	37.8180	-122.3491	38	1-5	P. cloudy	Flood
San Francisco Southeast	37.7514	-122.3702	45	1-5	P. cloudy	Flood
EBDA	37.6945	-122.2957	24	1-5	P. cloudy	Flood
North Bayside System Unit	37.6664	-122.3575	25	0	P. cloudy	Flood
San Mateo	37.5797	-122.2436	54	0	P. cloudy	Flood
Silicon Valley Clean Water	37.5629	-122.2185	12	0	P. cloudy	Flood

*Only sampled during the wet season when discharge is allowed at this location.

July 6, 2020
The Honorable Ben Allen, Chair
Senate Environmental Quality Committee
State Capitol, Room 2205
Sacramento, CA 95814

Submitted Online via CA Leg Advocacy Portal

RE: AB 1672 (Bloom): Support

Dear Senator Allen:

The Bay Area Pollution Prevention Group is pleased to support AB 1672 (Bloom). Bay Area Clean Water Agencies (BACWA) members include 55 publicly owned wastewater treatment facilities and collection system agencies serving 7.1 million San Francisco Bay Area residents. We take our responsibilities for safeguarding receiving waters seriously. BAPPG, which is a committee of BACWA, focuses on outreach and education related to safeguarding receiving waters. We urge the committee to move AB 1672, a straightforward bill that will encourage pollution prevention through clear and consistent consumer information.

AB 1672 would establish labeling requirements for wet wipes packaging so that Californians will know how to properly dispose of these popular consumer products. In recent years, wet wipes have become widely available as they're designed for a variety of daily household purposes. Despite voluntary industry labeling guidelines, proper disposal information is inconsistent on wipes product labels, and some wipes are advertised as "flushable," which can lead to confusion about what products can be flushed down the toilet and which are instead intended for the trashcan. Because many wet wipes are made from plastic, they are not compatible with sewer systems and infrastructure. Improperly flushing these incredibly durable products results in their getting caught in pipes or accumulating with fats, oils, and grease and becoming larger obstructions that cause costly backups and sometimes result in raw sewage overflows. Further down the sewer line, wipes tend to weave together and create giant rags which get stuck in pump systems and motors and damage expensive public infrastructure. Additionally, environmental harm can come from flushing wipes since they shed microplastics into the wastewater system that can ultimately be discharged to the aquatic environment.

Member agencies of BACWA/BAPPG have had to deal with impacts from flushed wet wipes before and during the COVID-19 pandemic. Over the last decade, wet wipes have been an increasing problem for property owners, sewer systems, and ratepayers. A recent national analysis indicates California wastewater agencies spend nearly $50 million annually on operations and maintenance alone to manage this problem which could be much more easily and affordably managed if consumers knew to dispose of wipes in the trash instead. AB 1672 would ensure wet wipes packaging clearly communicates the appropriate disposal method for the products not intended to be flushed, and further requires wipes manufacturers to conduct education and outreach about the "Do Not Flush" symbol and label notice. This straightforward bill has been mutually agreed to by the wipes manufacturers and wastewater and product stewardship representatives. If enacted, it will establish the strongest wet wipe labeling requirements in the country.

For these reasons, the BAPPG is pleased to support AB 1672, and we respectfully request your support when the bill is heard in the Senate Environmental Quality Committee.

BAPPG

Sincerely,
Autumn Cleave
Co-Chair of Bay Area Pollution Prevention group

cc: Assembly Member Richard Bloom (Andrew.aldama@asm.ca.gov)
Jessica Gauger, California Association of Sanitation Agencies (jgauger@casaweb.org)

BAPPG

Draft questions for strategic planning survey

-to be sent to member agencies via Surveymonkey

1. Name

2. Agency

3. BACWA aims to develop and represent a consensus position when engaged in regulatory advocacy on behalf of our members. Do you feel that BACWA has well represented your agency's interests in these efforts? Provide examples if you would like.

4. What are the most important issues facing your agency?
   (Consider workforce challenges, developing regulations, capital/operations programs)

5. Are there issues that BACWA should be engaging on but has not yet?

6. Would you like your agency to have more engagement with BACWA but don't have the resources? If yes, how can BACWA facilitate that engagement?

