BACWA BAY AREA CLEAN WATER AGENCIES

Executive Board Meeting
AGENDA
Friday, October 18, 2019, 9:00 a.m. – 12:30 p.m.
EBMUD, 2nd Floor Large Training Room
375 11th Street, Oakland, CA

	Agenda Item		Time	Page Numbers
	ROLL CALL AND INTRODUCTIONS		**9:00 AM**	
	PUBLIC COMMENT		**9:03 AM**	
	CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER		**9:04 AM**	
	CONSENT CALENDAR		**9:05 AM**	
1	August 16, 2018 BACWA Executive Board Meeting Minutes			3-10
2	October 1, 2019 BACWA Special Executive Board Meeting Minutes			11
3	July 2019 Treasurer's Reports			12-19
	APPROVALS & AUTHORIZATIONS	none		
	OTHER BUSINESS - POLICY/STRATEGIC		**9:06 AM**	
	Discussion: Nutrients			
4	a. Regulatory			
	i. Debrief from October 11 NBS meeting			20-33
	ii. Draft Scope and Evaluation Plan for the Recycled Water Evaluation			39-50
	iii. Discussion of the need for technical assistance on participation in the NMS			
	iv. Key considerations for the third nutrient watershed permit			
	v. Discussion of public outreach on nutrient issues			
	vi. EPA Trading memo		LINK	51-52
	b. Technical Work			
	i. RABAC nutrient removal test plant			
	c. Governance Structure			
	i. Invitation to share BACWA's experience in the NMS with Puget Sound coalition of POTWs			
	ii. Presentation to East Bay Leadership Council Water Task Force			
5	Discussion: ReNUWIt Update			
6	Discussion: RMP Update			
7	Discussion: RMP Annual Meeting Debrief		LINK	
8	Discussion: RMP CEC data synthesis and evaluation			53-54
9	Discussion: Debrief from Microplastics Symposium		LINK	55-56
10	Discussion: CASA Fact Sheet and NACWA member alert on PFAS		LINK	57-62
11	Discussion: Toxicity Update - Lawsuit update and State Toxicity Provisious			63-66
12	Discussion: Preparation and Impacts associated with recent power shut downs			
13	Discussion: Chlorine BPA update			
14	Discussion: Comments on BAAQMD Rule 13-2			67-70
	OTHER BUSINESS - OPERATIONAL			
###	Discussion: Ethics training and Brown Act			
16	Discussion: Holiday Lunch and Committee Appreciation planning			
17	Discussion: Annual meeting planning			71-74
18	Discussion: Update on ED Recruitment			
19	Discussion: BACWA Administrative Legal Assistance			75
20	Discussion: Arleen Navarret Award nominations open			76-77
21	Discussion: Pardee survey results			78-85
22	Discussion: BACWA membership update			
	REPORTS		**12:10 PM**	
23	Committee Reports			86-99
24	Member Highlights			
25	Executive Director Report			100-108
26	Regulatory Program Manager Report			109-110
27	Other BACWA Representative Reports			
	a. RMP Technical Committee	Mary Lou Esparza		
	b. RMP Steering Committee	Karin North; Leah Walker; Eric Dunlavey		
	c. Summit Partners	Dave Williams; Lori Schectel		
	d. ASC/SFEI	Dave Williams; Amit Mutsuddy; Karin North		
	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	Dave Williams		
g. NACWA Taskforce on Dental Amalgam	Tim Potter		
h. BAIRWMP	Cheryl Munoz; Linda Hu; Dave Williams		
i. NACWA Emerging Contaminants	Karin North; Melody LaBella		
j. CASA State Legislative Committee	Lori Schectel		
k. CASA Regulatory Workgroup	Lorien Fono		111-113
l. ReNUWIt	Jackie Zipkin; Karin North	**update**	
m. ReNUWIt One Water	Jackie Zipkin; Eric Hansen		
n. RMP Microplastics Liaison	Artem Dyachenko		
o. AWT Certification Committee	Maura Bonnarens,		
p. Bay Area Regional Reliability Project	Eileen White,		
q. WateReuse Working Group	Cheryl Munoz;		
r. San Francisco Estuary Partnership	Eileen White; Dave Williams		
s. CPSC Policy Education Advisory Committee	Coleen Henry		
t. California Ocean Protection Council	Lorien Fono		
u. Countywide Water Reuse Master Plan	Karin North		
u.CHARG - Coastal Hazards Adaptation Resiliency Group	Jackie Zipkin		
v. BayCAN	Dave Williams, Lorien Fono		
28 **SUGGESTIONS FOR FUTURE AGENDA ITEMS**		**12:27 PM**	
NEXT MEETING **The next regular meeting of the Board is scheduled for November 15, 2019 from 9:00 am to 12:30 pm at SFPUC, 13th Floor, Hetch Hetchy Room, 525 Golden Gate Ave, San Francisco, CA.**		**12:28 PM**	
ADJOURNMENT		**12:30 PM**	

Executive Board Meeting Minutes

August 16, 2019

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Jean Marc Petit (Central Contra Costa Sanitary District); Amit Mutsuddy (San Jose); Eileen White (East Bay Municipal Utility District); Jacqueline Zipkin (East Bay Dischargers Authority); Amy Chastain (SFPUC).

Other Attendees:

Name	Agency/Company
Eric Hansen	SVCW
Amy Chastain	SFPUC
Amanda Roa	Delta Diablo
Azalea Mitch	San Mateo
David Williams	BACWA
Lorien Fono	BACWA
Greg Baatrup	FSSD
Tom Hall	EOA
Andrew Damron	NapaSan
Hossein Ashktorab	Valley Water
Medi Senaki	Valley Water
Sarah Deslauriers	Carollo Engineers
Bill Mitch	Stanford
Tim Potter	Central San
Jennie Pang	SFPUC
Dave Richardson	W&C
Holly Kennedy	HDR
Eric Dunlavey	San Jose

PUBLIC COMMENT

None.

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER – The Executive Director asked if anyone wished to take an item out of order or if any BACWA Representative wished to present a report or request BACWA direction on an issue out of order.

CONSENT CALENDAR

1. July 19, 2019, BACWA Executive Board Meeting Minutes – The approved minutes will be posted on the BACWA website.

Consent Calendar item 1: *A motion to approve was made by Amit Mutsuddy and seconded by Greg Norby. The motion was approved with one abstention.*

2. June 2019 Treasurer's Reports and Financial Summary – A Financial Summary Report, along with Treasurer's Reports for June 2019, were included in the Packet. A copy of the FY19 Budget as of June 30, 2019, (100% of the fiscal year) was included. It, along with the Summary, provides the Board with a concise overview of the Fund Balances and the current status of the Annual Budget and points out any variances in the budget to date.

Consent Calendar item 2: *A motion to approve was made by Jean Marc Petit and seconded by Eileen White. The motion was approved unanimously.*

APPROVALS & AUTHORIZATIONS

3. Approval: BACWA Support for the Bay Area Chemical Consortium (BACC). BACWA will provide administrative support to the BACC by organizing group bids and then invoicing the members. This work will occur on a 10-month schedule beginning in October. Hours for this effort are built into the AED contract. Supporting documents were included in the packet.

Item 3*. A motion to approve was made by Eileen White and seconded by Jean Marc Petit. The motion was approved unanimously.*

4. Approval: Assistant Executive Director Contract for FY20. Lorrie L. O'Neill was selected to fill the AED position via a competitive process. She will begin in the position at the end of August. A contract for providing the services at a rate of $55/hour with a not to exceed amount of $82,500 for FY 20 was included in the packet.

Item 4*. A motion to approve was made by* Eileen White *and seconded by Amy Chastain. The motion was approved unanimously.*

5. Project Management FY 20 Contract for Bay Area Biosolids Coalition (BABC). BABC is a project of special benefit of BACWA. The BABC Executive Committee requested that BACWA execute a contract with Carollo Engineers for Project Management for FY20. The contract has a not to exceed amount of $110,000. The contract and scope of work were included in the packet.

Item 5*. A motion to approve, was made by Greg Norby and seconded by* Eileen White*. The motion was approved unanimously.*

6. Authorization: Chair Approval of a Project Management Contract for Bay Area Biosolids Coalition**.** The BABC Executive Committee requested that BACWA approve a contract with Carollo Engineers for Project Management to use up $6,715.79 in unspent BABC FY19 funds. The Contract and Scope of Work were included in the packet.

7. Authorization: Executive Director Approval of Amendment to the Contract with SRT to Update Invoicing. SRT requested that invoicing be conducted upon the completion of tasks, rather than monthly. This is a no-cost amendment.

OTHER BUSINESS-POLICY/STRATEGIC

Agenda **Item 8 –** Discussion: Nutrients

a. Regulatory
   i. Nature Based Solutions Study update – There was a discussion at the kickoff meeting about integration of this project with the ongoing activities per the Operational Landscape Unit effort through SFEI and Transforming Landscapes projects through SFEP. The CMG discussed the plan to submit the Scoping and evaluation Plan by December 1 deadline. The next conference call will be Sept 10 and the next Quarterly meeting will be October 10 at Union Sanitary District.
   ii. Recycled Water Report update- HDR was present to give an overview of the process. The RPM sent out a spreadsheet to the Permits and Recycled Water committees so that agencies could update their Points of Contact for the Study. The Evaluation will be a synthesis of information provided by individual agencies. The Scoping and Evaluation Plan will be submitted by Dec, then an information request will be sent out in early 2020. This item will be on the Recycled Water Committee agenda at each bimonthly meeting.

b. Technical Work
   i. Biological Activated Carbon for Nutrient Reduction in RO Concentrate – The ED gave an overview of how different elements for the wastewater universe are coming together. Dr. Bill Mitch from Stanford gave a presentation showing different treatment trains to maximize energy production, recycled water production via RO, and remove nutrients from the RO concentrate. He gave a summary of anaerobic secondary treatment, which produces a high-quality effluent that is suitable RO feed. BAC removes all the nitrate in the RO concentrate, and many of the CECs. However, it doesn't have any impact on PFAS concentrations. He also discussed using the artificial sweetener sucralose to help in source apportionment for fecal bacteria. Stanford is partnering with SFPUC on the bacterial indicator work, since San Mateo is being required to look at sources of bacteria to their lagoon as part of a Cease and Desist order wherein Regional Water Board is requiring control of exfiltration. Homeless encampments may also be an important source of bacteria near creeks. SVCW is constructing a pilot of anaerobic secondary treatment 16 gpm and may consider scaling up.

ii. Support for Valley Water Wetlands Pilot Project Grant – Hossein Ashktorab gave an update on innovation on RO concentrate treatment by Valley Water. Medi Senaki gave a presentation on their prospective RO concentrate treatment studies. The studies include floating treatment wetlands, subsurface flow through a horizontal levee, and capacitive coagulation. They are planning to package these projects together to apply for a USBR Grant, requesting $150K. They would like BACWA's support for the Grant Application. The deadline is September 23.

iii. Publication of Papers Funded by the NMS – One of the researchers involved with the NMS is planning to submit a paper based on the data generated. The NMS Planning Subcommittee has concurred that the paper needs to be vetted with the steering committee as part of the NMS process. An email was sent to the scientist requesting they delay publication until appropriate review has been completed.

Agenda **Item 9 -** Discussion: Second Draft of Agenda for Pardee – The Executive Director gave an overview of the agenda with outcomes added to the agenda. He also announced that he would be stepping down at the end of January 2020 and that recruitment of a new ED would be a topic for discussion at Pardee.

Agenda **Item 10 -** Discussion: State Water Board Toxicity Provisions Update – The RPM gave a presentation showing updates to the July 2019 draft Provisions compared to the October 2018 draft. A major new issue is that sensitive species screening would be required for all discharges upon their first permit implementing the provisions. This will reduce funding to the RMP via the Alternative Monitoring Requirements by up to $180K per year.

Agenda **Item 11 –** Discussion: State Water Board PFAS Monitoring Plans – New legislation gives the Water Board authority to monitor for PFAS. There was a conference call with the State Water Board's Division of Drinking Water and Division of Water Quality to discuss their monitoring plans. In Phase 1, landfills and airports have been required to monitor groundwater for PFAS compounds. Phase II will look at industrial sources. Phase 3 will look at wastewater, and effectiveness of treatment processes. State Water Board may be interested in POTWs doing a targeted, representative study. CASA plans to provide input to the State. DDW will host a summit on PFAS on Dec 4 and 5.

Agenda **Item 12 -** Discussion: Microplastics Strategy Update – Carolynn Box of 5 Gyres gave a presentation on her organization's work looking at microplastic pollution globally. She gave an overview of the results of studies on microplastics in the Bay, as well as wastewater and stormwater sources. There are also policy recommendations under development. There was discussion about SFEI, 5 Gyres and BACWA working together to make sure our messaging is consistent.

Agenda **Item 13 –** Discussion: Agenda for Annual Meeting with BAAQMD – Sarah Deslauriers, who provides support to the AIR committee, showed a proposed agenda for the September 9

meeting with the Water Board. There was a discussion about controlling messaging, and the Board agreed that scheduling a separate meeting to discuss permitting backlog would be the preferred strategy to address that item.

Agenda **Item 14 –** Discussion: CASA Climate Change Update – Sarah Deslauriers gave a presentation on the CASA Air Climate and Energy (ACE) activities. She described the regulations implementing SB1383 and the organics diversion requirements, and what entity will be responsible for enforcing them. There was a summary of BAAQMD's Regulation 13 pertaining to controlling Climate Pollutants. The Air District put out a Concept Paper on 13-4, which showed they had some misunderstandings about wastewater treatment trains and technology, and in response they have extended the timeframe for Rule development. The State Water Board is finalizing their co-digestion capacity analysis. AB617 rules are under development and would require greenhouse gas emissions to be reported to CARB, but the thresholds are still under discussions. With respect to adaptation, ACE is looking at different approaches to vulnerability assessments. There have been some permits in the State that have requirements to do reliance assessments pertaining to drought, change of flows, sea level rise, etc. It is unknown when the State Census on vulnerability assessments will be released. The Coastal Commission is seeking input on management of coastal assets and are issuing permits requiring managed retreat. A Board member mentioned there is a recent article in the LA Times on the concept of managed retreat. America's Water Infrastructure Act of 2018 requires assessment for natural disasters. The AWWA guidance documents are not yet available. Executive Order B-55-18 Requires that California is Carbon Neutral by 2045. A large part of it will be related to land management. There is a Task Force to look at offset protocols.

Agenda **Item 15 -** Discussion: Chlorine Residual Basin Plan Amendment update. There was a brief update on the status of this project. The staff report is nearly done, and a strategy meeting is scheduled with Regional Water Board staff to discuss how to resolve disagreements about the reporting limit.

Agenda **Item 16 -** Discussion: Enterococcus Sampling update. The first sampling round has been completed. Except for the Napa River, all sites were either low or non-detect for enterococcus. Data were shown in a table in the packet. The Regional Water Board agreed to use these data in permits issued this fall.

Agenda **Item 17 –** Bacterial Objectives Update – The RPM gave an overview of the issue of how the SHELL objectives might be implemented when the coliform limits for REC-1 are removed from the permit. The Regional Water Board is considering not using coliform limits for deep water dischargers, but implementing the limits in Basin Plan Table 3-1 for shallow dischargers whose outfalls are designated for SHELL.

Agenda **Item 18 –** Sanitary Sewer System Waste Discharge Requirements Update – CASA is continuing to meet with the State Water Board. A new issue that the State Water Board is

considering incorporating into the Order is that of exfiltration, and they may require agencies to study it.

Agenda **Item 19 –** Notes from 7/18 joint meeting with Regional Water Board staff – A meeting summary was provided in the packet.

Agenda **Item 20 -** ReNUWIt - One Water Update – Tim Potter gave an update on the recent ReNUWIt One Water Conference. There was a discussion at the meeting of different levels of acceptance of stormwater diversions by wastewater agencies. There is another Water Reuse workshop being planned for December, which will engage planners and other stakeholders for big picture planning. There are workshops being planned on an Annual Basis. BACWA will be informed about press prior to publication. BACWA is also working on its own Fact Sheet that is being reviewed by SFEI. Eric Hansen and Jackie Zipkin were approved as BACWA's Representatives to One Water.

OTHER BUSINESS-OPERATIONAL

Agenda **Item 21**- Discussion: CEU Credits from BACWA Committee attendance – BACWA is working with CWEA to begin to provide contact credits for participation in committees where there is an educational component.

Agenda **Item 22** - Discussion: BACWA Invoicing for FY 20 – BACWA will shortly send out invoices to its members that will include dues, CBCs fees, as well as BABC membership dues for those who are members.

Agenda **Item 23** - Discussion: Succession Planning – A list of committee chairs and BACWA representatives was included in the packet. Since Nirmela Arsem has retired, it was recommended that she be replaced on the RMP TRC by Yuyun Shang and Samantha Engelage. Her role as liaison to the RMP microplastics workgroup was recommended to be filled by Artem Dyachenko.

Agenda **Item 24** – Discussion: Website Compliance – Brown Act amendments require that public agency agendas be "accessible", i.e., comprehensible to machine reader. BACWA will make sure our agendas are in compliance beginning with the October 2019 agenda.

Agenda **Item 25** – Discussion: Reallocation of Fire Research funds to CASA – CASA has requested that BACWA reallocate its funding for the fire remediation work to them, as it will be a CASA project rather than a WRF project. The Board concurred.

REPORTS

Agenda **Item 26** – Committee Reports – BACWA Committee Reports were included in the Packet.
AIR Committee: No meeting
BAPPG Committee: A committee report and draft FY20 Committee Budget was included in the packet.
Biosolids Committee: No meeting
Collections Committee: A committee report was included in the packet.
Lab Committee: No meeting.
Operations & Maintenance – InfoShare Group: A committee report was included in the packet.
Permits Committee: No meeting.
Pretreatment Committee: No meeting.
Recycled Water Committee: A committee report was included in the packet.

Agenda **Item 27** - Discussion: Member Highlights - Executive Board Representatives (Board) were given an opportunity to provide updates from each of the Principal agencies. Non-principal members were also given an opportunity to report out on behalf of their agencies. No actions were taken on the report-outs.

Members:
None

Agenda **Item 28** - The **Executive Director's (ED) Report** for July 2019 along with the Board Calendar, and BACWA Action Items, were included in the Packet. It was noted that 109 of 110 action items from FY19 have been completed.

Agenda **Item 29** - The **Regulatory Program Manager (RPM) Report** for July 2019 was included in the Packet.

Agenda **Item 30 - Other BACWA Representative Reports** – BACWA Representative were given an opportunity to provide updates. No actions were taken based on the reports.

a. RMP-TRC: Mary Lou Esparza, Nirmela Arsem – No report.
b. RMP Steering Committee: Karin North; Leah Walker; Eric Dunlavey – No report.
c. Summit Partners**:** Dave Williams; Lori Schectel **–** No report.
d. ASC/SFEI: Eileen White; Dave Williams; Amit Mutsuddy; Karin North – No report.
e. Nutrient Governance Steering Committee: Eric Dunlavey; Eileen White; Lori Schectel; Jacqueline Zipkin – No report.
    i. Nutrient Planning Subgroup: Eric Dunlavey
    ii. NMS Technical Workgroup: Eric Dunlavey
f. SWRCB Nutrient SAG: Dave Williams – No report.

g. NACWA Taskforce on Dental Amalgam: Tim Potter – Tim Potter gave an update that NACWA is reengaging the task force to implement the new EPA Rule.
h. BAIRWMP**:** Cheryl Munoz, Linda Hu, Dave Williams – A list of proposed projects was included in the packet.
i. NACWA Emerging Contaminants: Karin North, Melody La Bella – No report.
j. CASA State Legislative Committee: Lori Schectel – No report.
k. CASA Regulatory Workgroup – Lorien Fono – No report.
l. ReNUWIt: Jackie Zipkin; Karin North – No report.
m. RMP Microplastics Liaison: Nirmela Arsem – No report.
n. AWT Certification Committee: Maura Bonnarens – No report.
o. Bay Area Regional Reliability Project: Eileen White– No report.
p. WateReuse Working Group: Cheryl Munoz – No report.
q. San Francisco Estuary Partnership – Eileen White; Dave Williams – No report.
r. CPSC Policy Education Advisory Committee – Doug Dattawalker – No report.
s. California Ocean Protection Council – Lorien Fono – No report.
t. Countywide Water Reuse Master Plan - Karin North; Pedro Hernandez – No report.
f. BayCAN: Bay Area Climate Adaptation Network - David R. Williams; Lorien Fono– No report.
u. CHARG: Coastal Hazards Adaptation Resiliency Group – Jacqueline Zipkin – No report.

Agenda **Item 31 - SUGGESTIONS FOR FUTURE AGENDA ITEMS**. None.

ANNOUNCEMENTS: The next regular meeting of the Board is scheduled for October 18, 2019 at EBMUD HQ, 2nd Floor Large Training Room, 375 11th St., Oakland, CA.

To receive a copy of any materials provided to the Board at a BACWA Executive Board meeting contact Lorien Fono at lfono@bacwa.org.

The meeting adjourned at 2:14 pm.

Executive Board Special Teleconference Meeting

Minutes

Tuesday, October 1, 2019
2:00 p.m. – 3:00 p.m.

EBMUD, 375 11th Street, Oakland, CA
CCCSD, 5019 Imhoff Place, Martinez, CA
San Jose Santa Clara Regional Wastewater Plant,
700 Los Esteros Road, San Jose, CA
EBDA, 2651 Grant Ave, San Lorenzo, CA

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Lori Schectel (Central Contra Costa Sanitary District); Amit Mutsuddy (San Jose); Eileen White (East Bay Municipal Utility District); Jacqueline Zipkin (East Bay Dischargers Authority).

APPROVALS & AUTHORIZATIONS

1. Approval: Approval of Contract with K&A Recruiting – A Board Action Request to Authorize the Executive Director to negotiate and execute a contract with K&A Recruiting was approved in an amount not to exceed $20,000.

***Item 1**. A motion to approve was made by Amit Mutsuddy and seconded by Eileen White. The motion was approved unanimously.*

ANNOUNCEMENTS:

The next regular meeting of the Board is scheduled for Friday, October 18, 2019 from 9:00 am to 12:30 pm at EBMUD, 375 11th Street, Oakland, CA.

To receive a copy of any materials provided to the Board at a BACWA Executive Board meeting contact Lorrie O'Neill at loneill@bacwa.org.

The meeting adjourned at 2:30 pm.

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

September 10th, 2019

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: Damien Charléty, Treasurer, East Bay Municipal Utility District
SUBJECT: First Month FY 2020 Treasurer's Report

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

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

BACWA Fund Report as Of July 31, 2019

BACWA FUND BALANCES - DATA PROVIDED BY ACCOUNTING DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	OUTSTANDING ENCUMBRANCES	MONTH-END UNOBLIGATED FUND BALANCE
800	BACWA	1,185,382	2,651	(201)	1,188,234	523,062	665,172
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000
805	CBC	1,926,714	11,810	-	1,938,524	752,116	1,186,408
	SUBTOTAL 1	*3,412,096*	*14,461*	*(201)*	*3,426,758*	*1,275,178*	*2,151,580*
802	BABC	-	*113,305*	-	113,305	-	113,305
810	WOT	322,375	-	-	322,375	-	322,375
	SUBTOTAL 2	*322,375*	*113,305*	-	*435,680*	-	*435,680*
811	PRP84	161,590	-	-	161,590	-	161,590
	SUBTOTAL 3	161,590	-	-	161,590	-	161,590
	GRAND TOTAL	**3,896,062**	**127,766**	**(201)**	**4,024,028**	**1,275,178**	**2,748,850**

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

BACWA INVESTMENTS BALANCES - DATA PROVIDED BY TREASURY DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	RECONCILIATION TO FINANCIAL STATEMENTS	MONTH-END RECONCILED FUND BALANCE	UNINVESTED CASH BALANCES	LAIF INVESTMENTS AMOUNTS	LAIF INVESTMENTS PERCENTAGE	ALTERNATIVE INVESTMENTS AMOUNTS	ALTERNATIVE INVESTMENTS IDENTIFIERS	ALTERNATIVE INVESTMENT INSTRUCTIONS AND NOTES
800	BACWA	1,185,382	2,651	(201)	1,188,234	39	1,188,273	864,197	324,076	14%	-		priority # 3 for allocation
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000	-	-	0%	300,000	ME2	priority # 1 for allocation
805	CBC	1,926,714	11,810	-	1,938,524	-	1,938,524	-	1,938,524	86%	-		priority # 2 for allocation
	SUBTOTAL 1	3,412,096	14,461	(201)	3,426,758	39	3,426,797	864,197	2,262,600	100%	300,000		
802	BABC	-	113,305	-	113,305	-	113,305	113,305	-	0%	-		pass-through funds, no allocation
810	WOT	322,375	-	-	322,375	-	322,375	322,375	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	322,375	113,305	-	435,680	-	435,680	435,680	-	0%	-		
811	PRP84	161,590	-	-	161,590	-	161,590	161,590	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 3	161,590	-	-	161,590	-	161,590	161,590	-	0%	-		
	GRAND TOTAL	**3,896,062**	**127,766**	**(201)**	**4,024,028**	**39**	**4,024,067**	**1,461,467**	**2,262,600**	**-**	**300,000**		
						verification	-	-	-		-		

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

Reconciliation to Trial Balance - accrual basis

Per Report above:

General		14,461
WOT		113,305
PROP		-
subtotal		**127,766**

Billings-Pending Receipts

4686	Mem Contrib	-
4687	Transfer	-
4690	Assoc Contrib	-
4696	Other	-
4731	State Grant	-
4732	Grant Retention	-
subtotal		**-**

Trial Balance Revenue Accounts

4411	Interest	(14,461)
4686	Mem Contrib	-
4687	Transfer	(113,305)
4690	Assoc Contrib	-
4696	Other	-
4731	State Grant	-
4732	Grant Retention	-
subtotal		**(127,766)**
Difference		**(0)**

FY 2020
BACWA BUDGET

BACWA BAY AREA CLEAN WATER AGENCIES

BACWA FY20 BUDGET	Line Item Description	FY 2020 Budget	NOTES
REVENUES & FUNDING			
Dues	Principals' Contributions	$506,774	**FY20:** 2% increase. 5 @ $101,355
	Associate & Affiliate Contributions	$184,111	**FY20:** 2% increase. 13 Assoc: $8,364; 45 Affiliate: $1,675. One collection member cancelled in FY19
Fees	Clean Bay Collaborative	$675,000	Prin: $450,000; Assoc/Affil: $225,000
	Nutrient Surcharge	$1,700,000	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions	$0	
Other Receipts	AIR Non-Member	$6,936	2% increase (Santa Rosa)
	BAPPG Non-Members	$3,876	2% increase (Sta Rosa, Sac Reg'l, Vacaville) $1,292/each
	Other	$0	
Fund Transfer	Special Program Admin Fees	$5,100	**FY20:** WOT/BACWWE, Increase to WOT/BACWWE at 2%
Interest Income	LAIF	$20,000	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments	$18,000	Alternative Investment Interest (Legal & CBC Funds invested in AltInv)
	Total Revenue	**$3,119,797**	

