BACWA
BAY AREA
CLEAN WATER
AGENCIES

Executive Board Meeting
AGENDA
Fri, December 18, 2020 9:00 AM - 2:00 PM (PDT)

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

	Agenda Item	Time	Pages
	ROLL CALL, INTRODUCTIONS, AND TELECONFERENCE ETIQUETTE	**9:00 AM**	
	PUBLIC COMMENT Guidelines	**9:03 AM**	
	CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER	**9:04 AM**	
	CONSENT CALENDAR	**9:05 AM**	
1	November 20, 2020 BACWA Executive Board Meeting Minutes		**3-9**
2	November 30, 2020 BACWA Special Board Meeting Minutes		**10-12**
3	December 3 NST Meeting Minutes		**13-14**
4	October 2020 Treasurer's Reports		**15-24**
	APPROVALS AND AUTHORIZATIONS	**9:12 AM**	
5	Approval: BACWA 2020 Strategic Plan		**25-32**
6	Approval: Website Policy		**33-34**
	POLICY/STRATEGIC	**9:30 AM**	
7	Discussion: Nutrients		
	a. Regulatory		
	i. Survey on Nutrient Planning and Implementation		
	ii. Preview of 2021 Group Annual Report		
	iii. WEFTEC Abstract		35-41
	b. Technical Work		
	i. Consultant selection for NMS technical Reviewer		
	c. Governance Structure		
	i. December 2 PSC Meeting Notes		**42-44**
	ii. December 17 meeting to discuss nutrient BPA and permitting debrief		
8	Discussion: Use of PFAS data by UC Davis as matching support for EPA proposals		**45**
	BREAK (5min) **10:30 AM**		
9	Informational: 2018 Biosolids Trends Report		**46-79**
10	Informational: 2020 Biosolids Report to Solano County		**80-90**
11	Discussion: Debrief from 12/7 meeting with BAAQMD Managers		**91-100**
12	Informational: Toxicity Adoption and Implementation		**101-114**
13	Discussion: Emergency management Roundtable (SIP and COVID)		
	OPERATIONAL	**11:00 AM**	
14	Informational: BACWA zoom security procedures		
15	Discussion: BACWA Power Supply Reliability Infoshare draft agenda		**115**
16	Discussion*:* Committee leadership appreciation		
17	Discussion*:* Dates for Pardee 2021		**116**
18	Discussion*:* Annual Meeting Planning - agenda and technical support		**117**
	REPORTS	**11:25 AM**	
19	Committee Reports		**118-122**
20	Member Highlights		
21	Executive Director Report		**123-124**
22	Board Calendar and Action Items		**125-126**
23	Regulatory Program Manager Report		**127**
24	Other BACWA Representative Reports		**128-136**

		Mary Lou Esparza, Yuyun Shang, Samantha	
	a. RMP Technical Committee	Engelage	
	b. RMP Steering Committee	Karin North; Amanda Roa; Eric Dunlavey	
	c. Summit Partners	Lorien Fono; Lori Schectel	
	d. ASC/SFEI	Lorien Fono; Eileen White	
	e. Nutrient Governance Steering Committee	Eric Dunlavey; Eileen White; Lori Schectel	
	e.i Nutrient Planning Subgroup	Eric Dunlavey	
	e.ii NMS Technical Workgroup	Eric Dunlavey	
	f. SWRCB Nutrient SAG	Lorien Fono	
	g. NACWA Taskforce on Dental Amalgam	Tim Potter	
	h. BAIRWMP	Cheryl Munoz; Linda Hu; Lorien Fono	
	i. NACWA Emerging Contaminants	Karin North; Melody LaBella	
	j. CASA State Legislative Committee	Lori Schectel	
	k. CASA Regulatory Workgroup	Lorien Fono	
	l. ReNUWIt	Jackie Zipkin; Karin North	
	m. ReNUWIt One Water	Jackie Zipkin, Eric Hansen	
	n. RMP Microplastics Liaison	Artem Dyachenko	
	o. Bay Area Regional Reliability Project	Eileen White	
	p. WateReuse Working Group	Cheryl Munoz	
	q. San Francisco Estuary Partnership	Eileen White; Lorien Fono	
	r. CPSC Policy Education Advisory Committee	Colleen Henry	
	s. California Ocean Protection Council	Lorien Fono	
	t. Countywide Water Reuse Master Plan	Karin North, Pedro Hernandez	
	u. CHARG - Coastal Hazards Adaptation Resiliency Group	Jackie Zipkin	
LUNCH BREAK (30min)			**11:30 AM**
25	Paul Stacey Presentation - LIS trading scheme update		**12:00**
26	Dave Senn presentation - Modeling update		
27	**SUGGESTIONS FOR FUTURE AGENDA ITEMS**		**1:55 PM**
NEXT MEETING			**1:59 PM**
The next meeting of the Board is scheduled for January 15, 2021			
ADJOURNMENT			**2:00 PM**

Executive Board Meeting Minutes

November 20, 2020

ROLL CALL AND INTRODUCTIONS

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

Other Attendees:

Name	Agency/Company
Eric Dunlavey	City of San Jose
Lorien Fono	BACWA
Mary Cousins	LWA
Jennifer Dyment	BACWA
Tom Hall	EOA
Jen Jackson	City of San Francisco
Karin North	City of Palo Alto
Jessica Gauger	CASA
Talyon Sortor	Fairfield-Suisun Sewer District (FSSD)
Alicia Chakrabarti	EBMUD
Mike Falk	HDR, Inc.
Jeff Carson	Dublin San Ramon Services District
Wynn Morgan	City of Burlingame WWTP
Jared Voskuhl	CASA
Chad Davisson	Ironhouse Sanitary District
Teresa Herrera	Silicon Valley Clean Water
Azalea Mitch	San Mateo
Andrew Damron	Napa Sanitation District
Ramana Chinnakotla	City of Sunnyvale
Amada Roa	Delta Diablo
Kevin Cesar	City of Millbrae
Don Gray	EBMUD
Melody LaBella	Central Contra Costa Sanitary District
Mary Lou Esparza	Central Contra Costa Sanitary District
Elisa Lee	Woodard & Curran
Sarah Deslauriers	Carollo

Amit Mutsuddy started meeting at 9:03

ROLL CALL - taken

PUBLIC COMMENT – None

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER
Item 13 : Draft agenda for meeting with BAAQMD Managers. Presenter Sarah Deslauriers is available between 10-11am.

CONSENT CALENDAR

1 October 16, 2020 BACWA Executive Board Meeting Minutes

2 October 26 Special BACWA Executive Board Meeting Minutes

3 September 2020 Treasurer's Reports

Consent Calendar Items 1, 2 and 3: *A motion to approve was made by Jackie and seconded by Lori. The motion was approved unanimously.*

APPROVALS AND AUTHORIZATIONS

4 Approval: BACWA Annual Report

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

5. Approval: Audit Report

Item 5: *A motion to approve was made by CCCSD, Lori and Schectel seconded by EBDA, Jackie Zipkin. The motion was approved unanimously.*

POLICY/STRATEGIC

6 Discussion: Region 2 PFAS Study Update

BACWA RPM referred to the SFEI Study regarding PFAS sampling and analysis plan (SAP) in packet. The SAP was provided to State Water Board staff for comment. State Water Board staff returned comments on study design and directed that a discharger from the tri-valley area be added. This discharger will be DSRSD. A few other changes were made and these changes are reflected in a new version of the study. Sampling has begun at the POTWs and should be finished by first week of December.

7 Discussion: PFAS Pollution Prevention

Phase 2 of PFAS study to be developed with the goal of identifying major sources of PFAS that could suggest management actions.

Jen Jackson (San Francisco Department of Environment) has been working on reducing PFAS in foodware \ packaging and these efforts have caused positive market shifts. The group discussed other efforts in labeling and legislation, and highlighted the importance of partnering with other groups and NGOs on PFAS efforts. Labeling and building an awareness will help reduce PFAS, but source control is ultimately the best option because conventional wastewater treatment and dilution don't remove PFAS, they just move it around. Source control will also be important for the viability of potable reuse. Jessica Gauger (CASA) explained that labeling legislation is hard, so many considerations including message and scope. There can be lots of opposition and there is a limited # of bills and # of hearings per year, so this bill may or may not be introduced into the next legislative session. There is a lot of interest from several associations and NGOs to be proactive and seek PFAS legislation. Labeling or other types of disclosure are a prerequisite to source control; currently there is no way to tell if products contain PFAS. Some PFAS compounds are FDA-approved and so do not appear on safety data sheets. The current DTSC work plan includes PFAS in carpet and food packaging, but the DTSC process is slow.

CASA and Clean Water Action are considering organizing a PFAS Policy Roundtable with several groups in mid-January 2021. Group agreed on importance of public awareness and source control.

8 Discussion: Nutrients

BACWA ED summarized key dates and several meetings over the next few months on nutrients. Graphic presented to explain nutrient groups with BACWA member participation.

a. Regulatory

i. Next steps with Water Board - BACWA ED shared that at the November 30, 2020 meeting with Regional Water Board Staff, they will discuss load caps based on antidegradation. Not all members agree that load caps are scientifically justified, but the group felt the more important goal was to seek flexibility regarding implementation, rather than fight over the justification for load caps. Implementation questions identified by the group included (1) understanding the cost of implementing load caps – what improvements are agencies already planning in order to meet the anticipated load caps? (2) how will science inform implementation of the load caps, once the science work is further along? (3) How can we structure the load caps to avoid the "unintended consequence" of having an antidegradation-based load cap trigger major capital improvements? (4) Can subembayments be defined in a way that will ensure compliance with load caps during the term of the 3rd watershed permit, or perhaps even longer?

BREAK 10:40 AM

i. Next Steps with Water Board - BACWA ED and Eric Dunleavy continued by summarizing next steps with Regional Water Board. The Regional Water Board is contemplating a Basin Plan standards action in addition to the 3rd watershed permit, which will be discussed at the December 17th meeting of the Nutrient planning subcommittee. The Board offered support for collecting information on membership on nutrient planning and implementation to inform negotiations on Watershed Permit.

Action item: Develop nutrient planning and implementation survey

ii. NST agenda 12/3 – BACWA ED shared NST agenda in the packet. The agenda will be updated with input from above item.

b. Technical Work

i. Changing nitrogen inputs to the northern San Francisco Estuary report - BACWA ED shared that link to report is in packet. Recommended it be reviewed.

ii. Update on RFP – BACWA ED stated that deadline was extended, and selection committee is reviewing 4 submissions. Meeting on December 9th to determine next steps.

Action Item: BACWA ED to bring recommendation to board meeting in December.

iii. NTT formation – ED shared graphic showing different Nutrient groups and their purpose.

c. Governance Structure

i. December 17th meeting to discuss nutrient BPA and permitting - BACWA ED stated the purpose of the meeting is to talk in depth on permitting and how it will be informed by the science.

9 Discussion: Debrief from Chlorine Residual Basin Plan Amendment adoption – BACWA ED spoke briefly on presentation on Basin Plan Amendment, which was adopted at the November 18th Regional Water Board hearing. The Regional Water Board is open to a blanket permit amendment to incorporate into permits, but lacks staff resources at this time.

10 Discussion: Vulnerability Assessments for Climate Change – BACWA ED & RPM met with the Regional Water Board and shared conversation from last board meeting regarding POTWs' vulnerability assessments for different climate change scenarios. The Regional Water Board is updating an information request, and BACWA will work with a handful of agencies to help test-drive questions. General group discussion followed.

11 Discussion: Toxicity update - comments at adoption and NPDES implementation - BACWA ED explained that the State Water Board will be considering adoption of the toxicity provisions at its December 1, 2020 meeting. No changes were made based on our comments. Jared Voskuhl added some information on the *Ceriodaphnia* special study, working with their counsel to determine the purpose of

some new language, and implementation dates. BACWA ED is developing talking points for people testifying on December 1, 2020.

Action Item BACWA ED to send talking points to Board

12 Discussion: Nov 30 Draft agenda for Joint meeting with RWB – BACWA ED summarized draft meeting agenda and stated that it would be updated based on conversations today.

13 Discussion: Draft agenda for meeting with BAAQMD Managers - Sarah Deslauriers summarized purpose of BAAQMD and BACWA AIR Committee regular meetings. Next meeting is December 7, 2020 from 3-4pm and Sarah will follow up with BACWA members on meeting.

14 Discussion: Emergency management Roundtable (fires, PSPS, COVID) – City of San Jose asked how POTWs were dealing with power reliability. Agencies shared power review methods and backup generator grant applications. Agencies are concerned about COVID-19 rates rising and how that will impact staffing. Agency management is asking staff to follow CDC guidelines but are expecting the increase in COVID-19 cases to continue. Generally, agencies are allowing remote work for those who can and rotating staff for those who have to come into workplace.

15 Informational: Support for BABC proposal for Prop 68 OPC grant - BACWA ED item 15 should say BCDC

OPERATIONAL

16 Discussion: Draft Strategic Plan – BACWA ED said one board member submitted comments and asked if others would be submitting comments. BACWA ED asked for comments before December 9, 2020 so that they could be presented at December 18, 2020 EB meeting.

17 Discussion: BACWA Power Supply Reliability Infoshare draft agenda – BACWA ED working on a draft agenda and asked for presenters.

Action item: BACWA ED said she would be sending out a doodle poll to set meeting date in January.

18 Discussion: Website Policy – BACWA ED shared new website policy and summarized plan to review policies going forward.

19 Discussion: Committee leadership appreciation - BACWA ED we normally invite committee leadership to December lunch. BACWA ED asked for ideas from agencies on how to show appreciation. People discussed pros and cons of door dash, masks, plaques, and certificates in frame.

Action item: BACWA Staff to talk to explore options to show committee leadership appreciation.

20 Discussion: Annual Meeting Planning - agenda and technical support – BACWA ED reviewed agenda that is in the packet with the attendees. BACWA ED reached out to a couple of online facilitators

to run the annual online meeting. Cost was estimated at $2000. BACWA ED also asked that the December 18 meeting end later than 12:30 because there are two important presentations.