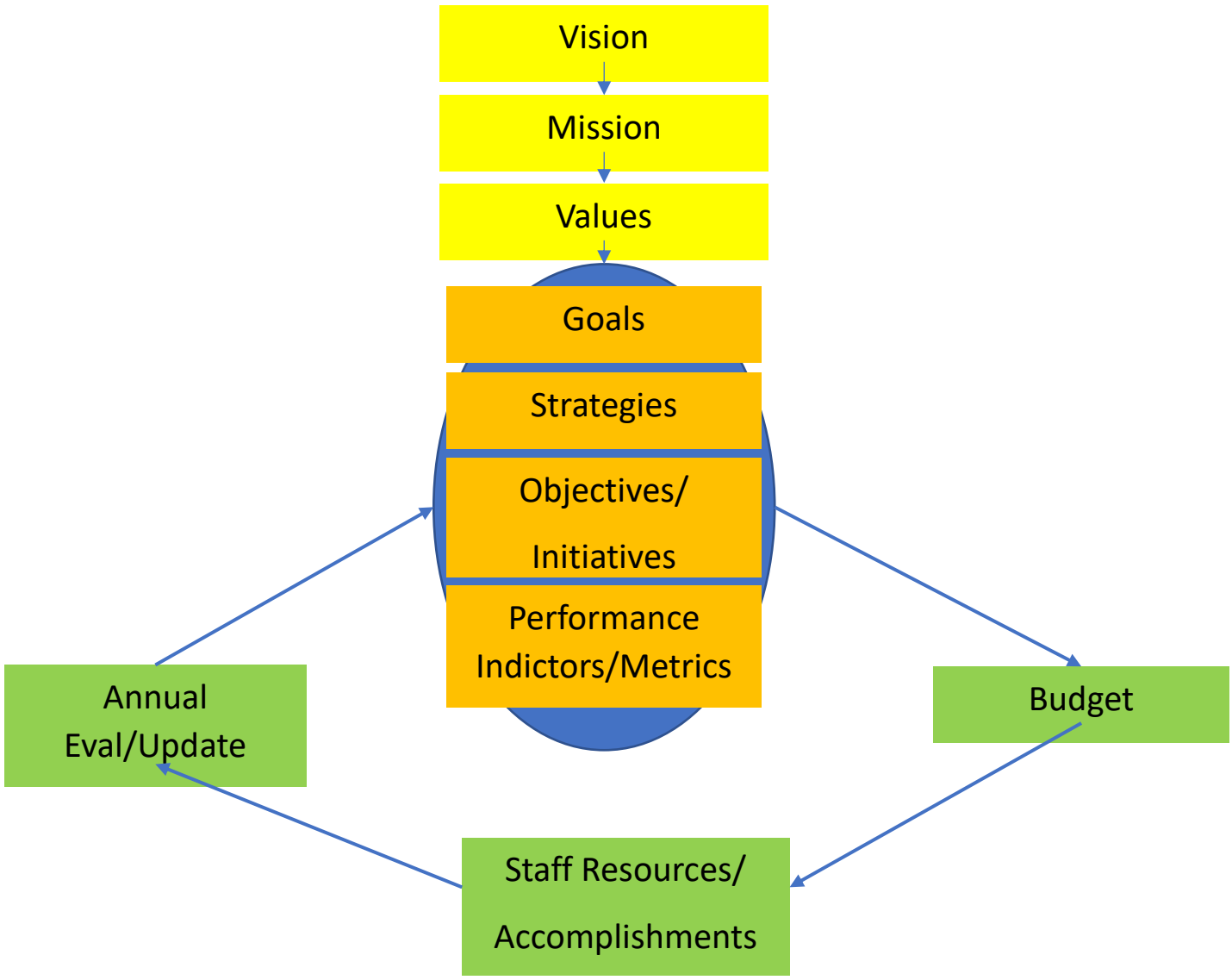
7. Please share any other thoughts on how BACWA can better serve your agency.

