BACWA BAY AREA CLEAN WATER AGENCIES

Executive Board Meeting
AGENDA
Fri, January 15, 2021 9:00 AM - 12:00 PM (PDT)

To attend the meeting via Zoom or submit a comment please request access.

Agenda Item		Time	Pages
ROLL CALL, INTRODUCTIONS, AND TELECONFERENCE ETIQUETTE		**9:00 AM**	
PUBLIC COMMENT	Guidelines	**9:03 AM**	
CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER		**9:04 AM**	
CONSENT CALENDAR		**9:05 AM**	
1 December 18, 2020 BACWA Executive Board Meeting Minutes			**3-9**
2 December 28, 2020 Special BACWA Executive Board Meeting Minutes			**10**
3 November 2020 Treasurer's Report			**11-20**
APPROVALS AND AUTHORIZATIONS		**9:12 AM**	
4 Approval: Contract with Mike Connor for NMS Review			**21-27**
5 Approval: Payment #2 to NMS - $1.6M			**28-29**
POLICY/STRATEGIC		**9:30 AM**	
6 Discussion: Nutrients			
a. Regulatory			
i. Survey on Nutrient Planning and Implementation			
ii. Draft 2021 Group Annual Report			
iii. BACWA Participation in W&C/UMass proposal			**30-41**
b. Technical Work			
i. Modeling uncertainty workshop Feb 2021			
c. Governance Structure			
i. December 11 SC Meeting Notes			**42-46**
ii. January 6 PSC Meeting Notes			**47-50**
BREAK (10min)	**10:30 AM**		
7 Discussion: BAAQMD engagement			**51-53**
8 Discussion: Emergency management Roundtable (SIP and COVID)			
OPERATIONAL		**11:00 AM**	
9 Discussion: BACWA Power Supply Reliability Infoshare final agenda			**54**
10 Informational: Form 700 Conflict of Interest deadline April 1			**55**
11 Discussion: Annual Meeting Planning - *final* agenda and technical support			**56**
REPORTS		**11:50 AM**	
12 Committee Reports			**57**
13 Member Highlights			
14 Executive Director Report			**58-59**
15 Board Calendar and Action Items			**60-61**
16 Regulatory Program Manager Report			**62**
17 Other BACWA Representative Reports			**63-69**
a. RMP Technical Committee	Mary Lou Esparza, Yuyun Shang, Samantha Engelage		
b. RMP Steering Committee	Karin North; Amanda Roa; 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		

18 **SUGGESTIONS FOR FUTURE AGENDA ITEMS**	**11:55 AM**	

NEXT MEETING	**11:59 AM**	
The next meeting of the Board is scheduled for March 19, 2021		

Executive Board Meeting Minutes

December 18, 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); Amy Chastain (San Francisco Public Utilities Commission); Jackie Zipkin (East Bay Municipal Utility District).

Other Attendees and Guests:

Name	Agency/Company
Allie King	SFEI
Amada Roa	Delta Diablo
Andrew Damron	Napa Sanitation District
Azalea Mitch	San Mateo
Dan Frost	Central Contra Costa Sanitary District
David Senn	SFEI
Don Gray	EBMUD
Eric Dunlavey	City of San Jose
Harry Kwong	City of Millbrae
Jeff Carson	Dublin San Ramon Services District
Jennie Pang	SFPUC
Jennifer Dyment	BACWA
Karin North	City of Palo Alto
Katy Rogers	Carollo
Kevin Cesar	City of Millbrae
Lorien Fono	BACWA
Mary Cousins	BACWA
Mary Lou Esparza	Central Contra Costa Sanitary District
Melody LaBella	Central Contra Costa Sanitary District
Michael Connor	-
Mike Falk	HDR, Inc.
Nohemy Revilla	SFPUC
Paul Stacey	Footprints in the Water, LLC
Pradeep Mugunthan	SFEI
Robert Wilson	City of Santa Rosa
Sienna White	SFEI
Talyon Sortor	Fairfield-Suisun Sewer District
Teresa Herrera	Silicon Valley Clean Water
Tim Grillo	Union Sanitary District
Tom Hall	EOA

Amit Mutsuddy started meeting at 9:04

ROLL CALL - taken

PUBLIC COMMENT – None

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER - None

CONSENT CALENDAR

1 November 20, 2020 BACWA Executive Board Meeting Minutes

2 November 30, 2020 BACWA Special Board Meeting Minutes

3 December 3 NST Meeting Minutes

4 October 2020 Treasurer's Reports

Consent Calendar Items 1, 2, 3 and 4: *A motion to approve was made by Amy Chastain, SFPUC and seconded by Eileen White, EBMUD. The motion was approved unanimously.*

APPROVALS AND AUTHORIZATIONS

5 Approval: BACWA 2020 Strategic Plan - BACWA Executive Director shared screen and summarized process and BACWA's mission, vision, values, goals, and objectives, as well as next steps.

Approvals and Authorizations Items 5: *A motion to approve was made by Jackie Zipkin, EBDA, and seconded by Eileen White, EBMUD. The motion was approved unanimously.*

6 Approval: Website Policy – BACWA Executive Director summarized and asked for approval.

Approvals and Authorizations Items 6: *A motion to approve was made by Amy Chastain, SFPUC, and seconded by Amit Mutsuddy, City of San Jose. The motion was approved unanimously.*

POLICY/STRATEGIC

7 Discussion: Nutrients

a. Regulatory

i. Survey on Nutrient Planning and Implementation - BACWA ED shared screen and summarized survey questions and said members would have a chance to edit and give feedback next week. Group discussion followed on load caps, calculation methods, seasonal loads, and goal of survey is to get a general sense of concentration and flows and predict how numbers will change in 5 yrs. Introduction of narrative questions and a focus on concentrations, rather than loads, were suggested to gather needed information.

Action item – BACWA Staff to get survey out to NST and Board next week for comments & feedback. General membership will review in January.

ii. Preview of 2021 Group Annual Report - Mike Falk summarized report items: influent and discharge. Reviewed flow, ammonia, TIN and TP in annual and dry season periods since 2012. COVID19 has impacted flow and load numbers, plants have made the transition to nutrient removal or are in the process and there is a lack of rainfall. Mike also noted that the Sac Regional plant is already fully nitrifying ½ of the facility's flow, with ammonia <1 mg/L and TIN 15-20 mg/L. Next annual report is due February 1. Draft report will be given to BACWA during first week of January 2021. General discussion followed.

iii. WEFTEC Abstract

b. Technical Work

i. Consultant selection for NMS technical Reviewer – BACWA ED received 4 applications and 2 were selected for interviews. BACWA ED recommends Mike Connor for the contract and will bring the contract to the January 15, 2021 meeting for approval. General discussion followed regarding contract structure and scope.

Action item: BACWA staff to prepare contact for approval at January board meeting.

c. Governance Structure

i. December 2 PSC Meeting Notes – in the packet

ii. December 17 meeting to discuss nutrient BPA and permitting debrief – BACWA ED summarized meeting. They discussed 4 modeling scenarios that could be useful to inform development of the 3rd watershed permit- no management, load caps, slow reductions, and drastic reduction reductions. Group hopes to focus their modeling efforts on the 2 middle scenarios with load caps & slow reductions. Follow-up meetings over the next few months and that will be communicated with the Board. Board and membership BACWA participation was appreciated.

8 Discussion: Use of PFAS data by UC Davis as matching support for EPA proposals - BACWA ED gave an overview of the request from UC Davis to use Phase I PFAS Study data as in-kind support for proposal to EPA. ED emailed request to Board prior to the meeting and delivered letter of support to UC Davis.

BREAK (5min)

9 Informational: 2018 Biosolids Trends Report - BACWA RPM summarized survey results. Trends in reuse and disposal, biosolids technology and quality and other information such as cost, hauling distance and SB1383 adaptation.

10 Informational: 2020 Biosolids Report to Solano County - BACWA RPM summarized annual report to Solano County for land application ordinance. Report will be presented to Solano County Board of Supervisors in the next month.

11 Discussion: Debrief from 12/7 meeting with BAAQMD Managers - BACWA ED referred to meeting slides in packet. Regulation 13 on climate pollutants was discussed at meeting, as BACWA is working to summarize existing management practices prior to rule development. The effort to increase co-digestion and biogas production (per SB 1383) is in tension with air toxics regulations, which effectively limit combustion. General discussion followed on how to resolve this tension with more frequent engagement, including advance notice of discussion topics and needs. Engagement is needed at the local level and at the state level (through CASA).

12 Informational: Toxicity Adoption and Implementation – BACWA RPM stated Regional Water Board staff attended BACWA's Permit Meeting last week and walked members through the toxicity plan that was adopted by the State Water Board on December 1st. The Toxicity plan overrides the basin plan and is very prescriptive using statistical t-test considering 2 concentrations rather than the five that are required by the EPA methods. New provisions have effluent limits and reduced monitoring. RPM encouraged members review closely because it will be in everyone's permit. General discussion followed and BACWA involvement in a SCAP lawsuit has been proposed. Discussion whether to have a board emergency session closed \ open was discussed. BACWA Board agreed to hold a special meeting on December 28 to discuss whether to join litigation.

13 Discussion: Emergency management Roundtable (SIP and COVID) - CCCSD stated more COVID cases but spread not from work. One lab worker tested positive and all related tests have come back negative. Household Waste facility had a positive case and that has closed over holidays. Halted inspections due to county-ordered shut down. EBMUD has seen large increase among 1,800 employees but none among the wastewater & maintenance employees. Exposure seems to be coming from outside work. Summarized union discussions on extra leave and when working from home will end. SFPUC reported 250 cases of COVID out of staff of 2,500 and none among wastewater employees. They are looking at a back to work process that will take 12-18 months to implement. City of San Jose staff is being impacted by COVID19 positive cases and it appears to be spreading from household contact. City of San Jose employees that go outside of 150-mile radius of county are required to quarantine for 14 days upon return.

LUNCH BREAK (30min)

OPERATIONAL

14 Informational: BACWA zoom security procedures - BACWA AED presented a slide summarizing past practices and how we would run zoom meetings going forward to prevent inappropriate participation.

15 Discussion: BACWA Power Supply Reliability Infoshare draft agenda - BACWA ED reported the agenda is close to being finalized and meeting will be February 5, 2021. Sign up information coming in BACWA newsletter.

16 Discussion: Committee leadership appreciation - BACWA ED summarized idea of sending See's Candies to BACWA Committee Chairs as a thank you gift.

17 Discussion: Dates for Pardee 2021 - BACWA ED summarized 2021 dates for Pardee. Board asked that we book October 28 & 29, 2021.

Action item – BACWA staff to book October 28 & 29, 2021 for Pardee Technical Retreat

18 Discussion: Annual Meeting Planning – BACWA ED shared agenda and technical support plan

REPORTS

19 Committee Reports - BACWA ED shared committee reports were in packet

20 Member Highlights - none

21 Executive Director Report - BACWA ED referred to packet.

22 Board Calendar and Action Items - BACWA ED referred to packet.

23 Regulatory Program Manager Report – BACWA RPM referred to packet.

24 Other BACWA Representative Reports

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

b. RMP Steering Committee Karin North; Amanda Roa; 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

Lori spoke about the upcoming legislative session. Wipes legislation will be re-introduced and is likely to go through this time. Regarding PFAS, CASA is working on a round table discussion in early 2021 that will inform whether CASA signs off on a legislative effort. A Hertzberg bill (limiting coastal wastewater discharge as a way of promoting a sustainable water supply) is also likely to come up again.

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

25 Paul Stacey Presentation – Long Island Sound TMDL for Dissolved Oxygen - water quality trading presentation. He emphasized the need to keep eyes on the end goal (i.e., a healthy ecosystem) in the midst of working out complex details. He also reported that agencies competed for available funding, and that was the major driver of which agencies implemented nutrient reduction projects.

Action item – BACWA Staff to request a copy of Paul Stacey's presentation slides – provided here.

26 Dave Senn presentation – Dave provided a modeling update. The science team is now using the term "management units" in lieu of "subembayments," recognizing that nutrients are exchanged long distances across SF Bay. The group proposed having science work define each plant's overall impact on the estuary, and proposed pairing this information with results from the planned survey (see item # 7.a.i, above). See slides here.

27 SUGGESTIONS FOR FUTURE AGENDA ITEMS 1:55 PM

NEXT MEETING 1:59 PM

The next meeting of the Board is scheduled for January 15, 2021

ADJOURNMENT **2:35 PM**

Special Executive Board Meeting Minutes

December 28, 2020

1. **ROLL CALL AND INTRODUCTIONS**

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

2. **PUBLIC COMMENT**

None.

3. **ANNOUNCE CLOSED SESSION AND ZOOM PROCEDURE FOR CLOSED SESSION**

4. **CLOSED SESSION**

Executive Board and Executive Director then moved into Closed Session to consider business it is permitted to do so pursuant to Government Code Section 54957, and is listed on the closed meeting agenda. The following item was considered during the closed session:

Discussion: Lawsuit by SCAP against the State Water Board on the TST.

In the continuing interest of transparency, the Chair will be reporting in open session any outcomes from the closed session business.

5. **RECESS TO OPEN SESSION**

6. **REPORT OUT OF CLOSED SESSION**

There were no report-outs from the closed session

7. **INVITATION TO SPEAK TO WATER ENVIRONMENT ASSOCIATION OF TEXAS (WEAT) ON NUTRIENT REGULATION IN SF BAY**

The Executive Director informed the Board about an invitation to speak at a WEAT meeting on Jan 7, and that she would share slides with the Board in advance. A Board member offered to share slides from a previous presentation.

8. **ADJOURN**

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

December 17th, 2020

MEMO TO: Bay Area Clean Water Agencies Executive Board

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

SUBJECT: Fifth Month FY 2021 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, 2020 through November 30, 2020** (Five months of Fiscal Year 2021). 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, December 18, 2020 4:31 PM
To: Houck, Matt
Subject: RE: BACWA - November 2020 Treasurer's Report

Approved.

From: Houck, Matt
Sent: Thursday, December 17, 2020 11:54 AM
To: Charléty, Damien
Subject: BACWA - November 2020 Treasurer's Report

Hi Damien,

Please approve BACWA - November 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 FY21 BACWA has three operating funds (BACWA, Legal, and CBC) and two pass-through funds for which BACWA provides only contract administration services (WOT, BABC & BACC).