BACWA FY20 BUDGET	Line Item Description	FY 2020 Budget	NOTES
EXPENSES			
Labor			
	Executive Director	$207,531	ED requested 2.9%; $99.77/hour; contract based on full time same as FY 19, 2080 hrs
	Assistant Executive Director	$100,907	4.5% CPI (SF Bay Metro Area Dec 2018); $63.07/hour; Reflects 1600 hours/yr (1500 FY 19 + 100 hrs additional for FY 20)
	Regulatory Program Manager	$137,727	4.5% CPI (SF Bay Metro Area Dec 2018); $100.16/hour; Reflects 1375 hours/yr (1250 FY 19 + 125 additional hrs for FY 20)
	Total	**$446,165**	
Administration			
	EBMUD Financial Services	$41,616	2% increase
	Auditing Services (Maze)	$5,240	New contract with Auditors through EBMUD
	Administrative Expenses	$7,803	2% increase. Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	$4,682	2% increase
	Total	**$59,341**	
Meetings			
	EB Meetings	$2,601	2% increase. Catering, Venue, other expenses
	Annual Meeting	$12,000	2% increase. Catering, Venue, other expenses
	Pardee	$6,242	2% increase. Catering, Venue, other expenses
	Misc. Meetings	$5,202	2% increase. Hol & Comm Chair Lunch, Staff Mtgs, Fin Comm, Summit Ptnrs, CASA, NACWA Tech WS, Low Flow WS
	Total	**$26,045**	
Communication			
	Website Hosting (Computer Courage)	$600	Paid in advance in FY19 to lock in lower rate
	File Storage (Box.net)	$750	
	Website Development/Maintenance	$1,500	Domains (due again in FY20), website changes
	IT Support (As Needed)	$2,600	
	Other Commun (MS, SM, Backup, PollEv)	$1,750	MS Exchange, Survey Monkey (incr in FY20), Carbonite, Doodle Polls, PollEv, GoToMtg
	Total	**$7,200**	
Legal			
	Regulatory Support	$2,653	2% increase
	Executive Board Support	$2,133	2% increase
	Total	**$4,786**	

FY 2020
BACWA BUDGET

EXPENSES			
Committees			
	AIR	$76,000	$75k consulting support, $1k misc expenses
	BAPPG	$100,000	Includes CPSC @ $10,000, OWOW @ $10,000, and Pest. Reg Spt. @ $15,000, Paid Baywise Hosting in FY19 to lock in rate
	Biosolids Committee	$1,000	
	Collections System	$1,000	
	InfoShare Groups	$1,000	Funds for 2 workgroups (Asset Mgmt & O&M - AM on hiatus in FY20)
	Laboratory Committee	$1,000	
	Permits Committee	$1,300	all meetings moved to include lunch hour for commuting purposes
	Pretreatment	$2,000	FY20: Includes $1,000 for training
	Recycled Water Committee	$1,000	
	Misc Committee Support	$45,000	
	Manager's Roundtable	$1,000	
	Total	**$230,300**	
Collaboratives			
	Collaboratives		
	State of the Estuary (SFEP-biennial)	$0	Bienniel in Odd Fiscal Years. (Paid bienniely in odd years for even year conference)
	Arleen Navarret Award	$2,500	Bienniel in Even Fiscal Years. Increase in FY20
	FWQC (Fred Andes)	$7,500	
	Stanford ERC (ReNUWIt)	$10,000	
	Misc	$5,000	BayCAN, NBWA
	Total	**$25,000**	
Other			
	Unbudgeted Items		
	Other	$0	
		$0	
Tech Support			
	Technical Support		
	Nutrients		
	Watershed	$2,000,000	1st year of 2nd WS Permit less $200k paid in advance in FY19
	NMS Voluntary Contributions	$0	
	Additional work under permit	$100,000	Includes HDR PO for $225k spread out over FY20-24.
	Regional Study on Non-Gray Scape	$500,000	New Line item in FY20
	Member Voluntary Nutrient Contributions	$0	
	Nutrient Workshop(s)	$0	Pilot Studies/Plant Review/Innovative Technologies
	General Tech Support	$52,020	2% increase.
	Risk Reduction	$20,000	$50,000 over 5 years (FY19-FY23) 2 Contracts for $25,000 each over FY19, 20, & 21
	Total	**$2,672,020**	
	TOTAL EXPENSES	**$3,470,857**	
	NET INCOME BEFORE TRANSFERS	**-$351,060**	
	TRANSFERS FROM RESERVES	**$351,060**	aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge
	NET INCOME AFTER TRANSFERS	**$0**	
	TOTAL OPERATING BUDGET	**$798,837**	
	OPERATING RESERVE	**$199,709**	

BACWA Revenue Report as of July 31, 2019

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	BACWA	1011099	BDO Member Contributions	506,774	-	-	-	-	-	-	-	506,774
800	BACWA	1011108	BDO Other Receipts	-	-	-	-	-	-	-	-	-
800	BACWA	1011109	BDO Fund Transfers	5,100	-	-	-	-	-	-	-	5,100
800	BACWA	1011117	BDO- Interest Income from LAIF	20,000	-	-	2,651	-	-	2,651	2,651	17,349
800	BACWA	1011133	BDO Assoc.&Affiliate Contr	184,111	-	-	-	-	-	-	-	184,111
800	BACWA	1014251	BDO Non-Member Contr BAPPG	3,876	-	-	-	-	-	-	-	3,876
800	BACWA	1014252	BDO Non-Member Contr AIR	6,936	-	-	-	-	-	-	-	6,936
800	BACWA	1014511	BDO-Alternative Investment Inc	18,000	-	-	-	-	-	-	-	18,000
	BACWA TOTAL			**744,797**	**-**	**-**	**2,651**	**-**	**-**	**2,651**	**2,651**	**742,146**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	-	-	-	-	-	-	675,000
805	WQA-CBC	1011108	BDO Other Receipts	1,700,000	-	-	-	-	-	-	-	1,700,000
805	WQA-CBC	1014511	BDO-Alternative Investment Inc	-	-	-	-	-	-	-	-	-
805	WQA-CBC	1011117	BDO- Interest Income from LAIF	-	-	-	11,810	-	-	11,810	11,810	(11,810)
	WQA CBC TOTAL			**2,375,000**	**-**	**-**	**11,810**	**-**	**-**	**11,810**	**11,810**	**2,363,190**
	TOTAL			**3,119,797**	**-**	**-**	**14,461**	**-**	**-**	**14,461**	**14,461**	**3,105,336**

	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	1011109	BDO Fund Transfers	-	113,305	-	-	113,305	-	-	113,305	(113,305)
802	BABC	1011099	BDO Member Contributions	-	-	-	-	-	-	-	-	-
	BABC TOTAL			**-**	**113,305**	**-**	**-**	**113,305**	**-**	**-**	**113,305**	**(113,305)**
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			-	-	-	-	-	-	-	-	-
	PROP TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Grand Total			**3,119,797**	**113,305**	**-**	**14,461**	**113,305**	**-**	**14,461**	**127,766**	**2,992,031**

BACWA Revenue Report as of July 31, 2019

DEPTID	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE			ACTUAL	UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Ot hers	Admin & General	Contributons	Interest, Transfers,Ot hers		
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 Expense Detail Report for July 2019

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR												-
AS-Executive Director	1011123	207,531	207,531	-	-		207,531	-	-	-	207,531	-
AS-Assistant Executive Directo	1011124	100,907	-	-	-		-	-	-	-	-	100,907
AS-Regulatory Program Manager	1011149	137,727	137,727	11,885	-	(11,885)	137,727	11,885	-	(11,885)	137,727	-
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	41,616	41,616	-	-		41,616	-	-	-	41,616	-
AS-Audit Services	1014512	5,240	5,240	-	-	(5,240)	5,240	-	-	(5,240)	-	5,240
AS-BACWA Admin Expense	1011118	7,803	-	-	167	(167)	-	-	167	(167)	-	7,803
AS-Insurance	1011126	4,682	-	-	-		-	-	-	-	-	4,682
MEETINGS												
GBS-Meeting Support-Exec Bd	1014513	2,601	2,601	-	-		2,601	-	-	-	2,601	-
GBS-Meeting Support-Annual	1014514	12,000	-	-	-		-	-	-	-	-	12,000
GBS-Meeting Support-Pardee	1014515	6,242	-	-	-		-	-	-	-	-	6,242
GBS-Meeting Support-Misc	1014516	5,202	-	-	-		-	-	-	-	-	5,202
COMMUNICATION												
CAR-BACWA Website Hosting	1014517	750	-	-	-		-	-	-	-	-	750
CAR-BACWA File Storage	1014518	1,500	-	-	-		-	-	-	-	-	1,500
CAR-BACWA IT Support	1014519	2,600	2,600	-	-		2,600	-	-	-	2,600	-
CAR-BACWA IT Software	1014520	1,750	-	-	-		-	-	-	-	-	1,750
CAR-BACWA Website Dev/Maint	1011116	600	-	-	-		-	-	-	-	-	600
LEGAL												
LS-Regulatory Support	1011107	2,653	2,614	39	-		2,614	39	-	-	2,653	-
LS-Executive Board Support	1011110	2,133	2,133	-	-		2,133	-	-	-	2,133	-
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	75,000	-	-		75,000	-	-	-	75,000	1,000
BC-BAPPG	1011147	100,000	46,000	-	5,000	-	46,000	-	5,000	-	51,000	49,000
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-		-	-	-	-	-	1,300
BC-Pretreatment Committee	1011146	2,000	-	-	-		-	-	-	-	-	2,000
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	2,500	-	-	-		-	-	-	-	-	2,500
CAS-FWQC	1012202	7,500	-	-	-		-	-	-	-	-	7,500
CAS-Stanford ERC	1011969	10,000	-	-	-		-	-	-	-	-	10,000
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-		-	-	-	-	-	5,000
BACWA TOTAL		**798,837**	**523,062**	**11,924**	**5,167**	**(17,292)**	**523,062**	**11,924**	**5,167**	**(17,292)**	**522,861**	**275,976**
TECH SUPPORT												
WQA-CE Addl Work Under Permit	1014254	100,000	220,000	-	-		220,000	-	-	-	220,000	(120,000)
WQA-CE-Technical Support	1011127	52,020	32,116	-	-		32,116	-	-	-	32,116	19,904
WQA-CE Risk Reduction	1014023	20,000	-	-	-		-	-	-	-	-	20,000
WQA-CE-Nutrient WS Permit Comm	1014021	2,000,000	-	-	-		-	-	-	-	-	2,000,000
WQA-CE-Nature Based Solutions	1015367	500,000	500,000	-	-		500,000	-	-	-	500,000	-
TECH SUPPORT (CBC) TOTAL		**2,672,020**	**752,116**	**-**	**-**	**-**	**752,116**	**-**	**-**	**-**	**752,116**	**1,919,904**
GRAND TOTAL		**3,470,857**	**1,275,178**	**11,924**	**5,167**	**(17,292)**	**1,275,178**	**11,924**	**5,167**	**(17,292)**	**1,274,977**	**2,195,880**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
GRAND TOTAL (BDO, CBC, WOT)		**3,470,857**	**1,275,178**	**11,924**	**5,167**	**(17,292)**	**1,275,178**	**11,924**	**5,167**	**(17,292)**	**1,274,977**	**2,195,880**

BACWA Expense Detail Report for July 2019

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

Draft Scoping and Evaluation Plan

San Francisco Estuary Institute (SFEI), on behalf of Bay Area Clean Water Agencies (BACWA)

November 2019

1. INTRODUCTION

On May 8, 2019, the San Francisco Regional Water Quality Control Board (Water Board) issued Order No. R2-2019-0017, *Waste Discharge Requirements for Nutrients from Municipal Wastewater Dischargers to San Francisco Bay* (Nutrient Watershed Permit). This permit represents the second iteration of the Nutrient Watershed Permit, the first of which required treatment plant optimization and upgrade studies for nutrient removal for each of the region's thirty-seven (37) wastewater treatment facilities. That effort resulted in a comprehensive Optimization and Upgrade Study, analyzing the options for achieving three (3) nutrient concentration scenarios via optimization of existing treatment processes and upgrades to each wastewater treatment facility using grey infrastructure-based technologies.[1]

According to Provision C.2 of the 2019 Nutrient Watershed Permit, Dischargers must perform a *Regional Evaluation of Potential Nutrient Discharge Reduction by Natural Systems* (Regional Evaluation), the language of which is provided in Appendix A. This document outlines the scope and approach to performing the regional evaluation, in fulfillment of provision requirements to prepare Scoping and Evaluation Plans. The Nutrient Watershed Permit conceives these plans as separate reports, though this document represents a combined Scoping and Evaluation Plan.

1.1. Project Goals and Objectives

The overarching goal of the Regional Evaluation is to improve our understanding of the opportunities and constraints associated with employing nature-based solutions (NBS) to reduce nutrient loading to San Francisco Bay from the region's wastewater facilities (Appendix B, *Designated Wastewater Dischargers*).

Particular objectives of the Regional Evaluation include:

- Perform a screening-level analysis to identify a subset of wastewater facilities (~5-10) where the opportunity to employ NBS for nutrient load reduction is both a) moderate to high, and b) plans for nutrient management via NBS are not already under serious consideration. For that subset of facilities, the following analyses apply;
- Determine the type of NBS most appropriate, if any, for an individual facility (e.g., open water treatment wetlands, sub-surface denitrifying bioreactors, ecotone levees, enhancements to existing basins);
- Generate estimated nutrient load reductions resulting from the implementation of one or more NBS-based system, at the facility-scale, as well as the Operational Landscape Unit (OLU) scale;[1]
- Identify the likely ancillary benefits, or adverse effects, associated with implementing particular NBS strategies (i.e., removal of emerging contaminants; creation of, or disturbance to, habitats and species of concern; protection against sea-level rise);
- Assess the feasibility, efficacy, reliability, and cost-effectiveness of site-specific NBS strategies. Specifically, this involves performing cost estimates for construction and operation; evaluation of likely regulatory- and governance-based challenges; as well as other challenges, including land ownership, proximity to a wastewater source, environmental conflicts, and negative public perception.

In parallel to this Regional Evaluation, permittees of the Nutrient Watershed Permit are also required to perform a regional evaluation of potential nutrient discharge reduction by water recycling. Preparation of three complementary nutrient load management evaluations (Optimization and Upgrade Study, Regional NBS

[1] Operational Landscape Units (OLU) are areas that are expected to support a coherent suite of ecosystem functions as appropriate for a given place, along with the physical processes needed to sustain these functions.

Evaluation, and Regional Water Recycling Evaluation) serves to identify a robust range of multi-benefit alternatives, in the event regulators determine the need for nutrient load reductions to San Francisco Bay.

1.2. Management Questions and Objectives

The Nutrient Watershed Permit and documents developed in support of the San Francisco Bay Nutrient Management Strategy (NMS) identify relevant management questions and objectives related to this Regional Evaluation. For instance:

- Per the Nutrient Watershed Permit Fact Sheet (F-11), the Water Board identifies one of the primary purposes of the five-year permit term is to "*evaluate, on an individual and subembayment scale, nutrient removal approaches using natural systems and wastewater recycling*."
- Also, within the Fact Sheet (F-22), the Water Board states that "*If nutrient reductions are required for San Francisco Bay, the Regional Water Board's overarching goal would be to achieve nutrient load reductions through implementation of a regional plan encompassing cost-effective and multiple-benefit nutrient reduction options. This Order requires major Dischargers to evaluate nutrient reduction opportunities through natural systems, which would be a component of such a plan."*
- Among the management questions targeted by the NMS Science Plan, question seven asks, "*What specific management actions, including load reductions, are needed to mitigate or prevent current or future impairment?*"[2]

This Regional Evaluation could inform the construction of a decision support framework if nutrient load reductions are required to fulfill the Water Board's overarching goal of achieving nutrient load reductions via cost-effective multi-benefit strategies.

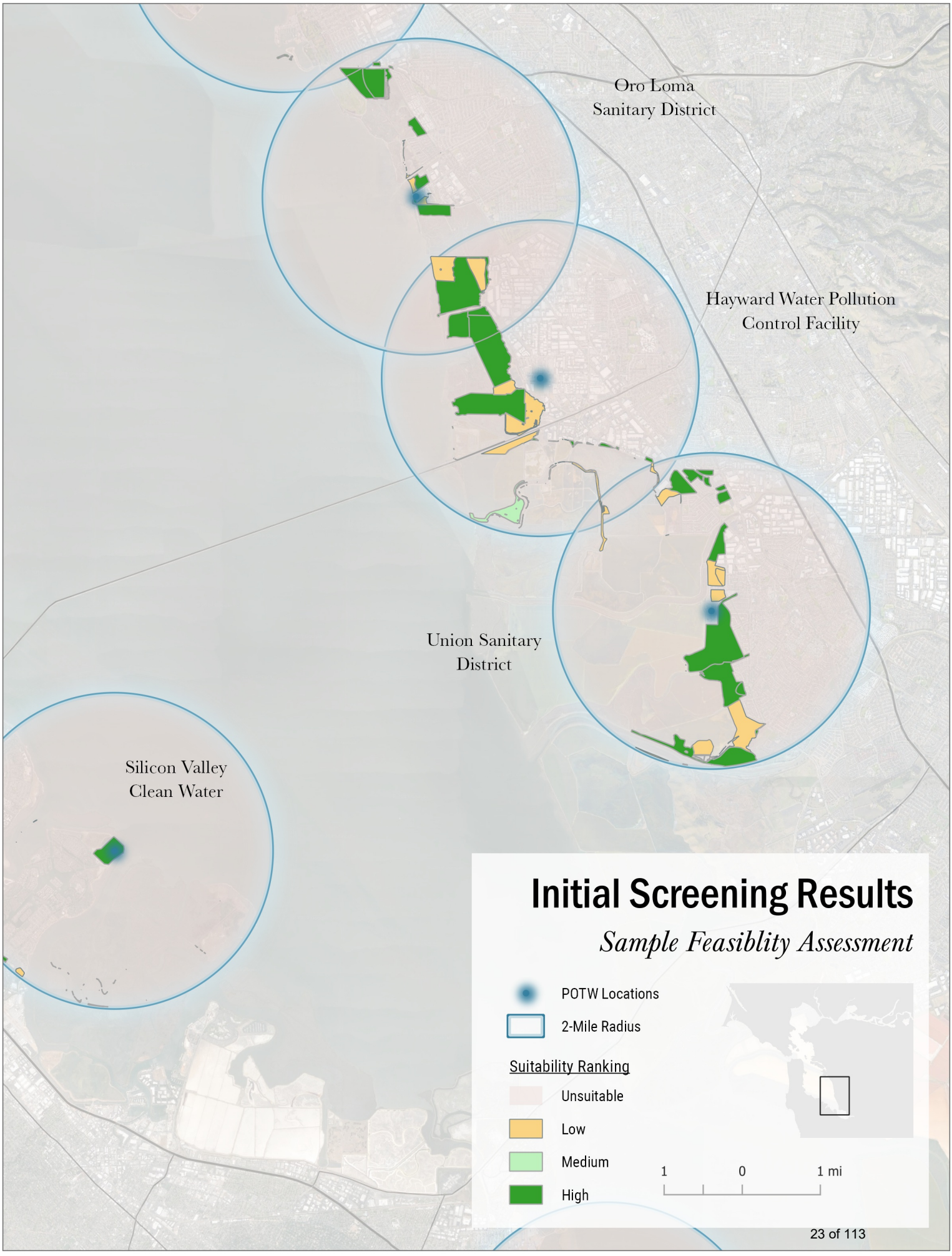
In all likelihood, NBS solutions will not be possible or practical at most of the region's wastewater facilities to meet, as a stand-alone solution, any of the three nutrient load reduction scenarios considered in the Optimization and Upgrade Study (i.e. total Nitrogen (TN) concentrations of 15 mg L^{-1}, 6 mg L^{-1} and 3 mg L^{-1}). However, NBS and wastewater recycling likely represent significant opportunities for cost-effective load reductions, while also serving other ecological, societal, and water resource priorities. Construction of the most appropriate and compelling mix of solutions and technologies would likely follow regulatory decisions resulting in the need for nutrient load reductions.

1.3. Relationship to Prior Studies

2017 Treatment Wetland Screening Study

In 2017, the NMS supported a preliminary assessment to inform opportunities and constraints to deploying open water treatment wetlands at Bay Area wastewater facilities.[3] This discrete study served in part as the basis for this Regional Evaluation. Among the analyses performed, the estimated amount of land required, for conversion to two types of treatment wetland, was calculated and compared to the amount of land potentially available within a two-mile radius of each wastewater facility. First-order rate constants were taken from a recent demonstration project at the Town of Discovery Bay's wastewater treatment plant and compared against literature-based average nitrate removal rates from 84 FWS systems.[4][5] These were used to estimate the ability to meet total nitrogen (TN) based concentration reduction scenarios.

In summary, Figure 1 presents a subset of the screening level outputs, in terms of estimated acreage required to meet the Level 3 (3 mg L^{-1}) TN reduction scenario, using two types of treatment wetlands, versus the sum of


Oro Loma
Sanitary District
Hayward Water Pollution
Control Facility
Union Sanitary
District
Silicon Valley
Clean Water
Initial Screening Results
Sample Feasiblity Assessment
POTW Locations
2-Mile Radius
Suitability Ranking
Unsuitable
Low
Medium
High
1
0
1 mi

all potentially available land. Figure 2 shows similar results for all TN concentration reduction for the region's five most significant dischargers under all three TN concentration reduction scenarios.

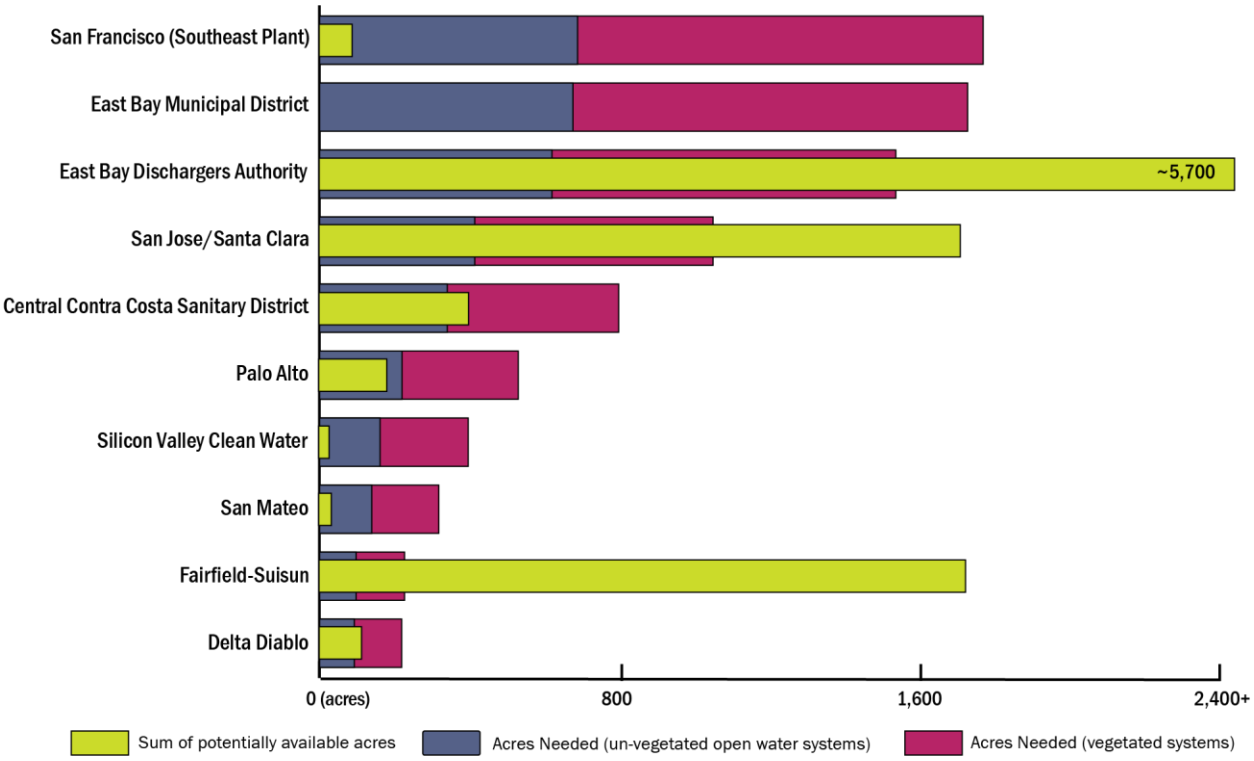


Figure 1. Summary of potentially available acres versus estimated treatment wetland acreage to meet the Level 3 TN concentration scenario (6 mg L^{-1}), from the 10 POTWs with the highest concentration reduction needs

These results reflect literature-based nitrate removal estimates. Under an average dry-weather water temperature of 21˚C, ~12 acres is needed to achieve 75% nitrate removal from 1 MGD of wastewater effluent in a Discovery Bay-type system. This relationship of nitrate removal to wetland acreage compares to ~23 acres needed for a typical open water treatment wetland system, under several assumptions identified in the project report.

Table 1 distills these results into how much land is potentially available to convert towards open water treatment wetlands versus what would be needed to achieve various concentration reduction scenarios. Based on a simplified GIS-based exercise, facilities with a ratio higher than 1.0 could theoretically achieve the necessary TN concentration reduction requirement through the application of treatment wetlands. This relationship, however, relies on the optimistic assumption that all potentially available land could be made available for conversion to treatment wetlands.

At the upper end of the spectrum, Mt. View is ideally surrounded by approximately 74 times as much acreage than is needed to meet the Level 2 objective, based on average treatment performance of vegetated open water treatment systems. At the opposite end of the spectrum, EBMUD is virtually landlocked with little to no opportunity for load reduction via treatment wetlands. East Bay Discharger Authority (EBDA) facilities all have moderate to high levels of opportunity. Some North Bay facilities have potentially significant land opportunities yet discharge insignificant TN loads during the dry season, due to discharge prohibitions. As a result, load reductions are not applicable in some scenarios.