REPORTS

21 Committee Reports - In the packet

22 Member Highlights - In the packet

23 Executive Director Report - In the packet

24 Board Calendar and Action Items - In the packet

25 Regulatory Program Manager Report - In the packet

26 Other BACWA Representative Reports

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

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

c. Summit Partners Lorien Fono; Lori Schectel

d. ASC/SFEI Lorien Fono; Eileen White

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

e.i Nutrient Planning Subgroup Eric Dunlavey

e.ii NMS Technical Workgroup Eric Dunlavey

f. SWRCB Nutrient SAG Lorien Fono

g. NACWA Taskforce on Dental Amalgam Tim Potter

h. BAIRWMP Cheryl Munoz; Linda Hu; Lorien Fono

i. NACWA Emerging Contaminants Karin North; Melody LaBella

j. CASA State Legislative Committee Lori Schectel

k. CASA Regulatory Workgroup Lorien Fono

l. ReNUWIt Jackie Zipkin; Karin North

m. ReNUWIt One Water Jackie Zipkin, Eric Hansen

n. RMP Microplastics Liaison Artem Dyachenko

o. Bay Area Regional Reliability Project Eileen White

p. WateReuse Working Group Cheryl Munoz

q. San Francisco Estuary Partnership Eileen White; Lorien Fono

r. CPSC Policy Education Advisory Committee Colleen Henry

s. California Ocean Protection Council Lorien Fono

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

u. CHARG - Coastal Hazards Adampation Resiliancy Group Jackie Zipkin

19 SUGGESTIONS FOR FUTURE AGENDA ITEMS

None.

NEXT MEETING

The next meeting of the Board is scheduled for December 18, 2020

ADJOURNMENT 1:06 PM

Special Executive Board Meeting Minutes
Joint Meeting with Regional Water Board Staff

November 30, 2020

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); Amy Chastain (SFPUC).

Other Attendees:

Name	Agency/Company
Lorien Fono	BACWA
Mary Cousins	BACWA
Rich Breuer	State Water Board
Michael Montgomery	Regional Water Board
Tom Mumley	Regional Water Board
Bill Johnson	Regional Water Board
Robert Schlipf	Regional Water Board
James Parrish	Regional Water Board
Don Gray	East Bay Municipal Utility District
Karin North	City of Palo Alto
Jennie Pang	San Francisco Public Utilities Commission
Eric Dunlavey	City of San Jose
Tom Hall	EOA

PUBLIC COMMENT – None.

OTHER BUSINESS – A recent meeting of the BACWA Executive Board was zoom-bombed. Going forward, the virtual meeting information will not be posted online. Member of the public may attend by requesting a link via email.

AGENDA ITEMS

Agenda **Item 1 –** Discussion: COVID-19 Response

Representatives from BACWA agencies briefly shared how they are coping with the recent increase in COVID-19 case rates, which includes an increasing case load amongst agency employees and their households. Several agencies are working directly with County public health departments or with universities on surveillance monitoring. The Regional Water Board (RB2) staff noted that they will be teleworking through at least June 2021. RB2 staff have been re-assigned to contract tracing and 10% furloughed. Fewer in-person inspections are being performed.

Agenda **Item 2 – PFAS**
The group discussed the status of the regional PFAS study, now that sampling for Phase 1 is wrapping up. The group discussed the idea of tailoring Phase 2 to support potential management actions related to PFAS source control. For example, Phase 2 could involve sampling smaller sewersheds to better characterize loading from residential vs. industrial sources. BACWA members are participating in statewide effort to control PFAS in industrial and consumer products, including labeling requirements. RB2 cannot endorse or lobby for legislation. RB2 staff will be involved in development of the Phase 2 work plan over the coming months.

Agenda **Item 3 – Toxicity**
The adoption hearing for the toxicity provisions is December 1st, and BACWA will be providing oral testimony. If and when the provisions are adopted, they will become effective only after OAL and EPA approval, which will take at least 4-6 months. RB2 staff are drafting a revised version of the sample toxicity language for NPDES permits in this region, which is expected to include the option to perform surveillance monitoring in lieu of some routine monitoring. The surveillance monitoring samples would use a higher effluent concentration than compliance monitoring, but would not be used for compliance purposes. This revised draft will be circulated and discussed at the December Permits committee meeting.

Agenda **Item 4 – Chlorine Basin Plan Amendment**
The group discussed implementation of the recently adopted Chlorine Basin Plan Amendment. RB2 is open to implementation via a blanket permit amendment, but the NPDES division does not have immediate staff availability for this work. It may take 8-12 months for the amendment to go into effect, as it must be approved by the State Water Board, OAL, and EPA.

Agenda **Item 5 – Alternate Monitoring Requirements Overhaul**
Once the new toxicity policy goes into effect (see Item 3), the Alternate Monitoring Program will require an overhaul. BACWA has completed a member survey regarding monitoring frequencies and costs, and will present the results at the December Permits committee meeting. Additional engagement with RB2 staff will occur in the coming months to assess which monitoring requirements can be reduced in frequency while still meeting program goals.

Agenda **Item 6 – Climate Change Adaption**
RB2 staff have developed a revised draft survey regarding climate change vulnerability and adaptation. POTWs, but not satellite collection systems, will be included in the first round of the survey. 2-4 BACWA members will be completing a “trial run” of the survey before it is distributed to all agencies. RB2 staff are also working with State Water Board staff on a related effort to include risk assessment language in the new SSS-WDR. The RB2 survey will be released significantly earlier (early 2021) than the new SSS-WDR (mid-2021 or beyond).

Agenda **Item 7 – Climate Change Adaption**
The group discussed RB2’s planned Basin Plan standards action, which would complement the

load caps envisioned for the 3rd watershed permit. The nutrient standards action would not include numeric water quality objectives for nutrients (though water quality objectives for DO may be included as part of the assessment framework), but would outline the overall approach of how RB2 plans to use load caps to prevent degradation. The standards action may be included in the next Basin Plan triennial review. BACWA and RB2 staff will be discussed details related to the standards action at the next December 17th planning subcommittee meeting.

Karin North shared the City of Palo Alto's experience with planning for nutrient removal upgrades; the City's preliminary costs for upgrading the secondary treatment process at the plant have tripled to $128M. Their experience suggests that upgrades will be more expensive and more time-consuming than initially planned. Palo Alto will share information about the planned Membrane Aerated Biofilm Reactor (MABR) with RB2 staff.

Nutrient Strategy Team
December 3, 2020 Meeting Summary

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); Jennie Pang (SFPUC).

Other Attendees:

Name	**Agency/Company**
Lorien Fono	BACWA
Mary Cousins	BACWA
Blake Brown, Mary Lou Esparza, Dan Frost, Melody LaBella, Amanda Cauble	CCCSD
Amanda Roa	Delta Diablo
Don Gray	EBMUD
Tom Hall	EOA
Talyon Sortor	FSSD
Karin North, Samantha Engelage	Palo Alto
Eric Dunlavey	San Jose
Azalea Mitch	San Mateo
Nohemy Revilla	SFPUC
Melody Tovar, Cameron Kostigen Mumper	Sunnyvale
Armando Lopez, Tim Grillo, Connie Li	USD
Jennifer Harrington	Vallejo Flood & Wastewater District

BACKGROUND

BACWA ED presented background information about the various nutrient-related committees that currently meet, the members of each committee, and how member agencies can become involved.

LOAD CAPS IN THE 3RD WATERSHED PERMIT

The primary purpose of the meeting was to gauge member agency positions on whether to support the inclusion of load caps in the 3rd Watershed Permit. These load caps would not be based on the ongoing science work to assess the assimilative capacity of the Bay, but would instead have their basis in a 'Regulatory Management Decision' and justified by antidegradation policy. The inclusion of load caps is strongly favored by the Regional Water Board, based on their May 2020 vision document.

There was a lengthy discussion regarding considerations for determining whether load caps would be acceptable in the 3rd Watershed Permit:

- Several participants felt that it is too soon to make a determination about whether the caps might go up or down once the Bay's assimilative capacity has been determined. Since that estimate is not done, no assumption about the direction of change should be included in the permit (i.e., it should *not* be presumed that load caps would go down in the future, but would never go up).

- A major factor for consideration is whether or not the load caps can be crafted in a way that allows compliance. This will be determined by the date the load caps come into effect, trading and subembayment definitions, and whether the load caps will be flexible to increase for certain reasons (such as co-digestion).

- Cost is a major factor. The 'Regulatory Management Decision'-based load caps would, ideally, not trigger new major capital improvements strictly for compliance reasons. At the same time, the load cap framework should validate the decision of some agencies to pursue nutrient removal projects, as these early actors are providing for compliance on a regional scale.

- Record-keeping of planned and implemented projects to reduce nutrient loading (cost, mass of nutrients removed, etc.) will likely become important. This information should be included in future Annual Reports.

- There was support for Regulatory Management Decision-based load caps among member agencies present, but only with the caveats that they be implemented carefully; we should proceed with caution to ensure that the benefit to the Bay justifies the cost.

- Test-driving the implementation of load caps using simulations could be helpful for member agencies to understand how they would work.

EXTENDING THE 2ND WATERSHED PERMIT

BACWA ED discuss the pros and cons of administratively extending the 2nd Watershed permit one to two years past its current expiration date. The cost of funding the science program is a consideration in this decision.

NEXT STEPS

The group noted the discussion will continue at the December 18th Executive Board meeting, which will include presentations about nutrient trading and subembayment designations.

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

November 20th, 2020

MEMO TO: Bay Area Clean Water Agencies Executive Board

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

SUBJECT: Fourth Month FY 2021 Treasurer's Report

As required by section eight of the Joint Powers Agreement establishing the Bay Area Clean Water Agencies (BACWA) and California Government Code Sections 6500 et seq., attached is the BACWA Treasurer's Report for the period covering **July 1, 2020 through October 31, 2020** (Four months of Fiscal Year 2021). This report covers expenditures, cash receipts, and cash transfers for the following BACWA funds:

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

Houck, Matt

From: Charléty, Damien
Sent: Friday, November 20, 2020 5:57 PM
To: Houck, Matt
Subject: RE: BACWA - October 2020 Treasurer's Report

Approved.

From: Houck, Matt
Sent: Friday, November 20, 2020 11:23 AM
To: Charléty, Damien
Subject: BACWA - October 2020 Treasurer's Report

Hi Damien,

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

Thanks,

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

Fund Balances

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

BACWA Fund: This fund provides the resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on October 31, 2020 was $1,552,523 which is significantly higher than the target reserve of $209,430 which is intended to cover 3 months of normal operating expenses based on the BACWA FY21 budget. $434,829 of the ending fund balance is shown on the BACWA Fund & Investments Balance Report September 30, 2020 as encumbered to meet ongoing operating line item expenses for BAPPG Committee Support, Legal services, IT services, Board meeting expenses, accounting services and BACWA staff support. This leaves actual unencumbered excess funds of $908,264 (i.e., actual fund balance of $1,117,694 less target reserves) as of October 31, 2020. As the details of the costs of the various regulatory requirements included in the 2nd Nutrient Watershed Permit become better defined, these excess funds may be transferred to the CBC fund and used to offset potential Nutrient Surcharge increases to the BACWA members.

CBC Fund: This fund provides the resources for completing special investigations as well as meeting regulatory requirements. The ending fund balance on October 31, 2020 was $2,450,248 which is significantly higher than the target reserve of $1,000,000. $820,408 of the ending fund balance is encumbered to meet line item expenses for completion of the Group Annual Report contract, completion of the NBS Study,Recycled Water Evaluation, **and the PFAS Regional Study**. This leaves an actual unencumbered fund balance of $629,840 (i.e., actual fund balance of $1,629,840 less $1,000,000 target reserves) as of September 30, 2020. Disbursements for FY21 from the CBC fund include $2.8m fund the nutrient scientific investigations as required by Nutrient Watershed Permit.

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

Budget to Actual

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

Revenues as of October 31, 2020 (33% of the FY) are at 75%.