BACWA Fund: This fund provides the resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on November 30, 2020 was $1,635,288 which is significantly higher than the target reserve of $209,430 which is intended to cover 3 months of normal operating expenses based on the BACWA FY21 budget. $406,835 of the ending fund balance is shown on the BACWA Fund & Investments Balance Report November 30, 2020 as encumbered 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 unencumbered excess funds of $1,019,023 (i.e., actual fund balance of $1,228,453 less target reserves) as November 30, 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 November 30, 2020 was $3,012,198 which is significantly higher than the target reserve of $1,000,000. $820,408 of the ending fund balance is encumbered to meet line-item expenses for completion of the Group Annual Report contract, completion of the NBS Study, Recycled Water Evaluation, and the PFAS Regional Study. This leaves an actual unencumbered fund balance of $1,191,790 (i.e., actual fund balance of $2,191,790 less $1,000,000 target reserves) as of November 30, 2020. Disbursements for FY21 from the CBC fund include $2.8M to fund the nutrient scientific investigations as required by Nutrient Watershed Permit.

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 to maintain the BACWA and CBC Fund balances at the levels projected in the 5 Year Plan.

Revenues as of November 30, 2020 (41% of the FY) are at 96%.

Expenses as of November 30, 2020 (41% of the FY) are at 31%

FY 2021
BACWA BUDGET to ACTUAL

BACWA BAY AREA CLEAN WATER AGENCIES

BACWA FY21 BUDGET	***Line Item Description***	**FY 2021 Budget**	**Actual Nov 2020**	**Actual % of Budget Nov 2020**	**Variance**	**NOTES**
REVENUES & FUNDING						
Dues	Principals' Contributions	$516,909	$516,910	100%	$1	5 @ $103,382
	Associate & Affiliate Contributions	$187,793	$174,598	93%	-$13,195	13 Assoc @ $8,531; 45 Affiliate @ $1,708.
Fees	Clean Bay Collaborative	$675,000	$659,020	98%	-$15,980	Prin: $450,000; Assoc/Affil: $225,000
	Nutrient Surcharge	$1,700,000	$1,669,625	98%	-$30,375	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions	$0	$0	0%	$0	
Other Receipts	AIR Non-Member	$7,075	$7,075	100%	$0	Santa Rosa
	BAPPG Non-Members	$3,954	$3,953	100%	-$1	Stanta Rosa, Sac Reg'l, Vacaville; $1,317/each
	Other	$0	$2,601	0%	$2,601	
Fund Transfer	Special Program Admin Fees (WOT)	$5,202	$0	0%	-$5,202	Flat fee
	Special Program Admin Fees (BACC)	$20,010	$0	0%	-$20,010	300 hours of AED support, based on hours billed
	Special Program Admin Fees (BABC)	$6,000	$0	0%	-$6,000	AED and RPM support, hours billed
Interest Income	LAIF	$20,000	$13,074	65%	-$6,926	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments	$18,000	$0	0%	-$18,000	Alternative Investment Interest (Legal & CBC Funds invested in AltInv)
	Total Revenue	**$3,159,943**	**$3,046,856**	**96.42%**	**-$113,087**	

BACWA FY21 BUDGET	***Line Item Description***	**FY 2021 Budget**	**Actual Nov 2020**	**Actual % of Budget Nov 2020**	**Variance**	**NOTES**
EXPENSES						
Labor						
	Executive Director	$190,000	$63,333	33%	-$126,667	No change from FY20 contract
	Assistant Executive Director	$102,551	$44,000	43%	-$58,551	$66.7/hour; Reflects 1500 hours /yr
	Regulatory Program Manager	$141,170	$68,670	49%	-$72,500	$100.16/hour; Reflects 1375 hours/yr
	Total	**$433,721**	**$176,003**	**41%**	**-$257,718**	
Administration						
	EBMUD Financial Services	$42,448	$11,757	28%	-$30,691	
	Auditing Services	$5,345	$0	0%	-$5,345	Financial Audit Services through EBMUD
	Administrative Expenses	$7,959	$194	2%	-$7,765	Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	$4,776	$4,971	104%	$195	SLIP Insurance. Alliant Insurance.
	Total	**$60,528**	**$16,922**	**28%**	**-$43,606**	
Meetings						
	EB Meetings	$2,653	$0	0%	-$2,653	Catering, Venue, other expenses
	Annual Meeting	$14,369	$0	0%	-$14,369	Catering, Venue, other expenses
	Pardee	$6,367	$0	0%	-$6,367	Catering, Venue, other expenses
	Misc. Meetings	$5,306	$125	2%	-$5,181	Hol & Comm Chair Lunch, Staff Mtgs, Fin Comm, Summit Ptnrs, CASA, NACWA Tech WS, Low Flow WS
	Total	**$28,695**	**$125**	**0%**	**-$28,570**	
Communication						
	Website Hosting	$612	$30	5%	-$582	Computer Courage
	File Storage	$765	$0	0%	-$765	Box.com
	Website Development/Maintenance	$1,530	$30	2%	-$1,500	Domain registrations, website changes
	IT Support	$2,652	$0	0%	-$2,652	As needed
	Other Commun	$1,785	$513	29%	-$1,272	MS Exchange, Survey Monkey, Carbonite, Doodle Polls, PollEv, GoToMtg, HelloSign, Zoom
	Total	**$7,344**	**$573**	**8%**	**-$6,771**	

FY 2021
BACWA BUDGET to ACTUAL

EXPENSES						
Legal						
	Regulatory Support	$2,706	$0	0%	-$2,706	Downey Brand LLP
	Executive Board Support	$2,176	$1,165	54%	-$1,011	Day Carter & Murphy LLP
	Total	**$4,882**	**$1,165**	**24%**	**-$3,717**	
Committees						
	AIR	$76,000	$11,363	15%	-$64,637	$75k consulting support, $1k misc expenses. Carollo Engineers
	BAPPG	$130,000	$62,485	48%	-$67,515	Includes CPSC @ $10,000, OWOW @ $10,000, and Pest. Reg Spt. @ $60,000. S.Hughes, TDC and SGA
	Biosolids Committee	$1,000	$0	0%	-$1,000	
	Collections System	$1,000	$0	0%	-$1,000	
	InfoShare Groups	$1,750	$0	0%	-$1,750	Funds for 2 workgroups ($750 for Asset Mgmt - new in FY21; $1,000 for O&M)
	Laboratory Committee	$1,000	$0	0%	-$1,000	
	Permits Committee	$1,300	$0	0%	-$1,300	All meetings moved to include lunch hour for commuting purposes
	Pretreatment	$1,000	$0	0%	-$1,000	
	Recycled Water Committee	$1,000	$0	0%	-$1,000	
	Misc Committee Support	$45,000	$0	0%	-$45,000	
	Manager's Roundtable	$1,000	$0	0%	-$1,000	
	Total	**$260,050**	**$73,848**	**28%**	**-$186,202**	
Collaboratives						
	Collaboratives					
	State of the Estuary (SFEP-biennial)	$20,000	$0	0%	-$20,000	Biennial in Odd Fiscal Years. (Paid bienniely in odd years for even year conference)
	Arleen Navarret Award	$0	$0	0%	$0	Biennial in Even Fiscal Years. Award amount increased in FY20
	FWQC (Fred Andes)	$7,500	$0	0%	-$7,500	
	Stanford ERC (ReNUWIt)	$10,000	$0	0%	-$10,000	
	Misc	$5,000	$0	0%	-$5,000	BayCAN, NBWA
	Total	**$42,500**	**$0**	**0%**	**-$42,500**	
Other						
	Unbudgeted Items					
	Other	$0	$0	0%	$0	
		$0	**$0**	**0%**	**$0**	
Tech Support						
	Technical Support					
	Nutrients					
	Watershed	$2,800,000	$1,000,000	36%	-$1,800,000	Advance funding for 2nd Watershed Permit Science Studies. SFEI
	NMS Voluntary Contributions	$0	$30,000	0%	$30,000	SFEI \ City of Palo Alto 2017 Lower South Bay modeling
	Additional work under permit	$100,000	$0	0%	-$100,000	Includes HDR PO for $225k spread out over FY20-24.
	Regional Study on Nature based sysemts	$200,000	$62,702	31%	-$137,298	New Line item in FY20. SFEI
	Regional Recycling Evaluation	$60,000	$6,176	10%	-$53,824	HDR PO for $154K FY20-24
	Nutrient Workshop(s)	$0	$0	0%	$0	Pilot Studies/Plant Review/Innovative Technologies
	General Tech Support	$250,000	$0	0%	-$250,000	AB617 emission factors, nutrient technical review, other nutrient support, PFAS
	CEC Investigations	$50,000	$0	0%	-$50,000	Support for studies through RMP (PFAS in FY21). SFEI
	Risk Reduction	$7,500	$0	0%	-$7,500	$50,000 over 5 years (FY19-FY23) 2 Contracts for $25,000 each over FY19, 20, & 21
	Total	**$3,467,500**	**$1,098,878**	**32%**	**-$2,368,622**	
	TOTAL EXPENSES	**$4,305,220**	**$1,367,514**	**31.76%**	**-$2,937,706**	
	NET INCOME BEFORE TRANSFERS	**-$1,145,277**				
	TRANSFERS FROM RESERVES	**$1,145,277**				aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge
	NET INCOME AFTER TRANSFERS	**$0**				
	TOTAL OPERATING BUDGET	**$837,720**				
	OPERATING RESERVE	**$209,430**				

BACWA Fund Report as of November 30, 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	1,195,233	708,661	268,606	1,635,288	406,835	1,228,453
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000
805	CBC	1,772,881	2,338,195	1,098,878	3,012,198	820,408	2,191,790
	SUBTOTAL 1	*3,268,114*	*3,046,856*	*1,367,484*	*4,947,486*	*1,227,243*	*3,720,243*
802	BABC	*216,514*	92,500	132,441	176,573	*65,206*	111,367
806	BACC	*(1,563)*	-	-	(1,563)	-	(1,563)
810	WOT	276,164	-	-	276,164	-	276,164
	SUBTOTAL 2	*491,115*	*92,500*	*132,441*	*451,174*	*65,206*	*385,968*
*811	PRP84	196,806	-	-	196,806	-	196,806
	SUBTOTAL 3	*196,806*	-	-	*196,806*	-	*196,806*
	GRAND TOTAL	**3,956,035**	**3,139,356**	**1,499,925**	**5,595,466**	**1,292,449**	**4,303,017**

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	1,195,233	708,661	268,606	1,635,288	107,781	1,743,069	1,743,069	-	0%	-		priority # 3 for allocation
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000	-	300,000	13%	-		priority # 1 for allocation
805	CBC	1,772,881	2,338,195	1,098,878	3,012,198	-	3,012,198	1,049,598	1,962,600	87%	-		priority # 2 for allocation
	SUBTOTAL 1	3,268,114	3,046,856	1,367,484	4,947,486	107,781	5,055,267	2,792,667	2,262,600	100%	-		
802	BABC	216,514	92,500	132,441	176,573	-	176,573	176,573	-	0%	-		pass-through funds, no allocation
806	BACC	(1,563)	-	-	(1,563)	-	(1,563)	(1,563)	-	0%	-		
810	WOT	276,164	-	-	276,164	-	276,164	276,164	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	491,115	92,500	132,441	451,174	-	451,174	451,174	-	0%	-		
811	PRP84	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 3	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		
	GRAND TOTAL	**3,956,035**	**3,139,356**	**1,499,925**	**5,595,466**	**107,781**	**5,703,247**	**3,440,647**	**2,262,600**	**-**			
							-	-	-		-		

*Org 811 beg balance adjusted to reflect disbursement (147.7K) accrued after June 2020 TR published.

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

Reconciliation to Trial Balance - accrual basis

Per Report above:					
General	3,046,856	STB	1493	2,262,600	
WOT	92,500	STB	1505	3,440,647	
PROP	-			**5,703,247**	-
subtotal	**3,139,356**	STB	2135	(107,781)	
				5,595,466	-

Billings-Pending Receipts		
4686	Mem Contrib	16,730
4687	Transfer	-
4690	Assoc Contrib	15,399
4696	Other	30,365
4731	State Grant	-
4732	Grant Retention	-
subtotal		**62,494**

Trial Balance Revenue Accounts		
4411	Interest	(13,074)
4686	Mem Contrib	(1,285,160)
4687	Transfer	-
4690	Assoc Contrib	(189,997)
4696	Other	(1,713,619)
4731	State Grant	-
4732	Grant Retention	-
subtotal		**(3,201,850)**
Difference		**(0)**

BACWA Revenue Report as of November 30, 2020

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	516,909	-	-	-	-	516,910	-	516,910	(1)
800	Bay Area Clean Water Agencies	1011108	BDO Other Receipts	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011109	BDO Fund Transfers	5,202	-	-	-	-	-	-	-	5,202
800	Bay Area Clean Water Agencies	1011117	BDO- Interest Income from LAIF	20,000	-	-	-	-	-	3,524	3,524	16,476
800	Bay Area Clean Water Agencies	1011133	BDO Assoc.&Affiliate Contr	187,793	-	61,427	-	-	104,083	-	104,083	83,710
800	Bay Area Clean Water Agencies	1014251	BDO Non-Member Contr BAPPG	3,954	-	3,953	-	-	3,953	-	3,953	1
800	Bay Area Clean Water Agencies	1014252	BDO Non-Member Contr AIR	7,075	-	7,075	-	-	7,075	-	7,075	-
800	Bay Area Clean Water Agencies	1014511	BDO-Alternative Investment Inc	18,000	-	-	-	-	-	-	-	18,000
800	Bay Area Clean Water Agencies	1015567	BACC - AED Support	20,010	-	-	-	-	-	-	-	20,010
800	Bay Area Clean Water Agencies	1015568	BABC - AED and RPM Support	6,000	-	-	-	-	-	-	-	6,000
800	Bay Area Clean Water Agencies	1015265	BDO Other Receipts (Misc)	-	-	-	-	-	2,601	-	2,601	(2,601)
800	Bay Area Clean Water Agencies	1015266	BDO Affiliate/Associate Dues	-	-	29,045	-	-	37,587	-	37,587	(37,587)
800	Bay Area Clean Water Agencies	1015267	BDO Affil/CS/Assoc Dues	-	-	17,585	-	-	32,928	-	32,928	(32,928)
	BACWA TOTAL			**784,943**	**-**	**119,085**	**-**	**-**	**705,137**	**3,524**	**708,661**	**76,282**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	162,967	-	-	659,020	-	659,020	15,980
805	WQA-CBC	1011108	BDO Other Receipts	1,700,000	-	398,983		-	1,669,625	-	1,669,625	30,375
805	WQA-CBC	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	9,550	9,550	(9,550)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	-	-	-
	WQA CBC TOTAL			**2,375,000**	**-**	**561,950**	**-**	**-**	**2,328,645**	**9,550**	**2,338,195**	**36,805**
	TOTAL			**3,159,943**	**-**	**681,035**	**-**	**-**	**3,033,782**	**13,074**	**3,046,856**	**113,087**