Figure 2. Natural Treatment Potential at the 'Big Five' Bay Area POTWs

Natural treatment opportunities for Bay Area POTWs vary significantly, based mainly on the degree of surrounding urbanization. Figure 2 illustrates the available land within a two-mile radius versus the estimated acreage needed to achieve Level 2 (15 mg L^{-1}), Level 3 (6 mg L^{-1}), and Advanced (3 mg L^{-1}) TN removal levels.

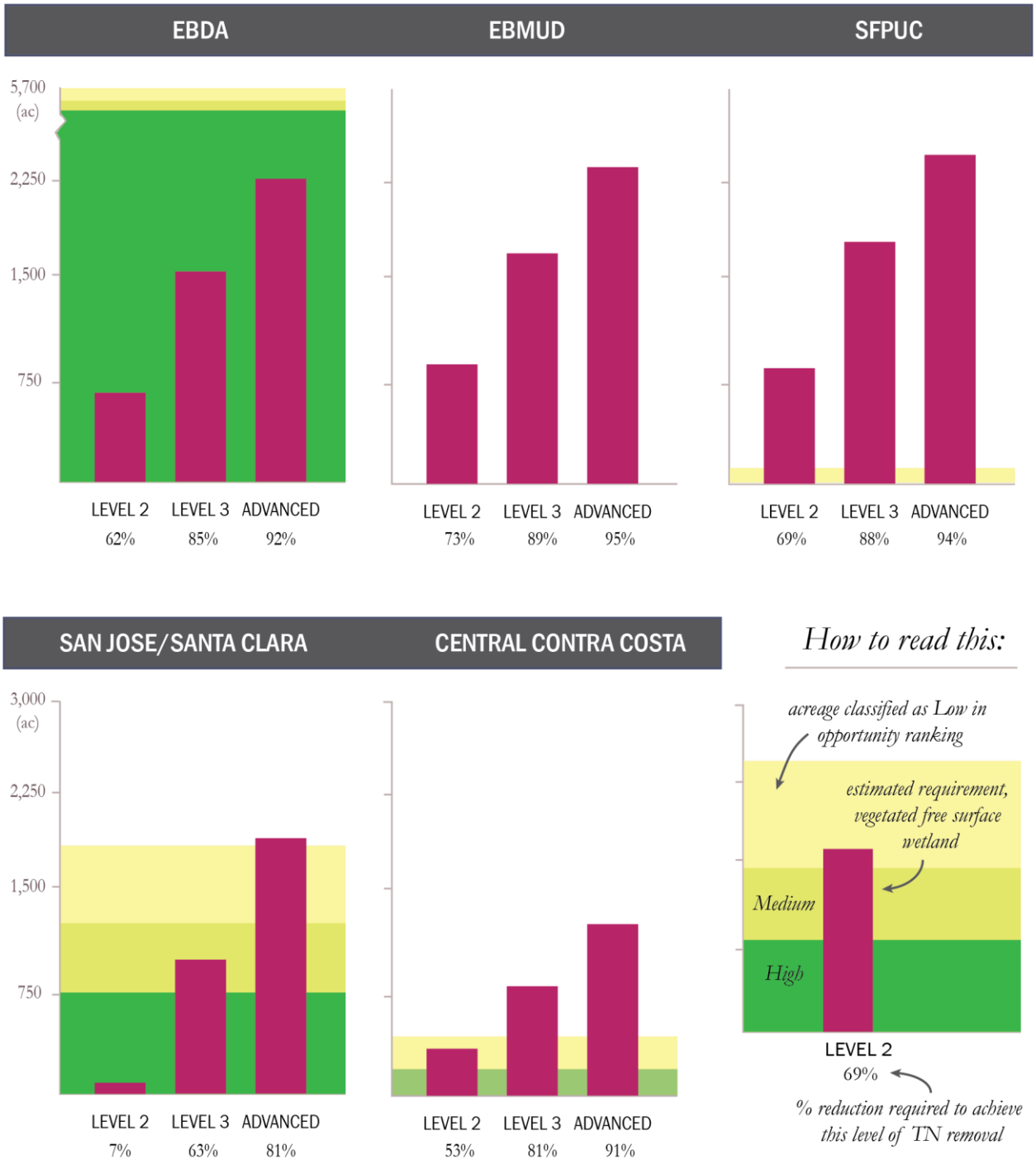
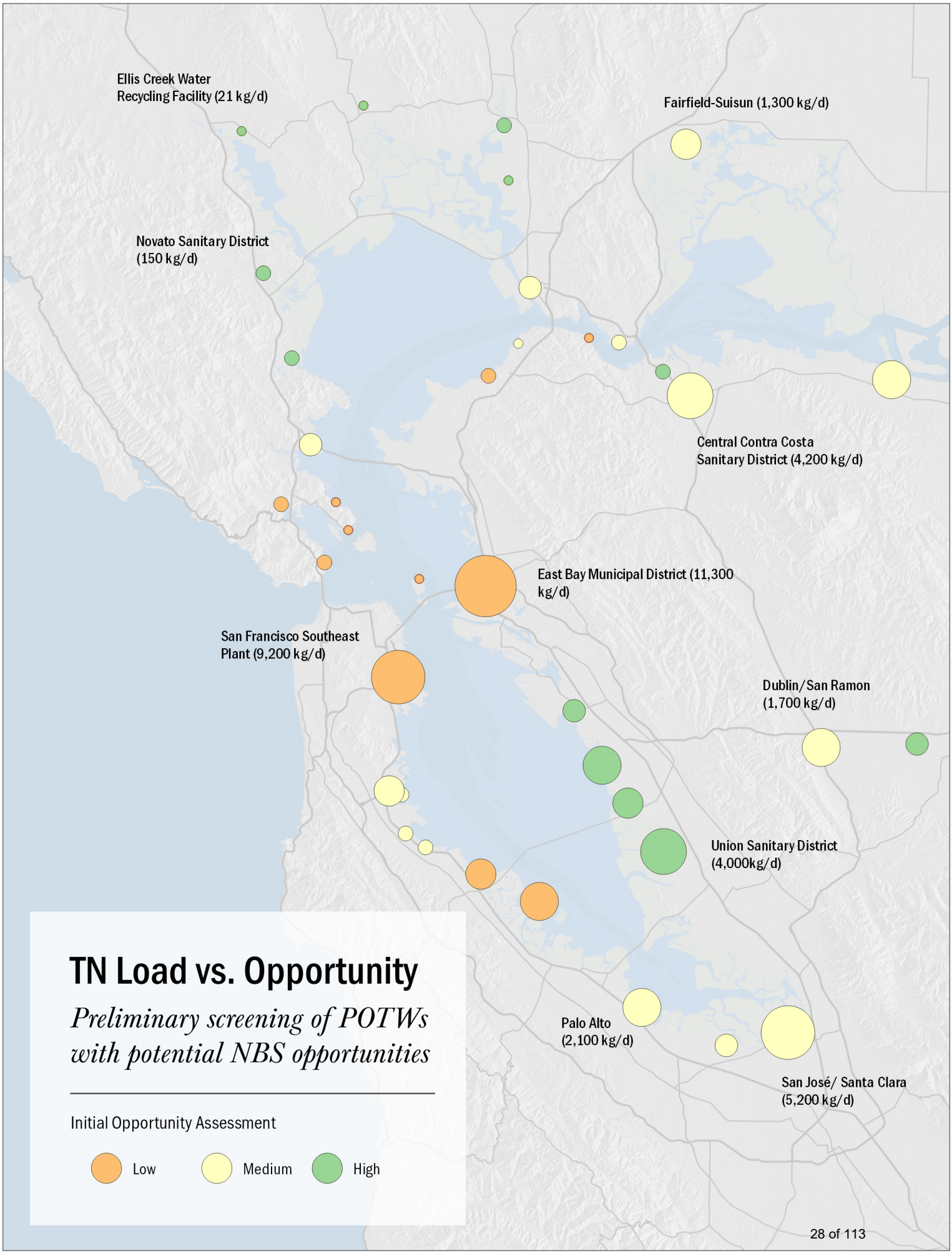


Table 1. The ratio of potentially available land to what is needed, assuming the typical performance of open water treatment wetlands

DISCHARGER	RATIO OF AREA AVAILABLE TO NEEDED FOR LEVEL 2	RATIO OF AREA AVAILABLE TO NEEDED FOR LEVEL 3	RATIO OF AREA AVAILABLE TO NEEDED FOR ADVANCED
Mt. View	73.5	29.4	18.4
Sunnyvale	36.7	3.2	1.7
San Jose/Santa Clara	29.0	1.8	1.0
Fairfield-Suisun	20.3	7.5	4.7
East Bay Dischargers Authority	8.2	3.8	2.5
San Francisco International Airport	7.2	3.1	2.2
Millbrae	4.5	2.5	1.7
Benicia	2.7	1.2	0.8
Burlingame	1.8	0.8	0.5
Central Marin Sanitation Agency	1.8	0.9	0.6
West County and City of Richmond	1.7	0.7	0.5
Central Contra Costa Sanitary District	1.2	0.5	0.3
South San Francisco and San Bruno	1.2	0.5	0.3
Delta Diablo	0.9	0.5	0.3
Palo Alto	0.8	0.3	0.2
Vallejo	0.4	0.2	0.1
Pinole	0.2	0.1	0.1
San Mateo	0.2	0.1	0.1
Silicon Valley Clean Water	0.2	0.1	0.1
San Francisco (Southeast Plant)	0.2	0.1	0.1
Sausalito-Marin City	0.0	0.0	0.0
Marin County (Tiburon)	0.0	0.0	0.0
Sewerage Agency of Southern Marin	0.0	0.0	0.0
East Bay Municipal Utility District	0.0	0.0	0.0
Treasure Island	N/A	0.0	0.0
Napa	N/A	137.4	137.4
Novato	N/A	75.8	37.9
American Canyon	N/A	39.7	15.9
Rodeo Sanitary District	N/A	1.9	1.3
Port Costa Wastewater Treatment Plant	N/A	N/A	N/A
Las Gallinas Valley	N/A	N/A	N/A
Marin County (Paradise Cove)	N/A	N/A	N/A
Petaluma	N/A	N/A	N/A
Sonoma Valley	N/A	N/A	N/A

The 2017 study was subject to considerable uncertainty, yet provided a valuable initial screen to inform the geographical distribution of wastewater facilities where NBS for nutrient load reductions may be feasible. The following map provides an overview of the facilities with a low, medium, and high level of potential opportunity to deploy NBS. Not surprisingly, built out portions of the Central Bay are limited in opportunity, while less urban sites provide greater opportunity.

This Regional Evaluation will refine the screening criteria used in the 2017 study. However, the overall results of the GIS exercise, in terms of which wastewater facilities have the most significant potential, is not expected to change dramatically. Regardless, the screening process is not intended to be the sole determinant of whether a more focused analysis is pursued at a given facility. Some agencies with moderate or low levels of opportunity may wish to explore NBS opportunities outside the immediate vicinity of their facilities, for instance. Another scenario that could alter the feasibility of deploying NBS at a given facility includes the opportunity to partner with adjacent agencies with available land or other shared resources.

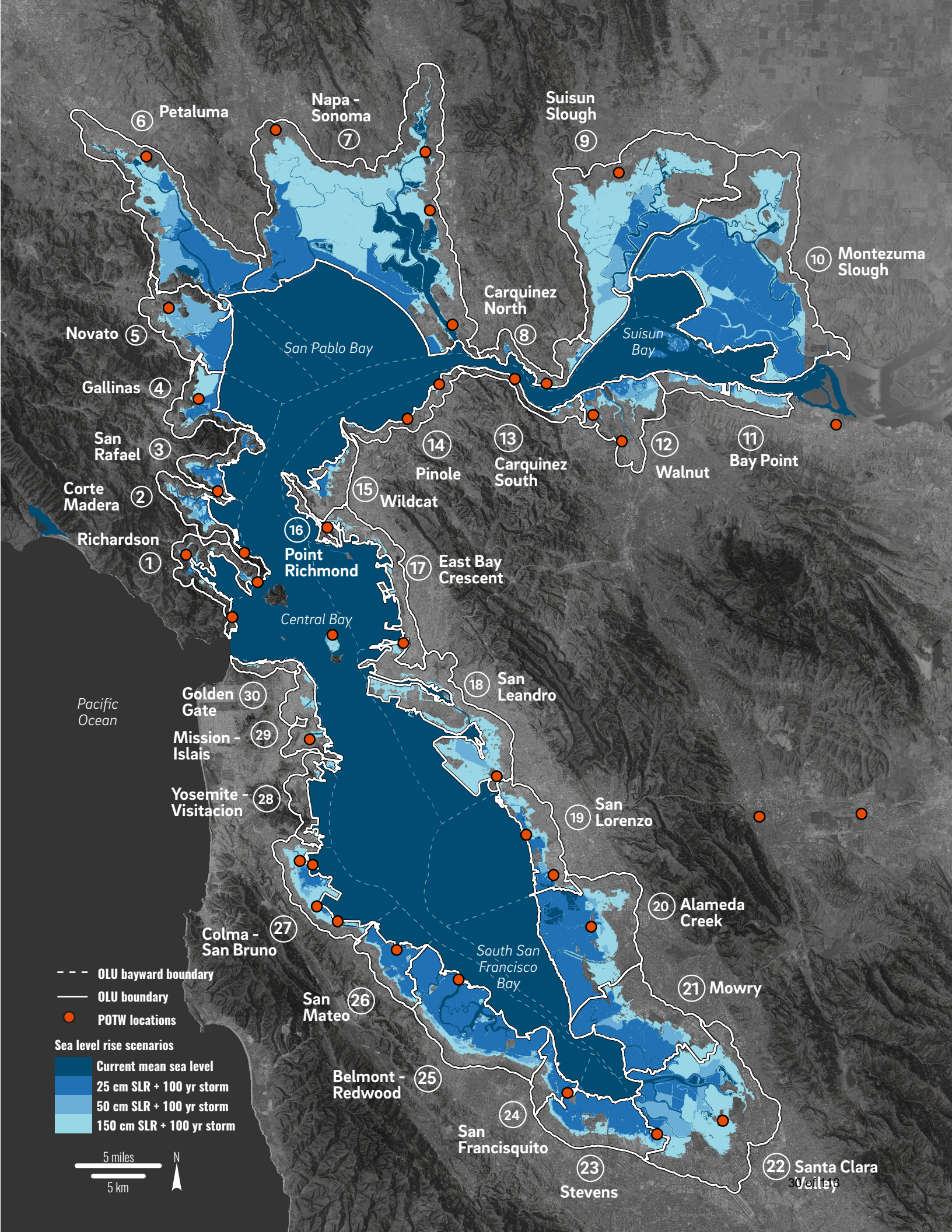

Ellis Creek Water
Recycling Facility (21 kg/d)
Fairfield-Suisun (1,300 kg/d)
Novato Sanitary District
(150 kg/d)
Central Contra Costa
Sanitary District (4,200 kg/d)
East Bay Municipal District (11,300
kg/d)
San Francisco Southeast
Plant (9,200 kg/d)
Dublin/San Ramon
(1,700 kg/d)
Union Sanitary District
(4,000kg/d)
Palo Alto
(2,100 kg/d)
San José/ Santa Clara
(5,200 kg/d)
TN Load vs. Opportunity
Preliminary screening of POTWs
with potential NBS opportunities
Initial Opportunity Assessment
Low
Medium
High

Phase 1 Operational Landscape Units and Sea Level Rise Adaptation Framework

Over the last several years, SFEI and partners have developed and continue to refine a science-based framework for identifying effective strategies for adapting to rising sea levels, which are both appropriate for particular settings and take advantage of natural processes. This framework has been termed Operational Landscape Units for San Francisco Bay. Two recent reports best illustrate the application of the framework on a regional and OLU-specific scale.[6,7]

The Water Board has recently funded the second phase of OLU-specific work, and the intention is for the Regional Evaluation effort to work in close coordination with the OLU team to develop adaptation pathways and case studies for OLUs with POTWs that contain a significant potential to employ NBS for nutrient load reductions. Nearly every SF Bay OLU contains at least one wastewater facility, and Phase 2 of the OLU initiative will involve analysis of 2-3 additional OLUs, including their associated wastewater facilities. Phase 2 efforts include the evaluation of several scenarios for each OLU, as well as sea-level rise adaptation pathways. These pathways are conceptual strategies for how various SLR adaptation strategies can be modified, enhanced, or abandoned in favor or another measure as water levels increase. (to include relevant graphics)

This Regional Evaluation intends to leverage the ongoing efforts to employ the OLU framework, as exemplified in the recent report, which presented an adaptation framework for Marin County. That report contained a case study for the Novato OLU, which included consideration of an ecotone levee relying on treated effluent from the Novato Sanitation District. The report presented three separate scenarios, which were evaluated based on several metrics. This Regional Evaluation will reflect the outputs of the Phase 2 OLU project.


6 Petaluma
Napa - Sonoma 7
Suisun Slough 9
10 Montezuma Slough
Carquinez North 8
Novato 5
San Pablo Bay
Suisun Bay
Gallinas 4
San Rafael 3
14 Pinole
13 Carquinez South
12 Walnut
11 Bay Point
Corte Madera 2
15 Wildcat
Richardson 1
16 Point Richmond
17 East Bay Crescent
Central Bay
Pacific Ocean
Golden Gate 30
18 San Leandro
Mission - Islais 29
Yosemite - Visitacion 28
19 San Lorenzo
20 Alameda Creek
Colma - San Bruno 27
South San Francisco Bay
21 Mowry
San Mateo 26
Belmont - Redwood 25
24 San Francisquito
23 Stevens
22 Santa Clara Valley
OLU bayward boundary
OLU boundary
POTW locations
Sea level rise scenarios
Current mean sea level
25 cm SLR + 100 yr storm
50 cm SLR + 100 yr storm
150 cm SLR + 100 yr storm
5 miles
5 km
N

1.5. Relationship to Other On-Going Studies

In the process of developing this Regional Evaluation, two other related projects have also begun, and managers of these efforts have sought to develop complementary work plans. These projects include the Phase 2 OLU Project, introduced above, as well as the San Francisco Estuary Partnership's (SFEP) Transforming Shorelines Project. The OLU initiative is most closely aligned to this Regional Evaluation, in part because project team members intersect. However, SFEI and SFEP have refined the work plans for these three projects to minimize overlap and ensure that resources are leveraged to maximize the impact of the collective effort.

Of the three projects, Transforming Shorelines features the largest budget – the largest single task for which is dedicated to outreach and design of the 'First Mile' Horizontal Levee project. That project proposes to create a linear mile of ecotone levees in the vicinity of the Oro Loma Sanitary District and is intended to serve East Bay Discharger Authority (EBDA) agencies. The project also proposes undertaking regional forums to discuss and address issues arising at specific projects currently in the outreach, design/permitting, or implementation phases. This Regional Evaluation continues to align efforts with SFEP and intends to participate in public forums and roundtables as they arise.

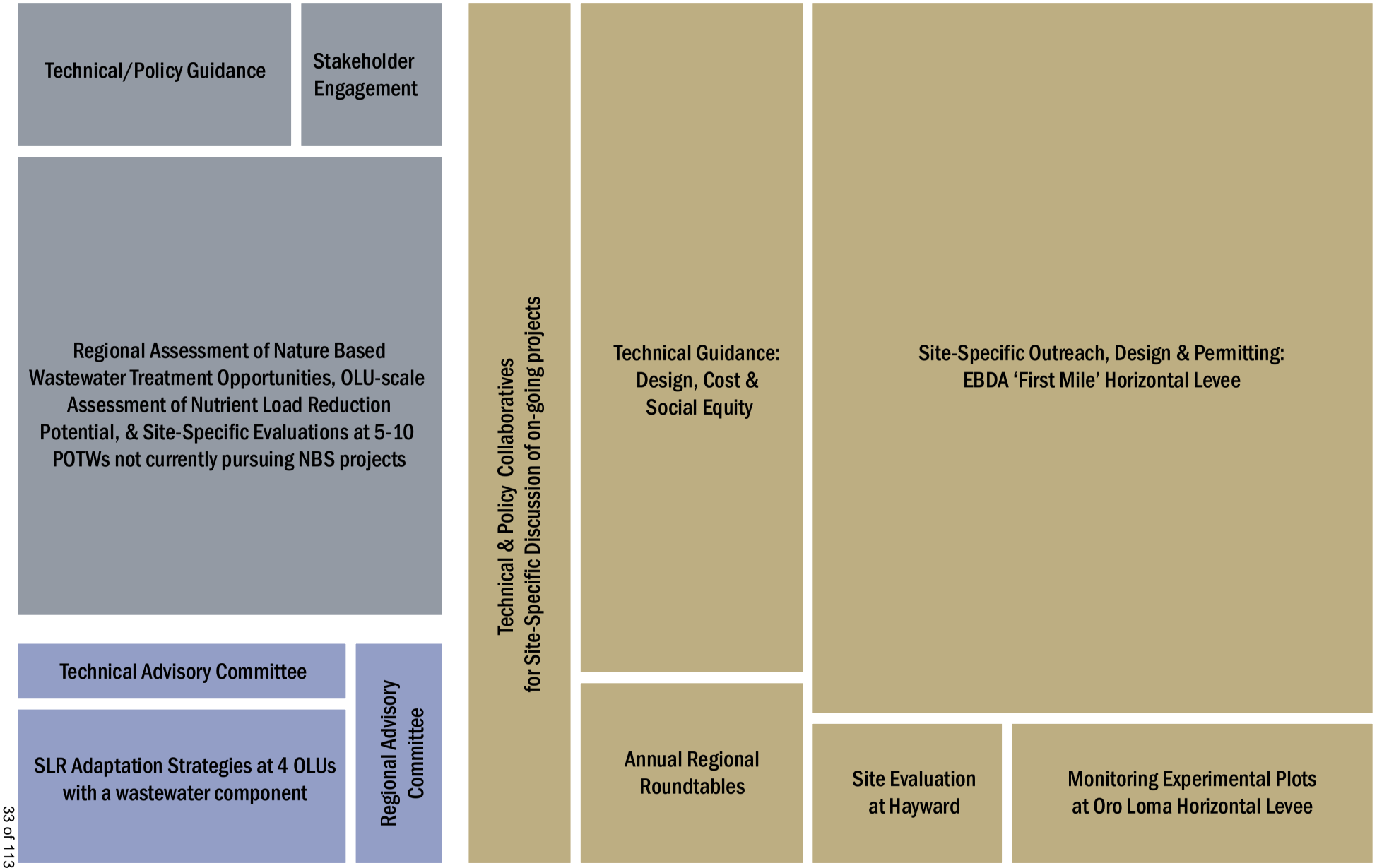
PROJECT-SPECIFIC OUTPUTS & OUTCOMES

Stakeholder Outreach & Technical Feedback	*Regional Evaluations & Resources*	*Sub-Regional Analyses*	*Site Specific Evaluation, Design & Permitting*
BACWA, NMS, & Aligned Agencies *engagement with POTWs, regulators, Nutrient Management Strategy (NMS), and agencies with interest in leveraging resources (i.e. flood, habitat)*	**Scoping & Evaluation Plan** *strategy for regional- & site-specific analysis of nature-based wastewater treatment, incorporating OLU framework & concepts*	**Sub-Embayment Scale Analysis** *analysis of OLU and sub-embayment scale opportunities for nutrient reduction, habitat restoration, and SLR adaptation via NBS*	**Evaluation Plans** *detailed alternatives (design, cost, performance, feasibility) for NBS-based wastewater treatment at 5-10 'late-adoption' POTWs*
Regional & Technical Committees *utilize existing OLU committees to provide technical guidance, inform decisions, and identify regulatory/engineering/ecological issues*	**Conceptual Framework** *inform physical & ecological criteria & regional decision-support frameworks within the context of OLU work conducted to date*	**OLU-Scale Adaptation Pathways** *creation of conceptual sea-level rise adaptation strategies, at the OLU-scale, to inform multi-benefit-based decisions at key elevation points*	
Core Team, Collaboratives, Roundtables *engagement with 'early-adoption' POTWs and affiliated stakeholders to advance particular projects and identify regionwide issues*	**Technical Guidance** *resources to inform design, cost estimation, and evaluation of social equity-related consideratons and performance metrics*		**Hayward & 'First Mile'** *analysis of shallow wetland treatment at Hayward POTW & community outreach for EBDA's 'First Mile' horizontal levee*

Current Nature-Based Solution (NBS) Projects:

- *Nature-Based Wastewater Solutions*
- *Operational Landscape Units, Phase 2*
- *Transforming Shorelines*

RELATIVE DISTRIBUTION OF PROJECT-SPECIFIC ACTIVITIES



1.6. Nature-Based Solutions: definitions & context

a. Relationship to Operational Landscape Unit (OLU) Phase 2 and Transforming Shorelines projects
b. Technical Team
    i. SFEI
    ii. HDR
    iii. Advisors and Reviewers

2. METHODS

c. Conceptual Model - limitations, assumptions, criteria for weighing/evaluating -/+ benefits & effects on ecology, flood risk, land use, cost, nutrient loading
d. Discharger Survey focused on:
    i. General Plant Information (e.g., location, permitted capacity, existing nutrient removal)
    ii. Process and historical plant performance data
    iii. Anticipated Outputs and Outcomes
e. Desk-Based Screening Study to identify 5-10 agencies for site-specific evaluation (include graphical overview and relationship to d-f, below)
    i. Overall strategy and assumptions
    ii. Screening process
        1. Evaluation criteria, e.g.:
            a. Topography
            b. Utilities
            c. Environmental (i.e., current & historic habitat, species, wetlands, known legacy contamination)
            d. Land use (i.e., existing and adjacent, ownership, land value)
            e. Floodplain (i.e., current and SLR projections)
            f. Geology (soils and groundwater)
            g. Access, Operations, and Maintenance
            h. OLU-Specific Analysis
        2. Scoring strategy
        3. Additional factors
f. Focused Field Investigations/Evaluations of Candidate Sites Identified in the Screening Phase (focused analysis of 5-10 POTWs)
    i. Objectives and process
    ii. Anticipated Outputs and Outcomes
g. Nutrient Loading
    i. Data Inputs
        1. Literature-based load reduction rates
        2. Data synthesis of nutrient reduction performance from regional/ semi-arid projects
    ii. Load Reduction Estimation
        1. Review of existing models and approaches
        2. A recommended approach for numeric estimation
h. Preliminary Engineering Alternatives
    i. Process for informing alternative development
    ii. Cost estimation

iii. Alternatives optimization (NBS vs. traditional vs. other means for nutrient load reduction)

i. Decision Support Framework
   i. Relationship to pilot projects (e.g., Oro Loma, Valley Water Projects, historical projects)
   ii. Utility for informing optimal mix of nutrient load management strategies, where/when required

3. SITE-SPECIFIC ANALYSIS

j. Outputs
   i. Evaluation of 5-10 agencies for NBS-based alternatives
      - Estimation of nitrogen (total inorganic nitrogen) and phosphorous (total phosphorus) discharge reductions associated with each project and associated OLU;
      - Identification of ancillary adverse effects and ancillary benefits from each project (e.g., removal of emerging contaminants, creation of habitat, or protection against sea-level rise) or associated OLU;
      - Assessment of the feasibility, efficacy, reliability, and cost-effectiveness of each project; and
      - Identification of potential challenges to implementing each project (e.g., regulatory barriers).
      - Concept-scale diagram of the proposed alternative(s) for each agency
   ii. Optimization Strategy - planning-level comparison of the optimal mix of nature- and greyscale-based technologies to meet Level 1, 2, and 3 nutrient reduction scenarios (as established in the 1st Nutrient Watershed Permit)
   iii. Nature-Based SLR Adaptation Pathways - integrating outputs from OLU Phase 2 Project
      1. Potential adaptation pathways on the OLU- and site-specific POTW scale, for sea-level rise (i.e., conceptual strategies for 2030, 2050, 2100 horizons)

4. OVERCOMING HURDLES TO IMPLEMENTATION

k. Regulatory - e.g., recommended permitting pathways (possible Appendix)
l. Governance - e.g., recommendations for collaboration, creation of an on-going committee representing key stakeholders and project proponents
m. Financing - e.g., synthesis of short-term grant opportunities and synthesis of potential funding and cost-sharing models
n. Technical - recommendations for design criteria, assessment, and monitoring

5. CONCLUSIONS

o. Summary - qualitative and quantitative estimation of nutrient load reduction opportunities
p. OLU-Specific Summary of Load Reduction Strategies
q. Recommended next steps

6. REFERENCES

[1] HDR. (2018). *Nutrient Reduction Study.* Walnut Creek, CA: Prepared on behalf of Bay Area Clean Water Agencies.