Expenses as of October 31, 2020 (33% of the FY) are at 31%

FY 2021
BACWA BUDGET to ACTUAL

BACWA BAY AREA CLEAN WATER AGENCIES

BACWA FY21 BUDGET	***Line Item Description***	**FY 2021 Budget**	**Actual Oct 2020**	**Actual % of Budget Oct 2020**	**Variance**	**NOTES**
REVENUES & FUNDING						
Dues	Principals' Contributions	$516,909	$516,910	100%	$1	5 @ $103,382
	Associate & Affiliate Contributions	$187,793	$66,542	35%	-$121,251	13 Assoc @ $8,531; 45 Affiliate @ $1,708.
Fees	Clean Bay Collaborative	$675,000	$496,053	73%	-$178,947	Prin: $450,000; Assoc/Affil: $225,000
	Nutrient Surcharge	$1,700,000	$1,270,642	75%	-$429,358	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions	$0	$0	0%	$0	
Other Receipts	AIR Non-Member	$7,075	$0	0%	-$7,075	Santa Rosa
	BAPPG Non-Members	$3,954	$0	0%	-$3,954	Stanta Rosa, Sac Reg'l, Vacaville; $1,317/each
	Other	$0	$2,601	0%	$2,601	
Fund Transfer	Special Program Admin Fees (WOT)	$5,202	$0	0%	-$5,202	Flat fee
	Special Program Admin Fees (BACC)	$20,010	$0	0%	-$20,010	300 hours of AED support, based on hours billed
	Special Program Admin Fees (BABC)	$6,000	$0	0%	-$6,000	AED and RPM support, hours billed
Interest Income	LAIF	$20,000	$13,074	65%	-$6,926	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments	$18,000	$0	0%	-$18,000	Alternative Investment Interest (Legal & CBC Funds invested in AltInv)
	Total Revenue	**$3,159,943**	**$2,365,822**	**74.87%**	**-$794,121**	

BACWA FY21 BUDGET	***Line Item Description***	**FY 2021 Budget**	**Actual Oct 2020**	**Actual % of Budget Oct 2020**	**Variance**	**NOTES**
EXPENSES						
Labor						
	Executive Director	$190,000	$63,333	33%	-$126,667	No change from FY20 contract
	Assistant Executive Director	$102,551	$35,730	35%	-$66,821	$66.7/hour; Reflects 1500 hours
	Regulatory Program Manager	$141,170	$59,408	42%	-$81,762	$100.16/hour; Reflects 1375 hours/yr - Contract TBD
	Total	**$433,721**	**$158,471**	**37%**	**-$275,250**	
Administration						
	EBMUD Financial Services	$42,448	$11,757	28%	-$30,691	
	Auditing Services	$5,345	$0	0%	-$5,345	Financial Audit Services through EBMUD
	Administrative Expenses	$7,959	$194	2%	-$7,765	Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	$4,776	$4,971	104%	$195	SLIP Insurance. Alliant Insurance.
	Total	**$60,528**	**$16,922**	**28%**	**-$43,606**	
Meetings						
	EB Meetings	$2,653	$0	0%	-$2,653	Catering, Venue, other expenses
	Annual Meeting	$14,369	$0	0%	-$14,369	Catering, Venue, other expenses
	Pardee	$6,367	$0	0%	-$6,367	Catering, Venue, other expenses
	Misc. Meetings	$5,306	$125	2%	-$5,181	Hol & Comm Chair Lunch, Staff Mtgs, Fin Comm, Summit Ptnrs, CASA, NACWA Tech WS, Low Flow WS
	Total	**$28,695**	**$125**	**0%**	**-$28,570**	
Communication						
	Website Hosting	$612	$0	0%	-$612	Computer Courage
	File Storage	$765	$0	0%	-$765	Box.com
	Website Development/Maintenance	$1,530	$0	0%	-$1,530	Domain registrations, website changes
	IT Support	$2,652	$0	0%	-$2,652	As needed
	Other Commun	$1,785	$481	27%	-$1,304	MS Exchange, Survey Monkey, Carbonite, Doodle Polls, PollEv, GoToMtg, HelloSign, Zoom
	Total	**$7,344**	**$481**	**7%**	**-$6,863**	

FY 2021
BACWA BUDGET to ACTUAL

EXPENSES						
Legal						
	Regulatory Support	$2,706	$0	0%	-$2,706	Downey Brand LLP
	Executive Board Support	$2,176	$80	4%	-$2,096	Day Carter & Murphy LLP
	Total	**$4,882**	**$80**	**2%**	**-$4,802**	
Committees						
	AIR	$76,000	$8,118	11%	-$67,882	$75k consulting support, $1k misc expenses. Carollo Engineers
	BAPPG	$130,000	$48,090	37%	-$81,910	Includes CPSC @ $10,000, OWOW @ $10,000, and Pest. Reg Spt. @ $60,000. S.Hughes, TDC and SGA
	Biosolids Committee	$1,000	$0	0%	-$1,000	
	Collections System	$1,000	$0	0%	-$1,000	
	InfoShare Groups	$1,750	$0	0%	-$1,750	Funds for 2 workgroups ($750 for Asset Mgmt - new in FY21; $1,000 for O&M)
	Laboratory Committee	$1,000	$0	0%	-$1,000	
	Permits Committee	$1,300	$0	0%	-$1,300	All meetings moved to include lunch hour for commuting purposes
	Pretreatment	$1,000	$0	0%	-$1,000	
	Recycled Water Committee	$1,000	$0	0%	-$1,000	
	Misc Committee Support	$45,000	$0	0%	-$45,000	
	Manager's Roundtable	$1,000	$0	0%	-$1,000	
	Total	**$260,050**	**$56,208**	**22%**	**-$203,842**	
Collaboratives						
	Collaboratives					
	State of the Estuary (SFEP-biennial)	$20,000	$0	0%	-$20,000	Biennial in Odd Fiscal Years. (Paid bienniely in odd years for even year conference)
	Arleen Navarret Award	$0	$0	0%	$0	Biennial in Even Fiscal Years. Award amount increased in FY20
	FWQC (Fred Andes)	$7,500	$0	0%	-$7,500	
	Stanford ERC (ReNUWIt)	$10,000	$0	0%	-$10,000	
	Misc	$5,000	$0	0%	-$5,000	BayCAN, NBWA
	Total	**$42,500**	**$0**	**0%**	**-$42,500**	
Other						
	Unbudgeted Items					
	Other	$0	$0	0%	$0	
		$0	**$0**	**0%**	**$0**	
Tech Support						
	Technical Support					
	Nutrients					
	Watershed	$2,800,000	$1,000,000	36%	-$1,800,000	Advance funding for 2nd Watershed Permit Science Studies. SFEI
	NMS Voluntary Contributions	$0	$30,000	0%	$30,000	SFEI \ City of Palo Alto 2017 Lower South Bay modeling
	Additional work under permit	$100,000	$0	0%	-$100,000	Includes HDR PO for $225k spread out over FY20-24.
	Regional Study on Nature based sysemts	$200,000	$62,702	31%	-$137,298	New Line item in FY20. SFEI
	Regional Recycling Evaluation	$60,000	$6,176	10%	-$53,824	HDR PO for $154K FY20-24
	Nutrient Workshop(s)	$0	$0	0%	$0	Pilot Studies/Plant Review/Innovative Technologies
	General Tech Support	$250,000	$0	0%	-$250,000	AB617 emission factors, nutrient technical review, other nutrient support, PFAS
	CEC Investigations	$50,000	$0	0%	-$50,000	Support for studies through RMP (PFAS in FY21). SFEI
	Risk Reduction	$7,500	$0	0%	-$7,500	$50,000 over 5 years (FY19-FY23) 2 Contracts for $25,000 each over FY19, 20, & 21
	Total	**$3,467,500**	**$1,098,878**	**32%**	**-$2,368,622**	
	TOTAL EXPENSES	**$4,305,220**	**$1,331,165**	**30.92%**	**-$2,974,055**	
	NET INCOME BEFORE TRANSFERS	**-$1,145,277**				
	TRANSFERS FROM RESERVES	**$1,145,277**				aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge
	NET INCOME AFTER TRANSFERS	**$0**				
	TOTAL OPERATING BUDGET	**$837,720**				
	OPERATING RESERVE	**$209,430**				

BACWA Fund Report as of October 31, 2020

BACWA FUND BALANCES - DATA PROVIDED BY ACCOUNTING DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	OUTSTANDING ENCUMBRANCES	MONTH-END UNOBLIGATED FUND BALANCE
800	BACWA	1,195,233	589,577	232,287	1,552,523	434,829	1,117,694
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000
805	CBC	1,772,881	1,776,245	1,098,878	2,450,248	820,408	1,629,840
	SUBTOTAL 1	*3,268,114*	*2,365,822*	*1,331,165*	*4,302,771*	*1,255,237*	*3,047,534*
802	BABC	*216,514*	56,500	17,051	255,963	*138,575*	117,388
806	BACC	*(1,563)*	-	-	(1,563)	-	(1,563)
810	WOT	276,164	-	-	276,164	-	276,164
	SUBTOTAL 2	*491,115*	*56,500*	*17,051*	*530,564*	*138,575*	*391,989*
*811	PRP84	196,806	-	-	196,806	-	196,806
	SUBTOTAL 3	*196,806*	-	-	*196,806*	-	*196,806*
	GRAND TOTAL	**3,956,035**	**2,422,322**	**1,348,216**	**5,030,141**	**1,393,812**	**3,636,329**

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

BACWA INVESTMENTS BALANCES - DATA PROVIDED BY TREASURY DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	RECONCILIATION TO FINANCIAL STATEMENTS	MONTH-END RECONCILED FUND BALANCE	UNINVESTED CASH BALANCES	LAIF INVESTMENTS AMOUNTS	LAIF INVESTMENTS PERCENTAGE	ALTERNATIVE INVESTMENTS AMOUNTS	ALTERNATIVE INVESTMENTS IDENTIFIERS	ALTERNATIVE INVESTMENT INSTRUCTIONS AND NOTES
800	BACWA	1,195,233	589,577	232,287	1,552,523	55,278	1,607,801	1,607,801	-	0%	-		priority # 3 for allocation
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000	-	300,000	13%	-		priority # 1 for allocation
805	CBC	1,772,881	1,776,245	1,098,878	2,450,248	-	2,450,248	487,648	1,962,600	87%	-		priority # 2 for allocation
	SUBTOTAL 1	3,268,114	2,365,822	1,331,165	4,302,771	55,278	4,358,049	2,095,449	2,262,600	100%	-		
802	BABC	216,514	56,500	17,051	255,963	-	255,963	255,963	-	0%	-		pass-through funds, no allocation
806	BACC	(1,563)	-	-	(1,563)	-	(1,563)	(1,563)	-	0%	-		
810	WOT	276,164	-	-	276,164	-	276,164	276,164	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	491,115	56,500	17,051	530,564	-	530,564	530,564	-	0%	-		
811	PRP84	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 3	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		
	GRAND TOTAL	**3,956,035**	**2,422,322**	**1,348,216**	**5,030,141**	**55,278**	**5,085,419**	**2,822,819**	**2,262,600**	**-**			
							-	-	-		-		

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

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

Reconciliation to Trial Balance - accrual basis

Per Report above:					
General	2,365,822	STB	1493	2,262,600	
WOT	56,500	STB	1505	2,822,819	
PROP	-			**5,085,419**	-
subtotal	**2,422,322**	STB	2135	(55,278)	
				5,030,141	-

Billings-Pending Receipts		
4686	Mem Contrib	215,697
4687	Transfer	-
4690	Assoc Contrib	123,456
4696	Other	440,376
4731	State Grant	-
4732	Grant Retention	-
subtotal		**779,529**

Trial Balance Revenue Accounts		
4411	Interest	(13,074)
4686	Mem Contrib	(1,285,160)
4687	Transfer	-
4690	Assoc Contrib	(189,998)
4696	Other	(1,713,619)
4731	State Grant	-
4732	Grant Retention	-
subtotal		**(3,201,850)**
Difference		**0**

BACWA Revenue Report as of October 31, 2020

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
800	Bay Area Clean Water Agencies	0408511	Administrative & General	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011099	BDO Member Contributions	516,909	-	-	-	-	516,910	-	516,910	(1)
800	Bay Area Clean Water Agencies	1011108	BDO Other Receipts	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011109	BDO Fund Transfers	5,202	-	-	-	-	-	-	-	5,202
800	Bay Area Clean Water Agencies	1011117	BDO- Interest Income from LAIF	20,000	-	-	1,843	-	-	3,524	3,524	16,476
800	Bay Area Clean Water Agencies	1011133	BDO Assoc.&Affiliate Contr	187,793	-	42,656	-	-	42,656	-	42,656	145,137
800	Bay Area Clean Water Agencies	1014251	BDO Non-Member Contr BAPPG	3,954	-	-	-	-	-	-	-	3,954
800	Bay Area Clean Water Agencies	1014252	BDO Non-Member Contr AIR	7,075	-	-	-	-	-	-	-	7,075
800	Bay Area Clean Water Agencies	1014511	BDO-Alternative Investment Inc	18,000	-	-	-	-	-	-	-	18,000
800	Bay Area Clean Water Agencies	1015567	BACC - AED Support	20,010	-	-	-	-	-	-	-	20,010
800	Bay Area Clean Water Agencies	1015568	BABC - AED and RPM Support	6,000	-	-	-	-	-	-	-	6,000
800	Bay Area Clean Water Agencies	1015265	BDO Other Receipts (Misc)	-	-	2,601	-	-	2,601	-	2,601	(2,601)
800	Bay Area Clean Water Agencies	1015266	BDO Affiliate/Associate Dues	-	-	8,543	-	-	8,543	-	8,543	(8,543)
800	Bay Area Clean Water Agencies	1015267	BDO Affil/CS/Assoc Dues	-	-	13,668	-	-	15,343	-	15,343	(15,343)
	BACWA TOTAL			**784,943**	**-**	**67,468**	**1,843**	**-**	**586,053**	**3,524**	**589,577**	**195,366**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	135,303	-	-	496,053	-	496,053	178,947
805	WQA-CBC	1011108	BDO Other Receipts	1,700,000	-	392,597		-	1,270,642	-	1,270,642	429,358
805	WQA-CBC	1011117	BDO- Interest Income from LAIF	-	-	-	2,965	-	-	9,550	9,550	(9,550)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	-	-	-
	WQA CBC TOTAL			**2,375,000**	**-**	**527,900**	**2,965**	**-**	**1,766,695**	**9,550**	**1,776,245**	**598,755**
	TOTAL			**3,159,943**	**-**	**595,368**	**4,808**	**-**	**2,352,748**	**13,074**	**2,365,822**	**794,121**

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
802	BABC	1011099	BDO Member Contributions	-	-	19,750	-	-	56,500	-	56,500	(56,500)
802	BABC	1011109	BDO Fund Transfers	-	-	-	-	-	-	-	-	-
	BABC TOTAL			**-**	**-**	**19,750**	**-**	**-**	**56,500**	**-**	**56,500**	**(56,500)**
810	WOT	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	-	-	-
	WOT TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
811	PROP 84	1011142	Administrative Support	-	-	-	-	-	-	-	-	-
	PROP TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Grand Total			**3,159,943**	**-**	**615,118**	**4,808**	**-**	**2,409,248**	**13,074**	**2,422,322**	**737,621**