	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	-	-	36,000	-	-	92,500	-	92,500	(92,500)
802	BABC	1011109	BDO Fund Transfers	-	-	-	-	-	-	-	-	-
	BABC TOTAL			**-**	**-**	**36,000**	**-**	**-**	**92,500**	**-**	**92,500**	**(92,500)**
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			**3,159,943**	**-**	**717,035**	**-**	**-**	**3,126,282**	**13,074**	**3,139,356**	**20,587**

BACWA Expense Detail Report for November 30, 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	190,000	-	-	-	-	126,667	63,333	-	-	190,000	-
AS-Assistant Executive Directo	1011124	102,551	(8,271)	8,271	-	-	58,551	44,000	-	-	102,551	-
AS-Regulatory Program Manager	1011149	141,170	(9,261)	9,261	-	-	70,927	68,670		-	139,597	1,573
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	42,448	-	-	-	-	30,691	11,757	-	-	42,448	-
AS-Audit Services	1014512	5,345	-	-	-	-	5,240	5,240	-	(5,240)	5,240	105
AS-BACWA Admin Expense	1011118	7,959	-	-	-	-	-	-	194	-	194	7,765
AS-Insurance	1011126	4,776	-	-	-	-	-	-	4,971	-	4,971	(195)
MEETINGS												
GBS-Meeting Support-Annual	1014514	14,369	-	-	-	-	-	-	-	-	-	14,369
GBS-Meeting Support-Exec Bd	1014513	2,653	-	-	-	-	2,653	-	-	-	2,653	-
GBS-Meeting Support-Misc	1014516	5,306	-	-	-	-	-	-	125	-	125	5,181
GBS-Meeting Support-Pardee	1014515	6,367	-	-	-	-	-	-	-	-	-	6,367
COMMUNICATION												
CAR-BACWA File Storage	1014518	765	-	-	-	-	-	-	-	-	-	765
CAR-BACWA IT Software	1014520	1,785	-	-	32	-	-	-	513	-	513	1,272
CAR-BACWA IT Support	1014519	2,652	-	-	-	-	2,652	-	-	-	2,652	-
CAR-BACWA Website Dev/Maint	1011116	612	-	-	30	-	-	-	30	-	30	582
CAR-BACWA Website Hosting	1014517	1,530	-	-	-	-	-	-	-	-	-	1,530
LEGAL												
LS-Executive Board Support	1011110	2,176	(1,085)	1,085	-	-	1,091	1,165	-	-	2,256	(80)
LS-Regulatory Support	1011107	2,706	-	-	-	-	2,626	-	-	-	2,626	80
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	(3,245)	3,245	-	-	63,637	11,363	-	-	75,000	1,000
BC-BAPPG	1011147	130,000	(6,133)	14,395	-	-	42,100	44,425	20,085	(2,025)	104,585	25,415
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,750	-	-	-	-	-	-	-	-	-	1,750
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-	-	-	-	-	-	-	1,300
BC-Pretreatment Committee	1011146	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Manager's Roundtable	1014777	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	45,000	-	-	-	-	-	-	-	-	-	45,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-	-	-	-	-	-	-	5,000
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		**837,720**	**(27,995)**	**36,257**	**62**	**-**	**406,835**	**249,953**	**25,918**	**(7,265)**	**675,441**	**162,279**
TECH SUPPORT												
WQA-CE-Technical Support	1011127	250,000	-	-	-	-	64,532	-	3,548	(3,548)	64,532	185,468
WQA-CE-Nutrient WS Permit Comm	1014021	2,800,000	-	-	-	-	-	-	1,000,000	-	1,000,000	1,800,000
WQA-CE Risk Reduction	1014023	7,500	-	-	-	-	-	-	-	-	-	7,500
WQA-CE Addl Work Under Permit	1014254	100,000	-	-	-	-	182,000	-	-	-	182,000	(82,000)
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	-	-	-	-	30,000	-	30,000	(30,000)
Nutrient Workshops	1015015	-	-	-	-	-	-	-	-	-	-	-
WQA-CE-Nature Based Solutions	1015367	200,000	-	-	-	-	373,217	62,703	-	-	435,920	(235,920)
Recycled Water Evaluation	1015566	60,000	-	-	-	-	135,659	6,175	-	-	141,834	(81,834)
WQA - CEC Investigations	1015569	50,000	65,000	-	-	-	65,000	-	-	-	65,000	(15,000)
TECH SUPPORT (CBC) TOTAL		**3,467,500**	**65,000**	**-**	**-**	**-**	**820,408**	**68,878**	**1,033,548**	**(3,548)**	**1,919,286**	**1,548,214**
GRAND TOTAL		**4,305,220**	**37,005**	**36,257**	**62**	**-**	**1,227,243**	**318,831**	**1,059,466**	**(10,813)**	**2,594,727**	**1,710,493**
BABC												
AS-Assistant Executive Directo	1011124	-	-	-	-	-	-	-	-	-	-	-
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	4,622	-	-	-	4,622	-	4,622	(4,622)
AS-Regulatory Program Manager	1011149	-	-	-	-	-	-	-	-	-	-	-
Academia Research & Developmen	1015373	-	(64,500)	64,500	-	-	-	64,500	-	-	64,500	(64,500)
Collateral Development	1015374	-	(1,125)	1,125	37,400	-	-	1,125	37,400	-	38,525	(38,525)
Program Manager Expense	1015376	-	(7,744)	7,744	-	-	65,206	24,794	-	-	90,000	(90,000)
BABC TOTAL		**-**	**(73,369)**	**73,369**	**42,022**	**-**	**65,206**	**90,419**	**42,022**	**-**	**197,647**	**(197,647)**
BACC												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BACC TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
					18							
GRAND TOTAL (BDO, CBC, BABC, BACC, WOT)		**4,305,220**	**(36,364)**	**109,626**	**42,084**	**-**	**1,292,449**	**409,250**	**1,101,488**	**(10,813)**	**2,792,374**	**1,512,846**

BACWA Expense Detail Report for November 30, 2020

DEPTID	DEPARTMENT	EXPENSE TYPE	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
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Fund Transfers	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Administrative Support	-	-	-	5,840	(5,840)	-	-	5,840	(5,840)	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Contract Expenses	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Regional Green Infrastructure	-	-	-	118,045	(118,045)	-	-	118,045	(118,045)	-	-
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	-	-	-	15,353	(15,353)	-	-	15,353	(15,353)	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Stream Restoration in North BD	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Watershed Program Admnstrtn	-	-	-	8,463	(8,463)	-	-	8,463	(8,463)	-	-
	PRP84 TOTAL		**-**	**-**	**-**	**147,701**	**(147,701)**	**-**	**-**	**147,701**	**(147,701)**	**-**	**-**

BACWA Revenue Report as of November 30, 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	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011691	Water Efficient Landscape Reba	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011702	Sears Point Wtlnd & Wtrshd Res	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011705	Regional Green Infrastructure	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011706	Hacienda Ave Green St Improvem	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1011707	WQ Improve Flood Mgmt & EP	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012224	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	1012225	Watershed Program Admnstrtn	-	-	-	-	-	-	-	-	-
	PROP 84 TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 4
FILE NO.: 21-25
MEETING DATE: January 15, 2021

TITLE: Review of NMS Technical Documents Agreement Fiscal Year 2021

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

RECOMMENDED ACTION

Approve an agreement in the amount of $50,000 with Michael Connor to provide Review of NMS Technical Documents in FY21.

SUMMARY

The Nutrient Management Strategy (NMS) is the structure directing scientific studies that will inform nutrient policy decisions in the San Francisco Bay. Although BACWA has several volunteers who are engaged in monitoring the technical work being undertaken by the NMS science team, all of the BACWA volunteers have their regular workload at their agency or city and lack the time to immerse themselves in thoroughly reviewing all of the technical documents that have been produced or are in production. For this reason, the BACWA Executive Board directed BACWA staff to solicit the support of an outside expert to review key documents produced by the NMS science program from the perspective of a Publicly Owned Treatment Works. The independent review would help inform the BACWA membership on key aspects of the scientific reports as they relate to a public utility, pointing out areas of study or conclusions that have the potential to impact future management or policy decisions and assessing the scientific underpinnings of those conclusions and recommendations. It is also the expectation that the addition of technical support in this capacity will help support the NMS in developing more robust and defensible work products.

In November 2020, BACWA issued an RFP for Review of NMS Technical Documents, and received four proposals in response. In December 2020, BACWA held interviews with the top two teams, and selected Dr. Michael Connor as the consultant most qualified to provide the requested services. Dr. Christine Werme will assist this effort as a subconsultant under the attached contract. Dr. Connor and Dr. Werme have been working on estuarine nutrient issues since 1975, and have extensive experience on nutrient science and a deep familiarity with stakeholders in the San Francisco Bay and the context of the NMS.

FISCAL IMPACT

Funds for the agreement are available in the BACWA FY21 Budget under line item General Technical Support.

ALTERNATIVES

1. Do not fund the position: This alternative is not recommended since the BACWA Board has identified the need for this support, and this consultant was selected through a competitive process.

Attachments:
Contract

Approved:

_____ Date: _____

Amit Mutsuddy, Chair
BACWA

BAY AREA CLEAN WATER AGENCIES
PROFESSIONAL SERVICES CONTRACT

This PROFESSIONAL SERVICES CONTRACT, effective January 15, 2021, is between Bay Area Clean Water Agencies ("BACWA"), a joint powers agency which exists as a public entity separate and apart from its Member Agencies, created January 4, 1984 by a Joint Powers Agreement between Central Contra Costa Sanitary District, East Bay Dischargers Association, East Bay Municipal Utility District, the City and County of San Francisco and the City of San Jose, with a mailing address of P.O. Box 24055, MS 702, Oakland, CA 94623, and Michael Connor ("Consultant") a sole-proprietorship doing business at 177 19th St, Apt 11A, Oakland, CA 94612, for professional services as described in any Exhibit A attached hereto.

In consideration of the mutual covenants, stipulations and agreements, the parties agree as follows:

Description and Standard of Services to be Performed

1. Consultant will perform the Services as described by and in accordance with Exhibit A in a manner acceptable to BACWA.
2. Consultant shall not contract with or otherwise use any subconsultants, subcontractors or other non-employee persons or entities ("Subconsultants") to perform the Services without the prior written approval of BACWA. If Consultant and BACWA agree that Subconsultants shall be used, Consultant shall ensure Subsconsultants' compliance with all the terms and conditions of this agreement.
3. Christine Werme, a sole-proprietorship, is identified as a subconsultant for this agreement.
4. Consultant will exercise that degree of care in performing the Services in accordance with that prevailing among firms of comparable standing in the State of California ("Professional Standard"). Consultant will promptly correct or re-perform those Services not meeting the Professional Standard without additional compensation.
5. BACWA's review, approval, acceptance, use, or payment for all or any part of the Services hereunder will not alter the Consultant's obligations or BACWA's rights hereunder, and will not excuse or diminish Consultant's responsibility for performing all Services consistent with this Contract.

Payment for Services

6. BACWA will pay Consultant based on the rates in Exhibit B, up to a maximum amount payable of $50,000 subject to the receipt of funds from the Funding Source as shown in Exhibit A. Consultant will not exceed the maximum amount payable without obtaining prior written approval from BACWA.
7. Consultant shall submit invoices monthly via email to Jennifer Dyment, Assistant Executive Director, at jdyment@bacwa.org with a copy to Lorien Fono, Executive Director, at lfono@bacwa.org. Invoices shall include the hours charged by each employee, a brief description of the work performed, and a description of costs for which Consultant seeks reimbursement and which are specified in Exhibit B.
8. Payments under this Contract will be due thirty (30) days after BACWA's receipt of invoices. BACWA may withhold from any progress or final payment any damages, backcharges or claims incurred or anticipated by BACWA to the extent caused by Consultant.

Indemnification

9. To the fullest extent allowed by law, Consultant will indemnify, hold harmless, reimburse and defend BACWA, its Member Agencies, and each of their officers, directors, employees and agents from, for and against any and all claims, demands, damages, losses, expenses, liabilities and penalties, including but not limited to reasonable attorneys' and expert witnesses' fees, arising out of or relating to the Services but only to the extent caused by the negligent or other wrongful acts or omissions of Consultant

or any person or entity for whose acts or omissions any of them are responsible, or by the failure of any such party to perform as required by this Contract.

Assignment

10. Consultant will not assign or transfer any of its interest in this Contract, in whole or in part, without the prior written consent of BACWA. BACWA may assign this Contract and any rights relating to this Contract (including but not limited to its right to assert claims and defenses against Consultant) at BACWA's discretion.

Independent Contractor

11. Consultant will perform the Services as an independent contractor. Although Consultant will perform its Services for the benefit of BACWA, and although BACWA reserves the right to determine the schedule for the Services and to evaluate the quality of the completed performance, BACWA does not control the means or methods of Consultant's performance. Consultant is solely responsible for determining the appropriate means and methods of performing the Services, and Consultant's liability will not be diminished by any review, approval, acceptance, use or payment for the same by BACWA or any other party.

Termination of Contract; Suspension of Services

12. This contract shall automatically terminate on June 30, 2021. Either party may also terminate this Contract in whole or in part at any time for its convenience. For a termination for convenience, the termination will be effective thirty (30) days following receipt of a written notice of termination by one party from the other. BACWA may terminate this Contract in whole or in part for cause, in which event the termination will be effective ten (10) days after Consultant's receipt of BACWA's written notice and Consultant's failure during that period to cure the default.

Dispute Resolution

13. Consultant will give prompt written notice to BACWA of any claim, dispute or other matter in question, but in no event will Consultant give such notice later than ten (10) days after Consultant's becoming aware of the event or circumstance giving rise to the claim, dispute or matter in question.

14. All claims, disputes and other matters in question between BACWA and Consultant arising out of or relating to this Contract will be subject to alternative dispute resolution. If both parties agree to arbitration it will be conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association then in effect. Notice of the demand for arbitration will be filed in writing with the other party to this Contract and with the American Arbitration Association. Any arbitration arising out of or relating to this Contract will include, by consolidation, joinder or joint filing, any other person or entity not a party to this Contract that is substantially involved in a common issue of law or fact and whose involvement in the consolidated arbitration is necessary to achieve a final resolution of a matter in controversy therein. This agreement to arbitrate will be specifically enforceable by any court with jurisdiction thereof.

15. A demand for dispute resolution by either party will be made within a reasonable time after the claim, dispute, or other matter in question has arisen, and in no event will it be made after the date when institution of court litigation based on such claim, dispute or other matter in question would be barred by the applicable period of limitations. For all claims by BACWA against Consultant, the applicable period of limitations will not commence to run, and any alleged cause of action will not be deemed to have accrued (whether such action is based on negligence, strict liability, indemnity, intentional tort or other tort, breach of contract, breach of implied or express warranty, or any other legal or equitable theory), unless and until BACWA is fully aware of all three of the following: (1) the identity of the party(ies) responsible, (2) the magnitude of the damage or injury and (3) the cause(s) of the damage or injury. The contractual limitations period and discovery rule provided herein applies in lieu of any otherwise applicable statute or related case law.