[2] SFEI. (2016). *San Francisco Bay Nutrient Management Strategy Science Plan.* Richmond, CA: Prepared on behalf of the San Francisco Bay Nutrient Management Strategy.

[3] SFEI. (2017). *Treatment Wetlands for Nutrient Removal from Bay Area Wastewater Facilities: A Screening Level Opportunities and Constraints Analysis.* Richmond, CA: Prepared on behalf of the Nutrient Management Strategy.

[4] R.H. Kadlek, Constructed Marshes for Nitrate Removal. *Critical Reviews in Environmental Science and Technology*. 42:9, 934-1005 (2011).

[5] J.T. Jasper et al, Nitrate Removal in Shallow, Open-Water Treatment Wetlands. *Environmental Science & Technology*. 48:19, 11512-11520 (2014).

[6] SFEI and SPUR. 2019. San Francisco Bay Shoreline Adaptation Atlas: Working with Nature to Plan for Sea Level Rise Using Operational Landscape Units. Publication #915, San Francisco Estuary Institute, Richmond, CA.

[7] Point Blue Conservation Science, San Francisco Estuary Institute, and County of Marin. 2019. Sea Level Rise Adaptation Framework - A user guide to planning with nature as demonstrated in Marin County. Point Blue Conservation Science (Contribution #2239), Petaluma, CA. San Francisco Estuary Institute (Publication #946), Richmond, CA.

APPENDIX A: 2ND NUTRIENT WATERSHED PERMIT LANGUAGE: NUTRIENT REDUCTION EVALUATIONS VIA NATURAL SYSTEMS

Section VI.C.2: Regional Evaluation of Potential Nutrient Discharge Reduction by Natural Systems

The major Dischargers listed in Table 1 shall, individually or in collaboration with other regional stakeholders, evaluate options and develop planning-level costs for nutrient discharge reduction by natural systems (e.g., wetlands and horizontal levees) as described below. These requirements do not apply to the minor Dischargers listed in Table 1.

a. Scoping Plan

By December 1, 2019, the Dischargers shall, individually or in collaboration with regional stakeholders, submit a Scoping Plan describing the level of work proposed to conduct the evaluation. The Scoping Plan shall include, but is not limited to, the level of work to complete the following for each Discharger's facility and subembayment:

- Identification of sites, if any, for potential wetlands treatment systems;
- Identification of sites, if any, for potential wetlands creation or enhancement;
- Identification of sites, if any, for potential horizontal levee creation; and
- Identification of any of the above sites that are associated with a defined Operational Landscape Unit.

The Scoping Plan shall also include a schedule to complete, within one year of submitting the Scoping Plan, the identification of all potential sites that could use natural systems.

b. Evaluation Plan and Implementation

If a Discharger identifies potential sites, it shall proceed with an evaluation for its facility and subembayment. By July 1, 2020, the Discharger shall, individually or in collaboration with regional stakeholders, submit an Evaluation Plan and schedule describing the methods and means for conducting the evaluation. The evaluation shall include, but not be limited to, the following tasks:

- Estimation of nitrogen (total inorganic nitrogen) and phosphorous (total phosphorus) discharge reductions associated with each project or associated Operational Landscape Unit;
- Identification of ancillary adverse effects and ancillary benefits from each project (e.g., removal of emerging contaminants, creation of habitat, or protection against sea level rise) or associated Operational Landscape Unit;
- Assessment of the feasibility, efficacy, reliability, and cost-effectiveness of each project; and
- Identification of potential challenges to implementing each project (e.g., regulatory barriers).

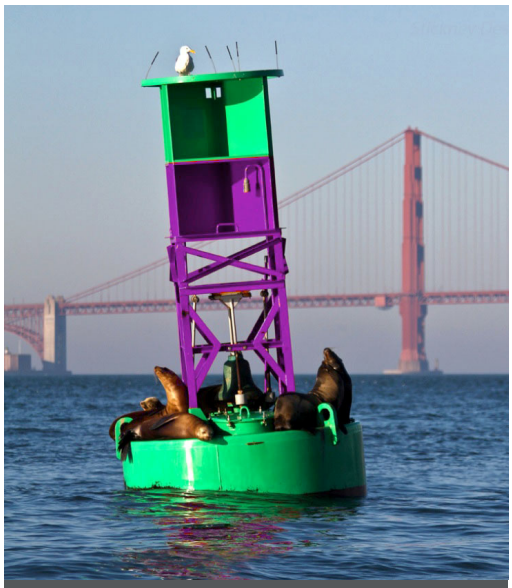
The Dischargers shall implement the Evaluation Plan tasks within 45 days of submittal.

c. Status Reports

By July 1, 2021, and again by July 1, 2022, the Dischargers shall submit, or cause to be submitted, a status report describing the tasks completed, preliminary findings, and tasks yet to be completed for each site identified in the Scoping Plan, highlighting any adaptive changes made to the Evaluation Plan submitted in accordance with task b, above.

d. Final Status Report.

By July 1, 2023, the Dischargers shall submit, or cause to be submitted, a Final Status Report describing the tasks completed and findings for each site identified in the Scoping Plan. The Final Status Report shall also identify any remaining tasks or barriers for implementing an identified project.



Bay Area Clean Water Agencies

DRAFT Scoping and Evaluation Plan

Regional Evaluation of Potential Nutrient Discharge Reduction by Water Recycling

DRAFT for Review by BACWA Board

October 16, 2019

BACWA BAY AREA CLEAN WATER AGENCIES

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Table 1. Schedule by Tasks 4

Introduction

On May 8, 2019, the San Francisco Regional Water Quality Control Board (Water Board) issued Order No. R2-2019-0017, *Waste Discharge Requirements for Nutrients from Municipal Wastewater Discharges to San Francisco Bay* (Watershed Permit). The Watershed Permit sets forth a regional framework to facilitate collaboration on studies that will inform future management decisions and regulatory strategies. The 2019 Watershed Permit has four special provisions to implement as follows:

1. Reopener provisions.
2. Regional evaluation of potential nutrient discharge reduction by natural systems.
3. Regional evaluation of potential nutrient discharge reduction by water recycling.
4. Monitoring, modeling, and subembayment studies.

This Scoping and Evaluation Plan for the Regional Evaluation of Potential Nutrient Discharge Reduction is a component of item 3, listed above. The other provisions of the 2019 Watershed Permit that require submittals to the Water Board (natural systems and modeling systems) are being addressed separately. The Regional Evaluation of Potential Nutrient Discharge Reduction by Water Recycling will result in a Recycled Water Study that will increase the understanding of potential effluent nutrient load reductions and the associated costs for water recycling projects by the publically owned treatment works (and other agencies) that discharge to the San Francisco Bay.

Forty four agencies, as listed in Appendix A, were identified in the 2019 Watershed Permit to conduct the water recycling evaluation. These agencies (the participating agencies) have agreed to conduct the evaluation collectively, as members of the Bay Area Clean Water Agencies (BACWA).

Scoping and Evaluation Plan

The 2019 Watershed Permit requires a Scoping and Evaluation Plan that describes the approach and schedule for completing the nutrient reduction studies by water recycling. The effluent nutrients of interest are nitrogen ion species and total phosphorus. The evaluation will consider both current and projected flows for water recycling. The evaluation includes the following steps:

- Issue a request for information (RFI) to each participating agency
- Compile data and planning documents and perform a preliminary assessment
- Review preliminary assessment with each participating agency
- Prepare draft report for each participating agency
- Review period for each agency to review their report
- Finalize each agency report based on report comments
- Prepare the Draft Recycled Water Study that summarizes the overall study findings
- Review period for BACWA to review the Draft Recycled Water Report
- Finalize the Recycled Water Report and submit to the Water Board

The following sections describe the study schedule and the tasks that will be implemented to complete the aforementioned steps.

Schedule

The 2019 Watershed Permit requires the submission of a status report by July 1, 2021 and again by July 1, 2022. The final report is due to the Water Board on July 1, 2023.

An overview of the schedule for completion of the water recycling study is presented in **Error! Reference source not found.**. The project schedule has been designed to efficiently execute the study ahead of the deadlines specified in the 2019 Watershed Permit.

Table 1. Schedule by Tasks

Task	Description	Permit Deadline	Proposed Completion Date	Comment
1. Scoping and Evaluation Plan	Prepare a combined document for review by BACWA and submission to the Water Board	Scoping Plan – 12/1/2019 Evaluation Plan - 7/1/2020	12/1/2019	These plans will be combined into one document that describes the project approach and schedule
2. Data Collection and Analysis	Issue RFIs to participating agencies; collect, review and compile data; perform analysis	N/A	2/2020	Collect agency information, including data and reports, provide guidance via webinar(s), compile data and consult with agencies for clarifications, and perform analysis
3. Status Report No. 1	Submittal to Water Board describing tasks completed	7/1/2021	7/1/2021	
4. Agency Reports and Validation	Prepare agency report template, individual agency reporting (draft and final), and collect agency validation letters	N/A	7/2022	Each agency will have an opportunity to review its respective draft agency report and provide comments. Upon receiving comments, a conference call will be held to review the comments prior to finalizing each agency report
5. Status Report No. 2	Submittal to Water Board describing tasks completed	7/1/2022	7/1/2022	
6. Recycled Water Study	Prepare Draft and Final Recycled Water Study	7/1/2023	7/1/2023	The study will summarize overall findings. The Final Study will be presented to the Water Board
7. Project Management	Participate in meetings to convey study progress and findings, manage the project, and perform QA/QC	N/A	6/2022	

Data Collection and Analysis

As part of the Nutrient Reduction Study that was conducted under the first Watershed Permit (R2-2014-0014), a series of RFIs were submitted to the participating agencies that focused initially on general plant information, plant facilities, and performance, followed by an RFI on future and projected recycled water projects. The recycled water survey from the first Watershed Permit (R2-2014-0014) focused on recycled water demands for various categories of recycled water use types, from existing through 2040 in five year increments. The RFI(s) associated with this Recycled Water Study will expand and refine the recycled water questionnaire from the first Watershed Permit (R2-2014-0014).

Following receipt of the requested information and documents, a preliminary assessment will be conducted, followed by a conference call with each agency to confirm the preliminary assessment and clarify any outstanding data needs.

The following sections provide additional detail regarding the data collection and analysis tasks.

Data Collection

The RFI will be submitted to each participating agency during the spring of 2020. This detailed request will expand and refine the recycled water questionnaire from the first Watershed Permit (R2-2014-0014). The expanded and refined RFI will seek the following information:

- Description of existing recycled water program and service area, including maps, figures, and details of existing demands and use types.
- Current recycled water flows and associated nutrient loads removed (if applicable and available).
- Updated status of previously identified recycled water projects, including the relative confidence that the project will be implemented (e.g., is the project conceptual, included in a CIP, currently in construction, etc.) and the anticipating timing of the project, and projected growth in recycled water use over time.
- Projected future recycled water use, in five-year increments. Where available, anticipated type of recycled water use will be collected to support the evaluation of nutrient loads removed. Recycled water seasonality demand will also be considered, particularly for those agencies with a dry season discharge prohibition
- Estimated capital and operations and maintenance (O&M) costs, for each respective anticipated project.

Commented [KH1]: The intent of this one is to walk back the detail on use type.. we'll still request this level of detail, but not report at that level to the RWQCB. The goal tho is to capture projects with a nutrient sink vs. those with a nutrient return stream.

Once the RFIs have been issued to the participating agencies, consultant will confer with each agency to review and confirm the data provided and resolve any outstanding questions.

Analysis

Upon receiving the requested information, the data will be organized and compiled. The analysis for each participating agency will include the following:

- Recycled water flows by use type, in five year increments. Projected flows will be captured in acre-feet per year. An average daily use will be estimated in order to

estimate the reduction in the nutrient load discharged to San Francisco Bay. Projections will be presented in five year increments, beginning in 2020 (as current).

- Nutrient load reduction projections for Ammonia and Total Inorganic Nitrogen constituents. Not all recycled water use types result in a reduction in nutrient loads discharged to the bay. Some uses, such as potable reuse, could increase nutrient concentrations discharged to the bay due to the concentrated return streams created during the advanced treatment processes. Generally, irrigation uses (i.e., landscape, golf course, and agricultural) result in a decrease of nutrient loads since the water is consumed at the application site. However, uses such as potable reuse and some industrial uses, will have a concentrated stream that is either returned to the wastewater treatment plant for discharge or otherwise discharged to the bay. Thus, with respect to identifying the nutrient reductions associated with future recycled water uses, the use type will be captured (if available) and the load reduction will be estimated accordingly.
- Capital and operations and maintenance (O&M) costs will be included, if available. Costs will be escalated to the ENR CCI for the SF Bay Area for the most current period prior to completing the draft recycled water study. It is assumed that cost estimates will be available from existing master plans (or more detailed cost estimates) as provided by the participating agency. Development of new cost estimates is not anticipated.
- Develop unit metrics for comparison with the 2018 Nutrient Reduction Study and to allow comparisons between the participating agencies. Unit metrics will include the following:
    - Cost per acre-foot for recycled water project yield ($/acre-foot). A 30 year planning period will be used to allow comparison with 2018 Nutrient Reduction Study (HDR, 2018).
    - Cost per pound of nutrient removed ($/lb nutrient removed). A 30 year planning period will be used to allow comparison with 2018 Nutrient Reduction Study (HDR, 2018). To maintain consistency with the 2018 Study, the projected discharge concentrations will be based on the 2015 BACWA Nutrient Reduction Study Group Annual Report (which includes nutrient effluent data from 7/2012 through 6/2015) and projected to the midpoint of the planning period.
    - Capital and/or present value cost per gallon of recycled water used per day ($/gpd). Present value costs can only be prepared if estimated O&M costs are available. In the absence of O&M costs, only capital cost per gallon of recycled water used per day will be provided. This unit metric will be prepared to allow for comparison with the 2018 Nutrient Reduction Study.
- Qualitative identification of adverse effects and benefits from each project (e.g., reduction of natural water resource diversion, reduction of potable water demand, increase of nutrient concentration discharged to the bay, reduction of chemical fertilizer reliance, etc.).

Commented [KH2]: Per feedback from RWC and Pardee, we'll omit this from the scoping and eval plan, but will collect the information, and lkely present it in a stacked bar chart, with increments of uncertainty.

- Assessment of feasibility, efficacy, and reliability for each project (e.g., low reliability for recycled water fill stations).
- Identification of potential challenges to implementation (e.g., regulatory barriers, disposal of concentrate from reverse osmosis (RO) treatment).

Agency Reporting

The results of the recycled water data collection and analyses will be documented in individual agency reports and provided to each participating agency for review and confirmation prior to finalization. Each individual report will the following sections:

- Executive summary that includes a table (flow projections, load reduction, and cost of implementation in five-year increments) and a brief description of the future recycled water projects and uses.
- Introduction of each agency, plant and processes (limited to agencies with plant facilities), summary of relevant discharge requirements (e.g., dry season prohibition), and existing recycled water service area, flows, and use types.
- Description of study approach, including methods for projecting recycled water and nutrient load reductions from discharge, and unit cost calculations.
- Results that present the analysis in tables and figures and discusses the likelihood of implementation of future recycled water projects.
- Summary of adverse impacts and benefits, feasibility, and potential challenges to implementation.
- Appendices will include any relevant information from the RFI excluded from the main body and the agency acceptance letter.

Each agency will have an opportunity to review its draft agency report and provide comments prior to the report being finalized for inclusion in the Draft Recycled Water Study.

Recycled Water Study

Following completion of the agency specific reports, an executive summary style report will be prepared to summarize the information and results. The components of the Recycled Water Study will include:

- Executive summary that presents the overall findings and provides context on the role of recycled water as a means to reduce nutrient loads discharge to San Francisco Bay.
- Basis of evaluation that describes the approach and methodologies employed for the study.
- Results summarized by subembayment and bay-wide, presented with tables and graphics.

- Summary of study limitations.
- Key observations, as appropriate.
- Appendices, including each agency report, agency acceptance letters, scoping and evaluation plan, and other information if appropriate.

Appendix A – Participating Facilities

No.	Discharger	Facility Name	Facility Address	Minor/ Major
1	American Canyon, City of	Wastewater Treatment and Reclamation Facility	151 Mezzetta Court American Canyon, CA 94503 Napa County	Major
2	Benicia, City of	Benicia Wastewater Treatment Plant	614 East Fifth Street Benicia, CA 94510 Solano County	Major
3	Burlingame, City of	Burlingame Wastewater Treatment Plant	1103 Airport Boulevard Burlingame, CA 94010 San Mateo County	Major
4	Central Contra Costa Sanitary District	Central Contra Costa Sanitary District Wastewater Treatment Plant	5019 Imhoff Place Martinez, CA 94553 Contra Costa County	Major
5	Central Marin Sanitation Agency	Central Marin Sanitation Agency Wastewater Treatment Plant	1301 Andersen Drive San Rafael, CA 94901 Marin County	Major
6	Crockett Community Services District	Port Costa Wastewater Treatment Plant	End of Canyon Lake Drive Port Costa, CA 94569	Minor
7	Delta Diablo	Delta Diablo Wastewater Treatment Plant	2500 Pittsburg-Antioch Hwy Antioch, CA 94509 Contra Costa County	Major
8	East Bay Dischargers Authority (EBDA); Cities of Hayward and San Leandro; Oro Loma Sanitary District; Castro Valley Sanitary District; Union Sanitary District; East Bay Regional Parks District; Livermore-Amador Valley Water Management Agency, Dublin San Ramon Services District, and City of Livermore	*EBDA Common Outfall*[A]	EBDA Common Outfall 14150 Monarch Bay Drive San Leandro, CA 94577 Alameda County	Major
9		Hayward Water Pollution Control Facility		
10		San Leandro Water Pollution Control Plant		
11		Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant		
12		Union Sanitary District, Raymond A. Boege Alvarado Wastewater Treatment Plant		
13		East Bay Regional Parks District[B]		
14		*Livermore-Amador Valley Water Management Agency Export and Storage Facilities*[A]		
15		Dublin San Ramon Services District Wastewater Treatment Plant (LAVMA)		
16		City of Livermore Water Reclamation Plant		
17	East Bay Municipal Utility District	East Bay Municipal Utility District, Special District No. 1 Wastewater Treatment Plant	2020 Wake Avenue Oakland, CA 94607 Alameda County	Major
18	Fairfield-Suisun Sewer District	Fairfield-Suisun Wastewater Treatment Plant	1010 Chadbourne Road Fairfield, CA 94534 Solano County	Major
19	Las Gallinas Valley Sanitary District	Las Gallinas Valley Sanitary District Sewage Treatment Plant	300 Smith Ranch Road San Rafael, CA 94903 Marin County	Major
20	Marin County (Paradise Cove), Sanitary District No. 5 of	Paradise Cove Treatment Plant	3700 Paradise Drive Tiburon, CA 94920	Minor
21	Marin County (Tiburon), Sanitary District No. 5 of	Wastewater Treatment Plant	2001 Paradise Drive Tiburon, CA 94920	Minor
22	Millbrae, City of	Water Pollution Control Plant	400 East Millbrae Avenue Millbrae, CA 94030 San Mateo County	Major

No.	Discharger	Facility Name	Facility Address	Minor/ Major
23	Mt. View Sanitary District	Mt. View Sanitary District Wastewater Treatment Plant	3800 Arthur Road Martinez, CA 94553 Contra Costa County	Major
24	Napa Sanitation District	Soscol Water Recycling Facility	1515 Soscol Ferry Road Napa, CA 94558 Napa County	Major
25	Novato Sanitary District	Novato Sanitary District Wastewater Treatment Plant	500 Davidson Street Novato, CA 94945 Marin County	Major
26	Palo Alto, City of	Palo Alto Regional Water Quality Control Plant	2501 Embarcadero Way Palo Alto, CA 94303 Santa Clara County	Major
27	Petaluma, City of	Ellis Creek Water Recycling Facility	3890 Cypress Drive Petaluma, CA 94954 Sonoma County	Major
28	Pinole, City of	Pinole-Hercules Water Pollution Control Plant	11 Tennent Avenue Pinole, CA, 94564 Contra Costa County	Major
29	Rodeo Sanitary District	Rodeo Sanitary District Water Pollution Control Facility	800 San Pablo Avenue Rodeo, CA 94572 Contra Costa County	Major
30	San Francisco (San Francisco International Airport), City and County of	Mel Leong Treatment Plant, Sanitary Plant	Bldg. 924 Clearwater Drive San Francisco, CA 94128 San Mateo County	Major
31	San Francisco (Southeast Plant), City and County of	Southeast Water Pollution Control Plant	750 Phelps Street San Francisco, CA 94124 San Francisco County	Major
32	San Jose and Santa Clara, Cities of	San Jose/Santa Clara Water Pollution Control Plant	700 Los Esteros Road San Jose, CA 95134 Santa Clara County	Major
33	San Mateo, City of	City of San Mateo Wastewater Treatment Plant	2050 Detroit Drive San Mateo, CA 94404 San Mateo County	Major
34	Sausalito-Marin City Sanitary District	Sausalito-Marin City Sanitary District Wastewater Treatment Plant	1 East Road Sausalito, CA 94965 Marin County	Major
35	Sewerage Agency of Southern Marin	Wastewater Treatment Plant	450 Sycamore Avenue Mill Valley, CA 94941 Marin County	Major
36	Silicon Valley Clean Water	Silicon Valley Clean Water Wastewater Treatment Plant	1400 Radio Road Redwood City, CA 94065 San Mateo County	Major
37	Sonoma Valley County Sanitary District	Municipal Wastewater Treatment Plant	22675 8th Street East Sonoma, CA 95476 Sonoma County	Major
38	South San Francisco and San Bruno, Cities of	South San Francisco and San Bruno Water Quality Control Plant	195 Belle Air Road South San Francisco, CA 94080 San Mateo County	Major
39	Sunnyvale, City of	Sunnyvale Water Pollution Control Plant	1444 Borregas Avenue Sunnyvale, CA 94089 Santa Clara County	Major
40	U.S. Department of Navy (Treasure Island)	Treasure Island Wastewater Treatment Plant	1220 Avenue M, San Francisco, CA 94130-1807 San Francisco County	Major

No.	Discharger	Facility Name	Facility Address	Minor/ Major
41	Vallejo Flood and Wastewater District	Vallejo Flood and Wastewater District Wastewater Treatment Plant	450 Ryder Street Vallejo, CA 94590 Solano County	Major
42	West County Agency; West County Wastewater District; City of Richmond; and Richmond Municipal Sewer District	West County Agency Combined Outfall[B]	2910 Hilltop Drive Richmond, CA 94806 Contra Costa County	Major
43		West County Wastewater District (WCWD) Treatment Plant		
44		Richmond Municipal Sewer District Water Pollution Control Plant		

Note:

A. Conveyance; no treatment facilities.

B. No treatment facilities

From: Andes, Fredric <Fredric.Andes@btlaw.com>
Sent: Friday, September 27, 2019 12:43 PM
To: Andes, Fredric <Fredric.Andes@btlaw.com>
Subject: New Draft EPA Trading Policy on Baseline and Other Issues

As you may recall, back in February, EPA issued a new policy on water quality trading. Our note about that new policy is included below. EPA has now dug into some of the specific issues that were laid out in that policy, and is setting forth some ideas for comment - https://www.govinfo.gov/content/pkg/FR-2019-09-19/pdf/2019-20324.pdf . Comments are due November 18, and EPA will have a listening session (both real and virtual) on October 21.

The new notice covers several issues, but the focus is on how to determine the baseline for generating and trading credits – especially for nonpoint sources. EPA is particularly concerned with the aspect of their previous policy (from 2003) that provides that nonpoint sources to a waterbody covered by a TMDL cannot generate credits to be traded until they have made whatever reductions are called for by the nonpoint Load Allocation (LA) in the TMDL. EPA clearly intends to loosen that policy, but is not quite clear what they intend for the policy to be instead. The notice states that EPA wants to "allow for individual nonpoint sources to generate pollutant reduction credits for any pollutant reduction above existing practices, provided there is a reasonable assurance that the overall load allocation will, over time, be met." I have a note in to EPA, to get some further detail as to how exactly that new policy would work.

The trading notice also asks for comment on several other trading-related issues, including:

- Splitting overall nonpoint reductions, so that some portion is used to meet the TMDL LA, and the rest are used to generate credits
- Disaggregating nonpoint reductions, so that reductions from some specific source categories are used to generate credits
- The role of compliance schedules in a trading program
- The role of variances in a trading program
- Possible use of in-lieu fee payments instead of making actual reductions

I'd like to start our work on this issue with a call. If you would like to participate, please click on this Doodle poll - https://www.doodle.com/poll/3x6wu82y7zb3kie7 - and let me know what dates and times work for you. Once I review the responses, I will send out another note with final call-in details. In the meantime, of course, please feel free to call or e-mail if you have any questions. Thanks.