8. Please indicate if you would like to follow up on these responses via a phone call/meeting with BACWA staff?

9. Would you like to participate in BACWA's strategic planning workshops in August and September?

Strategic Planning Schedule

- March to August – Interviews with Board members
- August/September – Discussions with relevant committees
- August 21 EB Meeting –Develop Vision, Mission, and Values
- September Technical Seminar – Strategic Planning session
- October 16 EB Meeting – Review of draft Strategic Plan
- October/November – Member and committee comment period
- November 20 Board Meeting – Strategic Plan Adoption
- Annual Strategic Plan Review at Pardee



Proposed BACWA meeting schedule FY 2021

Meeting Date	Location
July 19 2020	Videoconference
August 21, 2020	Videoconference
September 17-18 - Technical Seminar	Pardee or Videoconference
October 16, 2020	EBMUD or videoconference
November 20, 2020	SFPUC or videoconference
December 20, 2020	EBMUD or videoconference
January 15, 2021	SFPUC or videoconference
Feb 19, 2020 - Annual Meeting	Scottish Rite or webinar
March 19, 2021	EBMUD or videoconference
April 16, 2021	SFPUC or videoconference
May 21, 2021	EBMUD or videoconference
June 18, 2021	SFPUC or videoconference

Pre-Technical Seminar
21-Aug-20
Videoconference

Day	Time	Theme	Topic	Desired Outcomes
	9:00 AM	**Welcome and Introductions**		
	9:05 AM	**Consent Calendar and Approvals**	SFEI presentation and contract for PFAS Study	Board reviews SOW and gives input to project plan.
	9:45 AM	**Policy/Strategic**	**Update and Discussion**	
			BABC Update - presentation	Board informed of BABC Activities
			RMP Update - presentation	Feedback on RMP plans for 2021
			Nutrients - subembayment designation - presentation	Update on modeling to delineate subembayments
			COVID	Update on WBE Working Group
	11:30 AM	**Operational**	September Technical Seminar Agenda	
	Noon		**Break**	
	1:30 PM	**Strategic Planning**	**Workshop**	Review Survey Results Develop Vision/Mission/Values
	4:00 PM		**Adjorn**	

Draft PROGRAM
BACWA ANNUAL TECHNICAL SEMINAR
2 days, September 17 & 18, 2020
Videoconference

Day	Time	Theme	Topic	Desired Outcomes
Thur	9:00 AM	**Welcome and Introductions**		
	9:05 AM	**BACWA Operational**	**Financial**	
			FY 21 Budget	understanding of budget status
			5 Year Plan	seek input on future level of reserves given anticipated cash flow needs
			-Assumptions for Future Dues/CBC/Nutrient Surcharges	
			-2nd NMS payment	discussion about timing and level of support
			Annual Meeting planning	Seek input on structure of Annual Meeting
			FY 21 Calendar	reminder of key Board activities
			Break	
	10:00 AM	**NST - Challenges to Address in Advance of 3rd WS permit**	**Update and Discussion**	
			-Identification of early actors	seek viewpoints on issues to be addressed over next 4 -5 yrs
			-Adjustments to PLTs	identify efforts to support WSP negotiations
			-no scientific certainty	Preferred approach to extension of 2nd WSP
			-extension of 2nd WS Permit	
			-Continued science funding	
			-Imposition of load caps	
			-Assessment Framework	
	11:30 AM		Plan to Engage Water Board on Friday	
	Noon		**Break**	
	1:30 PM	**Strategic Planning**	**Workshop**	Review Vision/Mission/Values developed at August meeting
				Develop Goals, Strategies, Objectives/Initiatives, Performance Indicators/Metrics
	4:00 PM		**Adjorn - social hour?**	

Day	Time	Theme	Topic	Desired Outcomes
Fri	9:00 AM	**Strategic Planning**	Review Wrap up Strategic Planning session	Summary from previous day's workshops and reach agreement on next steps
			Break	
	Water Board joins			
	10:00 AM	**NMS Update**	**Update and Discussion**	
			Science Plan Key Updates and Issues (Dave Senn)	understanding of status and providing input to SFEI on direction
			-brief update on findings	focus on key work products to drive decisions for 3rd WSP
			-update on Assessment Framework	
			-Decision points over coming years	