16. The failure of either party to enforce any provision of this Contract will not constitute a waiver by that party of that or any other provision of this Contract.

Severability

17. BACWA and Consultant agree that if any term or provision of this Contract is determined to be illegal, in conflict with any law, void or otherwise unenforceable, and if the essential terms and provisions of this Contract remain unaffected, then the validity of the remaining terms and provisions will not be affected and the offending provision will be given the fullest meaning and effect allowed by law.

Survival

18. All rights and obligations set out in this Contract and arising hereunder will survive the termination of this Contract (i) as to the parties' rights and obligations that arose prior to such termination and (ii) as is necessary to give effect to rights and obligations that arise after such termination but derive from a breach or performance failure that occurred prior to the termination.

This Contract constitutes the entire, legally binding contract between the parties regarding its subject matter. No waiver, consent, modification or change of terms of this Contract is binding unless in writing and signed by both parties.

The following documents are incorporated into and made a part of this Contract. Any conflicts between these documents and this Contract will be resolved in favor of this Contract.

Exhibit A – Scope of Work
Exhibit B – Hourly Rates/Reimbursable Expenses

CONSULTANT: Michael Connor

177 19th St, Apt 11A
City, State, Zip Code

Oakland CA. 94612
Tax Identification No.

Consultant Signature *Date*

Name, Title

January 15, 2021
BACWA Signature *Date*

Amit Mutsuddy, BACWA Executive Board Chair
Name, Title

EXHIBIT A

SCOPE OF WORK

Professional Services by
Fiscal Year 2020/2021

Michael Connor will provide professional services to Bay Area Clean Water Agencies (BACWA) for the following activities, the costs of which are **not to exceed** $50,000.

- Meet with BACWA prior to review of documents to refine scope, prioritize areas of review and define level of effort. The NMS Science Manager may attend the meetings in an advisory capacity. The form of the review (technical memo, document annotation, etc.) will be defined by BACWA prior to commencing review.
- Provide review of the following documents:
    - San Francisco Bay Numerical Modeling FY20 Update
    - 2021 Modeling Report (forthcoming)
    - Manuscript - Darkened skies from wildfire smoke, extreme heat trigger hypoxia in the San Francisco estuary
    - Manuscript - Connections to tidal marsh and restored salt ponds drive seasonal and spatial variability in ecosystem metabolic rates in Lower South San Francisco Bay
    - Other upcoming documents as directed by BACWA
- Review Assessment Framework Workplan and other Assessment Framework Documents as directed by BACWA
- Deliver as-needed updates on review findings to BACWA Executive Board (Power Point or technical memo, as directed by BACWA)
- Develop recommendations for charge questions for Modeling Advisory Group (target March 2021)
- Develop recommendations for charge questions for Assessment Framework Expert Workgroup (target May to June 2021)
- Participate in NMS Steering Committee Meetings and Nutrient Technical Workgroup meetings

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EXHIBIT B

HOURLY RATES/REIMBURSABLE EXPENSES

Dr. Michael Connor	$150
Dr. Christine Werme	$150

{

BACWA EXECUTIVE BOARD AUTHORIZATION REQUEST

AGENDA NO.: 5

FILE NO.: 21-26

MEETING DATE: January 15, 2021

TITLE: Request for BACWA 2nd Watershed Permit funding commitment - second installment of $1,600,000

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

RECOMMENDED ACTION

Authorize second installment of payment in the amount of $1,600,000 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	$2,600,000	$2,700,000	$2,100,000	$1,000,000	**$11,000,000**

At the July 17, 2020 BACWA Executive Board meeting, the Board approved a first payment of $1,000,000 to the NMS. The current requested authorization of payment in the amount of $1,600,000 to SFEI will meet the obligation for the second 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 was to ensure continuity in the Science Program in FY21. The first installment drew on BACWA's reserves. The second installment of $1,600,000 is being brought to the Executive Board for approval now that the bulk of the FY21 nutrient surcharge revenues have been received from member

agencies.

It should be noted that in previous versions of the five year plan presented to the BACWA Board, the total planned FY21 payment to SFEI was $2,800,000. However, the pace of the science has slowed in FY21 due to the COVID-19 emergency, so the current proposed payment, developed in consultation with the NMS Science Manger, is $1,600,000, plus the $1,000,000 already paid in July 2020, for a total of $2,600,000. Additional funding is proposed for FY22 when it is anticipated that work will not be significantly impacted by the pandemic.

FISCAL IMPACT

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 $1,600,000 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. Pay only the additional $1.2M required to meet BACWA's permit obligation to SFEI of $2.2M. This alternative is not recommended since BACWA agreed to advance funding from future permit years to accelerate the science so that it can inform management decisions for the adoption of the 3rd Watershed Permit.

Attachments: SFEI Invoice

Approved: Date:

Amit Mutsuddy, Chair
BACWA Executive Board

COMMITMENT & INTEGRITY
DRIVE RESULTS

2175 N California Blvd | Suite 315
Walnut Creek, California 94596
www.woodardcurran.com

T 800.426.4262
T 925.627.4100

January 8, 2021

Ms. Lorien Fono
Executive Director
Bay Area Clean Water Agencies
PO Box 24055, MS 702
Oakland, CA 94623

RE: Request for BACWA Letter of Support for Proposal to Water Research Foundation for Project 5087: Implementation of Innovative Biological Nutrient Removal Processes through Improvement of Control Systems and Online Analytical Measurement Reliability and Accuracy

Dear Ms. Fono:

I am writing this letter to request that BACWA provide a letter of support for the proposal being prepared jointly by Woodard & Curran, University of Massachusetts Amherst, and Northeastern University in response to the Water Research Foundation (WRF) RFP 5087: Implementation of Innovative Biological Nutrient Removal Processes through Improvement of Control Systems and Online Analytical Measurement Reliability and Accuracy.

As the BACWA member agencies evaluate their options to cap, and ultimately reduce, nutrient discharges to the San Francisco Bay in the coming decade, process optimization and process intensification offer potential near-term and lower-cost solutions. Implementation of online monitoring and automated control strategies is an integral part of process efficiency and intensification, which can only be achieved with highly accurate and reliable sensors. These sensors present an additional level of operational complexity and a maintenance burden which must be accounted for as part of the cost: benefit analysis. While sensor accuracy and reliability have improved, the limited performance track record has made many senior designers and operators cautious and hesitant in implementing these systems. There is also a lack of a central database of the various sensors available, sensor performance, and O&M procedures; a single peer-reviewed document does not exist.

WRF intends to fill this knowledge gap and provide a source for WRF subscribers who are moving forward with BNR processes and implementing sensor-driven control strategies. The practical implementation of sensor technologies, along with the challenges and maintenance of these sensors will provide designers, operators, and maintenance and management staff with a dependable document on this subject.

The team of Woodard & Curran, University of Massachusetts, and Northeastern University is a collaboration of operators, process engineers, instrumentation and controls engineers, academics, and graduate students. We are developing our project proposal to be submitted to WRF on February 25, 2021. We have secured utility partnerships providing in-kind support from Clean Water Services (Portland, OR), Upper Blackstone Clean Water (Millbury, MA), and Plymouth, MA, and are reaching out to other agencies, including several BACWA members, for data sharing, case studies, and in-kind support. We have also enlisted the process simulation software firm, Hydromantis, to provide in-kind services in developing operator training modules for advanced process controls.

As described in the attached draft abstract, our approach to this work is one that places a premium on pragmatic innovation that can be widely adopted in the industry. This work will build on the critical review of online controls developed by our team members and ongoing work under WRF Project 4973, Guidelines for Optimizing Nutrient Removal Plant Performance. Our deliverables will include a compilation of available sensor performance data, a decision-support tool, a detailed evaluation matrix, case studies from utility partners, and technology transfer through WEF operator training venues and the Leaders Innovation Forum for Technology (LIFT) website.

We appreciate your consideration of this request and believe that the work products will be valuable resources to BACWA member agencies as they address the challenges of the next Nutrients Watershed Permit. Please let me know if you have any questions and, certainly, share this information with agencies that may be interesting in joining the team as utility partners.

Sincerely

Jim Graydon, P.E.
Principal
WOODARD & CURRAN

Attachments:

Water Research Foundation Request for Proposal 5087
Woodard & Curran Draft Abstract for WRF Project 5087
W. Zhang, N. Tooker, and A. Mueller, Enabling Wastewater Treatment Process Automation: Leveraging Innovations in Real-Time Sensing, Data Analysis, and Online Controls, Environmental Science: Water Research & Technology, August 2020

THE Water Research FOUNDATION

Date Posted: December 9, 2020

REQUEST FOR PROPOSALS (RFP)

Implementation of Innovative Biological Nutrient Removal Processes through Improvement of Control Systems and Online Analytical Measurement Reliability and Accuracy (RFP 5087)

Due Date: Proposals must be received by 2:00 pm Mountain Time on
Thursday, February 25, 2021 (modified due date)
WRF Project Contact: Stephanie Fevig, sfevig@waterrf.org

Project Sponsors
This project is funded by The Water Research Foundation (WRF) as part of WRF's Research Priority Program.

Project Objectives
- Evaluate the best technologies, approaches, operations and maintenance (O&M) practices, and requirements for sensors and control systems for intensive biological nutrient removal (BNR) processes with a focus on innovative, but also appropriate, levels of process control complexity.
- Develop a baseline evaluation of sensors available for implementing intensification of water resource recovery facilities with particular emphasis on the performance, and necessary O&M requirements, as well as annual cost estimates for maintenance including parts and labor per instrument per manufacturer.
- Identify additional improvements of sensor performance in existing facilities and pave the way for a consistent approach for utilities to reliably operate their BNR processes.
- Engage with utility subscribers through the Leaders Innovation Forum for Technology (LIFT).

Budget
Applicants may request up to $100,000 in WRF funds for this project. WRF funds requested and total project value are evaluation criteria considered in the proposal selection process.

Background and Project Rationale
The use of sensors in water treatment has been evolving since the Clean Water Act in the 1970s where designers identified improved treatment efficiency and the ability to intensify treatment processes. Intensification of BNR processes refers to decreasing chemical and energy demands and reducing the process footprint (or increasing capacity in an existing footprint) while providing the same level of nutrient removal as traditional methods. Implementation of online monitoring and automated control strategies is an integral part of process efficiency and intensification, which can only be achieved with highly accurate and reliable sensors. These sensors (with or without wet chemistry) require additional maintenance, which must be accounted for as part of the intensification benefit. This project will

concentrate on sensor or wet chemistry analyzer performance to identify the most appropriate technology for specific uses.

The reliability of a sensor is both inherent with the sensor itself and the level of attention that it requires and receives. A need for a high level of sensor maintenance can "doom" the process to failure if this level of attention cannot be provided. There have been a number of instances in which sensors were not robust enough and the control system was abandoned for a host of reasons, including failure of the sensors to remain calibrated and excessive maintenance requirements. In some cases, wet chemistry analyzers may offer better performance for specific applications.

Sensor accuracy and reliability has improved, but the history of these failures has made many senior designers and operators cautious and hesitant in implementing these systems. There is also a lack of a central database on the various sensors available, sensor performance, and O&M procedures; a single peer-reviewed document does not exist.

This research aims to fill this knowledge gap and provide a source for WRF subscribers who are moving forward with BNR processes and implementing sensor-driven control strategies. The practical implementation of sensor technologies, along with the challenges and maintenance of these sensors will provide designers, operators, and maintenance and management staff with a dependable document on this subject.

Research Approach

In order to achieve the objectives, researchers are expected to complete the following tasks, at a minimum:

- Review complimentary work conducted under WRF project 4973, *Guidelines for Optimizing Nutrient Removal Plant Performance*. Contact the WRF Research Program Manager, Stephanie Fevig, at sfevig@waterrf.org for information, as the project is currently in progress.
- Provide an assessment of online sensors utilized for BNR processes including, but not limited to, dissolved oxygen, oxidation-reduction potential (ORP), and nitrogen (ammonia, nitrite, nitrate, NOx) and phosphorous sensors, based on an evaluation of field data at various water resource recovery facilities of sensors from various vendors.
    - Present sensor performance, including precision and accuracy under different operating conditions and various concentration ranges, taking into consideration operational and maintenance factors and conditions such as sensor location, fouling (reversible and irreversible), interfering ions, influence of aeration and mixing, solids concentration and frequency of calibration, and mixed liquor characteristics.
    - Evaluate and identify the labor (e.g., skillsets, hours, manufacturer versus facility staff) and expense for O&M procedures, including probe cleaning, calibration, and maintenance.
- Provide an evaluation of various real-time process control systems currently being used to improve operational efficiency and stability of nutrient removal processes. The evaluation must present information on the beneficial use of such systems, including but not limited to, ammonia-based aeration control, ammonia vs. NOx (AvN) control, aerobic solids retention time (SRT) control, ammonia load-based flow equalization, nitrate-based supplemental carbon feed, the required online sensors, and the strategies for use of these systems under varying conditions. Proprietary and open source systems should both be identified.
- Identify what common problems associated with the use of sensors were encountered and how they were rectified.
- Develop a benchmark of reliable sensor performance.

Expected Deliverables
Proposers are open to suggest creative and alternative project deliverables in lieu of a single research report and in collaboration with LIFT. The deliverables should include:

- Recommendations of suitable process control systems/approaches to achieve reliable performance of various BNR process configurations.
- Recommendations of suitable online sensors and their installation, O&M practices to support the implementation of the recommended process control systems.
- Real life evidence to support the above recommendations.
- A LIFT BNR Focus Group webcast to present the project findings.

Communication Plan
Please review WRF's *Project Deliverable Guidelines* for information on preparing a communication plan. The guidelines are available at https://www.waterrf.org/project-report-guidelines. Conference presentations, webcasts, peer review publication submissions, and other forms of project information dissemination are typically encouraged.

Project Duration
The anticipated period of performance for this project is 18 months from the contract start date.

References and Resources
The following list includes examples of research reports, tools, and other resources that may be helpful to proposers. It is not intended to be comprehensive, nor is it a required list for consideration.

- Water Environment Research Foundation. BNR Process Monitoring and Control with Online Nitrogen Analyzers for Nitrogen Credit Exchange Program in Connecticut (1526/NUTR1R06y).
- The Water Research Foundation. Guidelines for Optimizing Nutrient Removal Plant Performance (2020-2021) (4973).
- WEFTEC 2019 Workshop: Advanced Use of Online Analyzers to Meet Nutrient Removal Limits.