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From: Andes, Fredric <Fredric.Andes@btlaw.com>
Sent: Friday, February 8, 2019 10:36 AM
To: Andes, Fredric <Fredric.Andes@btlaw.com>
Subject: EPA Issues New Trading Memo

EPA has issued a new memorandum regarding the use of trading under the CWA. The memo was released as part of a series of steps that EPA is taking to promote control of nutrient loadings – although the trading memo is not limited to nutrients. Both the trading memo and a list of the nutrient-related actions are here: https://www.epa.gov/nutrient-policy-data/water-quality-trading-memos . In the trading memo, EPA lays out these basic principles:

1. States, tribes, and stakeholders should consider implementing water quality trading and other market-based programs on a watershed scale.

2. The EPA encourages the use of adaptive management strategies for implementing market-based programs.

3. Water quality credits and offsets may be banked for future use.

4. The EPA encourages simplicity and flexibility in implementing baseline concepts.

5. A single project may generate credits for multiple markets.

6. Financing opportunities exist to assist with deployment of nonpoint land-use practices.

The trading memo notes that some of these principles are different than the concepts laid out in the last guidance that EPA issued on trading, in 2003. (That is at https://www.epa.gov/sites/production/files/2016-04/documents/wqtradingtoolkit_app_b_trading_policy.pdf .) From our initial review, that would definitely be the case as to the principles on banking and baseline – in both cases, the new guidance is more flexible than the 2003 document. We will review the new memo in detail, and will be talking with EPA about the implications of the new policy. Also, we will have an FWQC call on the topic. If you are interested in participating, please let me know what dates and times are available, by completing this Doodle poll: https://doodle.com/poll/assmm6xhmax8srxt . Once we have reviewed the responses, we will send out another note with the final call-in details. In the meantime, please feel fee to call or e-mail if you have any questions. Thanks.

P.S. Here is a link to this note on the FWQC web site: http://fwqc.org/members/DocumentLibrary/EPA%20Issues%20New%20Trading%20Memo.htm .

RMP Statewide CECs data synthesis and evaluation

Background

The State and Regional Water Boards are developing a statewide Constituents of Emerging Concern initiative that will coordinate ongoing CEC monitoring efforts in the state and develop a framework for statewide prioritization and management of CECs on an ongoing basis. The CEC initiative will be implemented in phases, with the initial effort focusing largely on data compilation and evaluation of existing data.

The Aquatic Science Center (www.sfei.org) has been tasked with synthesizing and evaluating statewide CEC data within a tiered risk framework that will be used to inform statewide CEC monitoring and management strategy. This synthesis is expected to include information on CECs in ambient surface water and sediment, aquatic biota, relevant transport pathways (wastewater and stormwater), and recycled water.

To guide the scope of this work, we are soliciting input from stakeholders. Your responses are important to guide and ensure the success of this initiative. As part of the initiative, the State Water Board will also be convening a Science Panel early next year (2020) to further develop CEC monitoring strategy for the state through a separate project and contract with Southern California Coastal Water Research Project. The reporting from this synthesis will inform the Science Panel. A summary of stakeholder responses that are aggregated will be provided to the Water Board and inform the Science Panel.

We would like to schedule a call to discuss the following general questions:

1. How would you define what chemicals are CECs? How can a statewide CECs synthesis and the larger Water Boards CEC initiative best support or complement your mission?

2. What are your CECs data needs and priorities?

   This may include data gaps concerning specific CECs or classes of CECs; information needs on a specific matrix (e.g., sediment); minimum analytical methods information or data quality; specific types of data analysis; relevant risk thresholds or toxicological characteristics; and/or current plans and efforts in monitoring CECs and their effects, including an assessment of what level of effort and resources may be involved. You may rank your needs and priorities, if appropriate. We are also interested in guidance concerning types of CECs or matrices to exclude, particularly if they are being evaluated and managed through other efforts.

3. What are the CECs data sources you rely on and would consider valuable additions to a statewide CECs synthesis? This may include a synopsis of existing data and monitoring you have or have done, if any, including what matrices (e.g., surface water, sediment, biota), classes of CECs, analytical methods used, and any risk assessment or toxicological evaluation taken.

4. Are there specific management decisions over the next 3-5 years that this Water Boards initiative could or should inform?

5. What are potential challenges or concerns to note moving forward, including any takeaways from your experience with previous local, regional, or state efforts in the CECs arena?

6. Are you aware of multi-beneficial approaches that overlap the CEC initiative and climate-resilient water system portfolio management (http://waterresilience.ca.gov/)?

7. Would you like to maintain engagement with the Water Boards CEC initiative moving forward through an email listserv?

8. Are there additional stakeholders you would recommend we interview?

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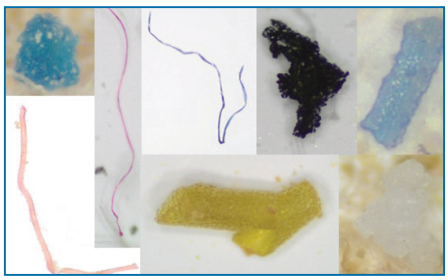
MICROPLASTICS FACT SHEET

Microplastics, which are plastic particles less than 5 mm in size, are found in many water bodies world-wide and are viewed as a contaminant of emerging concern (CEC) in San Francisco Bay. The San Francisco Estuary Institute (SFEI), partnered with the 5 Gyres Institute, are the lead scientific bodies investigating microplastic contamination in the San Francisco Bay. The two entities are collaborating with several other scientific and academic institutions in furthering science knowledge about analytical methods, sources, and effects of microplastics on the environment. The San Francisco Bay Regional Water Board is engaged in these scientific investigations, but is not currently proposing regulatory actions, pending the availability of more scientific information as to whether microplastics pose a threat to aquatic life and water quality.

METHODS OF DETECTION

Development of standard methods will allow comparison among studies to identify areas of concern and trends that can inform policy and management actions. The analytical methods used in early work studying microplastics in the San Francisco Bay did not differentiate plastics from naturally derived microparticles. As scientists began to use spectroscopy to identify the composition of individual particles, it became clear that accurately identifying a microparticle as a microplastic was going to be very challenging, expensive and time consuming.

- Method standardization is a high priority, and is underway. Recent legislation, SB1263, requires the Ocean Protection Council to develop methods as part of a Statewide Microplastics Strategy. The Southern California Coast Water Research Project (SCCWRP) is recruiting Publicly Owned Treatment Works (POTW) labs for method development assistance.



Particles cannot be identified as plastic by visual inspection.

- Because the extraction and identification of microplastics is labor-intensive, only a small subset of the total microparticles collected in recent studies have been analyzed.
- Standard spectroscopy techniques such as Fourier Transform-Infrared (FTIR) and Raman must be used in tandem with microscopy in order to tackle microparticles with a size of less than 1 mm. Micro-FTIR and Micro-Raman instruments are significantly more expensive than traditional spectroscopes and require special training.
- Even with spectroscopy, in many cases it continues to be practically impossible to differentiate between natural and plastic fibers, especially if they are dyed.

MICROPLASTICS FACT SHEET

IMPORTANCE OF DIFFERENT SOURCES

Building on the scientific efforts to accurately identify microplastics and their potential negative impacts on the environment, it will be essential to identify the sources of microplastics. Accurate source apportionment will inform the most cost-effective means for reducing microplastics.

- Results of 24-hour composite sampling at eight Publicly Owned Treatment Works (POTWs) in 2017 showed that advanced secondary wastewater treatment plants had lower microparticle counts than plants without filtration. However, the total counts in effluent are still millions per day. In aggregate, it is estimated that approximately 47 billion microparticles are discharged annually to the San Francisco Bay by POTWs, of which 17 billion are estimated to be plastic.
- It is estimated that stormwater contributes approximately 300 times more microplastics to the San Francisco Bay than POTWs. Tire fragments are a large component of the stormwater microparticle load.
- Atmospheric deposition is a potential source, but is poorly understood.

TYPES OF MICROPARTICLES IN POTW EFFLUENT

It is important to understand the types of microplastics found in POTW effluent to better characterize and address their sources.

- The majority of microparticles discharged by POTWs are fibers, followed by fragments, then foam.
- Most fibers could not be identified as either natural or synthetic because the dyes mask the signal of the material.
- Of the fragments, 54% were positively identified as plastic.

POLICY ISSUES

As the science matures on identification of microplastics and their impact on the environment, policies will need to be developed that address the issue. Current policy thinking focuses on pollution prevention rather than end of pipe treatment at POTWs.

- Due to persistence, increasing use, and lack of known toxicity thresholds, the Regional Monitoring Program, through SFEI, is following a proposed European Union classification, and placing microplastics in the "moderate concern" tier within the Tiered Risk-Based Framework for CECs in San Francisco Bay.
- Recommendations for reducing microfibers in POTW effluent do not focus on end-of-pipe treatment. Instead they include regulatory and legislative advocacy to address sources, public education to reduce the introduction of plastic material into the environment, the development of clothing sheddability standards, as well as more study of washing machine filtration alternatives.

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PFAS
FACT SHEET

CASA
CALIFORNIA ASSOCIATION OF SANITATION AGENCIES

What Are PFAS?

Per and polyfluoroalkyl substances (PFAS)[1] are a group of man-made fluorinated compounds which are used for a variety of applications by both industry and residential households. These chemicals are widely used because they are resistant to heat, water, and oil. **PFAS are commonly found in every American household, and in products as diverse as:**

PFAS have been in commercial use since the 1940's and are abundant in today's society. Two of the most common types (PFOS and PFOA) were phased out of production in the United States in 2002 and 2015 respectively, but are still present in some imported products. PFOA and PFOS are found in every person's blood stream in the parts per billion range, though those concentrations have decreased by 70% for PFOA and 84% for PFOS between 1999 and 2014, which coincides with the end of the production and phase out of PFOA and PFOS in the United States.[2]

PFAS Are Ubiquitous in Our Homes and Our Environment

Several recent legislative and regulatory efforts across the US to address PFAS have focused on limiting levels in drinking water. However, there has been relatively little conversation about the presence of these chemicals in our everyday lives. In several studies, the mean and median concentration of PFOA in household dust in the United States was found to be between roughly 10,000 and 50,000 parts per trillion (ppt)[3]. **This means there is significantly more PFAS in the ambient dust in the average home than the levels currently being discussed as thresholds for drinking water.** Not only are PFAS part of the air we breathe and the products we use, but they have also been found in the food we eat. In other words, there are numerous human exposure pathways for PFAS beyond drinking water.

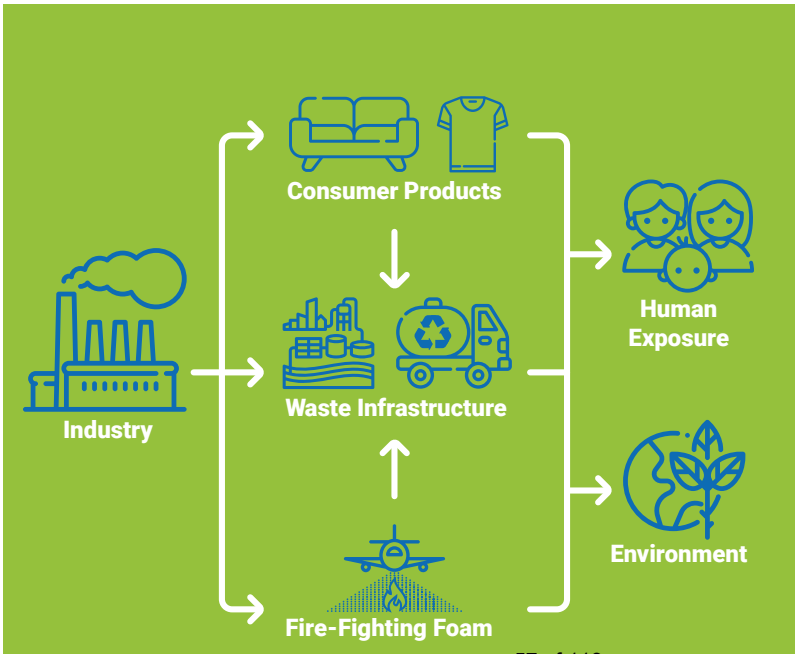
Importance of Human Health Protection

Agencies providing essential public services such as safe drinking water, wastewater treatment, water recycling, and biosolids recycling firmly believe in our **collective mission to ensure safe drinking water and sanitation services.** We also acknowledge and embrace our role as environmental and public health stewards and the responsibility of providing a healthy and clean environment now and for future generations. To that end, agencies would be in support of actions and regulations intended to ensure delivery of those services as long as they are based on credible science and developed after due deliberation. There is concern that in the case of PFAS, notification levels, thresholds, and in some cases limits are being developed in advance of the scientific and public process.

PFAS Producers and Heavy Users Are Not the Same as PFAS "Receivers"

Drinking water treatment systems and wastewater treatment facilities are not "producers" or users of PFAS, and **none of these essential public service providers utilize PFAS chemicals. Rather, they are "receivers" of these chemicals used by manufacturers and consumers, and merely convey or manage the traces of PFAS that we encounter in our daily lives.**

In order to address the true sources of these chemicals, discontinuation of production and use (both domestic and foreign) is necessary at manufacturing facilities and heavy use areas such as firefighting training sites. As long as PFAS are elements of products used in our everyday lives, and as long as background levels resulting from decades of manufacturing and use persist, they will continue to be found in the "receiver" streams.



Placing PFAS in Context: Distinguishing Contaminated Sites and Background Levels

Recent legislative and regulatory efforts to address PFAS have tended to not differentiate between concentrations at producer and heavy user contaminated sites and common background levels in drinking water, groundwater, recycled water, wastewater, or biosolids. The levels of PFAS found in these two scenarios are dramatically different. Sites found near manufacturers of PFAS can have levels of contamination at 100,000 to 500,000 ppt. At fire-fighting training sites, including military complexes, levels can be as high as 6,950,000 ppt.[4] In these circumstances, it is clear that the producers and heavy users of PFAS have caused or contributed to the contamination of sites that need to be addressed. **In contrast, the action levels currently being discussed for drinking water systems range from 5–40 ppt, an exceptionally small fraction of the concentrations found at highly contaminated sites.**

Because of this vast disparity in relative contributions, product manufacturer responsibility and stewardship, as well as cleanup and remediation at highly contaminated sites, are the most efficient and effective methods of addressing these chemicals and protecting human health and the environment.

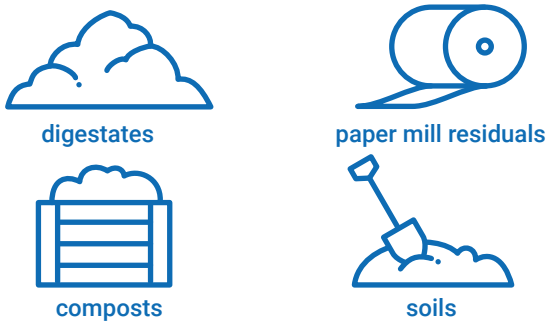
Drinking Water Thresholds and Unintended Consequences

The USEPA has set an advisory level of 70 ppt individually or combined for PFOA and PFOS in drinking water and is currently evaluating the need to develop maximum contaminant levels (MCL) for these and possibly other PFAS compounds. **For perspective, one part per trillion is the equivalent of four grains of sugar in an Olympic sized swimming pool, or the equivalent of one second in 32,000 years.** Even as EPA's work continues, states have begun setting their own PFAS standards for drinking water at a rapid pace and without following some of the usual regulatory and scientific review and public involvement procedures.

The public and political concern about PFAS is leading several states to move forward with regulatory standards or notification levels while the science is still developing. For example, the California State Water Board has established notification levels of 6.5 ppt for PFOS and 5.1 ppt for PFOA in drinking water, while other states have adhered to the USEPA health advisory level of 70 ppt for both combined. States adopting different standards for the same compounds can create confusion and risks undermining public confidence at a time when greater consistency is needed. **In fact, stringent state requirements could have significant unintended impacts on public municipalities and individuals, as numerous public systems could be deemed unusable and/or need to install expensive additional treatment systems.**

Background Levels of PFAS in Wastewater Effluent, Recycled Water and Biosolids

Strict PFAS standards for drinking water could also ultimately impact discharge limits on wastewater treatment plants, recycled water, and biosolids. Because PFAS are ubiquitous in households, consumer products, food, and the environment generally, they will typically make their way into the wastewater stream. After treatment, trace amounts of PFAS may also be found in biosolids. Of course, PFAS are also found in:



Given the ubiquity of PFAS, and the comparative background levels which may be found in wastewater and biosolids, setting requirements near analytical detection limits on these sources may not provide a discernable benefit to public health.

A Measured, Scientifically Sound Response to PFAS Contamination is Needed

Legislators, regulators, drinking water agencies, wastewater agencies, and others should work collaboratively to examine how to deal with PFAS holistically, with science guiding the decision making. We acknowledge and embrace our role as public health and environmental stewards to ensure safe drinking water and sanitation services. However, we know that science is still evolving to understand the fate, exposure, and toxicity of PFAS from environmental media, and the basic analytical methods needed to study these chemicals are still in development for media other than drinking water. Even the extent of human health impacts is not fully understood. This underscores the need to better understand the science and real world risk before setting exceedingly stringent thresholds or limits.

The goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health. This requires differentiating high concentration sites from background concentrations and taking action to mitigate concentrations at high use sites. It also demands both a reassessment of products we produce and use daily, and a realistic assessment of how much any action is able to control PFAS already in the background environment. The most significant action we need to take today is to remove these chemicals of concern from the stream of commerce. Source reduction and pollution prevention can serve as the most efficient means of addressing persistent background presence of PFAS and effectively limit the occurrence of PFAS going forward.

1. PFAS is the broader class of chemicals that includes PFOA, PFOS, and many others.
2. Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2019). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. cdc.gov/exposurereport
3. Trudel et al., Risk Analysis Vol. 28 No. 2, 2008
4. ewg.org/interactive-maps/2019_pfas_contamination/map

From: Kelly Brocato <KBrocato@nacwa.org>
Sent: Thursday, September 26, 2019 10:56 AM
To: Kelly Brocato <KBrocato@nacwa.org>
Subject: FW: NACWA PFAS Member Update and Request for Engagement

Hi All,
You are receiving this email, because you are listed as a representative for one of NACWA's State/Regional Partner Organizations.

Below is a *Advocacy Alert* sent this afternoon by NACWA CEO, Adam Krantz, to the membership regarding recent developments on the issue of PFAS. Please read below and encourage your utility members to contact their Congressional representation.

If you or your members have questions regarding these developments, I encourage you to reach out to one of the Association's Legislative Directors, Kristina Surfas or Jason Isakovic.

Thank you,
Kelly

Kelly Brocato
Senior Director, Membership Development & Retention | NACWA
(202)833 – 1449 [office]

From: Adam Krantz <akrantz@nacwa.mmsend.com> **On Behalf Of** Adam Krantz
Sent: Thursday, September 26, 2019 12:23 PM
To: Kelly Brocato <KBrocato@nacwa.org>
Subject: PFAS Member Update and Request for Engagement

Dear Kelly,

Last week Congress voted to move to conference the House and Senate Fiscal Year 2020 National Defense Authorization Act (NDAA). As a NACWA Advocacy Alert previously reported, the House NDAA bill (H.R. 2500) includes several provisions of concern for clean water utilities, including requiring EPA to designate all PFAS as hazardous substances under the federal CERCLA/Superfund law and list PFAS on the Clean Water Act Toxic Pollutant List, both of which could trigger concerning liability issues for utilities' effluent and biosolids. Neither provision was included in the Senate NDAA bill (S. 1790), but nonetheless many Senators would support including it in a final negotiated NDAA.

Since these bills were introduced, NACWA – along with other partners in the water sector – has been working with key Congressional offices to help build understanding of the clean water sector's concerns and advocate against inclusion of either provision as drafted. Individual utility efforts to engage with your Congressional offices have also been essential in building awareness and attention and I am grateful that so many of you have been able to reach out on these critical issues.

Over the summer, the Congressional committees with jurisdiction over PFAS and clean water tried reaching bipartisan, bicameral agreement regarding PFAS. But at this time, no compromise

language for the thorniest provisions – including what to do about the hazardous substances and CWA provisions – is evident. It is now likely that final PFAS negotiations will be kicked up to the NDAA Conference Committee and from there, top Congressional leadership.

If you/your utility is from one of the home Districts or States of the NDAA Conferees – House Democrat and Republican conferees have been named and all Senate Armed Service Committee Members have been included – or top House or Senate leadership, I strongly urge you to reach out once more to those offices and respectfully urge that utility concerns continue to be considered and that the final conferenced bill does not include costly or unworkable provisions for the wastewater utilities in their district and around the country. If these provisions are passed into law as written, Congress would be circumventing the scientific and regulatory process. Congress would also be imposing unjustified mandates rather than ensuring that sound regulatory determinations be made by EPA after the appropriate scientific and risk analyses have been completed. They could also place the high costs of remediating PFAS on public clean water agencies and their local communities despite the fact that utilities did not cause or contribute to this problem.

On Thursday last week, EPA Administrator Andrew Wheeler testified before the U.S. House Committee on Science, Space and Technology and highlighted ways in which EPA is working with the Department of Defense on developing methods to detect and quantify PFAS in air, water, and soil, understanding potential toxicity for many PFAS compounds, and evaluating treatment and removal methods for PFAS in drinking water. All of this research – and much more – will be essential in order for PFAS' presence and the level of risk it poses to be appropriately analyzed, assessed, and then for EPA to move forward with appropriate public health protection.

Also last week, EPA Assistant Administrator for Water David Ross testified before the House Water Resource & Environment subcommittee. In his remarks, Ross noted his past experience working alongside clean water professionals and highlighted their role as environmental heroes who protect public health, the environment, and the nation's investments in water infrastructure every day. I couldn't agree more.

Please know that your clean water service is respected by the policymakers here in D.C. and that your voice and expertise make a real impact. Please don't hesitate to reach out to discuss these issues anytime and thanks for helping us make sure Congress fully understands the complexity of this issue.

Sincerely,

Adam

National Association of Clean Water Agencies
1130 Connecticut Ave NW Suite #1050, Washington, DC 20036, (202) 833-2672
www.nacwa.org

From: Jared Voskuhl <JVoskuhl@casaweb.org>
Sent: Wednesday, October 16, 2019 10:05 AM
To: Lorien Fono <lfono@bacwa.org>; Stephen Jepsen <sjepsen@dudek.com>; dwilliams@bacwa.org; Marjanovic, Katie <katiemarjanovic@lacsd.org>; Estil, Syljohn <SEstil@lacsd.org>
Subject: PFAS Follow-up Message

Hi, good morning all,

Thank you for joining and participating yesterday in the Phase 3 investigation meeting with State Water Board staff.

Below is a message we prepared to distribute to our Regulatory Workgroup to update them. If you're able, please review and suggest any edits, additional information, or revisions necessary to make it more precise, per your notes and recollections from the meeting.

We appreciate your input!

Thank you,
Jared

- - - - - - - - - -

Good afternoon,

We wanted to reach out briefly to update you on Phase 3 of the PFAS investigation by the State Water Board (SWB). Yesterday we had a follow-up meeting with SWB staff overseeing the investigation to discuss the letter we submitted last month and to hear from staff about their planning for the remainder of this year and in 2020.

In general, the meeting was collaborative, and SWB staff were appreciative of our input and perspective. They allowed us to go into more detail with our concerns for how the investigation is conducted and were receptive to our recommendation for a targeted approach that would be a function of proximity to detection hotspots, discharge location, and agency size/lab capacity, instead of sending out orders to every facility in the state. Simultaneously, they acknowledged they cannot wait to begin investigating until approved methods are available, but with regard to our request for a staged approach, i.e. utilizing existing data gathering efforts, they were open to it if agencies currently doing monitoring and data gathering would be willing to share the information so that SWB staff could better understand PFAS that come through our facilities, including the magnitude and location of detections, in order for the SWB to focus their efforts on areas that may impact drinking water.

Timing wise, SWB staff are planning to provide an informational update on Phase 1 of their investigation to the State Water Board at their November 19 board meeting. They also informed us that they'll be initiating Phase 2 this week or next by sending out the investigative orders to chrome plating facilities, and that the Phase 3 order is still in the concept phase and not yet written, and they don't expect it to begin until January 2020, at the earliest. When they do launch Phase 3, they said it will require the recipient to develop their own workplan for monitoring which will be submitted to the Regional Board for review and approval. Biosolids were not discussed in the meeting, nor the challenges posed by the analytical methods for them, though there was an oblique reference to biosolids and land application

site testing when staff mentioned efforts by landfills to coordinate and unify the monitoring they committed to in their respective workplans. As is, our impression this was underdeveloped and not their primary focus for Phase 3, at least at this time.

We are planning to have another follow-up meeting with staff in December to hear more about how their plans for Phase 3 are firming up, and in the interim, we'll be reaching out directly to members to dialogue on their existing efforts for monitoring.

If you have any questions, don't hesitate to reach out.

Thank you,

Jared Voskuhl
Legislative and Regulatory Analyst
California Association of Sanitation Agencies
916.446.0388, ext. 108 (office)
916.694.9269 (mobile)
Ensuring Clean Water for California
casaweb.org | @casa_cleanwater | casacleanwater

San Francisco Bay Region Sensitive Species Screening Talking Points October 1, 2019

Language of concern

- pg. 13 of the draft Toxicity Provisions:

> The PERMITTING AUTHORITY may require a SPECIES SENSITIVITY SCREENING for chronic aquatic toxicity prior to every subsequent issuance, reissuance, renewal, or reopening (~~to address toxicity requirements) of~~if the permit reopening is to address toxicity requirements) of the permit. At a minimum, a SPECIES SENSITIVITY SCREENING shall be conducted no less than once every ten years unless the discharger is participating in a regional monitoring program approved by the PERMITTING AUTHORITY and the PERMITTING AUTHORITY determines that 1) the discharger has conducted a valid ~~species sensitivity screening using test methods and statistical analysis required by these provisions~~SPECIES SENSITIVITY SCREENING in accordance with Section IV.B.2.a.iii and 2) the nature of the effluent has not changed since the last ~~species sensitivity screening~~SPECIES SENSITIVITY SCREENING.

- The prior draft Toxicity Provisions language may have allowed previous species sensitivity screening results to be used if they had followed EPA methods and been analyzed via the TST.
- The draft Toxicity Provisions screening requirements, Section IV.B.2.a.iii, call for using three species over four rounds of tests, throughout a year. Whereas, most SF Bay Region POTWs have conducted screening using three rounds of tests during a year.