BACWA Expense Detail Report for October 31, 2020

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR						-						
AS-Executive Director	1011123	190,000	(31,667)	31,667	-	-	126,667	63,333	-	-	190,000	-
AS-Assistant Executive Directo	1011124	102,551	(9,538)	9,538	-	-	66,821	35,730	-	-	102,551	-
AS-Regulatory Program Manager	1011149	141,170	(60,778)	19,254	-	-	80,188	59,408		-	139,596	1,574
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	42,448	(11,757)	11,757	-	-	30,691	11,757	-	-	42,448	-
AS-Audit Services	1014512	5,345	-	-	-	-	5,240	5,240	-	(5,240)	5,240	105
AS-BACWA Admin Expense	1011118	7,959	-	-	194	-	-	-	194	-	194	7,765
AS-Insurance	1011126	4,776	-	-	-	-	-	-	4,971	-	4,971	(195)
MEETINGS												
GBS-Meeting Support-Annual	1014514	14,369	-	-	-	-	-	-	-	-	-	14,369
GBS-Meeting Support-Exec Bd	1014513	2,653	-	-	-	-	2,653	-	-	-	2,653	-
GBS-Meeting Support-Misc	1014516	5,306	-	-	-	-	-	-	125	-	125	5,181
GBS-Meeting Support-Pardee	1014515	6,367	-	-	-	-	-	-	-	-	-	6,367
COMMUNICATION												
CAR-BACWA File Storage	1014518	765	-	-	-	-	-	-	-	-	-	765
CAR-BACWA IT Software	1014520	1,785	-	-	111	-	-	-	481	-	481	1,304
CAR-BACWA IT Support	1014519	2,652	-	-	-	-	2,652	-	-	-	2,652	-
CAR-BACWA Website Dev/Maint	1011116	612	-	-	-	-	-	-	-	-	-	612
CAR-BACWA Website Hosting	1014517	1,530	-	-	-	-	-	-	-	-	-	1,530
LEGAL												
LS-Executive Board Support	1011110	2,176	-	80	-	-	2,176	80	-	-	2,256	(80)
LS-Regulatory Support	1011107	2,706	(80)	-	-	-	2,626	-	-	-	2,626	80
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	(4,213)	4,213	-	-	66,882	8,118	-	-	75,000	1,000
BC-BAPPG	1011147	130,000	(6,929)	6,929	10,000	-	48,233	30,030	20,085	(2,025)	96,323	33,677
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,750	-	-	-	-	-	-	-	-	-	1,750
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-	-	-	-	-	-	-	1,300
BC-Pretreatment Committee	1011146	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Manager's Roundtable	1014777	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	45,000	-	-	-	-	-	-	-	-	-	45,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-	-	-	-	-	-	-	5,000
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		**837,720**	**(124,962)**	**83,438**	**10,305**	**-**	**434,829**	**213,696**	**25,856**	**(7,265)**	**667,116**	**170,604**
TECH SUPPORT												
WQA-CE-Technical Support	1011127	250,000	64,532	-	-	-	64,532	-	3,548	(3,548)	64,532	185,468
WQA-CE-Nutrient WS Permit Comm	1014021	2,800,000	-	-	-	-	-	-	1,000,000	-	1,000,000	1,800,000
WQA-CE Risk Reduction	1014023	7,500	-	-	-	-	-	-	-	-	-	7,500
WQA-CE Addl Work Under Permit	1014254	100,000	-	-	-	-	182,000	-	-	-	182,000	(82,000)
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	-	-	-	-	30,000	-	30,000	(30,000)
Nutrient Workshops	1015015	-	-	-	-	-	-	-	-	-	-	-
WQA-CE-Nature Based Solutions	1015367	200,000	(62,703)	62,703	-	-	373,217	62,703	-	-	435,920	(235,920)
Recycled Water Evaluation	1015566	60,000	-	-	-	-	135,659	6,175	-	-	141,834	(81,834)
WQA - CEC Investigations	1015569	50,000	65,000	-	-	-	65,000	-	-	-	65,000	(15,000)
TECH SUPPORT (CBC) TOTAL		**3,467,500**	**66,829**	**62,703**	**-**	**-**	**820,408**	**68,878**	**1,033,548**	**(3,548)**	**1,919,286**	**1,548,214**
GRAND TOTAL		**4,305,220**	**(58,133)**	**146,141**	**10,305**	**-**	**1,255,237**	**282,574**	**1,059,404**	**(10,813)**	**2,586,402**	**1,718,818**
BABC												
AS-Assistant Executive Directo	1011124	-	-	-	-	-	-	-	-	-	-	-
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
AS-Regulatory Program Manager	1011149	-	-	-	-	-	-	-	-	-	-	-
Academia Research & Developmen	1015373	-	64,500	-	-	-	64,500	-	-	-	64,500	(64,500)
Collateral Development	1015374	-	-	-	-	-	1,125	-	-	-	1,125	(1,125)
Program Manager Expense	1015376	-	(4,719)	4,719	-	-	72,950	17,051	-	-	90,001	(90,001)
BABC TOTAL		**-**	**59,781**	**4,719**	**-**	**-**	**138,575**	**17,051**	**-**	**-**	**155,626**	**(155,626)**
BACC												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BACC TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
					22							
GRAND TOTAL (BDO, CBC, BABC, BACC, WOT)		**4,305,220**	**1,648**	**150,860**	**10,305**	**-**	**1,393,812**	**299,625**	**1,059,404**	**(10,813)**	**2,742,028**	**1,563,192**

BACWA Expense Detail Report for October 31, 2020

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR						-						
AS-Executive Director	1011123	190,000	(31,667)	31,667	-	-	126,667	63,333	-	-	190,000	-
AS-Assistant Executive Directo	1011124	102,551	(9,538)	9,538	-	-	66,821	35,730	-	-	102,551	-
AS-Regulatory Program Manager	1011149	141,170	(60,778)	19,254	-	-	80,188	59,408		-	139,596	1,574
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	42,448	(11,757)	11,757	-	-	30,691	11,757	-	-	42,448	-
AS-Audit Services	1014512	5,345	-	-	-	-	5,240	5,240	-	(5,240)	5,240	105
AS-BACWA Admin Expense	1011118	7,959	-	-	194	-	-	-	194	-	194	7,765
AS-Insurance	1011126	4,776	-	-	-	-	-	-	4,971	-	4,971	(195)
MEETINGS												
GBS-Meeting Support-Annual	1014514	14,369	-	-	-	-	-	-	-	-	-	14,369
GBS-Meeting Support-Exec Bd	1014513	2,653	-	-	-	-	2,653	-	-	-	2,653	-
GBS-Meeting Support-Misc	1014516	5,306	-	-	-	-	-	-	125	-	125	5,181
GBS-Meeting Support-Pardee	1014515	6,367	-	-	-	-	-	-	-	-	-	6,367
COMMUNICATION												
CAR-BACWA File Storage	1014518	765	-	-	-	-	-	-	-	-	-	765
CAR-BACWA IT Software	1014520	1,785	-	-	111	-	-	-	481	-	481	1,304
CAR-BACWA IT Support	1014519	2,652	-	-	-	-	2,652	-	-	-	2,652	-
CAR-BACWA Website Dev/Maint	1011116	612	-	-	-	-	-	-	-	-	-	612
CAR-BACWA Website Hosting	1014517	1,530	-	-	-	-	-	-	-	-	-	1,530
LEGAL												
LS-Executive Board Support	1011110	2,176	-	80	-	-	2,176	80	-	-	2,256	(80)
LS-Regulatory Support	1011107	2,706	(80)	-	-	-	2,626	-	-	-	2,626	80
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	(4,213)	4,213	-	-	66,882	8,118	-	-	75,000	1,000
BC-BAPPG	1011147	130,000	(6,929)	6,929	10,000	-	48,233	30,030	20,085	(2,025)	96,323	33,677
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,750	-	-	-	-	-	-	-	-	-	1,750
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-	-	-	-	-	-	-	1,300
BC-Pretreatment Committee	1011146	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Manager's Roundtable	1014777	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	45,000	-	-	-	-	-	-	-	-	-	45,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-	-	-	-	-	-	-	5,000
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		**837,720**	**(124,962)**	**83,438**	**10,305**	**-**	**434,829**	**213,696**	**25,856**	**(7,265)**	**667,116**	**170,604**
TECH SUPPORT												
WQA-CE-Technical Support	1011127	250,000	64,532	-	-	-	64,532	-	3,548	(3,548)	64,532	185,468
WQA-CE-Nutrient WS Permit Comm	1014021	2,800,000	-	-	-	-	-	-	1,000,000	-	1,000,000	1,800,000
WQA-CE Risk Reduction	1014023	7,500	-	-	-	-	-	-	-	-	-	7,500
WQA-CE Addl Work Under Permit	1014254	100,000	-	-	-	-	182,000	-	-	-	182,000	(82,000)
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	-	-	-	-	30,000	-	30,000	(30,000)
Nutrient Workshops	1015015	-	-	-	-	-	-	-	-	-	-	-
WQA-CE-Nature Based Solutions	1015367	200,000	(62,703)	62,703	-	-	373,217	62,703	-	-	435,920	(235,920)
Recycled Water Evaluation	1015566	60,000	-	-	-	-	135,659	6,175	-	-	141,834	(81,834)
WQA - CEC Investigations	1015569	50,000	65,000	-	-	-	65,000	-	-	-	65,000	(15,000)
TECH SUPPORT (CBC) TOTAL		**3,467,500**	**66,829**	**62,703**	**-**	**-**	**820,408**	**68,878**	**1,033,548**	**(3,548)**	**1,919,286**	**1,548,214**
GRAND TOTAL		**4,305,220**	**(58,133)**	**146,141**	**10,305**	**-**	**1,255,237**	**282,574**	**1,059,404**	**(10,813)**	**2,586,402**	**1,718,818**
BABC												
AS-Assistant Executive Directo	1011124	-	-	-	-	-	-	-	-	-	-	-
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
AS-Regulatory Program Manager	1011149	-	-	-	-	-	-	-	-	-	-	-
Academia Research & Developmen	1015373	-	64,500	-	-	-	64,500	-	-	-	64,500	(64,500)
Collateral Development	1015374	-	-	-	-	-	1,125	-	-	-	1,125	(1,125)
Program Manager Expense	1015376	-	(4,719)	4,719	-	-	72,950	17,051	-	-	90,001	(90,001)
BABC TOTAL		**-**	**59,781**	**4,719**	**-**	**-**	**138,575**	**17,051**	**-**	**-**	**155,626**	**(155,626)**
BACC												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BACC TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
					23							
GRAND TOTAL (BDO, CBC, BABC, BACC, WOT)		**4,305,220**	**1,648**	**150,860**	**10,305**	**-**	**1,393,812**	**299,625**	**1,059,404**	**(10,813)**	**2,742,028**	**1,563,192**

BACWA Revenue Report as of October 31, 2020

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

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 5

FILE NO.: 21-23

MEETING DATE: December 18, 2020

TITLE: BACWA 2020 Strategic Plan.

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

RECOMMENDED ACTION

Approve BACWA 2020 Strategic Plan.

SUMMARY

A Strategic Plan guides an organization in prioritizing its resources and responding to future challenges. Since the development of BACWA's last Strategic Plan in 2009, the landscape for POTWs in our Region has changed considerably. Regulatory and environmental priorities have shifted to focus on nutrients, climate change, and increased emphasis on multi-benefit projects such as recycled water and nature-based systems. COVID-19 is presenting entirely new challenges to our agencies as they work to protect their workers and communities while adjusting to the financial impacts of the pandemic.

In the Spring of 2020, BACWA embarked on a process to update its Strategic Plan. A survey was sent to members in July 2020 to get feedback on priorities. The BACWA Executive Board met on September 9, 2020, and October 9, 2020 to develop the organization's Mission, Vision, and Values, and based on these, to then set forth Goals, Strategies, Objectives. A draft strategic plan was provided in the November 20, 2020 BACWA Executive Board packet, and has been since updated based on editorial comments from Board members.

BACWA's Strategic Plan will guide how BACWA allocates financial and staffing resources in the years ahead, and will be reevaluated on an annual basis. At the Fall 2021 Pardee Technical Seminar, BACWA staff will provide a review the Strategic Plan and our progress in meeting the Objectives identified therein. The Objectives will then be updated for 2021.

FISCAL IMPACT

This item has no direct fiscal impact.

ALTERNATIVES

This action does not require consideration of alternatives.

Attachments: 2020 Strategic Plan

Approved: _____ Date: ___ _____

Amit Mutsuddy
BACWA Executive Board

2020 STRATEGIC PLAN

Bay Area Clean Water Agencies

BACWA's Mission

To provide an effective regional voice for clean water agencies' stewardship of the San Francisco Bay's ecological, community, and economic resources.

BACWA's Vision

To demonstrate leadership in the protection and enhancement of the San Francisco Bay ecosystem.

BACWA's Values

- Environmental stewardship
- Leadership
- Science-based decision making
- Collaboration
- Fiscal responsibility
- Watershed-based solutions

BACWA's Goals

- Advocate for regulation based on science
- Foster collaboration and relationship building with regulators and other stakeholders
- Pursue regional, multi-benefit solutions to environmental challenges
- Exemplify service and responsiveness to members and the public
- Practice good governance

GOAL 1: ADVOCATE FOR REGULATION BASED ON SCIENCE

Strategy 1 – Advocate for nutrient permitting based on science.

- **Objective 1 –** Establish a Nutrient Technical Team made up of BACWA and member agency staff to engage with the San Francisco Bay Nutrient Management Strategy (NMS) by reviewing their work products and participating in the Assessment Framework process.
- **Objective 2 –** Solicit and contract consultant support for review and interpretation of NMS Work Products and review of the Assessment Framework process.
- **Objective 3 –** Convene BACWA's Nutrient Strategy Team to plan BACWA position on 3rd Nutrient Watershed Permit.
- **Objective 4 –**Ensure financial contributions to the NMS will optimize scientific study workflow.

Strategy 2 – Advocate for air regulations based on science.

- **Objective 1 –** Meet frequently with Bay Area Air Quality Management District (BAAQMD) staff to communicate clean water agencies' perspectives and capabilities. Support BAAQMD staff by providing technical information during development of regulations for short-lived climate pollutants and air toxics.
- **Objective 2 –** Collaborate with CASA and other clean water agencies statewide on projects to inform California Air Resources Board regulations, such as the AB 2588 compound list update and emission factor development.

Strategy 3 – Advocate for biosolids management regulations based on science.