Proposal Evaluation Criteria
The following criteria will be used to evaluate proposals:

- Understanding the Problem and Responsiveness to RFP (maximum 20 points)
- Technical and Scientific Merit (maximum 30 points)
- Qualifications, Capabilities, and Management (maximum 20 points)
- Communication Plan, Deliverables, and Applicability (maximum 15 points)
- Budget and Schedule (maximum 15 points)

Proposal Preparation Instructions
Proposals submitted in response to this RFP must be prepared in accordance with the WRF document *Guidelines for Research Priority Program Proposals*. The current version of these guidelines is available at https://www.waterrf.org/proposal-guidelines, along with *Instructions for Budget Preparation*. The guidelines contain instructions for the technical aspects, financial statements, indirect costs, and administrative requirements that the applicant must follow when preparing a proposal.

Eligibility to Submit Proposals
Proposals will be accepted from domestic or international entities, including educational institutions, research organizations, governmental agencies, and consultants or other for-profit entities.

WRF's Board of Directors has established a Timeliness Policy that addresses researcher adherence to the project schedule. The policy can be reviewed at https://www.waterrf.org/policies. Researchers who are late on any ongoing WRF-sponsored studies without approved no-cost extensions are not eligible to be named participants in any proposals. Direct any questions about eligibility to the WRF project contact listed at the top of this RFP.

Administrative, Cost, and Audit Standards
WRF's research program standards for administrative, cost, and audit compliance are based upon, and comply with, Office of Management and Budget (OMB) Uniform Grants Guidance (UGG), 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and 48 CFR 31.2 Contracts with Commercial Organizations. These standards are referenced in WRF's *Guidelines for Research Priority Program Proposals*, and include specific guidelines outlining the requirements for indirect cost negotiation agreements, financial statements, and the Statement of Direct Labor, Fringe Benefits, and General Overhead. Inclusion of indirect costs must be substantiated by a negotiated agreement or appropriate Statement of Direct Labor, Fringe Benefits, and General Overhead. Well in advance of preparing the proposal, your research and financial staff should review the detailed instructions included in WRF's *Guidelines for Research Priority Program Proposals* and consult the *Instructions for Budget Preparation*, both available at https://www.waterrf.org/proposal-guidelines.

Budget and Funding Information
The maximum funding available from WRF for this project is $100,000. The applicant must contribute additional resources equivalent to at least 33 percent of the project award. For example, if an applicant requests $100,000 from WRF, an additional $33,000 or more must be contributed by the applicant. Acceptable forms of applicant contribution include cost-share, applicant in-kind, or third-party in-kind that comply with 2 CFR Part 200.306 cost sharing or matching. The applicant may elect to contribute more than 33 percent to the project, but the maximum WRF funding available remains fixed at $100,000. **Proposals that do not meet the minimum 33 percent of the project award will not be accepted.** Consult the *Instructions for Budget Preparation* available at https://www.waterrf.org/proposal-guidelines for more information and definitions of terms.

Period of Performance
It is WRF's policy to negotiate a reasonable schedule for each research project. Once this schedule is established, WRF and its sub-recipients have a contractual obligation to adhere to the agreed-upon schedule. Under WRF's No-Cost Extension Policy, a project schedule cannot be extended more than nine months beyond the original contracted schedule, regardless of the number of extensions granted. The policy can be reviewed at https://www.waterrf.org/policies.

Utility and Organization Participation
WRF encourages participation from water utilities and other organizations in WRF research. Participation can occur in a variety of ways, including direct participation, in-kind contributions, or in-kind services. To facilitate their participation, WRF has provided contact information, on the last page of this RFP, of utilities and other organizations that have indicated an interest in this research. Proposers are responsible for negotiating utility and organization participation in their particular proposals. The

listed utilities and organizations are under no obligation to participate, and the proposer is not obligated to include them in their particular proposal.

Application Procedure and Deadline

Proposals are accepted exclusively online in PDF format, and they must be fully submitted before 2:00 pm Mountain Time on Thursday, February 25, 2021. All proposal documents must be compiled into two PDF files consisting of your technical review documents and your financial review documents. All forms and components of the proposal are available in the *Proposal Component Packet* zip file on the proposal website at https://proposals.waterrf.org/Pages/RFPs.aspx. An FAQ and a tutorial are also available. A login is required to access the proposal website and download the packet. Proposers are encouraged to create logins and verify the validity and compatibility of the system well in advance in order to avoid last-minute errors or delays.

The online proposal system allows submission of your documents until the date and time stated in this RFP. To avoid the risk of the system closing before you press the submit button, do not wait until the last minute to complete your submission.

Questions to clarify the intent of this RFP and WRF's administrative, cost, and financial requirements may be addressed to the WRF project contact, Stephanie Fevig at (303) 347-6103 or sfevig@waterrf.org. Questions related to proposal submittal through the online system may be addressed to Caroline Bruck at (303) 347-6118 or cbruck@waterrf.org**.**

5087 Utility and Organization Participants

The following utilities have indicated interest in possible participation in this research. This information is updated within 24 business hours after a utility or an interested organization submits a volunteer form, and this RFP will be re-posted with the new information. **(Depending upon your settings, you may need to click refresh on your browser to load the latest file.)**

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Grant Proposal Abstract

Water Research Foundation

Implementation of Innovative Biological Nutrient Removal Processes through Improvement of Control Systems and Online Analytical Measurement Reliability and Accuracy (RFP 5087)

Tentative Schedule: 2021-2022

Principal Investigator: Susan Guswa, P.E., Municipal Wastewater Practice Leader, Woodard & Curran

Co-PIs: Paul Dombrowski, P.E., Chief Technologist, Woodard & Curran
Nicholas Tooker, P.E., Professor of Practice, Dept of Civil and Environmental Engineering, University of Massachusetts Amherst
Amy Mueller, Ph.D., Assistant Professor, Dept of Civil and Environmental Engineering, Northeastern University

Utility Partners: Upper Blackstone Clean Water
Clean Water Services
Plymouth, MA

Industry Partners: Hydromantis

Goal

The project goal is to align biological nutrient removal (BNR) on-line analytical instrumentation and control schemes with WRRF operations and performance needs to speed adoption of innovation and maximize its value.

Approach

WRF's stated project objectives are:

- Evaluate the best technologies, approaches, operations and maintenance (O&M) practices, and requirements for sensors and control systems for intensive biological nutrient removal (BNR) processes with a focus on innovative but also appropriate levels of process control complexity.
- Develop a baseline evaluation of sensors available for implementing intensification of water resource recovery facilities with particular emphasis on performance and necessary O&M requirements as well as annual cost estimates including parts and labor per instrument per manufacturer.
- Identify additional improvements of sensor performance in existing facilities and pave the way for a consistent approach for utilities to reliably operate their BNR processes.
- Engage with utility subscribers through the Leaders Innovation Forum for Technology (LIFT).

To best meet these objectives, we've formed a team consisting of operators, process engineers, instrumentation and controls engineers, academics, and graduate students who will provide broad experience and insight into this challenge. Our focus is to identify online instruments and control schemes that achieve relatively low-risk process intensification and can be widely adopted by operations teams by answering these key questions:

- How do we cost-effectively use instrumentation and controls to improve nutrient removal, save energy, reduce chemical use, and/or reduce process footprint?
- How do we quantify the return on investment and determine when the risks, costs and complexity start to outweigh the benefits?
- How do we design for operability and ease of maintenance?

- What are the most effective ways to disseminate the findings and recommendations to utilities/operators in a way that enables identification of best path forward for a given plant/process?

The proposed approach explicitly targets this study around processes that are most frequently in use with the aims of (1) enabling innovation across the sector at the highest number of plants and (2) supporting adoption of innovation at plants with smaller operating budgets.

Tasks

Project work consists of the following tasks:

Task 1: Literature Review

Task 2: Utility Survey

Task 2.1: Broad Digital Survey

Task 2.2: Detailed Survey of Utility Partners and additional utilities identified in Task 2.1

Task 3: Sensor Testing at selected WRRFs

Task 4: Screening Tool Development

Task 4.1: Decision Tree Screening Tool

Task 4.2: Detailed Evaluation Matrix

Task 5: Case Studies

Task 6: Interactive Operator-Focused Training on Advanced BNR Process Controls

Deliverables & Outcomes

	Deliverable	Description	Outcome
1.	Decision Tree Screening Tool App	Easy-to-access tool to screen and select control strategies and online sensors for a specific application	Streamline decision-making process and focus detailed evaluation on most applicable systems
2.	Detailed Evaluation Matrix	Recommendations for suitable process control systems/approaches to achieve reliable performance of various BNR process configurations	Match recommended control system and sensors to the target effluent limitations and utility needs. Increase chance of successful implementation through evaluation of important factors such as reliability, maintenance, complexity, etc.
3.	Case Studies	1-2-page summaries from 5-10 partner utilities describing control scheme, sensors used, sensor precision, accuracy, performance, fouling, interferences, calibration and maintenance requirements	Provide lessons learned and contacts at different installations of sensors and controls for BNR systems
5.	LIFT LINK Webpage	Project findings and recommendations Summary of innovative sensors and controls	Communicate project results to project stakeholders and WRF subscribers
6.	LIFT BNR Focus Group Webcast	Webcast	Encourage broad adoption and optimization of BNR control systems and online sensors
7.	Training Modules	Operator-focused Training Modules incorporating Advanced Process Controls for BNR using On-line Sensors	Encourage broad adoption of BNR control systems and online sensors by operators Utilize proven training venues – WEFTEC Operator Challenge and WEF Training Classes Co-benefit of attracting new subscribers to WRF Co-benefit of teaching our next generation of water professionals (students) about state-of-the-art BNR controls and sensors

Agenda Item 6.a.iii.4

Link to Zhang, W, N.B. Tooker, and A.V. Mueller, “Enabling wastewater treatment process automation: leveraging innovations in real-time sensing, data analysis, and online controls.” *Environmental Science: Water Research & Technology.* 2020, **6**, 2973-2992. DOI: 10.1039/d0ew00394h

https://bacwa.box.com/s/vwd94umyrzomit9fobgpbkdr10dpalxm

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

Date/Time: December 11, 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		
Delta Stewardship Council	Rainer	Hoenicke	Alternate		
U.S. Geological Survey	Deb	Stoliker	Member	x	
NOAA Fisheries	Joe	Dillon	Member	x	
	Brian	Meux	Alternate		
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		
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	x	
WSPA	Kevin	Buchan	Member	x	
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	X	
	Richard	Looker	Alternate	x	

Additional Attendees
Derek Roberts, SFEI
Lorien Fono, BACWA
Melissa Foley, SFEI, Facilitation
David Senn, SFEI, Science Manager, Program Coordinator Team
Robert Schlipf, Water Board
Ali King - SFEI
Blake Brown, Central San
Farid Karimpour, SFEI
Kristin Art, SFEI
Siena White, SFEI
Don Grey, EBMUD
Sienna White, SFEI
Ariella Chelsky, SFEI
Pradeep Mugunthan, SFEI
Mary Lou Esparza, CCCSD
Blake Brown, CCCSD
Amit Mutsuddy, San Jose

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

   The Chair gave a quick overview of the meeting agenda, and the timing of technical items. The facilitator directed a roll call of attendees.

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

   One member noted that the list of alternates is out of date, and should be updated. The Chair asked for a vote to approve the minutes of the September 11, 2020 Steering Committee. The summary was approved unanimously.

3. **Information: Action items**

   September 11 Action item - Develop tier of membership that would recognize key stakeholders who are not voting members due to nonattendance. This item has not been completed, but will be rolled into a future charter amendment.

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

   There has been a discussion about the program needs to inform the development of the 3rd Watershed Permit. There will be a special meeting on this topic on November 17. BACWA is contributing $2.2M per year to the Science Program that will inform management decisions in the 3rd permit (load caps) or Basin Plan standards actions.

5. **Information: NMS Program Update**

   - Quarterly Financial Update: Not much change other than the total reflects the maximum revenues available from BACWA for the FY ($2.8M rather than $2.2M).

- The major focus (75% of effort) this quarter has been Delta Suisun modeling work, which is largely funded through the Delta RMP, but partially funded through the NMS. There had been uncertainty about the feasibility of the biogeochemical field work due to COVID, but it was accomplished.

- A few manuscripts have been shared with the Steering committee. One study on the effects of the “Hot and Dark” days this summer has been submitted to a peer reviewed journal.

- The science team has started pulling together a Model Advisory group, including the program and participants. The first meeting is aimed for March 2021, with the goal of incorporating the advisory group’s suggestions into the following year’s program plan.

- There is a workshop on modeling uncertainty being planned by SCCWRP. There has discussion about whether SFEI should participate in this event, and the PSC suggested it would be a valuable discussion in our Region. This workshop would include experts and stakeholders gathering to address questions developed by stakeholders. The meeting will be scheduled around mid-February.

- The Science Manager raised a question about how frequently the Nutrient Technical Workgroup should be convened. Currently, we’ve been including technical updates in the afternoon of the Steering Committee Meetings. There was general support for continuing this approach. We will continue holding the annual NTW meeting in late spring, with the possibility of occasionally holding additional NTW meetings as needed when there are significant or numerous work products to review.

6. Discussion: FY2021 Program Plan

- There was a request to get an update on Project P8A- *Factors influencing the occurrence of high biomass events* – March 2021 will be an ideal time for this update, and a brief update will be given at the end of today’s meeting. A key rationale for this project was to consider future scenarios, i.e.to get as best a sense as possible about the factors that trigger that biomass events, and what may cause them to be more frequent or more sustained in the future.
- The Science Manager gave a conceptual overview of the relationship between condition and DIN loading, as well as the work to identify what constitutes acceptable condition.
- Melissa Foley gave an update on the work for Assessment Framework 2.0. The purpose of the AF is to inform ongoing monitoring and modeling criteria via status and trends, identify outstanding questions about indicators and applications for expert input, and establish anticipated use of the framework to inform management decisions. Work is proceeding on the deep subtidal zone and lower south bay sloughs and creeks. There is some overlap, but they are largely parallel efforts. The Goal is to have a roadmap to move us from current status to a level of certainty needed to inform management decisions. Indicators need to be linked to beneficial uses; measured using better techniques; related to nutrient load with high confidence; and have an acceptable signal to noise ratio. The indicators will identify when more modeling is needed, the role of monitoring, and how a 303(d) listing might be implemented. Work has been proceeding to

identify potential indicators, with the goal of developing charge questions for an expert panel in February or March. This work will include a parallel development of a regulatory approach.