Alternate Monitoring Requirements and value of CECs studies

- In 2016, the SF Bay Regional Water Board adopted Alternate Monitoring Requirements (R2-2016-0008) where SF Bay POTWs may reduce low informational value analyses, and instead pay those avoided costs to the SF Bay RMP to fund contaminates of emerging concern (CECs) special studies.
- The Regional Water Board acknowledged continued species sensitivity screening has low value given the existing robust species sensitivity screening data set and small number of observations of significant toxicity. The average annual cost savings is $180,000, which is now used to fund SF Bay RMP CECs special studies.
- The intent is that the funds are better spent on studying emerging pollutants that are not regulated but may cause toxicity in the Bay in the future. Studying CECs allows the Region to consider possible toxic issues before they become a problem. This type of early detection program also offers a statewide benefit because it can lead to more attention to and management of emerging products before they cause widespread toxicity in wastewater effluent (e.g., products bans and/or regulated use). For example, the SF Bay RMP CECs studies have played a key role in drawing the attention of legislators to water quality concerns with microplastics.
- A main management strategy for CECs is pollution prevention. SF Bay POTWs provide funding for the Bay Area Pollution Prevention group, which develops public outreach messaging and education, and does regulatory advocacy on CECs, as well as other pollutants. BAPPG's decisions on where to allocate resources are informed, in part, by the SF Bay RMP CECs studies. In recent years, BAPPG has funded work on pharmaceuticals, as well as pesticides. Next year, microplastics and PFAS will receive funding.

Toxicity and Sensitive Species Testing in the SF Bay Region

- Starting in the late 1990s, SF Bay Region POTWs were required to conduct species sensitivity screening at or near 100 percent effluent every five years (in advance of every permit reissuance). That means most SF Bay Region POTWs have conducted sensitive species screening four times each, with three rounds of screening each time, for a total of 12 screening rounds each.
- The identified sensitive species sometimes changed, but the change was based on low observed toxicity, usually in conjunction with samples with no observed toxicity. The resulting species choice is mostly due to small differences in "percent effect" and/or variability of test results at low toxicity levels.
- Nearly all SF Bay POTWs discharge through deep water outfalls that result in mixing zones that provide at least 10 to 1 dilution, and in many cases >> 10 to 1 dilution. The associated instream waste concentration(s) are < or << 10 percent effluent, so species sensitivity screening at an instream waste concentration, in accordance with draft Toxicity Provisions screening requirements, Section IV.B.2.a.iii, would not discern a sensitive species.
- For nearly 20 years, all large SF Bay POTWs have been conducting chronic toxicity monitoring at least quarterly, small SF Bay POTWs at least semiannually, and rarely observe significant effluent toxicity. Observed toxicity is usually short-lived and rarely sustained.
- Based on a review of available CIWQS data, toxicity observations have not increased after a SF Bay POTW performs a species sensitivity screening, identifies a new most sensitive species, and then conducts ongoing toxicity testing using the new species.
- Toxicity has not been a problem in San Francisco Bay. Toxicity monitoring by the San Francisco Bay Regional Monitoring Program (RMP) rarely observes toxicity, and the rare observed toxicity can usually be attributed to pesticides in stormwater runoff.

Recommendation

Either make a finding in the Toxicity Provisions that deems the species sensitivity screening required by the SF Bay Regional Water Board equivalent to the Section IV.B.2.a.iii requirements based on the number of conducted species sensitivity screenings and the small number of observations of significant toxicity observations in effluent concentrations > or >> the instream waste concentration.

or

Add a further exception in the Toxicity Provisions that allows the Permitting Authority to determine that previous species sensitivity screenings may be deemed equivalent to the Section IV.B.2.a.iii requirements if the following conditions are met:

1. A discharger has conducted at least three previous species sensitivity screenings of at least three rounds each;
2. The previous species sensitivity screenings were conducted on effluent concentrations at least twice the instream waste concentration or 50 percent effluent, whichever is greater; and
3. Any observed significant toxicity was short-lived.

We also recommend that you exempt treatment system upgrades from "the nature of the effluent has not changed."

From: Thorme, Melissa <mthorme@DowneyBrand.com>
Sent: Friday, August 23, 2019 2:41 PM
To: Stephen Jepsen <sjepsen@dudek.com>; David Williams <dwilliams@bacwa.org>; Debbie Webster <eofficer@cvcwa.org>
Subject: Fwd: 19-15535 Southern California Alliance o, et al v. USEPA, et al "Brief on the Merits (Opening, Answering, Reply, Supplemental, etc)"

Brief filed. Now we wait until October to see EPA's brief.

Melissa Thorme
DOWNEY BRAND LLP
Mthorme@downeybrand.com
(916) 520-5376
www.downeybrand.com

---------- Forwarded message ----------

From: ca9_ecfnoticing@ca9.uscourts.gov
Date: August 23, 2019 at 2:02:15 PM PDT
Subject: 19-15535 Southern California Alliance o, et al v. USEPA, et al "Brief on the Merits (Opening, Answering, Reply, Supplemental, etc)"
To: Thorme, Melissa <mthorme@DowneyBrand.com>

United States Court of Appeals for the Ninth Circuit

Notice of Docket Activity

The following transaction was entered on 08/23/2019 at 2:01:45 PM PDT and filed on 08/23/2019

Case Name:	Southern California Alliance o, et al v. USEPA, et al
Case Number:	19-15535
Document(s):	Document(s)

Docket Text:
Submitted (ECF) Opening Brief for review. Submitted by Appellants Bay Area Clean Water Agencies, Central Valley Clean Water Association and Southern California Alliance of Publicly Owned Treatment Works. Date of service: 08/23/2019. [11408672] [19-15535] (Thorme, Melissa)

Notice will be electronically mailed to:

Chi Soo Kim, Attorney
Melissa Thorme, Attorney
Mr. John David Gunter, II, Trial Attorney
Leslie Marie Hill, Assistant U.S. Attorney
Ashley M. Boulton, Attorney
David M. Fox

The following document(s) are associated with this transaction:
Document Description: Main Document
Original Filename: 2019-08-23 Plaintiffs-Appellants' Opening Brief - FINAL (#1568924-v6).pdf
Electronic Document Stamp:
[STAMP acecfStamp_ID=1106763461 [Date=08/23/2019] [FileNumber=11408672-0]
[03819b1dff2a2faf8b86fbbdcb3e5fa51379e49ecc4d5b584f7363fdb67de389592ceacaf898ec1a7e83ddb
52c4c9e2417ab289ea351d56a3f6cbfcc9803c603]]

October 16, 2019

SUBMITTAL VIA EMAIL TO: RCave@baaqmd.gov

Mr. Robert Cave, BAAQMD
375 Beale Street, Suite 600
San Francisco, CA 94105

SUBJECT: BACWA MEMBER-SPECIFIC FEEDBACK IN RESPONSE TO BAAQMD REQUESTS DURING AUGUST 22ND WASTEWATER-SPECIFIC MEETING

Dear Mr. Cave:

The Bay Area Clean Water Agencies (BACWA) appreciates the opportunity to submit member-specific feedback in response to requests made by the Bay Area Air Quality Management District (BAAQMD) to inform the development of Regulation 13, Rules 2, 3, and 4. BACWA is a joint powers agency whose members own and operate publicly-owned wastewater treatment works (POTWs) that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay (SF Bay) Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health. We have an active committee structure with our Air Issues and Regulations (BACWA AIR) Committee charged with working cooperatively with Regulators to address air quality and climate change issues.

We also recognize and support the State in pursuing reductions in methane emissions under Senate Bill 1383 (SB 1383). To accomplish the mandated reductions, one pathway being considered under SB 1383 is the diversion of organic waste from landfills to effectively remove the source of methane (resulting from biodegradation). ***Anaerobic digestion and composting are recognized as the viable means for the diversion and processing of organic waste to successfully reduce methane emissions.***

Most POTWs (and BACWA members) in the SF Bay use anaerobic digestion for stabilization of sewage sludge into biosolids, with one member operating a compost facility and others considering compost as a potential future option. State agencies have made it clear they are looking to POTWs to use existing infrastructure to accept and recycle diverted organic waste to achieve the SB 1383 mandates. We also understand that the BAAQMD would like to see existing facilities continue to operate and maintain low methane emissions, odors, and volatile organic compounds (VOCs) given the expected increase in pre-processed (slurried) organic waste to be received by these facilities. Because the wastewater sector operates both anaerobic digestion and composting facilities within BAAQMD's nine-county jurisdiction, BACWA is actively participating in the Regulation 13 rule development.

The remainder of this comment letter consists of information requested by BAAQMD that was collected and summarized by BACWA members on POTW-specific processes to help inform the next draft of Rule 13-2.

Organic Waste and Biosolids Handling Onsite (POTWs)
BAAQMD hosted a wastewater-specific workshop August 22nd where staff asked BACWA members to provide feedback in response to two specific questions:

1. How are POTWs accepting and handling organic waste onsite?
2. How are biosolids "handled" at POTWs and how does it fit into the context of organics material handling?

In effort to answer these questions, we requested East Bay Municipal Utility District (EBMUD) summarize their experience handling organic (food) waste and biosolids in the context of organic materials handling.

In general, POTWs receive solid food waste that has been "preprocessed" in some fashion, including size reduction (grinding) and contaminant removal, from a material recovery facility. Prior to introducing the preprocessed food waste into an anaerobic digester, POTWs may choose to provide a polishing step onsite (e.g., additional contaminant removal), which is the case at EBMUD. Solid food waste is received by truck, which in the case of EBMUD is dumped into an underground storage tank and slurried by adding water to make it suitable for pumping. If the material requires additional contaminant removal, then it may undergo additional grinding and/or screening just prior to feeding the slurry to an anaerobic digester for stabilization and biogas production. Typically, the food waste is co-digested with municipal wastewater solids (i.e., primary and waste activated sludge). Following anaerobic digestion, the resulting biosolids are dewatered and hauled away for beneficial use. Other than the deposit of food waste in the receiving facility (e.g., underground storage tank at EBMUD), which is opened temporarily to receive the material, the food waste is generally contained in closed tanks and pipelines.

Per your request and for your knowledge, the following bullets provide further detail related to EBMUD's food waste and solids handling practices:

1. At an offsite solid waste transfer station, food waste is fed through a grinder to reduce particle size to make it suitable for slurrying and pumping (at EBMUD). The ground material is referred to as "preprocessed" material.
2. The preprocessed material is delivered to EBMUD by an end dump truck that tips the material into an underground storage tank that is temporarily opened while receiving it.
3. Once the dump truck is emptied, the underground storage tank is closed and treated wastewater is mixed in to create a slurry suitable for pumping.
4. The slurried material is pumped through an enclosed grinder/rock trap device and a screen as a final polishing step to remove additional contamination (such as plastics).
5. The screened slurry is then fed to a blend tank for blending with other organic feedstocks prior to digester feeding.
6. The blended material is fed to anaerobic digesters and digested for several weeks.
7. The digested material (biosolids) is pumped to centrifuges for dewatering.
8. The dewatered biosolids are stored in an enclosed hopper.
9. Dewatered biosolids are deposited into trucks for off-haul and are either land applied as a soil amendment or taken to the landfill for use as an alternative daily cover (ADC).

Exclusion of Biosolids from the Definition of Putrescible Material
As mentioned in the introduction of this letter, anaerobic digestion and composting are used to process (control the biodegradation of) sewage sludge and organic waste into a stable product (biosolids) for use as a soil amendment. Since biosolids are a stabilized product, by definition

they are not putrescible (or liable to decay) and should be excluded from the proposed definition of "putrescible material" in draft Rule 13-2. The remainder of this section further supports the recommendation and need for excluding biosolids from the definition of "putrescible material" based on the City of Santa Rosa's facility operations and actual methane and VOC emissions measured both inside and outside the storage facility.

Wastewater solids from the Laguna Treatment Plant serving the City of Santa Rosa are first pumped to anaerobic digesters. Microorganisms in the digesters break down the solids to produce biogas, which is used to power a portion of the plant's energy needs. After approximately 22 days in the digester, the resulting stabilized solids (or biosolids) are dewatered using a belt filter press. The dewatered biosolids are considered a Class B cake that can be beneficially used as a soil amendment (via land application) during the agricultural growing season.

Demand for Class B biosolids land application, however, is weather (seasonally) dependent. Land application can begin on May 1 if the last few weeks of April have been dry enough for trucks to enter the fields where the biosolids are stored and if there is no rain expected in the long-range forecast. The Sonoma County Environmental Health and Safety Department prohibits hauling biosolids and land applying them on sites prior to May 1. Typically, the spreading and incorporation of biosolids takes place in September and October each year in close coordination with seeding of the winter grain crop by the agricultural operator. Spreading earlier in the season is not preferred since land application of biosolids stimulates weed growth and would require application of herbicide to prevent it. Spreading/incorporation activities must be accomplished prior to the start of rainy season, otherwise field access is impossible. While the County allows hauling of biosolids through October, typical practice is to complete hauling of Class B cake through mid-October to avoid having any remaining unincorporated biosolids in the field in the event of early rain. This practice is strictly followed since the agricultural operator cannot operate seeding equipment on wet soil.

Because of the limitations placed on the timing of land application (described above), the City has implemented the ability to store Class B biosolids for several months at a time at the Alpha Seasonal Storage Facility (which is located on a City-owned property). The storage facility is comprised of a roofed structure of approximately 42,500 square feet covering a paved surface, divided into eight storage bins separated by six-foot push walls, with a total capacity of approximately 7,000 wet tons of Class B cake. The facility's purpose is to maximize biosolids use options by enabling storage of biosolids during wet months, thereby reducing reliance on landfilling as a disposal option. Photos of the storage facility are provided below for reference.

The proposed Rule 13-2 drafted by BAAQMD included requirements to store "putrescible material" within an enclosure that achieves an overall capture and control efficiency of 80 percent by weight for methane and VOC emissions. First, the City of Santa Rosa used hand-held meters to measure methane and VOCs in and around the storage facility to determine

compliance. ***Readings for methane both inside and outside the facility were non-detect, and readings for VOCs inside and outside were around 0.080 ppm and 0.030 ppm, respectively – well below the City's permitted limit for its High Strength Waste odor scrubber (20 ppm)***. It should be noted that these readings are strictly meant for providing context within this letter and were not collected as part of a scientific study/analysis.

As the draft regulation states, by including biosolids in the definition of putrescible material, it unnecessarily requires the City to enclose its Alpha Seasonal Storage Facility, for which the construction cost is estimated to be $2.9M (not including soft costs). Major items included in the construction cost estimate:

- Insulating the roof to minimize condensation forming on the underside. It was assumed that the existing roof panels would be removed and replaced with insulated metal panels, which represents approximately $600k in construction costs.
- A new HVAC system to control temperature and humidity inside the structure. This would trigger the need for an odor control system in addition to electrical upgrades at the site. Together this represents approximately $900k in construction costs.

BACWA (including the City of Santa Rosa) recommends revising the definition of "putrescible material" to exclude Class A and Class B biosolids.

We very much appreciate the willingness of the BAAQMD staff to work collaboratively with BACWA in the development of the Rules supporting Regulation 13. BACWA supports BAAQMD's efforts to protect the Bay Area's air quality.

We would be happy to discuss any questions regarding the information provided. Nohemy Revilla and Randy Schmidt, BACWA AIR Committee Co-Chairs, can be reached at NRevilla@sfwater.org and RSchmidt@centralsan.org, respectively.

Sincerely,

David R. Williams
BACWA Executive Director

Cc: BACWA Executive Board
Nohemy Revilla, BACWA AIR Committee Co-Chair
Randy Schmidt, BACWA AIR Committee Co-Chair
Courtney Mizutani, BACWA AIR Committee Project Manager
Sarah Deslauriers, BACWA AIR Committee Project Manager

SUGGESTIONS FOR ANNUAL MEETING FROM PARDEE

- Roving mic (one each side of room, need volunteers)
- Move Regulatory Hot Topics to the morning session (**Done)**
- Special name tags for Committee leadership (follow CASA approach, with ribbons attached to name tag designating Committee Leader, Board Member, Staff; return basket at end of meeting)
- Table stand for each committee during lunch
- Handouts at registration table
    - Name tag with lanyard and ribbon
    - 1-2 pager on committee accomplishments
    - Agenda
    - Table stand for each committee given to leaders
- Allocate time for each speaker on agenda **(Done)**
- Prior to meeting encourage committee leaders to attend
- Less time for chlorine BPA **(Done)**
- At agenda item for committee recognition, have each committee leader stand and be recognized, refer to handout for list of each committee's accomplishments for the year
- Need list of prepared questions for each of the regulatory presenters to stimulate questions from the audience

BACWA BAY AREA CLEAN WATER AGENCIES

BAY AREA CLEAN WATER AGENCIES
DRAFT ANNUAL MEETING PROGRAM
JANUARY 10, 2020

Open your browser
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For Ranking questions: use the lines to the right to arrange your answers

TIME	SUBJECT	DESCRIPTION	SPEAKER	Notes
QUESTION 0				
8:30 am - 9:00 am	Coffee and Refreshments/Check-in	(note: provide the tri-fold Op/Upgrade brochure as handout at registratrion table)		
9:00 am - 9:15 am	Welcome	Introduction and Year in Review (including business issues)	Lori Schectel, Chair	
9:15 am - 10:30 am	BAAQMD/EPA/SWRCB/RWQCB/ Priorities	Moderator	Amit Mutsuddy	
		BAAQMD APCO	Jack Broadbent (accepted)	
		EPA Region IX, NPDES Permits Section	Tomas Torres (accepted)	
		SWRCB Board Member	Tam Doduc (accepted)	
		RWQCB Executive Officer	Michael Montgomery (accepted)	
		Q&A		
10:30 am - 10:45 am	Break			
	BACWA Hot Topics	Moderator	Jackie Zipkin	
10:45 am - 11:20 am		CECs (State Panel, microplastics, PFAS)	Becky Sutton and/or other SFEI staff	
11:20 am - 11:35 am		ELAP	Jason Mitchell or Dan Jackson	
11:35 am - 11:50 am		Recycled water permit transition	Stefanie Olson or Justin Waples	
11:50 am - 11:55 am	BACWA Leadership Recognition	(scrolling screen with Committee Accomplishments)	Lori Schectel, Chair	
11:55 am - 12:25 pm	Lunch	table stands for folks to interact with committee of interest		
12:25 pm - 12:35 pm	Arleen Navarret Award presentation and BACWA Leadership Recognition	presentation of award	Amy Chastain	
12:35 pm - 12:45 pm	Institute for Sustainable Infrastructure	presentation on Envision	Justin Waples	
	BACWA Hot Topics	Moderator	Jackie Zipkin	
12:45 pm - 1:10 pm		AIR Issues/Climate Adaption	Sarah Deslauriers	
1:10 pm - 1:20 pm		Chlorine Basin Plan Amendment	Tom Hall	
1:20 pm - 1:35 pm	Nutrients - Overview	Overview of 2nd WS Permit/Governance Update	David Williams	
1:35 pm - 2:20 pm	Nutrients - Regulatory Update	Moderator	Eileen White	
		2018 Group Annual Report	Falk, HDR	

		Q & A		
		Nature Based Solutions Study	Ian Wren, SFEI	
		Regional Recycled Water Report	Kennedy, HDR	
2:20 pm - 2:50 pm	**Nutrients - Technical Update**	**Moderator**	**Eric Dunlavey**	
		Update on the Science Plan and Findings	David Senn, SFEI	
2:50 pm - 3:00 pm	**Annual Meeting Wrap-Up**		**Lori Schectel, Chair**	

DUTIES OF MODERATORS

(Note: Board Members serve as Moderators)

- Sit at panel table on stage during presentation
- During presentation develop set of possible questions
- At end of presentation, assist speaker (if needed) in fielding questions from audience
- Be prepared to intercede if a member of the audience gets too lengthy or combative with speaker
- Monitor the time and use time cards to subtly inform speaker of remaining time (time cards will be provided, 5 min, 3 min, 1 min, 0 min)
- Take notes on possible questions that could be asked
- Ask next Moderator to take over

From: Jim Day <jday@daycartermurphy.com>
Sent: Tuesday, October 8, 2019 10:07 AM
To: David Williams <dwilliams@bacwa.org>
Subject: My retirement after 12-31-19

Dave,

I will be retiring from law practice after December 31, 2019. My partner, Ralph Nevis, is well qualified and prepared to step into representing BACWA as general counsel. Ralph has worked closely with me over the years in representing government entities, including joint powers agencies such as BACWA (most notable, the West Sacramento Area Flood Control Agency, for which Ralph has done more of the work than I have). Ralph is well familiar with the Brown Act, the Joint Exercise of Powers Act, conflict of interest laws, the Public Records Act, the Political Reform Act, and other laws affecting government entities. Ralph is easy to work with, and looks for practical solutions much as I do.

I would appreciate the opportunity to introduce you to Ralph at least by Phone if you would suggest a time and date for that.

Also, one other entity which I represent (Reclamation District No. 1000) is asking that we respond to an RFQ to continue to provide general counsel services (I hope BACWA won't ask the same- RD 1000 has a new General Manager), and they have asked for references from a number of entities including a joint powers agency. I would like to be able to provide you as a reference. They are asking for a street address, and I'm afraid I only have a PO box for you. Can you give me a street address?

I look forward to hearing back from you.

Best,
Jim

James M. Day Jr.
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Direct: (916) 246-7302
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Fax: (916) 570-2525
jday@daycartermurphy.com

Arleen Navarret Leadership Award Nomination Form

Name: _____ *E-mail:* _____

Agency: _____ *Phone:* _____

What is it?

This award of $2,500 was created in honor of Arleen Navarret and her dedication to improving the health of the San Francisco Bay. Arleen spent nearly 30 years with the San Francisco Public Utilities Commission and provided leadership to BACWA and Tri-TAC boards and committees. Her combination of technical and regulatory expertise and interpersonal skills has been invaluable to BACWA. Her development of effective relationships with regulators and community-based non-profits has resulted in the development of more thoughtful and effective water quality regulations. This is a biennial award honoring emerging leaders in the BACWA community exhibiting characteristics possessed by former BACWA Chair, Arleen Navarret:

- Leadership in the workplace and wastewater community
- Commitment to environmental protection
- Mentorship of and compassion for others
- Technical expertise
- Ability to communicate effectively with a myriad of people
- Exemplary public service.

Who is eligible?

Only current employees of BACWA member agencies are eligible to receive this award.

How to apply

Applicants may nominate themselves, or be nominated by their colleagues. Applications must include:

1. Completed Nomination Form
2. Individual Narrative (in the following format)
   a. nominee name at the top of each page
   b. no more than 2 pages of double-spaced, 12 point font
   c. concise introductory paragraph describing who the individual is and why they are being nominated
   d. subsequent paragraphs that address
      i. specific work or activities of the nominee that meet the one or more of the following criteria for the award: leadership; environmental protection; mentorship; tech expertise; effective communication; public service
      ii. the specific opportunity to which the award could be applied and how it would benefit the awardee in their professional development related to one or more of the following: leadership; environmental protection; tech skills development
   e. concluding paragraph describing how this individual has or has the potential to positively impact and contribute to the wastewater community.

Deadline and Selection

Applications are due by November 12, 2019 and should be submitted by e-mail as an attachment to loneill@bacwa.org. The winner will be selected by the Award Committee and the award will be presented to the recipient at the BACWA Annual meeting on January 10, 2020.

BACWA BAY AREA CLEAN WATER AGENCIES

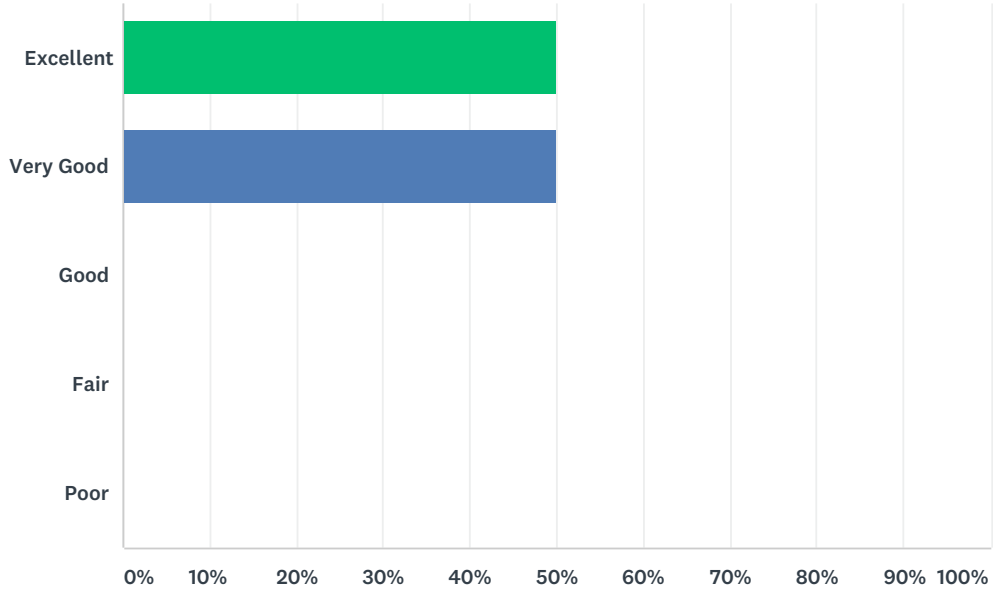
Arleen Navarret Leadership Award Nomination Form

Name: _____ *E-mail:* _____

Agency: _____ *Phone:* _____

Q1 Overall how would you rate the 2019 Pardee Seminar?

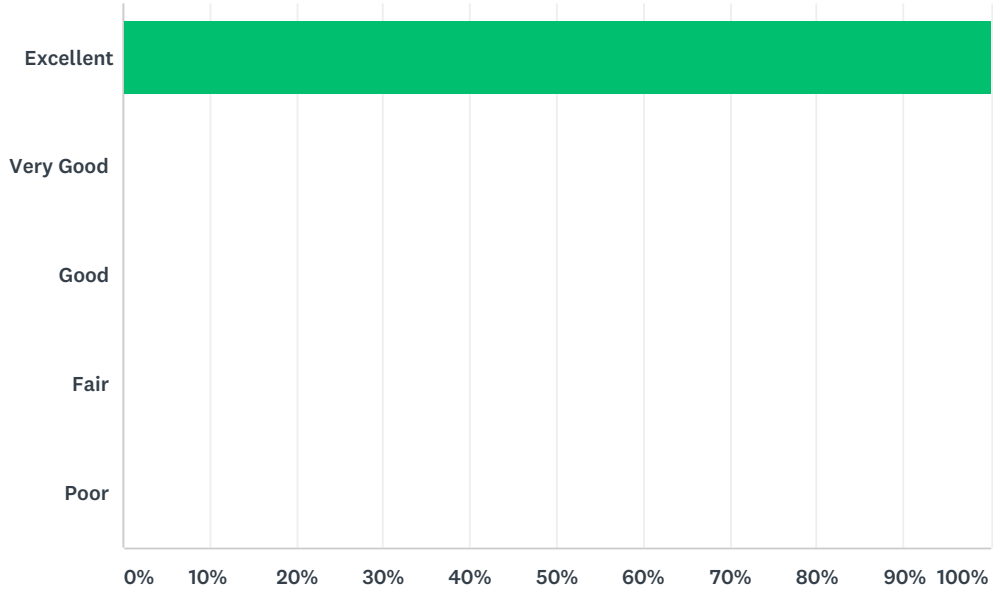
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Excellent	50.00%	4
Very Good	50.00%	4
Good	0.00%	0
Fair	0.00%	0
Poor	0.00%	0
TOTAL		8

Q2 Overall, how would you rate the Pardee Venue?