- **Objective 1 –** Work with local and state regulators to support sustainable biosolids reuse alternatives.
- **Objective 2 –** Collaborate with Bay Area Biosolids Coalition to support initiatives aimed at establishing the safety and benefits of biosolids reuse.

Strategy 4 – Advocate for emerging water quality regulations based on science.

- **Objective 1 –** Provide support for Constituents of Emerging Concern (CEC) pollution prevention and pesticides control by state and federal agencies.

- **Objective 2 –** Engage in State Water Board and Ocean Protection Council initiatives, such as the reconvening of the Science Advisory Panel on CECs in Aquatic Ecosystems and the Microplastic Strategy.
- **Objective 3 –** Continue to participate actively in Regional Monitoring Program (RMP) technical and steering committees.
- **Objective 4 –** Demonstrate that BACWA can effectively implement solutions through regional projects, such as conducting the PFAS Regional Study in lieu of being compelled via a 13267 Order.

Strategy 5 – Advocate for the update of existing water quality regulations based on science.

- **Objective 1 –** Support Basin Plan amendments and triennial reviews by working with the Regional Water Board.
- **Objective 2 –** Work with Regional Water Board to adopt a blanket permit amendment to incorporate the Chlorine Residual Basin Plan Amendment into NPDES Permits.
- **Objective 3 –** Work with regulators to reduce low value required monitoring to enhance funding for RMP CEC studies.

GOAL 2: FOSTER COLLABORATION AND RELATIONSHIP BUILDING WITH REGULATORS AND OTHER STAKEHOLDERS

Strategy 1 - Maintain and broaden collaboration with regulators by engaging on existing regulatory initiatives and emerging issues.

- **Objective 1 -** Continue engagement with regulators to communicate clean water agencies' challenges and opportunities related to projects of environmental benefit.
- **Objective 2 –** Collaborate with regulators on emerging initiatives such as sea level rise adaptation planning, development of incentives for climate change mitigation, identification of feasible biosolids reuse strategies, and exploration of other resource recovery opportunities.
- **Objective 3 –** Work with Summit Partners to provide educational opportunities for State Water Board/Ocean Protection Council members and staff regarding clean water agencies' opportunities. Identify and develop a common understanding of mutual priorities.
- **Objective 4 –** Work with BAAQMD staff to update standard permit conditions, with the goal of reducing permitting hurdles that impede the implementation of projects of environmental benefit.

Strategy 2 - Monitor legislative efforts that impact BACWA members.

- **Objective 1 –** Work with industry associations and individual members to inform their efforts on legislative advocacy.
- **Objective 2 –** Consider a BACWA policy or position on how to engage in targeted legislative advocacy.

Strategy 3 - Maintain industry leadership by collaborating with other clean water associations.

- **Objective 1 –** Work with Clean Water Summit Partners to define and advocate on issues of statewide importance.
- **Objective 2 –** Inform, learn from, and jointly advocate with clean water associations such as the other Clean Water Summit Partner organizations, NACWA, and WateReuse.

GOAL 3: PURSUE REGIONAL, MULTI-BENEFIT SOLUTIONS TO ENVIRONMENTAL CHALLENGES

Strategy 1 - Promote integrated approach to a healthy Bay.

- **Objective 1 –** Identify and establish effective collaborations with drinking water and stormwater communities to further the One Water concept and/or other multi-benefit project types.
- **Objective 2 –** Identify and establish collaborations to implement integrated approaches to sea level rise adaptation.
- **Objective 3 –** Identify and implement effective pollution prevention strategies in partnership with regulators and partners.
- **Objective 4 –** Work with members and other regional entities to maximize grant funding for projects benefiting the region.

Strategy 2 - Support innovation to better address water quality and other ecological challenges.

- **Objective 1 –** Provide membership with information on technology pilot opportunities.
- **Objective 2 –** Establish and continue partnerships with universities and other research institutions and initiatives to develop collaborative approaches to issues of importance to the clean water community.
- **Objective 3** – Support existing coalitions and agencies that are pursuing regional solutions to challenges impacting the San Francisco Bay clean water community.

Strategy 3 - Provide value to members through facilitating regional solutions.

- **Objective 1 –** Continue to provide joint compliance activities on behalf of members, such as reporting via the Annual NPDES compliance letter to the Regional Water Board.
- **Objective 2 –** Continue to support and report compliance with the Mercury/PCB and Nutrient Watershed Permits.
- **Objective 3 –** Engage with regulators on behalf of individual member agencies when issues of regional importance arise.
- **Objective 4 –** Coordinate regional solutions to comply with new Environmental Laboratory Accreditation Program (ELAP) regulations.
- **Objective 5 –** Support members' biosolids programs via data-gathering, reporting, and information exchange related to biosolids management.

GOAL 4: EXEMPLIFY SERVICE AND RESPONSIVENESS TO MEMBERS AND PUBLIC

Strategy 1 - Ensure members are knowledgeable about critical issues and activities.

- **Objective 1 –** Communicate timely regulatory and technical information and events via BACWA committees, the BACWA Bulletin newsletter, and emails to members.
- **Objective 2 –** Ensure that BACWA contact lists are up to date.

Strategy 2 - Provide education and outreach to members and the public.

- **Objective 1 –** Provide support for pollution prevention messaging to the public via BAPPG.
- **Objective 2 –** Explore ways to support members' public communication on nutrients and other issues.

Strategy 3 - Provide forum to hear all member voices.

- **Objective 1** – Conduct outreach to all members to inform them about opportunities for participation via committees and other events.
  - **Objective 2** – Ensure that each member agency is knowledgeable about and engaged in negotiations on the 3rd Nutrient Watershed Permit so that BACWA's position reflects the interests of our members.
- **Objective 3 –** Provide forums and opportunities for information-sharing among members on issues of importance.
- **Objective 4 –** Use technology to maximize member participation in committee meetings.

Strategy 4 - Provide support for Projects of Special Benefit to assist membership.

- **Objective 1 –** Continue to support the Bay Area Biosolids Coalition (BABC).
- **Objective 2 –**Complete transition of administration of the Bay Area Chemical Consortium (BACC) from DSRSD.
- **Objective 3 –** Support Bay Area Consortium for Water/Wastewater Education (BACWWE) as they transition to a scholarship-based system and continue collaboration with BAYWORK.

- **Objective 4 –** Consider any new requests for BACWA support based on members' benefits and potential costs to BACWA.

GOAL 5: PRACTICE GOOD GOVERNANCE

Strategy 1 - Ensure BACWA Policies and Procedures conform to applicable laws and best practices.

- **Objective 1 –**Regularly review and update BACWA Policies and Procedures.

Strategy 2 - Enhance fiscal transparency.

- **Objective 1 –** Work with EBMUD to improve readability and transparency of treasurer's reports in Executive Board Packet.
- **Objective 2** – Continue to update budget 5-Year Plan to ensure BACWA can develop its financial goals and has capacity for future initiatives to meet the objectives of the Strategic Plan**.**
- **Objective 3 –** Continue to improve internal controls on chain of custody to enhance transparency and security of authorizations and invoice approval process.

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 6
FILE NO.: 21-24
MEETING DATE: December 18, 2020

TITLE: Request for Board Approval of BACWA Policies: BFP 1.08 BACA Website

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

RECOMMENDED ACTION
Approve the following BACWA Policy: BFP 1.08 BACWA Website.

SUMMARY:
Board Policies provide direction to the organization on key administrative and financial issues. The BACWA Website policy purpose is to provide direction on development, use, and maintenance of a website for the organization.

The policy was reviewed in draft form at the November 2020 Board meeting and any comments have been incorporated into the final versions which are recommended for adoption.

FISCAL IMPACT
No fiscal impact to BACWA.

ALTERNATIVES
This action does not require consideration of alternatives.

Attachment; BACWA Policy: BFP 1.08 BACWA Website.

Approved:

Date: December 18, 2020

Amit Mutsuddy, Chair
BACWA Executive Board

POLICY NUMBER: BAP – 1.08

NAME OF POLICY: Website Policy

DATE APPROVED:

LAST REVISED:

PURPOSE: To provide direction on development, use, and maintenance of a website for the organization.

POLICY: BACWA shall develop and maintain a website for the benefit of its members and to assist in completing its mission. At a minimum the website should contain the following key information or categories which can be searched for information:

- agendas and packets for BACWA Executive Board Meetings
- documents produced by BACWA
- calendar of meeting and events
- announcements
- BACWA committee information
- general information about BACWA
- key contact information

The goal is to keep the website current and informative to foster use by the BACWA members. The website should be available to the public but may have one or more member-only sections, requiring a password to access. The website should contain information of benefit to the BACWA membership including information on regulatory, technical, and public education issues. The website will not contain any advertising materials for third-party entities. The BACWA Executive Director or their designee will serve as the Administrator of the website.

The website and its contents will be maintained so as to comply with open meeting laws and other applicable statute.

A Watershed Based Approach for Managing Nutrients in San Francisco Bay

Abstract No:

1543

Abstract Type:

Abstract

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Speaker:

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Folsom, CA

Abstract:

THE PROBLEM
While San Francisco Bay is recognized as a nutrient-enriched estuary, it has not been adversely impacted by nutrient loading because of a turbid environment that limits the photic zone depth, strong tides (limit stratification), and a large clam population that grazes on phytoplankton. Stakeholders are concerned that the Bay may be losing its resiliency as more recent monitoring shows lower turbidity levels, fewer clams due to predation, and phytoplankton production increases. If the Bay continues to lose resiliency, nutrient concentrations could support phytoplankton growth levels that could cause impairment (Cloern and Jassby, 2012).

While the Bay is not impaired, stakeholders are interested in advancing a system understanding and potential future management options via a combination of scientific studies and engineering to evaluate future nutrient management strategies. The San Francisco Bay Regional Water Quality Control Board (Water Board) adopted a Nutrient Watershed Permit in 2014 (R2-2014-0014) that required the development of engineering recommendations for San Francisco Bay Water Resource Recovery Facilities (WRRFs) (n=37; 827 mgd total permitted capacity) that ranged from optimization to enhanced nutrient removal (BACWA, 2018) because these WRRFs contribute about two-thirds of the nutrient loading to the Bay. Refer to Figure 1 for a map of the various dischargers that are covered under the Nutrient Watershed Permit. The Water Board adopted a 2nd Regional Nutrient Watershed Permit in 2019 (R2-2019-0017) that requires the WRRFs to evaluate nutrient reduction potential by nature-based solutions (NbS), such as constructed treatment wetlands, and of planned recycled water (RW) projects.

Objective: The proceedings will compare nutrient load reduction and cost findings from the 1st Nutrient Watershed Permit with preliminary findings from the 2nd Nutrient Watershed Permit.

THE SOLUTION/APPROACH

The WRRFs are represented by the Bay Area Clean Water Agencies (BACWA). BACWA is a joint powers agency, formed under the California Government Code by the five largest wastewater treatment agencies in the San Francisco Bay Area. BACWA members include the municipalities and special districts that provide sanitary sewer services to more than 7.1 million people.

While the Bay is not impaired by nutrients, BACWA and its member agencies aim to ensure protection of the beneficial uses and overall Bay health. The BACWA nutrient goal statement: nutrient management strategies should be protective of the environment, ensuring that all beneficial uses of the Bay are achieved; be based on robust scientific investigations; and make effective use of the public's resources in achieving this goal.

BACWA and its member agencies have been working collaboratively on the nutrient topic for over a decade. BACWA has been developing a menu of options if nutrient management beyond the status quo is required. The efforts have included nutrient sampling to characterize flows and loads, monitoring changes in the Bay, and modeling biochemical phenomena to predict potential outcomes given a variety of circumstances, supporting science, funding engineering studies, etc.

BACWA also provides funding to the Bay Nutrient Management Strategy (NMS), which is a regional initiative for developing the science needed to inform management decisions while maintaining beneficial uses within the Bay in response to the apparent changes in the Bay's nutrient loading resilience. NMS partners include federal/state agencies, local governments, non-profit organizations, and academic institutions. The NMS goal is to lay out a well-reasoned program to generate the scientific understanding needed to fully support management decisions.

The 1st Watershed Permit resulted in a coordinated effort across the BACWA members, including funding the science, effluent monitoring/reporting, and special studies. The permit required a special study to evaluate four elements of nutrient load reduction opportunities at WRRFs (if future load reductions are supported by science):

1. Optimization
2. Sidestream treatment
3. Upgrades (conventional and enhanced nutrient removal)
4. Nutrient reduction by other means (e.g., natural treatment systems)

A list of the nutrient targets by element is provided in Table 1. Note that the nutrient reduction by other means element is a compilation of existing documentation.

The Water Board adopted a 2nd Nutrient Watershed Permit in 2019 (R2-2019-0017) that requires special studies that focus on RW and NbS opportunities. The study will identify RW/NbS opportunities that include costs and the corresponding nutrient load reductions.

The goal of these two permits is to advance the science while developing a menu of nutrient management opportunities by agency, subembayment (n=5), and Baywide (if supported by science).

THE OUTCOME

The 1st Nutrient Watershed Permit results are presented in Table 2. The results suggest that optimization/sidestream treatment represent the most cost-effective means to reduce nutrient loads. In contrast, both upgrade strategies require at least an order of magnitude or more increase in cost compared to optimization/sidestream, albeit with an increase in load reduction potential.

The optimization values were compared against the literature which found the Bay Area values align (USEPA, 2015; Falk et al., 2019).

While the 1st Nutrient Watershed Permit results identified opportunities across the Bay, it is limited to opportunities inside WRRFs . The 2nd Watershed Permit expands upon this by including options outside WRRFs to identify a menu of nutrient management options (if reductions are supported by science).

A request for information (RFI) was sent out to the WRRFs in 2020 to initiate the RW/NbS investigation. A sample of RW volumes across the Bay is provided in Figure 2 (BACWA, 2018). A discussion for each task is provided in the subsections that follows.