- Ariella Chelsky gave an update on work in the LSB showing DO levels in channels generally above 5mg/l, but there are many excursions below 5mg/L in the sloughs. The goal is to determine what DO levels are problematic. The was an expert workgroup meeting held in May 2020 to start the development of a workplan. The experts were asked about how to develop an approach to the AF. The experts recommended the development of a scoping plan for each of the approaches, including Base-desktop (Virginia Province Approach (VPA) – currently being developed by TetraTech); Advanced-desktop (would include the link between increasing temperature and decreasing DO on metabolic needs – scoping analysis being developed); and Advanced-field (based on the fish surveys by UC Davis – scoping analysis is still needed). Ariella gave a summary of how each of these approaches will move forward, including schedule. They will be used as multiple lines of evidence to identify impairment or potential future impairment. The timeline is much shorter for the VPA than the other two approaches, since it is a well-established process. The representative from the Fish and Wildlife Service offered to collaborate to target the needs of sensitive or endangered species.

7. Other Business Items

The Delta Science Program has a grant opportunity open – that is a noncompetitive 2-page letter of intent. The NMS is considering ways to apply for this funding.

8. Action items and wrap-up

No action items.

Adjourned at 10:55

9. Technical Presentation: **Biogeochemical Field Study**

Ariella Chelsky gave an update on recent sampling trips. The first focused on benthic core sampling. Cycling is very complex, so many different processes were examined. She gave an overview of challenges due to sampling during a pandemic, as well as the field methods and sampling techniques used. Preliminary oxygen fluxes in the dark are typical of estuaries (-30 to -50 mgO2/m^2/hr). Rate of oxygen consumption is lower in the light. Denitrification rates are high in the LSB, even compared to Suisun bay, with some inhibition in the light. Next steps are to continue to analyze samples, review preliminary data to choose next sampling sites, plan water column sampling, and schedule the next sampling next trip for early February.

10. Technical Presentation: Trends – Methods and Process

Melissa Foley gave an overview of recent activity related to finalizing a trends method and visualization tool for nutrients and related eutrophication indicators. Trends can be used as an early warning signal, as a threshold for additional monitoring or modeling, and as a trigger for management action. The General Additive Models (GAMS) can help in trends analysis by incorporating multiple explanatory variables, changes in trends over time, confidence intervals, seasonal changes, and mechanisms. They were used as part of the Chesapeake Bay program. Collaborators have developed a second stage analysis via Shinyapp, using a mixed meta approach with uses a seasonal average generated from the GAM and propagate uncertainty. The final question Melissa posed is “when is a trend a trend” considering time period, change, confidence, and the type/use of trend. Trends look different depending on the time frame

involved. The teams working on a manuscript, Shinyapp, a SF Bay-centric/interpretive technical report. They will be seeking expert input on application of trends method on SF Bay around March. They will be translating the method into indicators for the Assessment Framework in April-June timeframe. The presentation was followed by a discussion about how to link ecological significance to the trends.

11. Technical Presentation: South Bay DO Analysis Update

Derek Roberts gave an overview of a manuscript prepared to report data from the “hot and dark” period in early September, and particularly the smoke coverage on September 9, when luminance was about 1/3 of that of a typical winter solstice day. Warmer water temperatures decrease oxygen solubility and increase respirations rate, and with less light, primary production decreases so less oxygen is generated. With a neep tide, there is less dilution of oxygen demand and less flushing and marsh flooding. Derek provided an overview of the sensitivity to different sub-LSB regions to these extreme conditions. The conclusion was that the natural experiment confirmed the conceptual model – LSB sloughs were very sensitive to the conditions per high Chlorophyll and low DO, but the more open Bay was not as noticeably affected.

Final issues: Tom Hall requested an update on synthesis work looking at the triggers for phytoplankton blooms. Sometimes blooms are triggered by stratification, but that isn’t always the case. The team is looking at what other physical triggers may have caused other blooms. A draft report might be available by this spring. We will aim to have an update at the March SC meeting.

Planning Subcommittee Meeting No. 53
January 6 2021
9:00 am – 12:00 pm
Teleconference
Chair: Eric Dunlavey
Meeting Notes

Attendees: Dave Senn, Eric Dunlavey, Kevin Lundy, Tom Mumley, Ian Wren, Robert Schlipf, Richard Looker, Lorien Fono.

1. *Agenda Modifications (All) 5 min*
   None

2. *Review Outstanding Action items (LF) 5 min*
   - Finalize and distribute Steering Committee Agenda (Dave and Ian) - complete
   - Work with Martha to deliver info on modeling uncertainty meeting to present to PSC (Dave) – complete
   - Develop priorities memo prior to Nov 17 meeting (Ian) - complete

3. *Science Program update (DS) 10 min*
   a. *Modeling* – The focus has been on the Delta this fall and will shift bay to the Bay. There has been an extension to Water Board funded delta work which will allow the program to shift staff back to work on the SF Bay in the near term. A source apportionment/zone of influence report will be delivered in mid to late Jan 2021. The report will show that many dischargers contribute to observed nutrients in subembayments. Dave reported that the modeling group is working well together.
   b. *Field work* – Three shoal moorings are now installed. The team will be adding a NO3 sensor to Dumbarton around Feb, as they have been delayed since SFEI staff have been restricted from doing field work due to COVID. There was a discussion about the feasibility of fieldwork during the current shelter in place order, and concerns if this work is delayed through the spring. Planning is underway for biogeochemical sediment collection in February or March as well as shoal mapping.
   c. *Assessment Framework* – There is a contract in place with TetraTech, and work will get started early in the year on the Virginian Province Approach. The science team has met with Levi Lewis from UC Davis on a scoping level discussion about what work could be done to analyze existing fish community data, and recommendations to bring to the expert workgroup. There is a 2-page memo reflecting this work. The DO-T metabolism work is a low cost aspect of this work. There are a handful of organisms with well-established DO-T metabolic rates, although they aren't specific to SF Bay. However, this gives a range of possible tolerances which could then be compared to observed conditions in the LSB. Kevin commented that the fish data does not have the same weight of evidence as the VPA, and that acceptable DO levels from the DO-

T approach will be much lower than VPA. The DO-T work may be more helpful for the open bay. He noted that the three approaches will give different answers and it will be difficult to harmonize results from the three approaches. Dave responded that the VPA approach is where most resources are being invested at this time. The other two items are smaller efforts at present. Dave is working to set up the expert workgroup and will send out Levi's 2-pg memo when the doodle for that meeting goes out. Dave will distribute the Tetra Tech SOW and the 2-page memo on the fish analysis to the PSC.

Two manuscripts are moving forward with NMS partners on the methods being used for the trends work. A draft will be available in May or June. The assessment framework test drive will take deep subtidal thresholds from AF 1.0 in each subembayment to see how water quality would be classified between 1980 and 2015. The AF workplan will be distributed later in January.

d. *Monitoring Program* – There is some internal conflict in the USGS about how to continue to the ship-based program and get certainty about its future.

e. *NMS Program Manager/Senior Scientist* – Seven applications were received, and interviews are scheduled for this week. Dave is hoping to get some clarity on how long the position would last for, and if it would still be relevant at the end of 2024. Tom commented that the question isn't directly answerable, but a good staff person should be retained at SFEI in some capacity.

4. NMS *Priority Updates*

a. *Report-Outs* – BACWA is bringing on Mike Connor as reviewer for NMS Work Products.
The modeling workshop is being planned for February and will include estuarine modeling.

b. *Current Issues - none*

c. *NMS Calendar Review -10 min*

i. Review future SC and PSC meeting schedules (IW)
The next PSC meeting is scheduled for February 3.

5. Other Updates

a. *Approach for clarifying permit-based specifics of science goals*
Watershed permit extension options

- Dave gave an overview of the questions he needs to have answered to target the science plan to our timing needs. We need to make real decisions about

what can be accomplished in the next 3 years. Will we be able to have enough information to support the basis for load reduction requirements.

- The proposed approach is to work with the PSC to have in-depth discussion and then bring back the issues to the larger group every few months. By this spring, we need to have resolution on approach to creek and slough questions so that we know what to do on the big questions. A top priority is to nail down indicators for a condition assessment. Should we go through the projects to reallocate priorities to reflect the antidegradation approach to permitting?
- It would be ideal to get to increased certainty on nutrient linkages and management options for the sloughs and margins. That we're going to have some results on the VPA later in 2021 helps to improve the odds of that being feasible. However, the Water Board needs to decide on the threshold for making permit decisions – for example, if one slough is impaired, would we make permitting decisions? The Water Board would want to consider whether there are other feasible mitigation measures. We can make predictions about what the data will say and then discuss outcomes based on those predictions.
- There was a discussion about the managed salt ponds in LSB that are planned for restoration over many years. It is uncertain whether the ponds will have DO impacts when they are fully restored. Are we managing for future habitat condition on these ponds? The UC Davis crew does conduct fish trawl on the periphery of the salt ponds so there is some data to support these considerations.
- Will need to go through each of the boxes on the uncertainty chart and make decisions for each indicator/work element with respect to AF/condition/linkage/management.

- The group was assigned tasks to bring back to the Feb 3 meeting for further discussion:
    - **SFEI** - materials out 3-5 days in advance of Feb 3
    - Focus will be on LSB-slough-creek DO
    - Goal: sketch out realistic decision timelines (considering if_then) to clarify as much as possible the science-answer/science-info and degree of certainty needed to inform those decisions, and iterate…ensure science timeline realistic relative to decision timeline goals, and vice versa.
    - If possible /relevant, we will also highlight some specific questions for individuals to consider pre-meeting
    - **WB**…have internal discussion about
        i. KL's point: Impairment in one slough vs. many slough to trigger management requirements, and
        ii. RS's point about how will restoration future play into decision making on load reduction if impairment is identified under current level of restoration.
    - Be prepared to work backward from D…what potential decisions could play out.

- **ED -** what type grey-area or uncertainty, e.g., related to degrees of load reduction decision, timing of decision relative to permit or SJ CIP,
- What would mitigate grey area? (e.g., even if 'bad news', would rather have fuller picture, more of the news earlier rather than later…what is earlier?)
- **LF -** Identify other (broader, beyond SJ) timing-mismatch/grey-area issues.

6. Action items:

- Distribute the Tetra Tech SOW and the 2-page memo on the fish analysis (Dave)
- Share NMS Review SOW with PSC (Lorien)
- Prior to the following meeting, work on the items identified in item 5 above (all).

7. Planning the next steering committee meeting

There were no action items from the December 11 Steering Committee meeting.

8. Adjourn or address Parking Lot items

Parking Lot of Identified PS Future Agenda Items

a. Modeling
b. Outreach to resource agencies re: DO objectives
c. Brainstorming on future priorities for the PS (ALL)
d. EPA nutrient criteria discussion
e. Discuss concept of holding an annual forum on nutrients
f. Finish

From:	Lorien Fono
To:	Gregory H. Nudd; dbreen@baaqmd.gov; Victor Douglas
Cc:	Mary Cousins; Jennifer Dyment; Nettleton, Jason; Courtney Mizutani; Sarah A. Deslauriers; Mutsuddy, Amit
Subject:	BACWA AIR Committee Meeting Follow-Up with BAAQMD Leadership
Date:	Thursday, January 7, 2021 5:02:00 PM
Attachments:	BAAQMD-BACWA Leadership MtgSummary_Dec2020.pdf

Greg, Damien, and Victor, we hope your new year is off to a good start. BACWA appreciated the opportunity to meet with you last month. Attached are meeting minutes along with links to the co-digestion capacity analysis report and appendices that we promised to share.

Follow-up actions include:

- Hold a deep dive discussion of the latest nitrous oxide related research (summarizing the latest work done and status of current research to understand emissions from various treatment processes and the effluent).
- Hold a working session where BACWA summarizes exactly what we want (related to organics diversion) and the group discusses trade-offs in the context of specific project examples.
- BACWA to provide examples of projects where the permitted throughput was found to be different than what was proposed (with respect to biogas production)
- BACWA to share a copy of the SWRCB Co-Digestion Capacity Analysis report with BAAQMD (links above) – highlighting the summary of *available digestion and ancillary equipment capacity* (see Chapter 2, Figure 2.4), as well as the assumptions that serve as the basis to estimate that capacity (provided in Chapter 2).
- Schedule 2 to 4 meetings in 2021 – to discuss nitrous oxide research, coordination of toxics related efforts, coordination of inspector's interpretation of permit language vs the actual language, as well as corresponding enforcement actions.

We'll be in touch soon to set up a meeting to follow up on the above items.

Best,
Lorien

Lorien Fono
Executive Director
Bay Area Clean Water Agencies
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(510) 684-2993

AIR ISSUES & REGULATIONS COMMITTEE
A Committee of the Bay Area Clean Water Agencies

BAAQMD-BACWA Leadership
Meeting Summary

Date:	December 7, 2020
Time:	3:00 – 4:00 pm
BAAQMD:	Greg Nudd, Damian Breen, and Victor Douglas (BAAQMD)
BACWA:	Amit Mutsuddy (City of San Jose – BACWA Chair), Lorien Fono (BACWA ED), Lori Schectel (BACWA EB), Mary Cousins (BACWA Regulatory Program Manager), Randy Schmidt (BACWA AIR Committee Co-Chair), Nohemy Revilla (BACWA AIR Committee Co-Chair), Jason Nettleton (BACWA AIR Committee Member), Sarah Deslauriers and Courtney Mizutani (supporting consultants to BACWA AIR Committee)
Virtual Mtg Link:	Access Link in Meeting Invite
Call-in:	Included in Meeting Invite

BACWA met with BAAQMD leadership to discuss common air quality goals to work toward in partnership – the intent being to remain in front of emerging issues going forward and work collaboratively together on strategy and early actions the wastewater sector can take to support the BAAQMD.

a) Methane Reduction

   i) BAAQMD Proposed Regulation 13

      (1) Jennifer Elwell will continue working with BACWA on collecting and summarizing best management practices that are already in place to control methane and VOC emissions from anaerobic digestion and lagoons.

      (2) Jennifer is concurrently working on the Building Decarbonization Program as well (focused on residential combustion).

      (3) BAAQMD expressed interest in information on how the efforts to meet more stringent nutrient discharge limits could affect nitrous oxide emissions. BAAQMD and BACWA to hold a deep dive to discuss the latest nitrous oxide related research (summarizing the latest work done to understand emissions from various treatment processes and the effluent).

   ii) SB 1383 Implementation - Organic Waste Diversion

      (1) While BAAQMD supports the diversion of organics to POTWs and has flexibility with regard to the approach for managing/controlling methane, there is limited discretion on criteria air pollutants and toxic air contaminants (which may lead to a discussion of other non-combustion options for biogas utilization – e.g., pipeline injection or transportation fuel).

      (2) Regarding managing/controlling methane, BAAQMD:

(a) Recommended holding a working session where BACWA summarizes exactly what they want (related to organics diversion) and the group discusses trade-offs in the context of specific project examples.