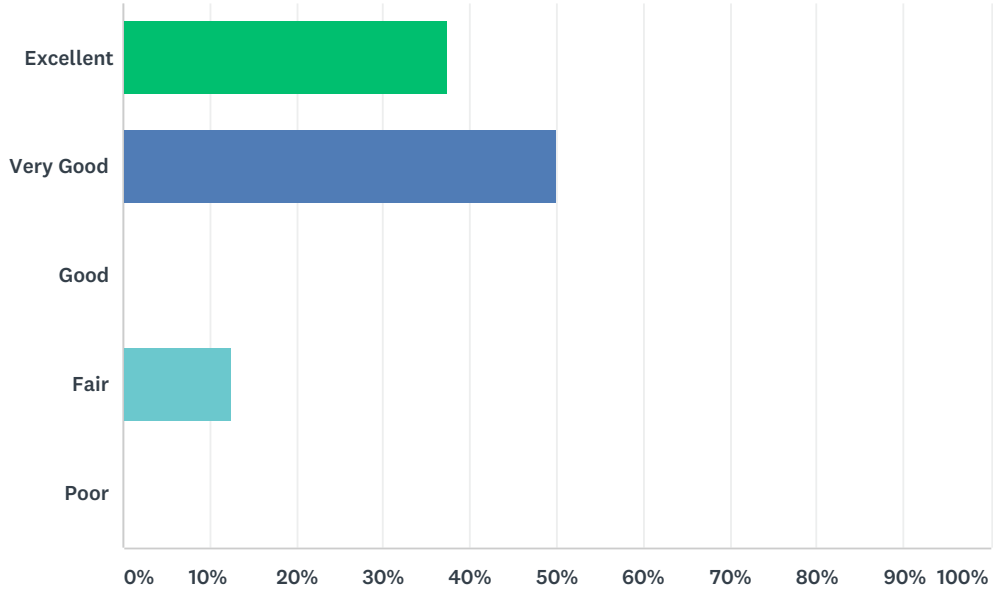
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Excellent	100.00%	8
Very Good	0.00%	0
Good	0.00%	0
Fair	0.00%	0
Poor	0.00%	0
TOTAL		8

Q3 How would you rate the caterer?

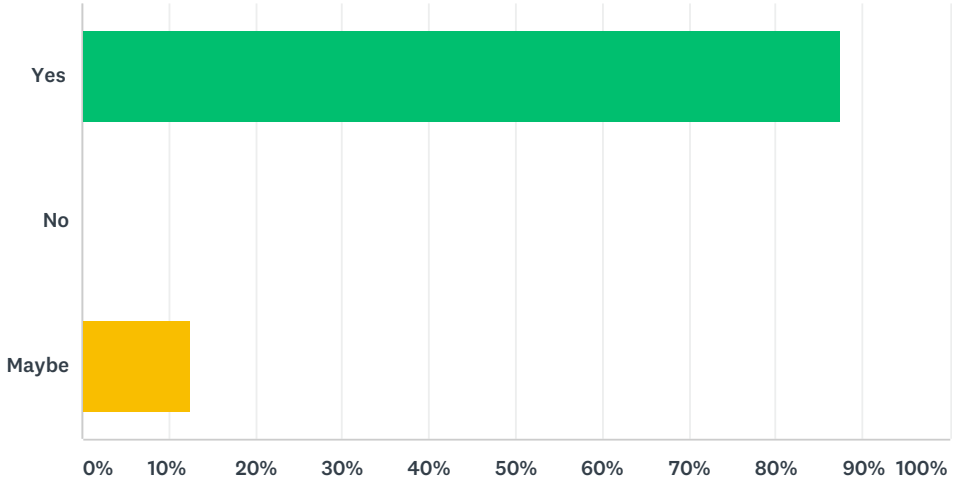
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Excellent	37.50%	3
Very Good	50.00%	4
Good	0.00%	0
Fair	12.50%	1
Poor	0.00%	0
TOTAL		8

Q4 Do you plan on attending next year?

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	87.50%	7
No	0.00%	0
Maybe	12.50%	1
TOTAL		8

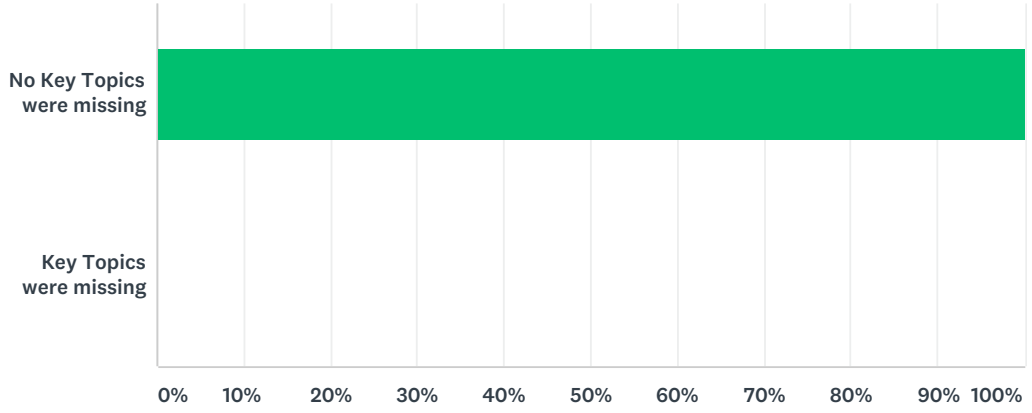
Q5 Do you have any comments regarding the length of the event?

Answered: 5 Skipped: 3

#	RESPONSES	DATE
1	The length seemed perfect.	10/15/2019 11:00 AM
2	Two days seemed appropriate	10/15/2019 9:27 AM
3	perfect length	10/14/2019 4:00 PM
4	just right	10/14/2019 9:55 AM
5	It was perfect length	10/13/2019 9:34 PM

Q6 Key Topics

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
No Key Topics were missing	100.00%	8
Key Topics were missing	0.00%	0
TOTAL		8

Q7 Was there adequate time to discuss the key items on the agenda?

Answered: 7 Skipped: 1

#	RESPONSES	DATE
1	Time was adequate for what needed to be discussed this year. More time may be needed for contentious items at future events, but difficult to plan.	10/15/2019 1:28 PM
2	Yes	10/15/2019 11:00 AM
3	Yes	10/15/2019 9:27 AM
4	Yes	10/15/2019 9:21 AM
5	yes	10/14/2019 4:00 PM
6	yes	10/14/2019 9:55 AM
7	yes	10/13/2019 9:34 PM

Q8 Other Comments

Answered: 2 Skipped: 6

#	RESPONSES	DATE
1	BACWA staff did an excellent job with planning and especially queuing up complex topics for productive conversations internally and with the Water Board.	10/15/2019 11:00 AM
2	caterer did not offer enough variety (first day lunch was all starch) and did not adhere to allergy requests that had been made.	10/14/2019 4:00 PM

Annual BACWA AIR Committee-BAAQMD Meeting Summary

Rule 11-18: Reduction of Risk from Air Toxic Emissions at Existing Facilities
Health Risk Screening & Assessments Update (Presenter: Carol Allen, BAAQMD)

Wastewater treatment plants are included in Phase II, implementation of which is expected to begin in early 2020 and take 18 months. BAAQMD will email the permit contact on file for your facility to announce the beginning of this process and request confirmation that the contact information is correct. If BAAQMD determines through preliminary calculations that your facility exceeds the cancer or non-cancer risk action level, BAAQMD will send an information request to your permit contact. The 18-month process consists of a Data Review (7 months), the Draft Health Risk Assessment (HRA) completed by Air District staff (7 months), and 4 months for review resulting in a final HRA before publishing on their website. If you do not hold a Title V permit, you can perform your own HRA.

Once the HRA has been finalized and published on the BAAQMD website, the development of the Risk Reduction Plan (RRP) begins. The RRP process is also 18 months (10 months for development, 4 months for review before finalizing it and publishing it on the Air District's website). POTWs can choose which sources to focus on to achieve facility reductions in compliance with Rule 11-18 and AB 617 (if applicable). Upon adoption of the RRP, annual progress reports must be produced during the 5-year implementation timeline. After implementation, source testing may be required to confirm reductions.

Facilities located within the at-risk AB 617 communities may be asked to accelerate implementation of their RRPs to be in compliance with both AB 617 and Rule 11-18.

BAAQMD is currently working on Phase I facilities. As of the meeting, two of the 35 Phase I facilities have HRAs complete and ready to post. Others (including refineries) have recently submitted data (early September). Additional details were discussed during the last Rule 11-18 Workgroup Meeting held September 20th, the presentation provided during that meeting is attached for your reference.

Additional information: The list of toxic air contaminants (TACs) is being expanded by the Air Resources Board (ARB), as part of the AB 2588 program updates of 2019. BAAQMD plans to follow the updates to the AB 2588 Guidance document and toxics list, including development of a sector-specific short list. In the meantime, BAAQMD will be conservative in the choice of data it uses in the HRA, relying on EPA's AP-42, California Air Toxic Emission Factors (CATEF), and collecting source test data from facilities (updating emission factors).

<u>Action Items:</u>

1. Watch for an email from your permit contact at the Air District.
2. The BAAQMD will request information/data, including orientation of emission sources, 1-hour emissions and annual emissions, site maps, emission points identified on the maps, etc., which will be used in the HRA to be performed by BAAQMD. Facilities can also provide source testing data and other supplemental emissions data to aid in producing accurate descriptions of sources and emissions. The regulation allows for 60 days to fill in the information, with the ability to request another 60 days.

Regulatory Updates to BAAQMD Methane Strategy (Presenter: Jacob Finkle, BAAQMD)

The BAAQMD staff provided updates on rulemaking efforts under Regulation 13 (Climate Pollutants), which are summarized in the following table.

Rule	Next Workshop	Board Presentation	Notes
13-1: Significant Methane Releases	TBD	TBE	Tabled indefinitely to allow BAAQMD to focus on source-specific rule development first.
13-2: Organic Waste Handling	None	Q4 2019	Focused on organic material handling, specifically Material Recovery Facilities, Transfer Facilities, and Chip & Grind Facilities.
13-3: Composting Operations	Q1 2020	Q3 2020	Draft language in development.
13-4: Sewage Treatment & Anaerobic Digestion	Q1 2020	Q3 2020	BACWA requested involvement prior to initial public workshop to provide input on draft language and the staff summary report. As staff are drafting language, they are also tracking onsite monitoring to take place in coming months "visiting as many POTWs as possible." Draft rule concepts include consideration of biogas produced/ collected, minimizing other pollutants, flare requirements, record keeping, reporting requirements, etc.
13-5: Hydrogen Plants	Q4 2019	Q1 2020	Focused on hydrogen production at petroleum refineries. Draft language to be developed.
8-34: Solid Waste Disposal (Landfills)	Q1 2020	Q3 2020	Focused on methane from landfills – BAAQMD will work to align with state and federal requirements. Research van use can be unreliable depending on all sources.

In the meantime, BAAQMD is updating their methane emissions inventory using current permit information, as well as fly-over information collected for specific sites. As the inventory is being updated, the staff revised the schedule for development of rules under Regulation 13.

Action Items:

1. BACWA to provide input during rule development for Regulation 13, in particular Rule 13-4.
2. BAAQMD will contact individual POTWs to arrange site visits.

EBMUD Flare Update/SCAQMD Rule Development (Presenter: Chris Dembiczak, EBMUD)

EBMUD presented findings from the installation of new digester gas flares at the Main WWTP and the regulatory review. In summary, the new flares have been unable to meet the permit condition set for NOx emission limits. Engineering and control system work has been done; source test data is pending as to the effectiveness of that work. It appears that high ammonia concentrations in the biogas contributes to fuel borne NOx emissions. EBMUD has an extensive resource recovery program with approximately one third of the feed to the anaerobic digesters being trucked waste. In reviewing other facilities across the country receiving additional feedstocks, the increased ammonia content of the generated biogas has resulted in an increase in their NOx emissions when combusted. This is a key finding and consideration as POTWs are considered a central solution to the organic waste diversion from landfills mandated under SB 1383.

As part of Rule 1118.1 "Control of Emissions from Non-Refinery Flares", the South Coast AQMD Board has required a technology assessment to investigate related issues when considering food waste diversion and co-digestion. There are on-going concerns about one-size fits all BACT limits and limits in the South Coast

AQMD Rule 1118.1. Co-digestion of organics (as well as the type of and conditions during anaerobic digestion) contributes ammonia to biogas. Currently, only a few facilities in the state are receiving trucked in food waste. These strict NOx limits may be incompatible with SB 1383 mandates in the near term.

New Source Review – Standard Permit Condition
(Presenters: Jason Nettleton, City of San Jose; Ryan Atterbury, BAAQMD)
BACWA presented a summary of the edited proposed standard permit conditions for anaerobic digestion and cogeneration, highlighting some operational and monitoring constraints for which we offer resolutions. BACWA acknowledges that each permit has unique characteristics but appreciates the advantages of a standardized approach to permitting. It helps facilities plan and design to meet anticipated permitted conditions and reduce burdens on engineering staff. Having an understanding of expected emission standards, monitoring requirements, and testing requirements will enable facilities to plan accordingly and reduce review time by BAAQMD staff. BAAQMD followed and provided a presentation of the key elements that make permit conditions enforceable.

Action Items:
1. BACWA to send red-lined comments of the standardized permit conditions for cogeneration engines and anaerobic digesters. BACWA will prepare comments on organic (food) waste handling next.
2. BAAQMD will include consideration of BACWA comments as the Permit Handbook is being updated.

Climate Tech Finance – BAAQMD Loan Program
(Presenter: Chad White, BAAQMD)
BAAQMD presented information about incentives for technology upgrades that reduce GHGs. This is a new incentive program to support decarbonization of industrial operations in the Bay Area. Climate Tech Finance (CTF) is intended to encourage adoption of new, carbon-lowering tech, support connections between technology vendors and adopters, and offer attractive (subsidized, competitive) financing. CTF interest rates are higher than State Revolving Fund rates. Loans are custom. Pilot projects are eligible for funding as emerging technologies.

Action Items:
1. BAAQMD will work to reach out to finance staff at public agencies to provide additional information.
2. BAAQMD asked if POTWs would be interested in a vendor fair sponsored by BAAQMD to explore possible emerging technologies.

SWRCB Co-Digestion Capacity Analysis
(Presenter: Sarah Deslauriers, Carollo Engineers/BACWA)
BACWA provided an update on the status of the SWRCB studies recently performed on the potential for co-digestion operations across the state for satisfying the waste diversion mandate under SB 1383, which is looking to wastewater treatment plants for support in meeting the mandate. Carollo provided SWRCB the final version of the grant funded Co-Digestion Capacity Analysis of CA Municipal WWTPs, and the report is expected to be released to the public by the end of 2019 (following internal reviews). The report includes estimated food waste disposal in 2025 and 2030; assessment of existing capacity without rehab/ modifications; assessment of capacity in 2025 & 2030 without and with rehab/modifications; assessment of methane emissions; investigation of opportunities and barriers at small- to medium-sized facilities; and examination of pilot/demonstration facilities that have already operated.

Action Items:

1. BACWA and BAAQMD to review the Co-Digestion Capacity Analysis when it is released to inform next steps related to facilities planning and permitting needs. Harmonizing state and BAAQMD regulations will be important to enable POTWs to respond to the mandates of both SB1383 and regional requirements.

Pollution Prevention Week Google Ads Video Campaign

Prepared for BACWA

Created by S. Groner Associates, Inc.

POLLUTION PREVENTION WEEK GOOGLE AD CAMPAIGN
Campaign Run Time: 09/16 - 09/22/2019

Report prepared by SGA on behalf of
Bay Area Clean Water Agencies (BACWA)
Report Date: 10/2/2019

S.GRONER ASSOCIATES, INC.

OVERVIEW

The following report is a summary of the results garnered through a Video Ad Campaign that was run from September 16 - September 22nd. The Video Campaign was run in an effort to raise general awareness among the residents of several counties that wet wipes clog pipes, cannot be flushed in toilets, and must be disposed of in trash cans. This campaign sought to achieve broad-based awareness by running a video produced by Central Contra Costa Central Sanitary District, a member agency of BACWA.

Between the video's date of publication (04/22/19) and the day before the Google ads campaign began (09/15/19), the video had been viewed 6,055 times. By the end of the ad campaign (09/22/19), the video had received 150,158 total views.

STRATEGY:

Several options were discussed for the format of the Pollution Prevention Week campaign, but time constraints ultimately determined the format. Because of the video's length, skippable in-stream ads, and a cost-per-view ad buy were chosen.

TARGET AUDIENCE:

The campaign targeted residents of Santa Clara County, Alameda County, Contra Costa County, San Francisco, San Mateo County, Solano County, Sonoma County, Marin County, and Napa County. Demographic targeting was broad, encompassing all genders, age groups, household income levels, and parental status.

TERMINOLOGY:

A note on the terminology used in this report:

- **"Views"** indicate the number of times people watched or engaged with the video ad.
- **"View Rate"** is a measure of the number of views the ad received divided by the number of times the ad is shown (i.e. impressions).
- An **"impression"** is counted each time the ad is shown on a search result page, or other site, on the Google Network.
- **"Average Cost Per View (CPV)"** is the average amount paid when a viewer watches 30 seconds of the video or engages with the video (whichever comes first).

Video Campaign Results

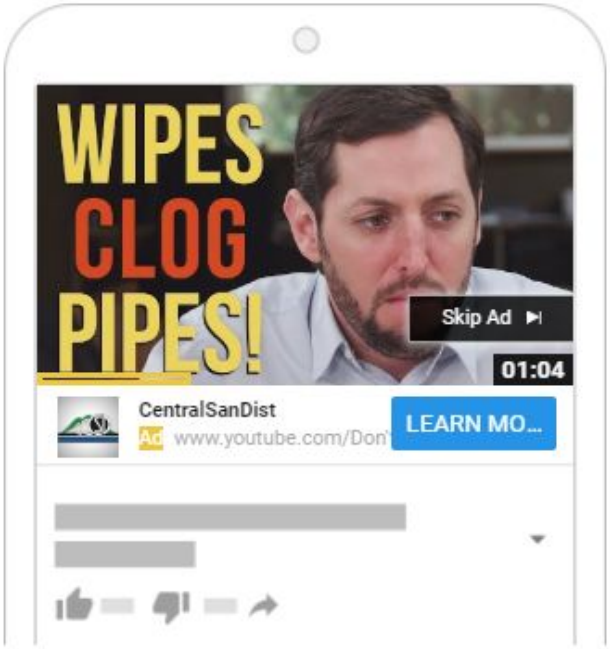


Figure 1. Screengrab of the video ad as it appears after approximately 5-seconds.

The ad campaign showed videos in a "skippable in-stream" format, meaning that after 5 seconds, viewers had the option of skipping the ad. With "cost per view" bidding, BACWA only purchased "a view" when an individual either watched at least 30 seconds of the video or interacted with the video (whichever came first). The results for the campaign are as follows:

- Total Views = 145,268
- Impressions = 384,864
- Average CPV = $0.03
- Total Cost = $3,780.74
- View Rate = 37.75%
- Audience Retention:
    - After 5 seconds, 97%
    - After 15 seconds, 50%
    - After 30 seconds, 38%
    - After 45 seconds, 31%
    - Entire video, 20% (29,053 viewers)

GEOGRAPHIC DATA

Video views were roughly proportional to county size, with more densely populated counties making up more of the share of viewers.

Table 1. Impressions, video views, view rate, and cost per view by County.

Targeted Location	Impressions	Views	View Rate	Avg. CPV
Santa Clara County	116,535	44,041	37.79%	$0.03
Alameda County	90,416	34,605	38.27%	$0.03
Contra Costa County	51,340	19,145	37.29%	$0.03
San Francisco	46,320	17,390	37.54%	$0.03
San Mateo County	26,546	9,845	37.09%	$0.03
Solano County	23,077	8,844	38.32%	$0.02
Sonoma County	19,626	7,303	37.21%	$0.03
Napa County	5,162	1,952	37.81%	$0.03

DEMOGRAPHIC DATA

The target audience was somewhat stratified by age, with a significant drop off of video views coming after the 35-44-year-old age range. The highest number of views (36,337) came from the 18-25 age range, and the lowest number (6,939) occurred with the 65+ age group. Due to limitations in the data that Google is able to collect from users, 21% of all views are from an unknown age group. There was a fairly even distribution across gender, with 67,857 views coming from men, 61,088 views coming from women, and 16,219 views coming from unknown gender. 71,250 views came from non-parents, while 32,134 came from parents, and 41,680 views came from persons of unknown parental status. In terms of household income, the top 10% held the highest proportion of views (31% or 45,418 views), while members designated as “lower 50% of household income” held the next highest determined proportion of views (17% or 25,286 views). Google was unable to determine a household income estimation for 43,502 views, or 30% of the total.

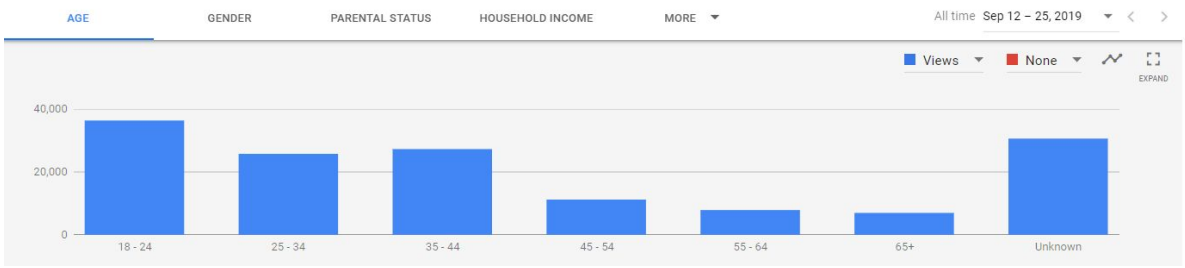


Figure 2. Views by Age.

Figure 3. Views by Gender.

Figure 4. Views by Parental Status.

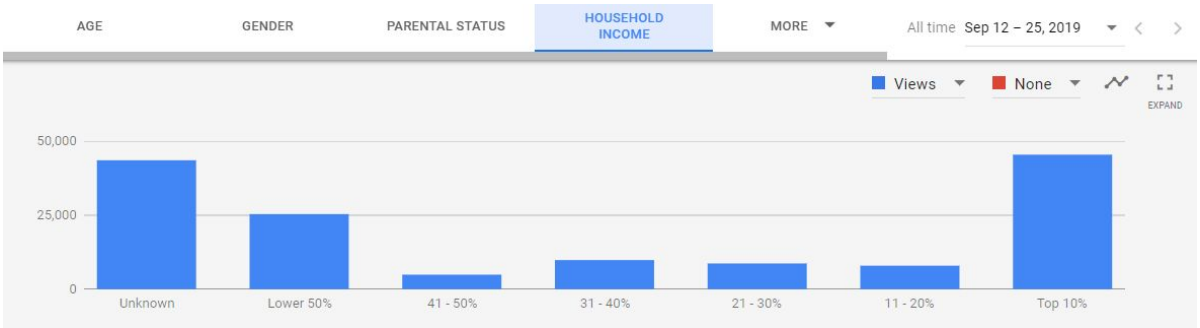


Figure 5. Views by Household Income.

SUMMARY AND CONSIDERATIONS

Video campaigns are an effective way of reaching large audiences because they enable the passive intake of information. Videos that contain humor (like the one that was advertised in this campaign) generally perform better than those that do not, a reality that is illustrated in the exceptionally low cost of this campaign at 3 cents per video view.

Early message delivery ensures that each view accurately represents an individual receiving the information that the ad intended to impart. Message delivery for this campaign (i.e. the line, “Wipes clog pipes, so don’t flush them”) did not occur until 52 seconds, at which point 29% of the people counted as “views” were still watching. This delayed message delivery was counteracted through a URL and title that were designed to communicate the video’s message, but for future video campaigns, we recommend considering where the punchline is located in the video and prioritizing content in which the message is delivered within the first 30 seconds.

Laboratory committee meeting on: August 13 and October 8, 2019
Executive Board Meeting Date: October 13, 2019
Committee Chair : Jason Mitchell

Committee Request for Board Action: none

August 13 - 14 attendees representing 12 member agencies
October 8 – 17 attendees representing 14 member agencies

Toxicity
At the August meeting, Cameron Irvine of RBI, Inc. gave an overview of whole effluent toxicity testing, as well as how to interpret test results, how to conduct a TRE, and the implications of the State's proposed Toxicity Provisions.

ELAP Regulations
Bill Ray, of William Ray Consulting, attended the October meeting to give a presentation on the shortfalls of the State's proposed TNI approach to accreditation standards based on 3rd draft of regulations, and what labs can do now to prepare:
• Sections are in conflict with; or attempt to amend or modify statute
• The matrix portion of the Field of Accreditation is not defined and there is no relationship established between Field of Accreditation and Field of Performance Testing.
• The temporary dual program is not worded correctly
What labs should do now – start with analytical SOPs, then prepare procedures on sample collection and receipt, training, limits of detection and quantitation, etc. Prepare Quality Assurance Manual and set up document control system.

ELAP has indicated that it will not pursue the California QMS developed by Coalition of Accredited Laboratories. The group working on the California QMS plans to take it directly to the State Water Board.

Audits
There was a discussion about the field of testing (FoT) that get attention from auditors. At one member agency audit, the auditor recommended that they drop certification for methods that are not performed by then lab. There was a discussion in committee that many laboratories would prefer to keep their certification for methods due to the difficulties in getting recertified.

After another agency's audit, the agency noted that the auditor did not make any recommendations on how to follow up with their findings. ELAP sees itself as an enforcement, rather than a guidance agency.

CEUs
The committee will begin offering contact credits for committee attendance.