Recycled Water

In the WEFTEC manuscript/presentation, the RW RFI findings will supplant values in Figure 2. In addition, the manuscript/presentation will include the following preliminary draft information:

1. Existing and projected flow/nutrient loads diverted from the Bay
2. Prospective RW projects/costs
3. Unit costs (e.g., $/lb nutrient)
4. RW barriers and drivers

Nature-based Solutions

The NbS RFI included drivers and barriers per agency with the intent of identifying 5 to 10 different WRRFs amenable to performing a planning level evaluation for NbS.

1st and 2nd Nutrient Watershed Permits Comparison

A preliminary draft comparison of costs for nutrient management options across the Bay will be presented as part of the WEFTEC manuscript/presentation.

CONCLUSIONS

The coordinated nutrient load reduction studies from the 1st and 2nd Nutrient Watershed Permits will provide a comprehensive menu of engineering options for holistically managing nutrients across the Bay. These results will assist with making informed decisions for any future nutrient load reductions.

In parallel to this study, the NMS is conducting scientific studies to determine any nutrient load impacts on Bay water quality. These efforts will be combined to develop a strategy to preserve Bay beneficial uses.

This approach of using science to evaluate the health of the Bay ecosystem coupled with WRRF nutrient management strategies can serve as a template for for other watersheds considering nutrient management strategies.

References/Sources:

BACWA (2018) Nutrient Reduction Study: Potential Nutrient Reduction by Treatment Optimization, Sidestream Treatment, Treatment Upgrades, and Other Means. BACWA, Oakland, CA (https://bacwa.org/wp-content/uploads/2018/06/BACWA_Final_Nutrient_Reduction_Report.pdf)
Cloern, J.E. and Jassby, A.D. (2012) Drivers of change in estuarine-coastal ecosystems: Discoveries from four decades of study in San Francisco Bay. Reviews of Geophysics, 50, RG4001, page 21.
Falk, M.W., Neethling, J.B., Reardon, D., Kennedy, H (2019) "What is the Cost for Optimizing a WRRF for Nutrient Removal". Wat. Environ. & Technol., 31(6):44-49
USEPA (2015) Draft Version 1.0: Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reductions at Wastewater Treatment Plants. EPA-841-R-15-004. Washington, D.C.

Format:

What is unique about this abstract is the collaborative nature and how a presentation (virtual OR in person) could reflect the various key players involved with managing nutrients across the Bay Area (all listed as authors). The idea is that each perspective can be given a slot with a panel discussion at the end. For example, BACWA could provide the WRRFs perspective, the Water Board the regulatory perspective, San Francisco Estuarine Institute the science perspective, and lastly the lead presenter (Mike Falk) could discuss how all the information was gathered and generated to help advance the nutrient management conversation.

Such a vision by the Bay Area could serve as a template for how taking a holistic approach with managing nutrients that others can adopt.

The team is also open to a traditional podium presentation OR pre-recorded presentation.

Theme:

Resilience

Topic:

Watershed Management

Focus Area:

Regulation

Keywords:

Natural Treatment Systems
Nutrient Removal
Water Recycling

(https://files.aievolution.com/prd/wef2101/abstracts/abs_1528/BACWA_Figure1.png)

·Figure 1. WRRFs Participating in the Regional Permits (n = 37; 827 mgd total permitted capacity across the Bay)

Task	Ammonia	Total Nitrogen	Total Phosphorus	Comment
Optimization	--	--	--	WRRF specific removal potential
Sidestream Treatment	--	--	--	WRRF specific removal potential
Conventional Nutrient Removal Upgrades	2 mg N/L	15 mg N/L	1.0 mg P/L	Typically without filters or external carbon**
Enhanced Nutrient Removal Upgrades	2 mg N/L	6 mg N/L	0.3 mg P/L	Requires filters/external carbon ***

* The nutrient analysis is based on performance and NOT water quality-based objectives.

** Assumed to be achievable by conventional nutrient removal processes without effluent filtration or an external carbon source. Certain participating plant configurations and technologies will require chemicals.

*** An external carbon source will not be required for certain plant configurations and technologies.

(https://files.aievolution.com/prd/wef2101/abstracts/abs_1528/BACWA_Table1.png)

·Table 1. Nutrient Removal Targets used for the 1st Watershed Permit (R2-2014-0014)*

Parameter	Optimization	Sidestream Treatment	Upgrades for Conventional Nutrient Removal (15 mg N/L; 1 mg P/L) [a]	Upgrades for Enhanced Nutrient Removal (6 mg N/L; 0.3 mg P/L) [b]
Total Present Value [c]	$ 266 Mil	$ 766 Mil	9,420	12,405
Total Phosphorus Load Reduction [d]	34%	12%	59%	88%
Total Nitrogen Load Reduction [d]	7%	19%	57%	82%
Unit Cost [e]	$ 0.5/gpd	$ 0.8/gpd	$ 10.8/gpd	$ 14.3/gpd
Total Phosphorus Load Reduction Unit Cost [e]	$ 8.6/lb P	$ 2.8/lb P	$ 44/lb P	$ 59/lb P
Total Nitrogen Load Reduction Unit Cost [e]	$ 5.6/lb N	$ 2.0/lb N	$ 8.7/lb N	$ 7.7/lb N

a. Assumed to be achievable by conventional nutrient removal processes without effluent filtration or an external carbon source. Certain participating plant configurations and technologies will require chemicals.

b. An external carbon source will not be required for certain plant configurations and technologies.

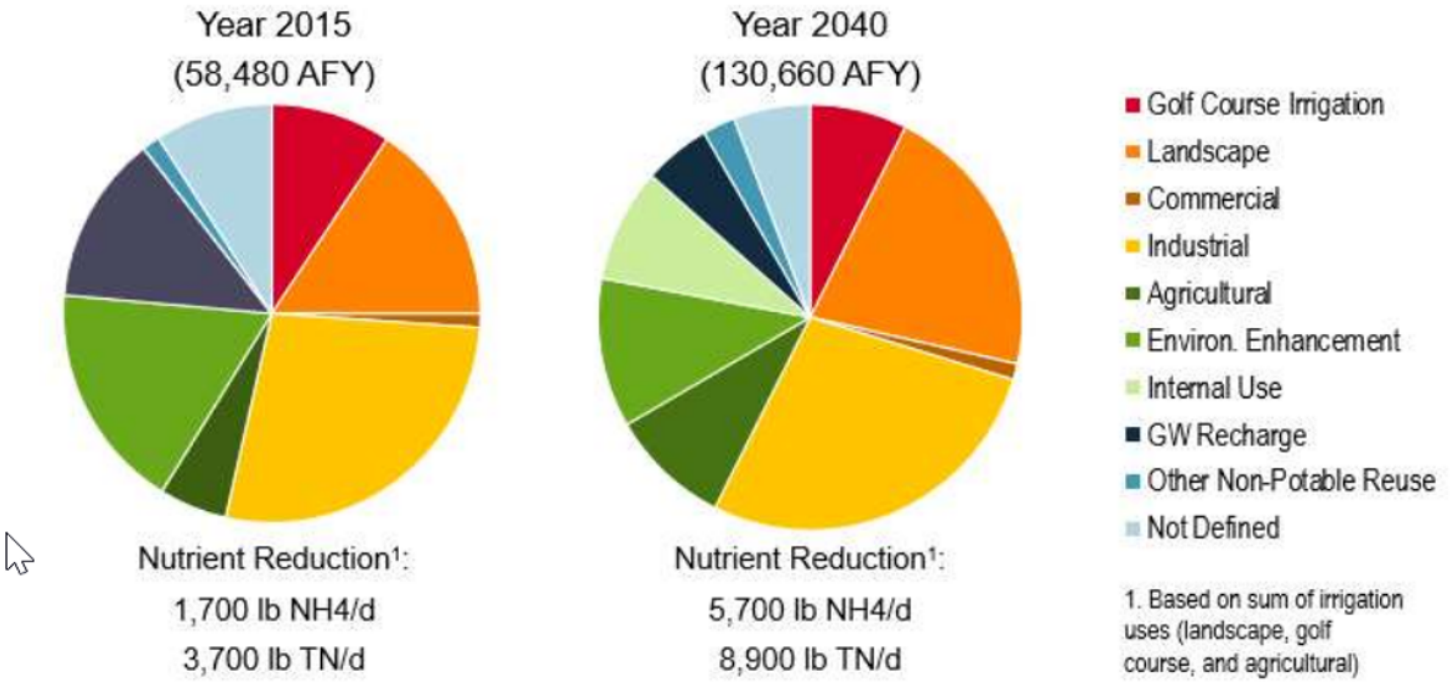
c. Costs are referenced to the ENR SF CCI for January 2018 at 12,015. Costs are not additive for scenarios (e.g., the Level 3 costs shown are inclusive of facilities needed to meet Level 2). Costs do not account for changes in any other process, including solids handling or associated energy requirements. PV is calculated based on a 2 percent discount rate for 10 years (optimization) and 30 years (sidestream and upgrades).

d. The projected discharge loads are based on the 2015 BACWA Nutrient Reduction Study Group Annual Report (data from 7/2012-6/2015) and are projected forward to the midpoint of the planning period. The reported flows and loads for optimization, upgrades, and sidestream represent average projected load reduction for the period of analysis (10-yr for optimization and 30-yr for upgrades and sidestream). Sidestream design flow reflects only the candidate plants.

e. Unit cost ($/gpd) was calculated by dividing the total present value by the WRRF specific permitted capacity flow. Unit cost ($/lb) was calculated by dividing the total present value for the nutrient of interest by the nutrient load reduction over the projection duration (e.g., for upgrades: total present value for total nitrogen removal facilities divided by (average annual total nitrogen removed times 30-years)).

(https://files.aievolution.com/prd/wef2101/abstracts/abs_1528/BACWA_Table2.png)

·Table 2. Bay Area Results for the 1st Watershed Permit (R2-2014-0014; n = 37 WRRFs; HDR (2018)



(https://files.aievolution.com/prd/wef2101/abstracts/abs_1528/BACWA_Figure2.png)

·Figure 2. Years 2015 and 2040: Recycled Water Distribution Across the Bay (BACWA, 2018)

If accepted, I agree to present my presentation in either an in-person or virtual format as determined by WEF. If selected for in-person presentation, and travel restrictions, health conditions, or other issues prohibit my ability to attend WEFTEC 2021, I agree to notify WEF immediately and provide my presentation in virtual format.

Yes

If accepted, I only want my presentation to be considered for virtual format.

No

List one key takeaway you intend people to learn from your presentation.

A proactive collaborative approach to nutrient management at the watershed level is key for developing a menu of cost-effective alternatives

Will you have presented this paper before WEFTEC 2021?

No

Can you present this presentation in another language?

No

Is abstract related to The Water Research Foundation research project?

Yes

Planning Subcommittee Meeting No. 52
December 2 2020
9:00 am – 12:00 pm
Teleconference
Chair: Ian Wren
Meeting Notes

Attendees: Dave Senn, Eric Dunleavey, Ian Wren, Robert Schlipf, Richard Looker, Lorien Fono.

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

2. *Review Outstanding Action items (LF) 5 min*

   - Work with Martha to deliver info on modeling uncertainty meeting to present to PSC (Dave) – Haven't been able to connect with Martha.
   - Send out Doodle to plan two 90 minute meetings to discuss how to approach scientific underpinnings of permitting and standards actions (Ian) - complete
   - Circulate presentation for Water Quality Regulators meeting (Tom) – will send it right after the meeting.

3. *Science Program update (DS) 10 min*
   a. *Modeling* – The focus has been on the Delta this fall and will shift bay to the Bay. A source apportionment/zone of influence report to the Water Board will be delivered on 12/16.
   b. *Field work* – Three shoal moorings are now installed. The team will be adding a NO3 sensor to Dumbarton in Dec/Jan. They conducted a successful biogeochemical field campaign in October. A new postdoc through Stanford is doing work measuring velocities and oxygen to give a metric of net flux, and oxygen demand across a wide spatial extent. So far, he has done some work in the Lower South Bay.
   c. *Monitoring Program* – USGS found funding for Brian Bergamaschi to act as lead scientist to integrate with the Peterson cruises. The ship will be administratively housed at the Water Sciences Center in Sacramento.
   d. *NMS Program Manager/Senior Scientist* – Has developed advertisement to post for this position. Would like to have clarity on how long the work is likely to continue to inform potential candidates.

4. *Planning Next Steering Committee Meeting*
   - The agenda in the earlier part of the morning will be business items, with technical material later on.

- The technical material will include the assessment framework. The goal is to be in a position to have agreement on the AF this year in term of the structure of how to make decisions, rather than the actual numerical indicators or targets. The Assessment Framework process as a whole should be wrapped up at the end of this permit cycle. Having conclusions as part of an assessment framework should lead to a leaner, more directed monitoring and modeling program in the long term.
- There is topic on the draft agenda about timing and science needs. The group agreed to move the topic to March when this item will be more fully fleshed out.
- OPC might give an update on funding allocations and modeling. Justine said there wasn't anything new to talk about, and suggested they punt this item to the spring. Martha could give the update, which shows non-trivial influences of anthropogenic discharges compared to upwelling in Southern California. There was a discussion about the timing of presenting this work to the Steering Committee or NTW. The conclusion was to push this item to a future meeting when there will be more Northern California-specific results, but to mention the coastal exchange study under item 5 – the NMS Program Update.
- The afternoon session would include Biogeochemical Field Study, Trends – Methods and Process, and the South Bay DO Analysis Update, or the "Hot and Dark" manuscript.
- We could also add to the agenda the steps to launch the model advisory group, as well as to get input on how to get technical updates to the SC, in terms of what are their needs.
- The entire meeting will wrap up at 12:30 with a 15 min break.

5. NMS *Priority Updates*

   a. Report-Outs – There was a citizen scientist report of a fish kill in the Redwood Shoals that Ian passed along to Derek.

   b. Current Issues - none

   c. NMS Calendar Review -10 min

      i. Review future SC and PSC meeting schedules (IW)
      The next Steering Committee meeting is on December 11. The next PSC meeting is scheduled for January 6.