(b) Expects POTWs to perform leak checks (may already be a BMP and will confirm that under the BMP survey) and understand the potential capacity for biogas production taking into consideration the permitted throughput, as well as potential odor/H2S.

(c) Requests that BACWA provide examples of projects where the permitted throughput was found to be different than what was proposed (with respect to biogas production). BACWA to share a copy of the SWRCB Co-Digestion Capacity Analysis report with BAAQMD – highlighting the summary of available digestion and ancillary equipment capacity, as well as the assumptions that serve as the basis to estimate that capacity.

b) Air Toxics Reporting/Reduction

i) CARB AB 617 reporting / AB 2588 program updates were adopted November 19th and, as written, require POTWs to estimate and report emissions for the entire list of existing and proposed Hot Spots Program compounds (>10,000, with inclusion of functional groups). However, CARB is negotiating with CASA language allowing POTWs to report business as usual (BAU) until they conduct a two-step process (by 2026) for identifying and quantifying emissions for a relevant shortlist of compounds.

ii) The emissions factors determined in b)i) will replace outdated emission factors currently available for reporting to the BAAQMD under Rule 11-18.

iii) BAAQMD is willing to participate in the efforts supporting and guiding the two-step process, with the expectation that OEHHA will provide the approved sampling and analytical methods, as well as toxicity potential, to be used for the tentatively detected compounds.

iv) BAAQMD stated that POTWs are in the higher end of Phase II under Rule 11-18 implementation, due to the volume of emissions. The first health risk assessments (HRAs) are likely to be developed in early 2022, with another year of work ahead to produce the risk reduction plans, risk reduction plans (RRPs, likely 2023). While this schedule is out of sync with the timing of the two-step process under CARB for the reporting of toxics under AB 617 regulations, BAAQMD recommended we keep closely coordinated on efforts to determine potential actions as we go.

v) While item b)iv) is true for the most part, the North Richmond, San Pablo HRA is being completed right now and the RRP will include WCWD. BAAQMD stated folks would report the BAU compounds, but there would need to be a plan in place to address how to handle the proposed compounds (in the newly expanded Hot Spots compounds list). A potential solution was discussed for those entities that will be captured in RRPs that will be complete before the two-step process is complete – that they could elect to be a participant in the statewide two-step process coordinated under CASA as a way of showing the intent to determine the compounds to report and their quantities as the information is developed.

Future meetings could be 2-4 times per year to coordinate on issues like those above and future topics, such as the coordination of inspectors' interpretation of permit language vs the actual language and corresponding enforcement actions.

Agenda
BACWA Power Supply Reliability Infoshare meeting
February 5, 2021
9am to 12pm

This Infoshare meeting is open to all member agency staff, as well as consultants who are invited by a member agency. Register here.

1. Welcome and introductions – BACWA and SFPUC
2. Presentation - Power supply reliability plan overview – Central Contra Costa Sanitary District *and* San Jose
3. Do agencies have different strategies for specific scenarios? - all
4. What consequences are the strategies focused on preventing? - all
5. Treatment plant power backup strategies - all
6. Collection system power supply strategies - all
7. Trainings and drills – all
8. How to codify your agency's plan - all
9. Adjourn

Statement of Economic Interest – 700 form

Due April 1, 2021

Email to follow

	BACWA Designates	type	2020/21 Form	elec
1	**Lori Schectel, CCCSD**	annual		
2	Jean-Marc Petit	annual		
3	Roger Bailey	annual		
	Amy Chastain	annual		
5	Greg Norby	annual		
7	Jennie Pang	annual		
9	**Amit Mutsuddy, City of San Jose**	annual		
10	Eric Dunlavey	annual		
11	**Jackie Zipkin, EB Discharge Authority**	annual		
12	Jason Warner	annual		
13	**Eileen White, EBMUD**	annual		
	Alicia Chakrabarti	annual		
14	Yuyun Shang	annual		
15	Maura Bonnarens	annual		
16	**Treasurer: Damien Charlety**	annual		
	Controller: Andrea Miller	annual		
17	**Executive Director: Lorien Fono**	annual		
18	**General Counsel: Ralph Nevis**	annual		

BAY AREA CLEAN WATER AGENCIES
ANNUAL MEETING DRAFT PROGRAM
February 19, 2021
Webinar

TIME	DESCRIPTION	SPEAKER
9:00 am - 9:15 am	**Welcome/Introduction**	Amit Mutsuddy
	Year in Review	Lorien Fono, BACWA
9:15 am - 10:30 am	**BAAQMD/EPA/SWRCB/RWQCB/ Priorities**	**Moderator: Eileen White**
	Bay Area Air Quality Management District	Jack Broadbent
	State Water Resources Control Board member	Sean McGuire
	San Francisco Water Board member	Jim McGrath
	San Francisco Water Board staff	Mike Montgomery
	Q&A	
10:30 am - 10:45 am	**Break**	
10:45 am - 12:00pm	**BACWA Hot Topics**	**Moderator: Amy Chastain**
	SARS-CoV-2 Monitoring in Wastewater	Sasha Harris-Lovett, UC Berkeley
	Managing a POTW in the age of COVID-19, wildfire, PSPS, and racial injustice	Amit Mutsuddy, City of San Jose
	Region 2 PFAS Study update	Diana Lin, SFEI
12:00 pm - 12:45 pm	**Lunch**	Breakout rooms
12:45 pm - 12:55 pm	**BACWA Leadership Recognition**	**Amit Mutsuddy**
12:55 pm - 1:25 pm	**BACWA Hot Topics**	**Moderator: Jackie Zipkin**
	AIR and biosolids Issues	Sarah Deslauriers, Carollo
	Climate change vulnerability planning survey	Mary Cousins, BACWA
1:25 pm - 1:35 pm	**Nutrients - Overview**	
	Overview of 2nd WS Permit/Governance Update	Lorien Fono, BACWA
1:35 pm - 2:20 pm	**Nutrients - Regulatory Update**	**Moderator: Lori Schectel**
	2021 Group Annual Report	Mike Falk, HDR
	Nature Based Solutions Study	Ian Wren, SFEI
	Regional Recycled Water Report	Mike Falk, HDR
	Q & A	
2:20 pm - 2:55 pm	**Nutrients - Technical Update**	**Moderator: Eric Dunlavey**
	Update on the Science Plan and Findings	Dave Senn, SFEI
2:55 pm - 3:00 pm	**Annual Meeting Wrap-Up**	**Amit Mutsuddy**

Pretreatment Committee – Report to BACWA Board

Pretreatment Committee Meeting: 12/14/2020
Executive Board Meeting: 01/15/2021
Committee Chairs: Tim Potter, Michael Dunning

Committee Request for Board Action: None

12/14/2020 Meeting – 40 attendees representing 23 agencies (remote participation only)

1. **Industrial User Permit Development.** The group shared best practices for several aspects of Industrial User (IU) permit development and enforcement, including:
   - Categorization of Research & Development (R&D) facilities. Certain R&D facilities are exempt from being classified as Categorical IUs (e.g., 40 CFR § 414.11(b)). Members discussed that product testing for goods that are eventually sold should not be classified as R&D.
   - Some IUs have the potential to discharge toxic or hazardous constituents that do not have local limits or objectives in the NPDES permit. In these cases, agencies can (1) mandate Best Management Practices (BMPs) in the IU permit, (2) add the constituent of concern to groups of contaminants like Total Toxic Organics that already have a local limit, or (3) develop an IU-specific limit based on headworks loading analysis or collection system protection. The guiding principle should be treatability/compatibility with plant operations.
   - Drains under gas station canopies should not be permitted unless treatment is installed. Ideally these drains should go to a dead sump. Some agencies require these drains to go to a storm drain and to be outfitted with treatment (oil/water and trash separation).
   - For recalcitrant violators, action is necessary when there is significant agency liability (e.g., fines not being paid if an IU goes bankrupt; risk of plant upset). To build support for enforcement, agency management should stress that poor enforcement is (1) unfair to IUs that *do* comply, and (2) damaging to public perception of pretreatment programs as "having teeth," which could encourage others to violate. Agency staff should work with the internal legal staff and the County DA in charge of environmental crimes to prepare for enforcement. Violators should be aware of the risk of jail time.
2. **COVID Impacts**
   - Any IU monitoring that was missed due to COVID should be listed in the Pretreatment Program Annual Report, but should not be labelled a "violation."
   - Several agencies have suspended in-person monitoring of grease traps, but are keeping in touch with food service establishments (FSEs) by (1) requesting grease trap pumping logs and/or receipts, and/or (2) reminding FSEs of their obligation to maintain grease traps.
   - COVID has complicated compliance with the Dental Amalgam Rule. One-time certification reports are due now for existing dentists, but some agencies haven't been able to get in touch with all dental facilities due to COVID restrictions and temporary closures. So far, only one agency is pursuing a strategy of issuing citations for this reporting violation.
3. **Engagement with RWQCB, SWRCB, and EPA**
   - PG Environmental is continuing to participate in pretreatment audits, but Regional Water Board staff are now responsible for preparing written reports. Video conferencing is being used for portions of the audit.
   - Recent requests for EPA support have been met with the response that EPA no longer provides pretreatment program support/approval. Support is limited to offering opinions, not approval.
   - Evolution of RWQCB, SWRCB, and EPA responsibilities will be included on the agenda the next time staff are present at a BACWA Pretreatment Committee meeting (target: Q1 2021).
4. **Next meeting: TBD, first quarter of 2021**

Executive Director's Report to the Board
December 2020

NUTRIENTS:

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

- Discussed NMS issues with Science Manager
- Attended 12/2 Planning Subcommittee meeting, drafted and distributed meeting notes
- Planned and hosted NST meeting 12/3
- Attended and drafted notes for 12/11 Steering Committee meeting
- Attended 12/17 meeting on permitting drivers for science program
- Developed draft member survey on nutrient planning and implementation
- Discussed NMS and nutrient permitting issues with individual Executive Board members
- Reviewed proposals, developed interview questions, and interviewed consultant teams for NMS technical review
- Discussed WEFTEC abstract with Board members and RWB staff
- Reviewed NMS manuscripts

EXECUTIVE BOARD MEETING AND SUPPORT

- Edited minutes and action items from 11/20 Executive Board meeting
- Worked with BACWA staff to plan and manage 12/18 Executive Board meeting
- Planned and managed 12/28 Special Executive Board meeting
- Conducted the Executive Board meeting agenda review with the BACWA Chair
- Incorporated Board member comments and finalized Strategic Plan
- Continued to track all action items to completion
- Finalized BACWA Website Policy

COMMITTEES:

- Planned and attended 12/8 Permits Committee meeting
- Attended 12/8 Lab Committee meeting
- Planned and hosted 12/3 Managers Roundtable meeting
- Discussed climate change related groundwater rise w member agency staff and member agency Board member and set up presentation for Collection Systems Committee meeting
- Attended planning meeting for AIR committee meeting with BAAQMD management

REGULATORY:

- Delivered testimony for 12/1 Toxicity Provisions Adoption hearing
- Reviewed litigation against State Water Board on TST
- Attended meeting with BAAQMD management on 12/7
- Attended State Water Board meeting on codigestion on 12/9
- Reviewed climate change adaption questionnaire from Regional Water Board

FINANCE:

- Reviewed the monthly BACWA financial reports, summary, and budget to actual tracking sheet for October 2020
- Reviewed and approved invoices

COLLABORATIONS:

- Met with BayCAN director to discuss regional SLR adaptation collaboratives
- Participated in Valley Water NBS Workshop 12/9
- Participated in CASA Microplastic Meeing 12/17
- Participated in CASA RWG meeting 12/16

ASC

- Reviewed materials sent via email by ASC ED
- Participated in 12/24 Special Board meeting

BABC:

- Participated in and developed summary for 12/7 meeting

BACC:

- Reviewed materials and email to BACC members

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.
- Investigated alternatives for Zoom meeting security

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

Board Calendar

February 2021 – April 2021 Meetings

DATE	AGENDA ITEMS
February 19, 2021 *Annual Members Meeting 9-3pm* Online Meeting	**Policy / Strategic Discussion:** • Jack Broadbent briefing • Sean McGuire from the SWRCB the Executive Officer, Michael Montgomery, of the of the SF Bay Regional Water Board, as well as Board Chair Jim McGrath
March 19, 2021 Online Meeting 9-1pm	**Policy / Strategic Discussion:** **Operational:** Draft 2022 budget
April 16, 2021 Online Meeting 9-1pm	**Policy / Strategic Discussion:** • Results of PFAS Phase 1 and Phase 2 discussion **Operational:** Final 2022 budget

BACWA ACTION ITEMS

Number	Subject	Task	Responsibiity	Deadline	Status
	Action Items from October 2020 BACWA Executive Board Meeting		**resp.**	**deadline**	**status**
2021.11.12	Nutrients group	BACWA ED to move forward with creating new group	ED	11/30/2020	complete
2021.11.13	Interface between nutrient science and nutrient science regulation	BACWA ED to share meeting with board	ED	11/20/2020	complete
2021.11.14	RFP Process	BACWA ED to bring recommendation to board meeting in December	ED	12/18/2020	complete
2021.11.15	Toxicity Update	BACWA ED to send talking point to board	ED	12/1/2020	complete
2021.11.16	BACWA Power Supply Reliability Infoshare	BACWA ED to send out doodle poll to set meeting date in January	ED	12/1/2020	complete
2021.11.17	BACWA Committee Leadership Appreciation	BACWA Staff to explore options	Staff	12/18/2020	complete
2021.11.18	Develop member survey on nutrient planning implementation	BACWA to develop survey	ED & RPM	12/31/2020	complete
	Action Items Remaining from Previous BACWA Executive Board Meetings				
2019.7.05	Sewer Rate Survey	Post as Google Sheet, and publicize update	RPM	8/31/2019	pending

FY21: 18 of 18 Action items completed
FY20: *69 of 70 Action Items completed*
FY19: *110 of 110 action Items completed*
FY18: *66 of 66 Action Items completed*
FY17: *90 of 90 Action Items completed*

Regulatory Program Manager's Report to the Executive Board

December 2020

ANNUAL REPORT: Began preparation of annual NPDES permit compliance letter.

BACWA BULLETIN: Circulated December Bulletin.

BIOSOLIDS REPORTS: Finalized 2020 Solano County Biosolids Report and 2018 Biosolids Survey Report after incorporating reviewer feedback.

CECs: Coordinated with SFEI and SWRCB regarding PFAS Sampling and Analysis Plan and Geotracker reporting requirements.

CLIMATE CHANGE: Participated in coordination meeting with BayCAN; prepared comments on draft climate change survey prepared by Regional Water Board.