		-COVID-19 impacts to science plan	
11:30 AM	**2nd Watershed Permit**	**Update and Discussion**	
		-Status of NBS Study	understanding of status and resolution of identified issues
		-Status of Recycled Water Report	understanding of status and resolution of identified issues
12:30 PM		**Break**	
1:00 PM	**3rd Watershed Permit**	**Update and Discussion** Discussion of issues identified by NST	
2:30 AM	**Regulatory Issues**	**Update and Discussion** PFAS Study Climate change planning	
3:00 AM		**Adjorn**	

REQUEST FOR PROPOSALS

BACWA Regulatory Program Manager

PROPOSAL ISSUED – July 1, 2020

PROPOSALS DUE – August 3, 2020

The Bay Area Clean Water Agencies (BACWA) is a regional organization created by a joint powers agreement among the five largest wastewater treatment agencies in the San Francisco Bay Area. BACWA represents Bay Area wastewater agencies by undertaking relevant scientific and technical studies and research, and by participating in the development of national, state, and regional policies. BACWA is seeking a part-time Regulatory Program Manager to assist the organization in identifying, analyzing and responding to regulatory and policy issues affecting member agencies.

Scope of Work

The applicant selected will work under the direction of the BACWA Executive Director to assist with some or all of the following:

- Track and summarize water quality regulations and policies affecting BACWA member agencies;
- Monitor regulatory issues and assist in the preparation of comment letters on key regulations;
- Coordinate and participate in meetings with regulatory agencies, including the State Water Resources Control Board, the San Francisco Bay Regional Water Quality Control Board, and the Bay Area Air Quality Management District;
- Attend and report to the Executive Board on public and industry meetings, including but not limited to environmental stakeholder groups, regulatory tasks forces and workgroups, scientific organizations and BACWA Committee Meetings;
- Coordinate with other professional association including CASA and NACWA;
- Provide support for designated BACWA committees and workgroups;
- Assist the Executive Director with contract and program management, and with other related tasks as requested.

Qualifications

This position is open to individuals, sole proprietors, partnerships, and corporations. Partnerships and corporations should identify an individual who will serve as the lead in carrying out the work.

Applicants should possess technical expertise related to the wastewater industry particularly collection and treatment facilities and processes, be familiarity with state and regional environmental regulations particularly those dealing with water quality, and be able to work with a variety of professionals on committees and other workgroups while providing technical and administrative assistance, have excellent written and oral communication skills, and demonstrate excellent interpersonal skills.

Proposals

The following information must be included in all responses to this proposal:

- Name and address of applicant;
- Description of qualifications (not to exceed three pages excluding curriculum vitae);
- Identification of potential conflicts of interest;
- Hourly rate schedule.

Proposals must be received no later than 5:00 p.m. on August 3, 2020 and should be submitted via email to Jennifer Dyment, BACWA Assistant Executive Director, jdyment@bacwa.org.

Selection Process and Contracting

Following receipt of proposals, the BACWA Board will evaluate the proposals and may elect to hold interviews by videoconference with one or more of the Proposers or forego interviews and simply select the best proposal. Following a selection, a contract will be negotiated. The contract will specify a not to exceed amount with billing for services on an hourly basis as required to complete the Scope of Work.

The starting date of the contract is negotiable. The term of this agreement shall not extend beyond July 30, 2021 but may be extended for additional one-year terms at BACWA's discretion. The contract total is anticipated to be in the range of $110,000 - $140,000 with the actual amount to be set after completion of negotiations. If, upon reaching the end of the term of the contract, the Board elects to extend the contract, the amount of the extended contract will be negotiated at the time the contract is extended.

Selection of the consultant shall be based on the following criteria:

Criteria	**Weight**
Familiarity with SF Bay Region regulatory issues	5
Technical/scientific Expertise	5
Knowledge of wastewater engineering	5
Communication and writing skills	5
Hourly billing rate	5
Total	**25**

Please direct any questions about this Request for Proposals to BACWA Executive Director Lorien Fono at lfono@bacwa.org.