Microplastics
The San Francisco Estuary Institute and 5 Gyres are the lead scientific bodies investigating microplastic contamination in the Bay. They are collaborating with several other scientific and academic institutions in furthering the science on microplastics, and held a Microplastics Symposium on October 2. The morning session featured a review of the science, and the afternoon included a discussion of policy recommendations focusing on source control. To assist our members with communication with the public and governing boards about microplastics, BACWA developed a Microplastics Fact Sheet presenting key information about POTWs' role in our understanding of microplastics in the environment.

Next meeting: December 10, 2019 – holiday potluck

Permits Committee Meetings on: 8/13/19 and 10/8/19
Executive Board Meeting Date: 10/18/19
Committee Chair: Samantha Engelage

Committee Request for Board Action: Develop comment letter on Sunnyvale Tentative Order receiving water monitoring requirements.

10/8 meeting - 30 attendees (including 4 on phone), representing 19 member agencies.
8/13 meeting - 28 attendees (including 5 on phone), representing 17 member agencies.

Nutrients

a. Group Annual Reporting (GAR) – Both permits committee meetings hosted discussions, led by HDR, about the new reporting requirements of the 2nd Watershed Permit. At the October meeting, HDR gave a review of the format for the February 2020 Group Annual Report. See presentation. There was a discussion about how to capture TIN loads from waste-to-energy or biosolids receiving facilities to properly reflect the load reductions taking place within the plant. The group agreed these would be dealt with on a case-by-case basis and attached to the GAR as appendices.
b. Nature Based Solutions Study – The study required by the Watershed Permit is being conducted by SFEI and overseen by a group of BACWA representatives from the different subembayments. Ian Wren has requested shape files from participating agencies to identify jurisdictions of potential projects.

Upcoming Permits

December – *Benicia* – Benicia was given 10:1 dilution credit to convert the new enterococcus objectives to effluent limits.
Delta Diablo – The Administrative Draft (AD) includes the RO concentrate treatment they will be providing for the City of Antioch's planned brackish groundwater treatment project. They have also been given 10:1 dilution credit to convert the new enterococcus objectives to effluent limits.
Sunnyvale – They are reviewing the AD, which has chronic toxicity limits, as well as triggers, for accelerated monitoring. The required monitoring frequency has decreased from semi-monthly to quarterly. They will get 1:4 dilution credit for chronic toxicity. The AD requires receiving water monitoring for unionized ammonia even though they don't have reasonable potential for that constituent.
San Jose – The AD was received in September and the City of San Jose has sent in comments to the Water Board. Their new chronic toxicity species is fathead minnow, which was selected since it exhibited a slightly higher percent effect compared to *Ceriodaphni dubia.* Like Sunnyvale, they are getting chronic toxicity limits (dilution 3:1) and have receiving water monitoring requirements – monthly for 12 months then quarterly thereafter. Reasonable potential for chronic toxicity was due to a spike that a TIE indicated was due to a polar organic compound that was found in the control and all samples. Theirs is the first permit to incorporate the new State Water Board requirements for recycled water reporting.

Chlorine Residual Basin Plan Amendment

The Regional Water Board has agreed to the edits to the Basin Plan Tables 3-3, 3-4, and 4-2, and has a mostly-complete Staff Report to support the Basin Plan Amendment. The proposed Basin Plan chlorine objectives will be based on EPA criteria, and the 0.0 mg/L instantaneous maximum limit will be removed from Table 4.2. They have agreed to remove oil and grease as POTW monitoring parameters. There is a tentative agreement to not include an ML/RL for chlorine in the Basin Plan, so the amendment can move forward in the absence of an agreement on that issue. The Regional Water Board would prefer an RL of 0.05 mg/L whereas the POTW community feels that 0.1 mg/L is more realistic.

Bacterial Objectives

Regional Water Board staff attended the August Permits Committee meeting and described a potential approach to implementing the State Water Board's new bacterial objectives into permits. Since coliform limits associated with REC-1 will be removed from the Basin Plan, the coliform limits in Table 3-1 will need to be implemented to protect SHELL. They are considering finding that SHELL does not apply to deep water dischargers since there is not shellfish habitat within their mixing zones. The three shallow discharger agencies with SHELL designated by their outfalls already have the fecal coliform limits from Table 3-1 implemented, so they would not see a change in their permits. No other agency would retain coliform limits in their permit.

Toxicity Provisions Update

The State Water Board released updated toxicity provisions on July 25, 2019. The prior draft Toxicity Provisions language may have allowed previous species sensitivity screening results to be used if they had followed EPA methods and been analyzed via the TST. The draft Toxicity Provisions screening requirements, Section IV.B.2.a.iii, call for using three species over four rounds of tests, throughout a year, whereas, most SF Bay Region POTWs have conducted screening using three rounds of tests during a year. If the Toxicity Provisions are adopted as proposed, the RMP will lose the funding associated with agencies paying to avoid sensitive species screening via the

Alternative Monitoring Requirements. Other ongoing issues are: how to establish Reasonable Potential and limits; whether *Ceriodaphnia dubia* should be used as a compliance test; and the MMEL test schedule. At an October 3 State Water Board hearing, Board members directed their staff to propose alternatives to address stakeholder concerns. The adoption is now expected in early 2020, rather than December 2019 as previously proposed.

Microplastics Symposium Debrief

The San Francisco Estuary Institute and 5 Gyres are the lead scientific bodies investigating microplastic contamination in the Bay. They are collaborating with several other scientific and academic institutions in furthering the science on microplastics, and held a **Microplastics Symposium** on October 2. The morning session featured a review of the science, and the afternoon included a discussion of policy recommendations focusing on source control. To assist our members with communication with the public and governing boards about microplastics, BACWA developed a **Microplastics Fact Sheet** presenting key information about POTWs' role in our understanding of microplastics in the environment.

CECs

a. **RMP CECs data gathering -** The State Water Board is kicking off the next round of the scientific panel on the effects of CECs in aquatic ecosystems. The RMP has been tasked with gathering existing CECs data and interviewing stakeholders as to their data needs, and preferences for the scope of this effort. BACWA will respond to their interview questions in writing so that the permits committee and BACWA Board have the opportunity to discuss our responses.
b. **PFAS –** Discussions with the State Water Board on PFAS monitoring requirements are ongoing. CASA has produced a PFAS Fact Sheet to familiarize its members with the issues.

Announcements

a. Arleen Navarret Award nominations
b. RMP Annual Meeting 10/10 – waitlist or webcast
c. BACWA Annual Members meeting 1/10/20
d. Lorrie O'Neill new BACWA AED
e. BACWA member new section in Bulletin – contact Lorien

Next BACWA Permits Committee Meeting: TBD – Holiday potluck.

Recycled Water Committee –
Report to BACWA Board

Recycled Water Committee Meeting on: 9/17/19
Executive Board Meeting Date: 10/18/19
Committee Chair: Stefanie Olson, Justin Waples

Committee Request for Board Action: None

Detailed notes from meetings are posted online.
24 attendees (including 9 on phone) representing 9 member agencies

Recycled Water Permit Transition
The Regional Water Board has finalized an approach to implement the transition from 96-011 to the State General Order, which will take place in two rounds – the first for agencies with post-2001 Engineering Reports, and the second for projects with older Engineering Reports. Regional Water Board files indicate that the Sewerage Agency of Southern Marin Recycled Water Program and the Livermore Recycled Water Program's Notices of Intent for enrollment under Order No. 96-011 were submitted prior to January 2, 2001. An updated Title 22 Engineering Report will need to be submitted to the Regional Water Board and the Division of Drinking Water for review. They recommend submitting the revised report at least a year prior to the three-year transition deadline of April 8, 2022.

The Regional Water Board plans on enrolling the remaining permittees prior to the one-year enrollment deadline of April 8, 2020, via Notice of Applicability letter(s). Out of the remaining permittees, the Regional Water Board has paper copies only of the Notice of Intent for enrollment under Order No. 96-011 for the permittees listed below. They can scan their paper files but if electronic versions of the Title 22 Engineering Report and Notice of Intent are readily available, it would be helpful if they were sent to Melissa.Gunter@waterboards.ca.gov.

1. American Canyon Water Recycling Program
2. North San Mateo County Sanitation District Water Recycling Program
3. Silicon Valley Clean Water
4. Yountville Water Recycling

WateReuse California Action Plan
WateReuse California has developed a 2019 Action Plan to develop a strategy to advance water reuse in California over the next30 years to help address the state's greatest water challenges as part of a comprehensive water resilience portfolio. The strategy focuses on identifying water that can be recycled, and identifying regulatory and funding solutions to implement recycled water projects.

Recycled Water Evaluation for Nutrient Watershed Permit
Mike Falk, HDR, attended the meeting to give an update on the Recycled Water Evaluation that is required by the 2nd nutrient watershed permit. He gave a summary of the scoping and evaluation plan that is due December 1. There was a question about how agencies with zero discharge requirements during summer months would be treated. There was also a discussion about how to characterize the level of certainty in future projects. The team will put together an information request that will be distributed to the permittees in the new year.

Governor's Water Resilience Portfolio Initiative
The portfolio is intended to integrate different elements of the State's water infrastructure risk with a focus on sea level rise. The State Water Board is expecting to have a report drafted by the end of the year. They are mostly repackaging what's already been done rather than generating new material or analysis. State Water Board has asked region Boards to provide recommendations. There was discussion about streamlining permitting pathways. BACWA developed a comment letter based on Jackie Zipkin's talking points on behalf of BACWA at the listening session on September 11.

Next Meeting – Tuesday, November 19, 2019, 10:30 am to 12:30 pm, EBMUD Small Training Room

Executive Director's August 2019 Report

NUTRIENTS:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:
-Coordinated with the NMS Science Manager on presentations, meetings, and key issues on nutrients.
-Attended the NMS Planning Subcommittee Meeting and prepare minutes of the meeting.
-Participated in a conference call of the NBS CMG on the preparation of the Scoping and Evaluation Plan required by the WS Permit.
-Worked with the NMS Planning Subcommittee to address an issue regarding publication of a paper by a former staff member.
-Coordinated with HDR consultant team on conducting the kickoff meeting for the Regional Recycled Water Report required under the 2nd Watershed Permit.
-Coordinated with HDR in planning for the next Group Annual Report

BACWA BOARD MEETING AND CONFERENCES:

-Worked with staff in preparing for the August Board Meeting.
-Conducted the monthly agenda review with the Chair of BACWA
-Held the monthly Board meeting for August
-Continued to track all action items to completion.

ASC/SFEI:

-As the Chair of the Governance Committee, coordinated with the SFEI Executive Director on committee activities.

COLLECTION SYSTEM COMMITTEE:

-Coordinated with the RPM on planning for the next Collection System Committee meeting
-Coordinated with BACWA staff on the collaborative effort amongst CASA, SCAP and BACWA on continuing to inform the SWRCB on issues with the proposed SSS WRD.

FINANCE:

-Reviewed the monthly BACWA financial reports with the RPM.
-Worked with the new AED to prepare the invoicing spreadsheet for FY 20.
-Coordinated with the consultant on the internal audit report

PERMIT COMMITTEE:

-Coordinated with the RPM for items to agendize for the next Permit Committee meeting.
-Attended the bi-monthly meeting of the Permit Committee
-Coordinated with partners in the SCAP lawsuit on challenging the validity of use on the TST in permits
-Participated in discussions with CASA, SCAP and the SWRCB on the upcoming PFAS monitoring program

BAPPG COMMITTEE:

-Coordinated with the RPM on the next steps for preparation of the CEC White Paper.
-Worked with the RPM and SFEI on BACWA's participation in the ethoxylated surfactants study and the opportunity to use this emerging contaminant as a case study for future sampling efforts by BACWA.

COLLABORATIONS:

-Coordinated with CASA Regulatory Program Manager and Executive Director on regulatory issues of mutual concern.
-Continued serving as contract administrator for a research effort with UC Merced.
-Participated in conference call with Valley Water discussing their pilot projects researching treatment processes for RO concentrate.
-Coordinated with the EO of the Water Board on interest in the BAAQMD program for funding GHG reduction efforts.

WOT:

-Worked with the Executive Committee to plan the direction of the BACWWE program.
-Set up and participated in the Executive Committee conference call and prepared the meeting summary

BABC:

-Attended the Steering Committee meeting prepared the meeting summary

BACC:

-Coordinated with DSRSD on the transfer of the Bay Area Chemical Consortium activities to BACWA.

MANAGER'S ROUNDTABLE

-Planned for and sent meeting notices for the October quarterly Bay Area Manager's Roundtable Meeting.

ADMINISTRATION:

-Worked with the BACWA Chair to plan for the recruitment for the new AED.
-Planned for and conducted the monthly BACWA staff meeting to prepare for the Board Meeting and to coordinate and prioritize activities, plus held a special staff meeting to help orient the new AED
-Assumed duties in the absence of the Assistant Executive Director
-Coordinated with EBMUD accounting staff to continue processing of invoices in the absence of the AED.
-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.
-Coordinated with the RPM to plan activities and review duties, schedules, and priorities.
-Developed and responded to numerous emails and phone calls as part of the conduct of BACWA business on a day-to-day basis.

MISCELLANEOUS MEETINGS/CALLS:

-BACWA Chair and Committee Chairs on items that arose during the month
-Water Board staff on coordinating the nutrient activities
-Other miscellaneous calls and inquiries regarding BACWA activities
-Participated in coordination calls with the HDR project manager on future work under the 2nd Watershed Permit.
-Responded to Board members requests for information

Executive Director's September 2019 Report

NUTRIENTS:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:
-Coordinated with the NMS Science Manager on presentations, meetings, and key issues on nutrients.
-Participated in a conference call of the NBS CMG on the preparation of the Scoping and Evaluation Plan required by the WS Permit.
-Met with the NMS Planning Subcommittee to discuss the possibility of extending the WS Permit beyond five years.
-Participated in a conference call to discuss the n ext steps in the development of the Assessment Framework
-Coordinated with HDR consultant team on the Scoping and Evaluation Plan for the Regional Recycled Water Report required under the 2nd Watershed Permit.
-Coordinated with HDR in planning for the next Group Annual Report

BACWA BOARD MEETING AND CONFERENCES:

-Worked with staff in preparing for the September Pardee Technical Seminar.
-Conducted the monthly agenda review with the Chair of BACWA
-Held the Annual Pardee Technical Seminar
-Continued to track all action items to completion.

ASC/SFEI:

-As the Chair of the Governance Committee, coordinated with the SFEI Executive Director on committee activities.

COLLECTION SYSTEM COMMITTEE:

-Coordinated with the RPM on planning for the next Collection System Committee meeting
-Coordinated with BACWA staff on the collaborative effort amongst CASA, SCAP and BACWA on continuing to inform the SWRCB on issues with the proposed SSS WRD.

FINANCE:

-Reviewed the monthly BACWA financial reports with the RPM.
-Worked with the AED/EBMUD to send out the Principal's invoices for FY 20.
-Coordinated with the consultant on the internal audit report

PERMIT COMMITTEE:

-Coordinated with the RPM for items to agendize for the next Permit Committee meeting.
-Coordinated with partners in the SCAP lawsuit on challenging the validity of use on the TST in permits
-Coordinated with CASA and SCAP on commenting on the upcoming PFAS monitoring program
-Coordinated with the consultant on completing the chlorine residual Basin Plan Amendment (BPA)
-Discussed options with San Jose for establishing a Reporting Limit for the BPA.

-Met with the Water Board staff to discuss how best to set a Reporting Limit for the BPA and approach to the meeting with the SWRCB staff on sensitive species testing

AIR COMMITTEE:

-Planned for and held the annual coordination meeting with BAAQMD staff.

BAPPG COMMITTEE:

-Coordinated with the RPM on the next steps for preparation of the CEC White Paper.

COLLABORATIONS:

-Coordinated with CASA Regulatory Program Manager and Executive Director on regulatory issues of mutual concern.
-Continued serving as contract administrator for a research effort with UC Merced.

WOT:

-Worked with the Executive Committee to plan the direction of the BACWWE program.

BACC:

-Coordinated with DSRSD on the transfer of the Bay Area Chemical Consortium activities to BACWA and attended the annual wrap-up meeting for FY 19 held for the participants in the BACC.

MANAGER'S ROUNDTABLE

-Planned for the October quarterly Bay Area Manager's Roundtable Meeting.

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.
-Coordinated with the RPM to plan activities and review duties, schedules, and priorities.
-Developed and responded to numerous emails and phone calls as part of the conduct of BACWA business on a day-to-day basis.

MISCELLANEOUS MEETINGS/CALLS:

-BACWA Chair and Committee Chairs on items that arose during the month
-Water Board staff on coordinating the nutrient activities
-Other miscellaneous calls and inquiries regarding BACWA activities
-Participated in coordination calls with the consultants working on the reports required under the 2nd Watershed Permit.
-Responded to Board members requests for information

Regulatory Program Manager's Report to the Board

August 2019

NUTRIENTS: Participated in Recycled Water Evaluation kickoff call. Worked with member agencies to update Points of Contact for the project.

BACWA BULLETIN: Drafted and posted August Bulletin. Drafted September Bulletin.

COLLABORATIONS: Discussed support for RO concentrate management project grant application with Valley Water. Discussed ReNUWIt One Water Representation, and BACWA support for anaerobic digestion grant application. Recruited TRC representatives.

CECs: Participated in CASA and State Water Board calls on PFAS strategy. Worked with BAPPG on microplastics Fact Sheet.

TOXICITY: Reviewed updated July 2019 Toxicity Provisions. Developed summary of changes from October 2018 verison for Executive Board meeting. Participated in CASA call on strategy for State Water Board workshop on 8/28 and participated in Workshop.

CHLORINE RESIDUAL: Worked with member agencies to finalize enterococcus sampling locations. Coordinated with SFEI, sampling team, and analytical lab to successfully carry out Enterococcus sampling. Discussed with RWB staff how SHELL objectives may be implemented and whether additional coliform background sampling is needed.

COMMITTEE SUPPORT:
BABC – Developed PM contracts. Planned September meeting.
BAPPG – Attended meeting, reviewed and distributed pesticide ESA risk comment letter.
Collection Systems – Drafted board report, recruited speakers for future meetings.
Lab Committee – Assisted in drafting agenda and attended meeting.
O&M Infoshare – Drafted Board Report, planned October meeting.
Permits Committee – Drafted agenda and attended meeting.
Executive Board – Prepared for meeting, posted agenda, assembled handout and attended meeting. Drafted and posted meeting minutes, and drafted action items. Drafted summary of July18 meeting with Regional Water Board.

ADMINISTRATION/STAFF MEETING – Met with BACWA staff to plan Executive Board meeting, and discuss BACWA operations. Managed committee Google Groups. Posted agendas, packet, and minutes on website. Managed invitations to Pardee and worked with caterer and venue. Worked with ED on invoicing and other accounting management. Participated in interviews and selection of AED candidates. Participated in meeting to onboard new AED. Worked with CWEA on administration to begin offering CEUs for some committee participation.

MEETINGS ATTENDED:
Staff meeting (8/5), BAPPG (8/7), AED Interviews (8/7), Recycled Water Evaluation kickoff call (8/8), PFAS call (8/12), Lab Committee (8/13), Permits Committee (8/13), Executive Board (8/16), Staff meeting for new AED (8/26), PFAS Call with CASA (8/27), Toxicity call with CASA (8/27), Toxicity Workshop (8/28).

Regulatory Program Manager's Report to the Board

September 2019

NUTRIENTS: Participated in NBS CMG call. Reviewed draft Recycled Water Evaluation Scoping and Evaluation Plan.

BACWA BULLETIN: Drafted and posted September Bulletin.

COLLABORATIONS: Developed letters of support for Bureau of Reclamation Grant applications by ReNUWIt and Valley Water. Developed costs for proposed recycled water and horizontal levee projects as requested by Water Board. Called into Water Quality monitoring Coalition meeting. Participated in CASA RWG call.

CECs: Worked to finalize BACWA microplastics Fact Sheet. Reviewed and commented on CASA letter State Water Board to recommend PFAS monitoring strategy.

TOXICITY: Discussed strategy for the toxicity workshop with CASA. Worked with Regional Water Board to develop sensitive species screening talking points. Prepared for meeting with State Water Board staff.

CHLORINE RESIDUAL: Worked with consultant to develop strategy for RL/ML, and participated in meeting with Regional Water Board staff. Discussed strategy on RL/ML with San Jose.

COMMITTEE SUPPORT:
AIR – Prepared for and attended joint meeting with BAAQMD staff.
BABC – Developed doodle for meeting planning.
BAPPG – Called into Steering Committee meeting. Reviewed and submitted zinc salts letter to EPA.
Collection Systems – Drafted board report, recruited speakers for future meetings.
Permits Committee – Communicated with members regarding DNR coding for watershed permit reporting.
Recycled Water – Participated in meeting and followed up on action items. Drafted comment letter on Governor's Resilience Portfolio initiative.
Executive Board – Worked to post agenda for special Executive Board meeting. Updated and posted Regulatory Issues Summary.

ADMINISTRATION/STAFF MEETING – Met with BACWA staff to plan Pardee Technical Seminar, and discuss BACWA operations. Managed committee Google Groups. Managed invitations to Pardee and worked with caterer and venue. Worked with AED to provide training on BACWA operations. Began to draft FY19 BACWA Annual Report.

MEETINGS ATTENDED:
Water Quality Monitoring Coalition Webcast (9/5), Annual joint meeting with BAAQMD staff (9/9), BAPPG Steering Committee (9/10), Staff meeting (9/11), Strategy meeting on Chlorine Residual BPA with RWB staff (9/12), Recycled Water Committee (9/17), CASA RWG call (9/19), Chlorine RL strategy call with San Jose (9/20), Sacramento Water Resilience listening session webcast (9/23), Pardee Technical Seminar (9/26-27).

From: Regulatory <regulatory-bounces@lists.casaweb.org> **On Behalf Of** Jared Voskuhl via Regulatory
Sent: Friday, September 27, 2019 10:35 AM
To: regulatory@lists.casaweb.org
Cc: Jared Voskuhl <JVoskuhl@casaweb.org>
Subject: [Regulatory] CASA RWG September Updates

Good afternoon,

Due to the overwhelmingly positive response to our August regulatory update message, we wanted to reach out and provide updates on different items pending over the next few weeks.

Please reach out if you have any questions about this information. We hope to see you at our in-person Regulatory Workgroup meeting next month hosted by Orange County Sanitation District on October 17 from 11:30 AM – 2:00 PM.

Regards,
The CASA RWG Team

Water

Toxicity
On Thursday, October 3, 2019, the State Water Board (SWB) will hold a workshop on the draft toxicity provisions. The revised provisions were released on July 25, and they're available, here, along with the staff report, here. Materials from their public meetings are here: 1st workshop, 2nd workshop, and Stakeholders Workshop. An additional option for addressing our concerns with the *cerio* reproduction test was developed as part of the stakeholders workshop, and a description of it is available here. CASA will be testifying at the October 3 workshop. If you have questions about these developments and CASA's position, please reach out to Adam Link.

PFAS
Yesterday, CASA submitted its letter to State Water Board staff regarding Phase 3 of its investigation. A copy of the letter is available here. Additionally, CASA's PFAS fact sheet is almost ready, and we will send it out as soon as it is finalized. Last, there is a forthcoming RFP for biosolids, Project # 5042, under the legacy WE&RF Subscriber Priority Program, and there are several RFP's through the US EPA Star Grant Program.

ELAP
Given ELAP's annual October report to the SWB, it is anticipated this year's report could be at the October 15 SWB meeting. Please reach out to Steve Jepsen and Amber Baylor to coordinate messaging and coalition building to ensure SWB members hear from the regulated community about the next draft of regulations.

Microplastics
The San Francisco Estuary Institute and 5-Gryes are co-hosting an all-day microplastics seminar on October 2 at UC Berkeley, to coincide with the release of their newest report on microplastic pollution in the Bay. Speakers include CalEPA Secretary Jared Blumenfeld and Ocean Protection Council Executive Director Mark Gold. You may register to attend, here. Please reach out to Jared Voskuhl, who'll be attending, if you are interested in take-aways.

Biostimulatory Objectives/Biointegrity Program
The white paper being drafted and supported by CASQA and CASA is nearing finalization, and you may expect to see it later this fall. It provides policy options for the State pertaining to the proposed statewide biostimulatory objectives and biointegrity program for inland surface waters, enclosed bays, and estuaries of California, and its purpose is for having unified stakeholder input from the stormwater and wastewater sectors to communicate to regulators.

Exfiltration
On Thursday, October 3, 2019, there will be a panel presentation on homelessness to the Region 3 Central Coast Regional Water Quality Control Board.

SSS WDR
On October 7, CASA is hosting a call from 10:30 AM – 12 PM to continue our dialogue on the proposed SSS WDR changes which we began during our last Collections Workgroup meeting. If interested, please contact Jared Voskuhl for details and to participate.

US EPA Updates
The US EPA has released its National Water Reuse Action Plan, which is available here. CASA will be reaching out to national partners and CA WateReuse to see if there are opportunities for joint comments. Additionally, on August 6, US EPA rescinded all draft guidance documents over two years old. You can read the formal letter announcing it here, and the list with the rescinded guidance documents is here.

Land

SB 1383
We expect a new version of draft regulatory language next week (or possibly the second week of October). It will be followed by a 15-day public comment period. Many, but not all, of our issues have been addressed. Our comment letter on the last draft can be accessed here, and if you have any questions, please reach out to Greg Kester.

AB 901
The third quarter of 2019 closes on Monday, and it represents the first quarter for which biosolids reporting under AB 901 is required. Reports will be due no later than November 30 to the Recycling and Disposal Reporting System (RDRS) through CalRecycle. Questions can be addressed to Greg Kester.

Biosolids Fire Reclamation Project
The demonstration project to quantify the benefits of biosolids in reclaiming fire ravaged land has been initiated at Las Virgenes Municipal Water District (LVMWD) in Calabasas. Harry Allen (USEPA Region 9) and David Crohn (UC Riverside) are the Principal Investigators with tremendous assistance from Veronica Hurtado at LVMWD. The project will evaluate Class B cake and EQ biosolids compost from LVMWD and heat dried pellets from the City of Corona against a control site to measure water quality, erosion control, vegetative growth and diversity, and soil quality. Synagro provided transport of the heat dried pellets, and the City of Los Angeles is providing analytical assistance. Many CASA members also have assisted with financial contributions.

Low Carbon Fuel Standard update

We continue to work with the California Air Resources Board (CARB) to develop a guidance document to gain credit for co-digestion of diverted organic waste when producing a transportation fuel from the resultant biogas. CARB recognizes the value of co-digestion and is working to assign value for it through the LCFS program.

Jared Voskuhl
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