6. Other Updates

   a. Approach for clarifying permit-based specifics of science goals & Watershed permit extension options (slides from this discussion are linked)

      - Water Board stated that if we need to have science-based reductions in WSP 3, will need to figure it out within the next two years, or by the end of FY23. If we find an impairment, then we'd need a TMDL to meet DO objectives. If we find a need for load reduction because then we'd need to do a planning

action. We would want an approach to monitor/model sloughs to continue to assess status.

- If all our resources were directed to it, then we could get results on DO in LSB within the next three years. It's a reasonable hypothesis that there is a nutrient-related effect on Alviso slough.

- From BACWA's perspective, the worst-case scenario is to plan for policy-based load caps, break ground on projects to implement caps, then have more significant load reductions to plan for. We really need planning certainty prior to making investments.

- Water Board's perspective is that the region wouldn't go wholesale greyscape to address nutrient reduction, but would incorporate RW and NBS. They agree we need to have some clarity at end of this permit. Unless there is a reg flag occurrence after the permit is established, we need to live with our decisions. Suisun bay is less of a concern than the South Bay. Potentially, load caps may be established for some but not all depending on the likelihood of impairment. Also, hopefully we can figure out whether a small reduction would make a difference, or would we need a huge difference.

- Ian will flesh out priorities in a memo prior to the December 17 meeting.

7. Action items:

- Finalize and distribute Steering Committee Agenda (Dave and Ian)
- Work with Martha to deliver info on modeling uncertainty meeting to present to PSC (Dave)
- Develop priorities memo prior to Nov 17 meeting (Ian)

8. Adjourn or address Parking Lot items

Parking Lot of Identified PS Future Agenda Items

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

Tuesday, December 15, 2020

To Whom It May Concern:

I am writing to offer the strong support the Bay Area Clean Water Agencies (BACWA) for your proposed research project "Identifying and Reducing Biologically Significant Pollutants in Sludge Treatment" to be submitted for funding by the U.S. Environmental Protection Agency under RFA EPA-G2021-ORD-F1. Our member agencies are committed to optimizing the beneficial reuse of biosolids and the environmental stewardship of lands to which biosolids are applied. Consequently, we have a keen interest in findings related to the bioactive compounds in biosolids, how these compare with those in other organic soil amendments, and how treatment operations may be modified to improve the bioactivity profile of biosolids we produce. Due to the overall abundance, general persistence, and rising concern for PFAS compounds in consumer products and subsequently the environment, careful attention is focused on this class of compounds in wastewater treatment.

This letter represents a matching funds commitment of $126,932 in kind. This support is provided from March 1, 2021 through June 30, 2021 and will facilitate quantitative PFAS analysis of fourteen biosolids samples from publicly owned treatment works located in the San Francisco Bay Area. These samples will be provided in their raw form for additional analyses as well.

The funding provided has been sourced through privatized efforts without any federal contributions.

Sincerely,

Lorien Fono
Executive Director,
Bay Area Clean Water Agencies

Bay Area Clean Water Agencies
2018 Biosolids Trends Survey Report

Photo: Anaerobic Digesters at City of Livermore Water Reclamation Plant. Source: Google Maps.

December 10, 2020

Contents

1. Introduction

Biosolids management programs at Publicly Owned Treatment Works (POTWs) are under increasing pressure in the San Francisco Bay Region. Northern California POTWs are much more likely to use landfill Alternative Daily Cover (ADC) as a reuse strategy than their counterparts in Southern California[1]. However, legislation and regulation aimed at diverting organic material from landfills will phase out landfill burial and ADC over the next several years. The California Association of Sanitation Agencies (CASA) prepared a *Summary of SB 1383 and its Implementation*[2]*,* which outlines the regulatory challenges facing biosolids reuse and management alternatives for California agencies.

Bay Area Clean Water Agencies (BACWA) is a joint powers agency whose members own and operate POTWs and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay Area (Bay Area). In summer 2016, BACWA distributed a survey to its member agencies to better understand the state of the biosolids treatment, disposal, and reuse in the Bay Area. In 2017, a report was published based on those survey results[3]. The survey was then updated in the summer of 2018[4]. The intent of this survey was to summarize information obtained from BACWA members in order to identify current industry trends for the following issues:

- *Biosolids production*
- *Dewatering technologies*
- *Biosolids management technologies and destination*
- *Biosolids management and transportation rates*
- *Agency challenges*
- *Long term biosolids management plans*
- *Marketing efforts*
- *Social media outlets for biosolids marketing*

The Survey includes responses from the following agencies, representing more than 95 percent of the total flow of BACWA member agencies, plus the City of Santa Rosa (which is not a BACWA member):

- Central Contra Costa Sanitary District
- Central Marin Sanitation Agency
- City of American Canyon
- City of Benicia

[1] See SCAP Biosolids Trends Survey https://bacwa.org/wp-content/uploads/2020/11/2018_SCAP_BIOSOLIDS_BIENNIAL-2020_01_14-FINALv3.pdf
[2] https://bacwa.org/wp-content/uploads/2020/11/SB-1383-and-its-Implementation-CASA-2020.pdf
[3] https://bacwa.org/wp-content/uploads/2017/08/BACWA-2016-Biosolids-survey-report-1.pdf
[4] Survey questions may be viewed by following this link: https://www.surveymonkey.com/r/7Q3PDY9

- City of Hayward
- City of Livermore
- City of Millbrae
- City of Palo Alto
- City of Petaluma
- City of San Jose
- City of San Leandro
- City of San Mateo
- City of Santa Rosa
- City of South San Francisco - San Bruno Water Quality Control Plant
- City of Sunnyvale
- Delta Diablo
- Dublin San Ramon Services District
- East Bay Municipal Utility District
- Fairfield-Suisun Sewer District
- Las Gallinas Valley Sanitary District
- Mt. View Sanitary District
- Napa Sanitation District
- Novato Sanitary District
- Oro Loma Sanitary District
- San Francisco Public Utilities Commission
- Sewer Authority Mid-Coastside
- Sewerage Agency of Southern Marin
- Silicon Valley Clean Water
- Union Sanitary District
- Vallejo Flood & Wastewater District
- West County Wastewater District

The list of respondents above is the same as a prior version of this survey conducted in 2016. The body of the report summarizes the data provided by agencies, while data on reuse and disposal destinations is presented in full in **Appendix A**. It is BACWA's intention to conduct this survey on a biennial basis. Agency responses will be used as part of a regional conversation about the future of biosolids management in Northern California, to identify regional needs, and to support efforts to identify and develop additional sustainable biosolids reuse alternatives. The survey was coordinated with the Southern California Alliance of Publicly

Owned Treatment Works (SCAP) Biosolids Trends Survey[5] and allows data comparisons between northern and southern California agencies.

BACWA wishes to thank all agencies that took the time and effort to assist with the production of this survey and report.

2. Treatment Technology

Survey respondents reported the technology used to produce and treat biosolids at each facility. Most facilities (25 out of 31 respondents) use mesophilic anaerobic digestion, as shown below in **Figure 1**. Four facilities reported using more than one method of treatment:

- Sunnyvale uses mesophilic anaerobic digestion and oxidation ponds.
- Dublin San Ramon Services District uses mesophilic anaerobic digestion and facultative sludge lagoons.
- City of San Jose uses mesophilic anaerobic digestion, lagoon stabilization, and air drying.
- City of Santa Rosa uses mesophilic anaerobic digestion and composting.

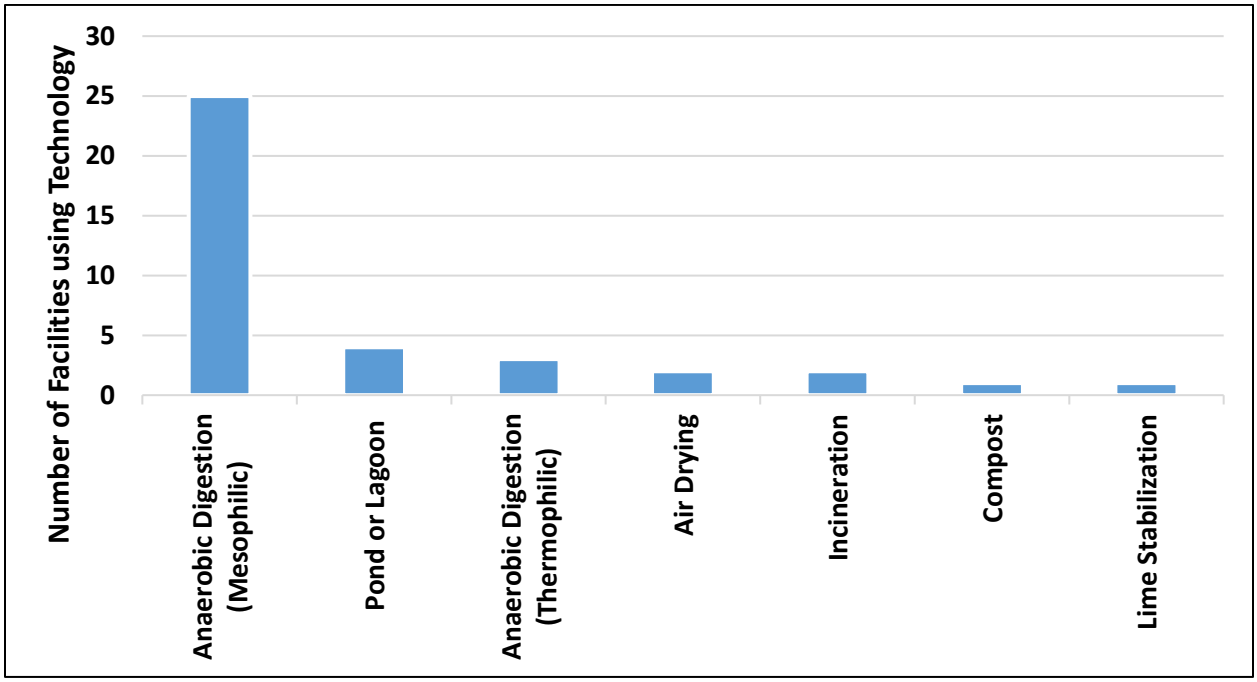


Figure 1. Technology used for biosolids production and management by survey respondents.

[5] SCAP Biosolids Trends Survey https://bacwa.org/wp-content/uploads/2020/11/2018_SCAP_BIOSOLIDS_BIENNIAL-2020_01_14-FINALv3.pdf

3. Annual Biosolids Production

Survey respondents reported their biosolids production for the 2016 and 2017 calendar years. **Table 1** lists the type of biosolids produced by each agency, based on the classifications defined by EPA Rule 503[6]. Solids designated as EQ are "Exceptional Quality" biosolids, and "Other Quality" solids do not need to meet the 503 Rules, due to their final disposition. **Figure 2** and **Figure** 3 compare the total tonnage of wet and dry tons, respectively, which were largely unchanged between the two calendar years. The dry tonnage reported in Figure 3 for 2016 assumes that percent solids were approximately the same as 2017.

The preponderance of wet tons of biosolids produced in the San Francisco Bay Region are Class B. Production of Class A biosolids dropped dramatically between the first and second surveys. The primary reason for the decline in Class A is that the City of San Jose ceased testing its biosolids to demonstrate that they meet Class A quality. Testing was ceased because their biosolids were not going to Class A re-use and the cost of the additional testing was providing no tangible benefits. The solids are the same quality, despite no longer being labeled as "Class A."

Table 1. Classes of biosolids produced by respondents

Agency	Biosolids Class
Central Contra Costa Sanitary District	Other (Incineration Ash)
Central Marin Sanitation Agency	B
City of American Canyon	B
City of Benicia	B
City of Hayward	A
City of Livermore	B
City of Millbrae	B
City of Palo Alto	Other (Incineration Ash)
City of Petaluma	B
City of San Jose	B[a]
City of San Leandro	A and B
City of San Mateo	B
City of Santa Rosa	A and B
City of South San Francisco - San Bruno Water Quality Control Plant	B
City of Sunnyvale	B
Delta Diablo	B
Dublin San Ramon Services District	Other (Surface Disposal)
East Bay Municipal Utility District	B

[6]See the "Plain English Guide to the EPA Part 503 Biosolids Rule" at https://www.epa.gov/sites/production/files/2015-05/documents/a_plain_english_guide_to_the_epa_part_503_biosolids_rule.pdf

Agency	Biosolids Class
Fairfield-Suisun Sewer District	Other (Processed at Lystek to A-EQ)
Las Gallinas Valley Sanitary District	B
Mt. View Sanitary District	B
Napa Sanitation District	B
Novato Sanitary District	B
Oro Loma SD	B
San Francisco Public Utilities Commission	A and B
Sewer Authority Mid-Coastside	B
Sewerage Agency of Southern Marin	B
Silicon Valley Clean Water	B
Union Sanitary District	B (and A after composting off-site)
Vallejo Flood & Wastewater District	B
West County Wastewater District	B

[a] In 2017, City of San Jose biosolids were reported as Class B because pathogen testing was not performed. Testing to demonstrate Class A quality resumed in 2019.