Bay Area Clean Water Association

In-House Training

Name of Individual who is submitting contact hours: _____

BACWA Laboratory Committee Training	Date Completed	Hours
NPDES Permit Whole Effluent Toxicity Requirements, Implementation and Case Studies	08/13/2019	1
Preparing for the New ELAP Regulations	10/08/2019	1
Proposed ELAP Regulations (SWRCB presentation)	12/10/2019	1
How Field Sampling Can Impact Laboratory Results	02/11/2020	1
Implementation of New ELAP Regulations (SWRCB presentation)	06/09/2020	1
		Total Hours: 5

Supervisor's Name Lorien Fono
Supervisor's Title BACWA Executive Director
Supervisor's Contact Info lfono@bacwa.org
Supervisor's Signature

_____

AIR Committee –
Report to BACWA Board

AIR Committee Meeting on: 6/10/20
Executive Board Meeting Date: 7/17/20
Committee Co-Chairs: Nohemy Revilla and Randy Schmidt

Committee Request for Board Action: None

COVID-19: Regulatory Contingency Planning

BACWA's Executive Director, Lorien Fono, reported BACWA is in communication (in conjunction with CASA) with the Regional Water Board.

The CalWARN (California Water/Wastewater Agency Resource Network) Program was initiated for signatories to have access to mutual aid/assistance. A number of members reported that they had received masks through the WARN Program.

USD reported scheduling a virtual inspection with BAAQMD. David Rothbart (LACSD) attended the meeting and noted that SCAQMD has also been conducting virtual inspections.

Criteria Air Pollutant & Toxic Air Contaminant Reporting (CTR) Regulation Amendments and AB 2588 Air Toxics "Hot Spots" Program Updates (additional presentation provided)

AB 617 was enacted January 1, 2020 and gives the California Air Resources Board (CARB) the authority to regulate the reporting of CAPs and TACs from stationary sources (i.e., under the CTR Regulation). Proposed updates to the Hot Spots Program include expanding the list of toxic compounds in Appendix A-1 by more than 700. At the same time, proposed amendments to the CTR Regulation could require reporting of each of these compounds, even though many of the proposed compounds have unknown toxicity levels and emission factors.

CARB has met with CASA/POTWs and agreed not all compounds are relevant to the wastewater sector and is open to determining a shortlist. Additionally, they have suggested the wastewater sector perform an updated Pooled Emissions Estimation Program (PEEP), the first of which was performed when AB 2588 initially took effect in the late 1980s. David Rothbart presented a preliminary plan being considered by CASA members that involves three steps:

1. POTWs run an initial screening of the headworks foul air to determine detectable compounds that may need further examination.
2. Conduct more formal testing with CARB and OEHHA involvement to develop a refined "shortlist" of compounds.
3. If needed, update PEEP under a statewide effort.

LACSD has already performed the initial screening step and David Rothbart explained their preliminary results. In order to develop a draft shortlist of detectable compounds that is representative of POTWs statewide, we need a statewide cross-section of POTWs to perform this screening step to capture differences geographically and by service area, customer types, size, etc. CASA has prepared an ask sheet summarizing the need and requested that Committee members review the sheet to determine if your organization would be able to run a screening. Any preliminary data and information collected as part of the screening is to be informational only and does not have to be reported.

Other Regulatory Updates

BAAQMD Rule 11-18: Risk Reduction from Air Toxic Emissions at Existing Facilities

We continue to monitor implementation of Rule 11-18 via the BAAQMD's Implementation Workgroup. The next Workgroup meeting is anticipated to take place in July – we will provide an announcement when it is released. Last but not least, the BAAQMD has sent out the first draft Health Risk Assessment (for a crematory in Fremont) available for public comment.

SB 1383: Short-Lived Climate Pollutant Reduction

Formal rulemaking for SB 1383 is continuing into the summer – regulations under development are targeting methane reduction via diversion of organic waste from landfills to anaerobic digestion or composting facilities (the products of which are to be recycled). The final draft is expected before September 2020, with final adoption still planned for this year. CASA is drafting a white paper to explain the regulatory requirements and implications to the wastewater sector but is waiting on the release of the final regulation before its completion. A webinar will follow hosted by CASA and CalRecycle to provide an opportunity for questions. There is no delay in implementation of

regulations expected due to COVID - state enforcement begins in 2022, local enforcement begins in 2024, and compliance is still required by 2025.

BAAQMD's Proposed Regulation 13: Climate Pollutants

Regulation 13 rule development is currently suspended due to COVID-19. However, BAAQMD continues to engage with BACWA in an effort to develop a baseline understanding of current methane (and VOC) management practices. Developing a summary of current methane management practices requires a review of permits, OSHA requirements, and beneficial use practices. This is an excellent opportunity to continue to educate and inform BAAQMD about POTW operations and the steps already in place to capture and reduce emissions.