MONITORING: Presented results of member survey regarding replacement to current Alternate Monitoring & Reporting Program (Order No. R2-2016-0008) to Lab, Pretreatment, and Permits Committees. Began preparing technical information regarding reductions to PCB & Hg monitoring based on review of data from watershed permit and discussion with Regional Water Board staff.

NUTRIENTS: Participated in Nutrient Technical Review consultant selection process.

COMMITTEE SUPPORT:
BAPPG – Attended steering committee, pesticides committee, and member meetings, and submitted comment letters to EPA regarding inorganic halides, methoprene, halohydantoins, and Organic Esters of Phosphoric Acid (OEPA). Coordinated with committee leadership regarding information needed for annual NPDES compliance letter.
Lab Committee – Hosted holiday social; attended meeting; prepared Board report; and scheduled 2021 meetings.
Permits Committee – Hosted holiday social; attended meeting; prepared Board report; and scheduled 2021 meetings. Circulated proposed Region 2 toxicity language to committee, and began preparing comments on proposed language.
Pretreatment Committee – Attended meeting and prepared draft Board report; updated committee roster.
Executive Board – Attended Executive Board meeting and reported on Biosolids reports, PFAS regional study, and Region 2 toxicity provisions. Reviewed meeting notes.

ADMINISTRATION/STAFF MEETING – Participated in monthly staff meeting.

BACWA MEETINGS ATTENDED:
BAPPG (12/2 and 12/10)
Permits Committee (12/8)
Laboratory Committee (12/8)
Pretreatment Committee (12/14)
Executive Board (12/18)

EXTERNAL EVENTS ATTENDED:
Wastewater monitoring for SARS-CoV-2 working group (12/7)
CASA Regulatory Workgroups (12/16)
CASA Air Quality, Climate Change & Energy Committee (12/17)

From: Jared Voskuhl
Subject: [Regulatory] CASA January 2021 Regulatory Update
Date: Monday, January 11, 2021 3:22:30 PM

Good Afternoon,

Please find below regulatory updates from December and for January. Our next workgroup meetings will be through Zoom on Thursday, January 21. Please send along items you would like agendized, and let us know if you have any problems accessing the hyperlinked materials.

Thank you,
The RWG Team

SWB Volumetric Annual Reports for Wastewater and Recycled Water

On January 5, during their first meeting of 2021, the State Water Resources Control Board (State Water Board/SWB) heard an informational item on the results of the first annual volumetric reporting for wastewater and recycled water. The reports were due last summer following the Board's update of the recycled water policy in December 2018 and were required under Executive Order 2019-0037.

SWB staff reported a 93% response rate (710 out 756) along with the reuse of 686,000 acre-feet of water in 2019 that was compliant with Title 22 standards. During the meeting, SWB staff acknowledged this figure did not include the expected acre-feet from several large projects which have been initiated but are not yet operational, and likewise, that the figure was based on different criteria than the prior 2015 report which had included a significant amount of agricultural reuse and reuse for environmental enhancements which did not fall under Title 22 and therefore were excluded in the 2019 figure.

CASA and WateReuse both testified and plan to collaborate with the SWB to attain additional information in the 2020 reports which will provide a fuller picture of the State's progress in achieving its goals. State Water Board members and staff both recognized the need to eventually revise the current numeric recycled water goals to reflect the findings from the Water Research Foundation study (#4962) assessing the quantity of water that feasibly may be recycled. Please reach out to Jared Voskuhl with any questions.

OPC: Ocean Acidification Expert Panel, Sea Level Rise Leadership Team, and Plastic Pollution Recommendations and SB 1263 Report

California's Ocean Protection Council (OPC) postponed its December 15 meeting when they were scheduled to vote and endorse an unreleased document entitled, "Top Ten Recommended Actions to Address Plastic Pollution in California's Coastal and Marine Ecosystems." With additional time to develop recommendations and reach consensus, the OPC is tentatively planning to take Action at their February 16 meeting.

Additionally, the 4Q Executive Director's Report details the OPC's new expert panel on ocean acidification and hypoxia, and also notes the formation of a Sea Level Rise Leadership Team comprised of staff at multiple state agencies who will meet quarterly to align statewide actions with the statewide sea level rise principles from last year.

Finally, and also from the 4Q report, the OPC's work group on microplastics has completed their meetings and is developing a qualitative risk assessment framework to assess the risk of microplastics to the marine environment in California. The working group's report will go through peer review early this year before being finalized and will provide scientific input to the Microplastics Strategy under development by OPC and due to the Legislature at the end of 2021. Please reach out to Jared Voskuhl with input or remarks about any of these items.

Summit Partners Host Third PFAS Webinar Focused on GeoTracker

On January 6, the Clean Water Summit Partners hosted their third webinar for agencies required to conduct PFAS sampling and testing under the SWB's July Order.

As a resource for your reference, the videos and presentation slide decks are all archived here, along with the agendas and speaker bios. The materials from the first two webinars are also available here. This series has been designed to assist agencies with efficient and consistent compliance with the order and their submission of data. Presentations featured a commercial lab presenting on how to review the sampling results agencies receive back, representatives from the State Water Board answering questions,

providing an overview, and performing a live demonstration for entering data in GeoTracker, a public agency's experience and lessons learned for submitting data in GeoTracker, a Temple researcher's work with WRF on PFAS in biosolids, and a special presentation from the Danish Consulate about new technology in use in Europe for capturing and destroying PFAS which is being piloted in North Carolina by US EPA.

A big thank you to each of the panelists for being available in the first week of the new year and providing such valuable guidance and information.

Disclaimer Letter for PFAS Sampling Results Available from SCAP

The Southern California Alliance of POTWs (SCAP), in consultation with Downey Brand LLP, has developed and provided disclaimer language for submission along with your sampling results in compliance with the PFAS Order to POTWs. Due to the lack of an approved method for analyzing influent, effluent, and biosolids and concerns about the validity and reliability of the results, we are encouraging agencies to consider including disclaimer language for data submitted in GeoTracker. Reach out to Steve Jepsen with questions or for an editable copy, and thank you to Steve and Patrick Veasy for their work developing this resource.

SCCWRP Holds Inaugural Stakeholder Meeting for *Cerio* Study

On December 8, SCCWRP hosted the first stakeholder meeting for the *cerio* study entitled, "Development of the Quality Assurance Recommendations for the Ceriodaphnia Toxicity Test," which is associated with the State Water Board's recently adopted toxicity provisions. After introductions, members of the stakeholder committee discussed potential candidates for the study's science advisory panel in a closed session and are planning to meet again on January 20 to discuss the scope and workplan and possibly finalize recommendations for who should be empaneled.

Please keep an eye out for a message from CASA in the coming weeks requesting agencies to help fund and/or participate with in-kind lab services, as we attempt to expand the workplan of the study to address some key questions of importance to the POTW community, which members of the State Water Board affirmed during the adoption hearing. To that end, in the coming months, the SWB is expected to receive an update from staff in response to the Board's request for an informational update about the study. You may reach out to Jared Voskuhl with questions or interest.

San Diego Regional Water Board Adopts Biological Objectives

On December 8, the San Diego Regional Water Quality Control Board adopted basin plan amendments featuring biological objectives, after deferring a vote from their November 18 meeting. The December 8 agenda and supporting materials were released with the Executive Officer's write-up for the vote referring its Discussion section to a supporting document, but neither engaged substantively with the "key issues" identified in the supporting materials. As implementation efforts roll out, the Executive Officer of the San Diego Board committed to engage "with the many agencies and organizations to identify practical measures and set realistic and socially acceptable outcomes." Please reach out to Jared Voskuhl for further information.

CWQMC Memorializes New MOU

On December 22, 2020, the Secretaries of the California Environmental Protection Agency and Natural Resources Agency entered into a new Memorandum of Understanding (MOU) supporting the California Water Quality Monitoring Council (Council). As you may recall from the Council's November 2018 meeting, the Natural Resources Agency terminated the original MOU signed in 2007 which this new MOU replaces. CASA is grateful for Council staff's consideration of input from stakeholders, especially as the new MOU reflects the form and substantive provisions of the original while recognizing the continued need for coordination between the two agencies and the sectors represented by councilmembers in

contributing to the collection and use of water quality and ecosystem health data across California. The Council's next meeting will be held on February 11. Please reach out to Shelly Walther (Council Representative) and Jared Voskuhl (Alternate) with questions or to get involved in the Council's workgroups.

CVCWA Submits Comments on the Cost Estimates for Chrome-6 MCL

On December 30, the Central Valley Clean Water Association (CVCWA) submitted a comment letter to the SWB on cost documents, including cost methodology and assumptions, for a maximum contaminant level (MCL) for hexavalent chromium (CrVI), that were released for public comment and December workshops. CASA previously submitted comments on the SWB's White Paper for assessing the economic feasibility of a hexavalent chromium MCL. (As you may remember, the previously adopted MCL was rejected in California Superior Court due to features in the State's economic analysis.) While seemingly the economic feasibility analysis may not impact your agency's operations, for some regions and basin plans, an adopted MCL automatically becomes an enforceable water quality objective which will lead to effluent limits for dischargers' NPDES permits or Waste Discharge Requirements. CASA's participating with a coalition of water associations who are actively leading advocacy efforts, as the SWB pursues adoption of the MCL this year. Please reach out to CVCWA's Debbie Webster with feedback on the letter or to Jared Voskuhl with inquiries about the development of the MCL.

CASQA Quarterly Meeting: Microplastics, Water Portfolio, Coho Salmon

On January 14, the California Stormwater Quality Association (CASQA) is holding its quarterly meeting. Its agenda is here, and it will feature a presentation on their 2021 priorities, as well as from the California Natural Resources Agency on the water resiliency portfolio, by SCCWRP's Steve Weisberg about the science needs for management of microplastics, and a panel discussion with SFEI and other researchers about their renowned work identifying a tire particle that fatally impacts Coho salmon. You may register here, if interested, though there is a cost to attend.

Water Quality Fee Meetings Schedule and Governor's 2021-22 Budget

The SWB's schedule for water quality fee meetings has been released and is available here. They'll meet first on February 18. Related, on January 8, Governor Newsom released his January budget for 2021-22, which will inform the fee workshop discussions and any related fee increases. Jessica Gauger, CASA's Director of Legislative Advocacy and Public Affairs, has provided this summary for budget items of relevance to our sector.

US EPA Releases Memo on *County of Maui* Implementation

On December 8, US EPA announced the release of a draft guidance memorandum. You may access the memo here, which was intended to provide focused guidance to the regulated community and permitting authorities, including the U.S. Environmental Protection Agency, on applying the recent decision of the United States Supreme Court in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020), on a case by case basis, in the Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) permit program. Reach out to Adam Link to dialogue on this item.

NACWA Meets with and Comments to Biden-Harris Transition Team

In November, NACWA met with members of the Biden-Harris EPA transition team, called the Agency Review Team (EPA ART), and provided input on key Association priorities that the incoming Administration could focus on when taking office. On December 17, NACWA submitted its formal transition letter outlining NACWA's advocacy priorities for the incoming administration, as well as their priorities for the first 100 days. Please contact Nathan Gardner-Andrews, NACWA's General Counsel & Chief Advocacy Officer, with any questions.

CASA Winter Conference January 27 & 28

On January 27 and 28, CASA will host its winter conference virtually. The preliminary program is available, and we are planning for two great days of informational presentations about the future of work and navigating complex communications, roundtable discussions on contemporary issues impacting our sector, and updates for what to expect from Washington DC over the next few months and year, plus all of our usual committee meetings! You may register here, or reach out to Cheryl Mackelvie with any questions. We look forward to seeing you later this month!

SWB Meeting Agendas, 2021 Strategic Priorities, & E.D. Reports

Here are recent State Water Board agendas for their meetings on December 15 (2021 strategic workplan), January 5 (volumetric annual reporting for wastewater and recycled water), and January 19 & 20 (WDR for winery process water. The Executive Director reports are available for November (PFAS sampling for military owned wells and systems, CEC's panel) and December. In addition to their strategic priorities, you may also review numerous forthcoming actions planned by the State Water Board in 2021 here.

BIOSOLIDS

New CalRecycle Webpages and FAQs for SB 1383

CalRecycle has published new SB 1383 webpages, including a new homepage, multiple Frequently Asked Questions (FAQs) for collections, procurement, and food recovery, documents from the final rulemaking package such as the final and approved regulatory text, webpages for jurisdictions dedicated to collection, procurement, and food recovery resources, food donors, and food recovery organizations and services. The webpages will be updated as new resources are made available. Here is a link to the new main page.

On November 30, CalRecycle updated a document from the summer entitled, "*Analysis of the Progress Toward the SB 1383 Organic Waste Reduction Goals,"* to include an addendum with public comments. The updated version can be downloaded here. CalRecycle, in consultation with the California Air Resources Board, was required to analyze the progress that the waste sector, state government, and local governments have made in reducing organic waste disposal.

CASA and CWEA COVID-19 Webinar on January 27

On January 27, CASA and CWEA will host the next webinar on COVID-19, and you may register here. On December 15, CASA and CWEA held a webinar on COVID-19 with several great panelists featured from the State Water Board, the City of Burlington, VT, Sacramento County Regional Sanitation District, and Biobot. A recording of the webinar can be found here. Reach out to Greg Kester with questions.

Forthcoming CalRecycle Webinar for CASA on SB 1383

Please keep an eye out for a forthcoming Save the Date for a webinar later this month to explain the SB 1383 regulations and their implementation. Greg Kester is coordinating with the State on setting this event and will notify us when it's slated. Please let Greg know if you have any questions or comments in the meantime.

U.S. National Biosolids Data Survey – Please Participate!

On January 7, a new survey was released, for which we are requesting our agency members to participate. Greg Kester has been working on this project which seeks 2018 data about biosolids regulation, quality, end use, and disposal, in conjunction with Ned Beecher (NEBRA), Maile Lono (NW Biosolids), Nora Goldstein (BioCycle) and Bill Toffey (MABA). You can start the survey, stop, and come back to it at another time if you are using the same computer, but to avoid duplicate responses, please be sure no one else from one from your

WWTP/WRRF completes the survey. For more information, please click here and to begin the survey click here. If you have additional questions, contact Greg Kester. Thank you in advance for your participation!

DATES

Jan. 5	SWB Meeting
Jan. 6	Summit Partners PFAS Workshop #3
Jan. 7	SWB STORMS IC Meeting
Jan. 14	CASQA Quarterly Meeting
Jan. 19	SWB Meeting
Jan. 21	CASA Regulatory Workgroup
Jan. 27 & 28	CASA Winter Conference (Virtual)
Feb. 2	SWB Meeting
Feb. 11	CWQMC Meeting

Feb. 16 SWB Meeting & OPC Meeting

Visit our website

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