Guest Speaker: Mark Zondlo, Princeton University, on Assessing Emissions from Wastewater Treatment Plants

Mark provided a summary of the research (which began in April and will continue for three years) assessing nitrous oxide, methane, and ammonia emissions from wastewater treatment facilities and ag operations and is being performed by Princeton University and UC-Riverside. He summarized the objectives of the research and their approach to measuring emissions (presentation posted here). He stated they are in beginning stages and looking for partners in the wastewater industry to perform the research. The BAAQMD has already reached out to their team with interest in the results, so it is in our sector's best interest to work with the research team and have the ability to review and summarize the data. Please reach out to Sarah and Courtney if you would like to be connected with Mark Zondlo and his research team.

BACWA
BAY AREA
CLEAN WATER
AGENCIES

BACWA ACTION ITEMS

Number	Subject	Task	Responsibiity	Deadline	Status
	Action Items from June 19, 2020 BACWA Executive Board Meeting		**resp.**	**deadline**	**status**
2020.06.66	ReNUWIt	BACWA staff to share ReNUWIt links and information with Board	ED	6/30/2020	complete
2020.06.67	Meeting Calendar	BACWA staff to review and share calendar meetings with BACWA members	ED\AED	6/30/2020	complete
2020.06.68	Nutrient Strategy Team	Schedule July meeting, review list to ensure representation	ED	6/30/2020	complete
2020.06.69	UCBerkeley SARS-CoV-2 Sampling in Wastewater	BACWA staff to share contact with UC Berkeley Kara Nelson	ED	6/30/2020	complete
2020.06.70	BABC Update to Board	BACWA staff to coordinate BABC update	ED	6/30/2020	complete
	Action Items Remaining from Previous BACWA Executive Board Meetings				
2019.12.46	Risk reduction	Reach out to cities with public health clinics to work with CIEA	RPM	2/29/2020	pending
2019.8.12	BAAQMD Permit Backlog	Set up separate meeting to discuss with Air District management	RPM/ED	11/30/2019	pending
2019.7.05	Sewer Rate Survey	Post as Google Sheet, and publicize update	RPM	8/31/2019	pending
2018.4-93	Website Policy	Add reference to regulatory requirements for Agency websites	ED	4/30/2019	pending

FY20: *67 of 70 Action Items completed*
FY19: *109 of 110 action Items completed*
FY18: *66 of 66 Action Items completed*
FY17: *90 of 90 Action Items completed*

Executive Director's Report to the Board

June 2020

NUTRIENTS:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:

- Discussed phasing of NMS payments with SFEI staff
- Attended and drafted summary for 6/3 NMS Planning Subcommittee meeting
- Attended Steering Committee meeting on 6/12 and drafted meeting minutes
- Reviewed RWB antidegradation rationale for 3rd WSP and began planning first NST meeting for 3rd WS permit

BACWA BOARD MEETING AND SUPPORT

- Drafted agenda, planned, and participated in 6/4 Joint Meeting with RWB staff. Reviewed meeting minutes.
- Participated in kickoff meeting with incoming BACWA Chair
- Edited minutes and action items from 5/15 meeting
- Worked with BACWA staff to plan and manage 5/15 BACWA Executive Board meeting
- Conducted the monthly agenda review with the BACWA Chair
- Researched digital tools for remote workshopping
- Continued to track all action items to completion

COVID-19:

- Discussed wastewater-based epidemiology (WBE) with members and ReNUWIt
- Participated in WBE Regional Working Group Steering Committee meeting
- Participated in CWEA Webinar on WBE findings

COMMITTEES:

- Planned Permits Committee Agenda with RPM and Chair
- Participated in Lab committee meeting on 6/9
- Participated in Permits committee meeting on 6/9
- Participated in AIR committee meeting on 6/10
- Planned and held 6/25 Managers Roundtable
- Worked with BAPPG on pesticide letter submission

REGULATORY:

- Discussed exfiltration with member agency staff
- Worked with RPM to finalize CEC White Paper
- Discussed OAH modeling efforts with LACSD and CASA staff
- Attended GSI webinar on PFAS regulation
- Participated in CASA call on PFAS monitoring requirements
- Participated in meeting with State Water Board staff on changes to Toxicity Provisions
- Discussed regional strategy for PFAS monitoring on calls with Water Board and RMP staff

- Attended OPC Council meeting, and participated in CASA call to develop plan for OPC engagement
- Participated in OPC webinar/workshop on Ocean Litter on 6/24 and 6/24
- Reviewed final SFEI Enterococcus monitoring report and solicited comments from Permits commitee

FINANCE:

- Reviewed the monthly BACWA financial reports, summary, and budget to actual tracking sheet for May
- Reviewed reserve level to plan for NMS payments for FY21
- Developed Board Approval Requests for FY21 contracts
- Reviewed and approved invoices
- Developed authorizations for BAPPG committee support, WateReuse support, and Day Carter Murphy contract increase to prepare for closing of Fiscal year

COLLABORATIONS:

- Participated in 6/11 CASA RWG Call
- Discussed WBE efforts with SFPUC staff
- Participated in 6/22 BayCAN webinar on PSPS
- Participated in 6/3 WBE Workgroup meeting
- Worked with SCAP/CVCWA/CASA to submit comments on Vapor Intrusion

ASC

- Discussed ASC and BACWA JPA signatory designation with ASC ED
- Reviewed materials sent via email by ASC ED
- Participated in 6/17 Special Board meeting to approve contracts
- Participated in 6/26 ASC Board meeting and gave overview of designation of signatory process

BABC:

- Participated in BABC teleconference meeting on 6/8 and drafted meeting summary
- Worked with AED and BABC PM to develop BABC FY21 contracts for Program Management, and BACWA Administrative Support

ADMINISTRATION:

- Planned for and conducted the monthly BACWA staff meeting to prepare for the Board Meeting and to coordinate and prioritize activities.
- Signed off on invoices, reviewed correspondence, prepared for upcoming Board meetings, responded to inquiries on BACWA efforts, oversaw updating of web page and provided general direction to BACWA staff.
- Worked with the RPM in the preparation of the monthly BACWA Bulletin.
- Developed and responded to numerous emails and phone calls as part of the conduct of BACWA business on a day-to-day basis.

MISCELLANEOUS MEETINGS/CALLS:

- Worked with BACWA Chair and Committee Chairs on items that arose during the month
- Other miscellaneous calls and inquiries regarding BACWA activities
- Responded to Board members requests for information

Regulatory Program Manager's Report to the Board

June 2020

REGULATORY COMMENTS: None.

COLLABORATIONS: Attended BACWA/Regional Water Board Joint Meeting (6/4) and prepared notes.

COMMITTEE SUPPORT:
AIR – Attended June meeting (6/10).
BAPPG – Attended June Steering Committee and general meetings (6/3). Prepared notes and Board Report.
Collection Systems – Succession planning, plan for July meeting.
Executive Board – Attended 6/19 meeting, provided input on minutes and action items.
Laboratory – Prepared agenda and attended June Committee meeting (6/9). Prepared Board Report.
Pretreatment – Attended June meeting (6/4) and prepared Board Report.
Recycled Water – Prepared May meeting notes and Board Report.
Permits – Prepared agenda and attended June Committee meeting (6/9). Prepared Board Report.
BAPPG, Collection Systems, Laboratory, and Pretreatment – Reach out to members to provide CWEA Continuing Education Units based on meeting attendance in FY19/20.
BAPPG, Collection Systems, Permits, and Recycled Water – Reviewed Committee websites and provided AED with updated information and documents to be posted.

BACWA BULLETIN – Prepared June Bulletin.

OTHER REGULATORY TASKS – Solicited input from Permits Committee and prepared final draft of BACWA CECs White Paper.

ADMINISTRATION/STAFF MEETING – Met with BACWA ED and AED to prepare for June activities and discuss BACWA operations.

MEETINGS ATTENDED:
BAPPG Steering Committee and general meeting (6/3), BACWA/RWB Joint Meeting (6/4), Staff meeting (6/5), Lab Committee and Permits Committee meetings (6/9), AIR Committee (6/10).