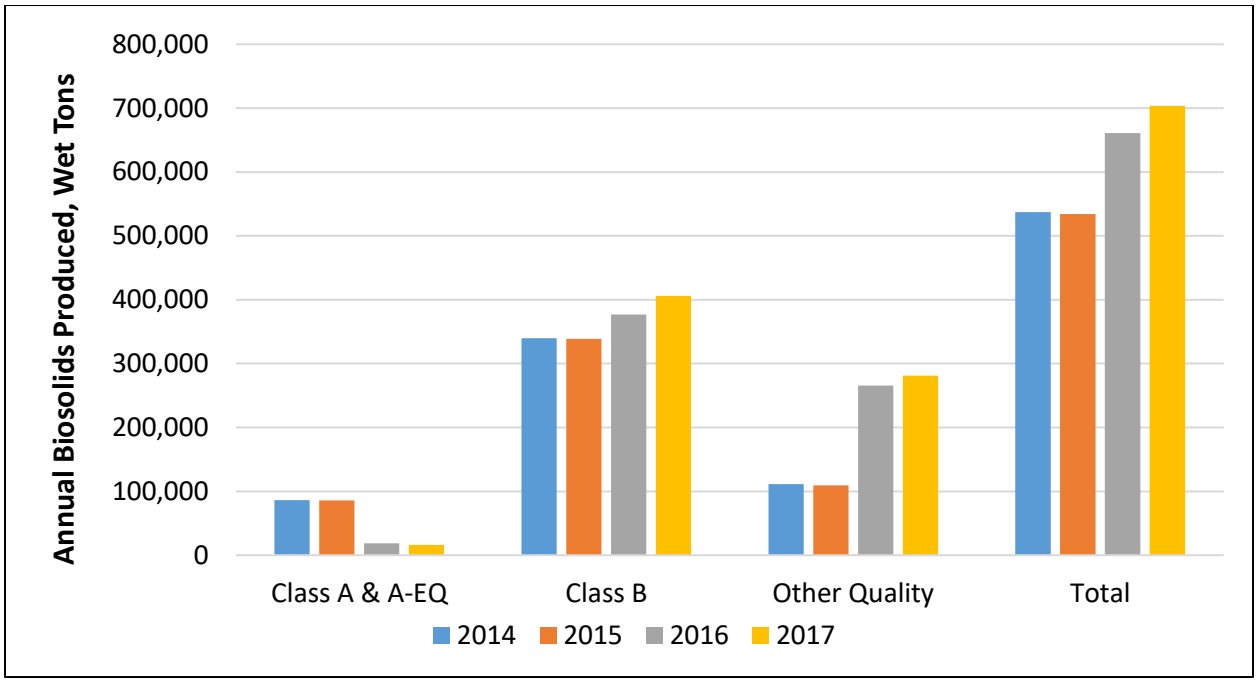


Figure 2. Aggregate wet tons of biosolids of different classes produced by survey respondents.

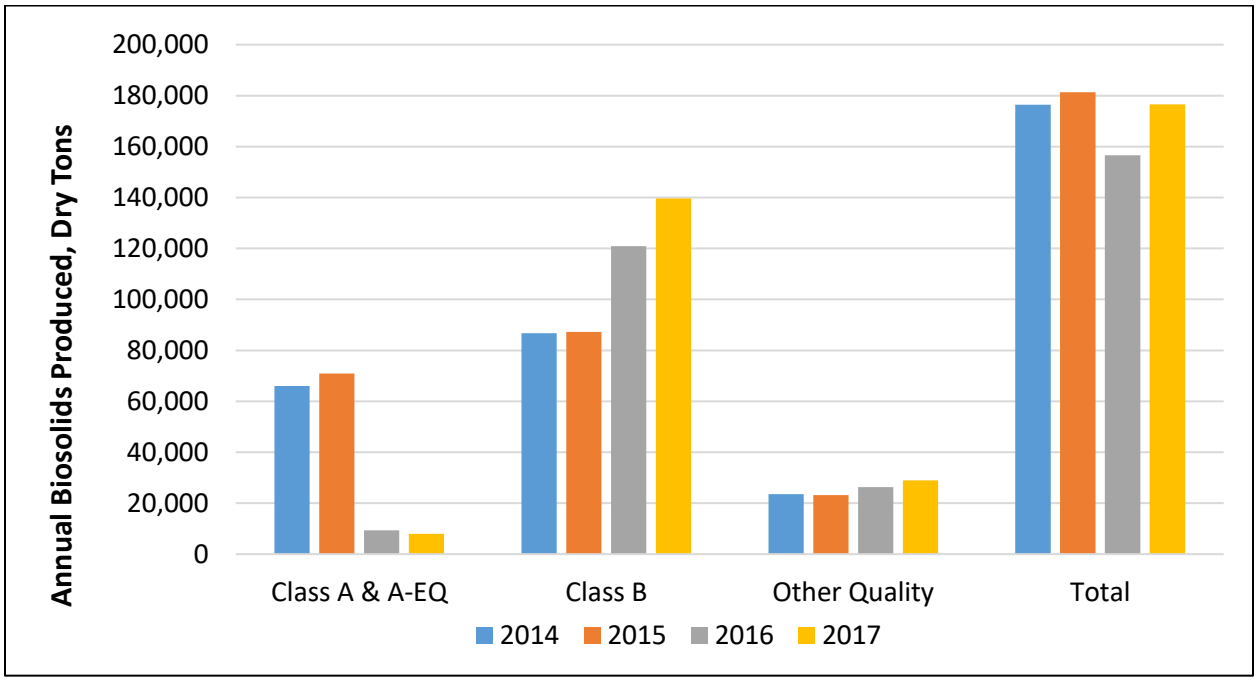


Figure 3. Aggregate dry tons of biosolids of different classes produced by survey respondents.

4. Management Options, Management Costs and Dewatering Statistics

Biosolids Reuse and Disposals Options

The amount of biosolids sent to each type of reuse and disposal destination by each responding agency is reported in **Table 2.** The accompanying **Figure 4** and **Figure 5** illustrate the relative importance of each reuse and disposal method for wet and dry tons, respectively. Reuse via landfill alternative daily cover (ADC) receives the largest amount of dry tonnage of biosolids in the region, followed by land application. Onsite disposal accounts for a large amount of wet tonnage, but a small amount of dry tonnage because of the low solids content.

Table 2. Wet tons of biosolids delivered by usage, 2017.

Agency	ADC	Landfill disposal	Land Application	Compost	Lystek	Biochar	Incineration	Onsite disposal	Total
American Canyon, City of	696								696
Central Contra Costa Sanitary District							75,004		75,004
Central Marin Sanitation Agency	3,406		1,120	18	1,862				6,406
Benicia, City of	2,644								2,644
Hayward, City of	6,790								6,790
Millbrae, City of			1,715						1,715
Petaluma, City of	8,100				490				8,590
Sunnyvale, City of			11,949	94					12,043
Delta Diablo		725	11,545	713					12,982
Dublin San Ramon Services District								170,482	170,482
East Bay Municipal Utility District	28,405	6,821	41,453		7,708				84,387
Fairfield-Suisun Sewer District					17,500				17,500
Las Gallinas Valley Sanitary District								7,694	7,694
Livermore, City of	4,100		4,741						8,841
Mt. View Sanitary District	721				21				742
Napa Sanitation District			6,949						6,949
Novato Sanitary District								12,945	12,945
Oro Loma Sanitary District			4,260						4,260
Palo Alto, City of							18,406		18,406
San Francisco Public Utilities Commission	35,113		24,005	23	5,496				64,637
San Jose, City of	54,874								54,874
San Leandro, City of			3,898[a]						3,898
San Mateo, City of	3,474		1,756						5,230
Santa Rosa, City of	1,758		26,187	8,578					36,523
Sewer Authority Mid-Coastside	285								285

Agency	ADC	Landfill disposal	Land Application	Compost	Lystek	Biochar	Incineration	Onsite disposal	Total
Sewerage Agency of Southern Marin	1,133								1,133
Silicon Valley Clean Water	256	659	6,956	965		266			9,101
South San Francisco - San Bruno WQCP, City of	13,199								13,199
Union Sanitary District		1,624	11,784	6,584					19,992
Vallejo Flood & Wastewater District			11,632						11,632
West County Wastewater District	27,908								27,908
Sum	192,863	9,829	169,538	16,973	33,077	266	93,410	191,121	707,490

[a] Estimated based on 1,248 dry metric tons send to direct land application, assuming 90% solids for Class A and 16% solids for Class B.

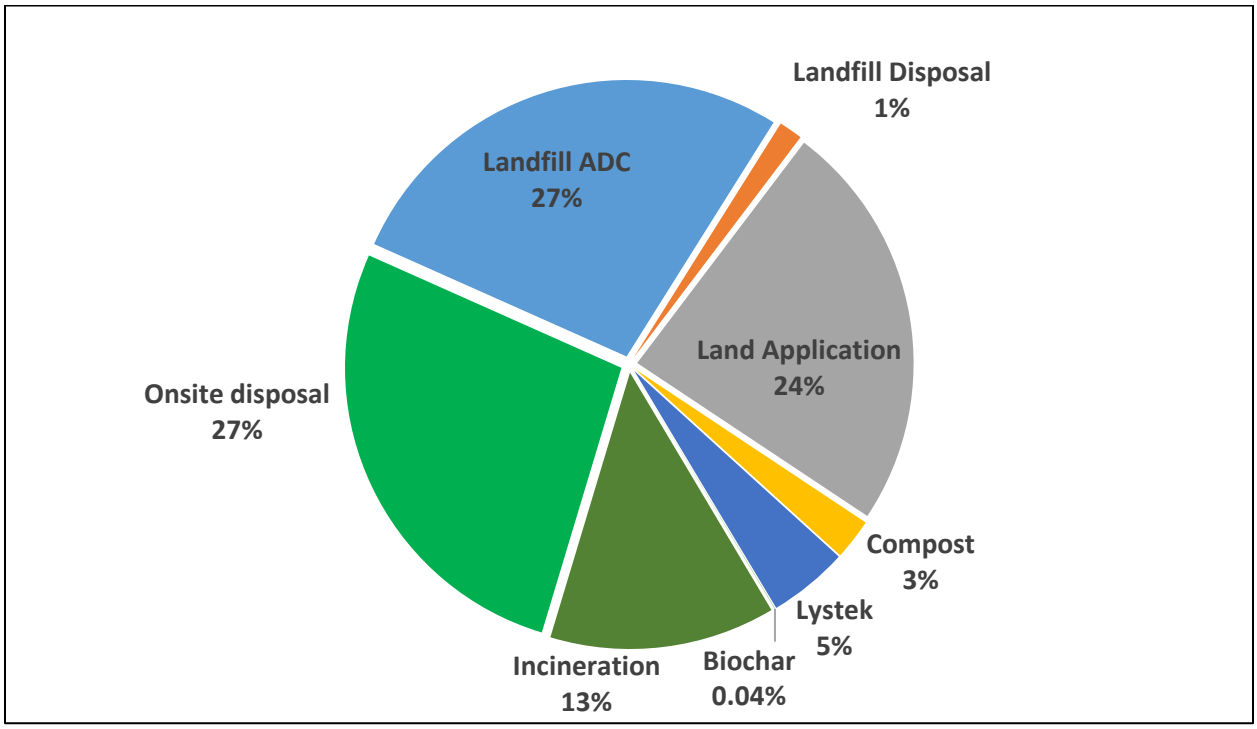


Figure 4. Relative wet tonnage of biosolids per reuse and disposal method in 2017.

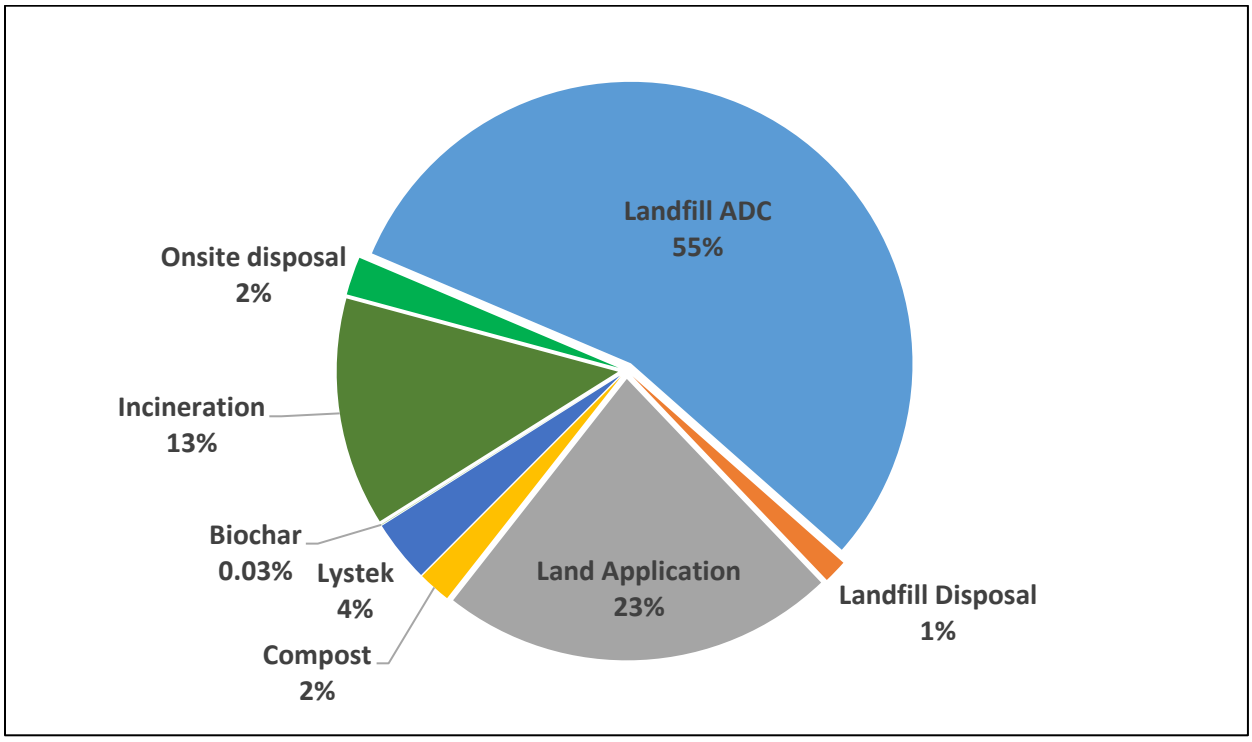


Figure 5. Relative dry tonnage of biosolids per reuse and disposal method in 2017.

Another way to measure the relative importance of reuse and disposal methods is by counting the number of agencies that employ each, as illustrated in **Figure 6**. As can be seen in **Table 2**, many agencies use more than one reuse or disposal management strategies. Out of the thirty-one responding agencies, seventeen used landfill ADC as one of their management strategies. Land application was the next most popular, followed by composting and treatment at Lystek. Landfill disposal was used by just four agencies. Incineration was used by two agencies in 2017, although one of these agencies, the City of Palo Alto, was planning a transition away from incineration.

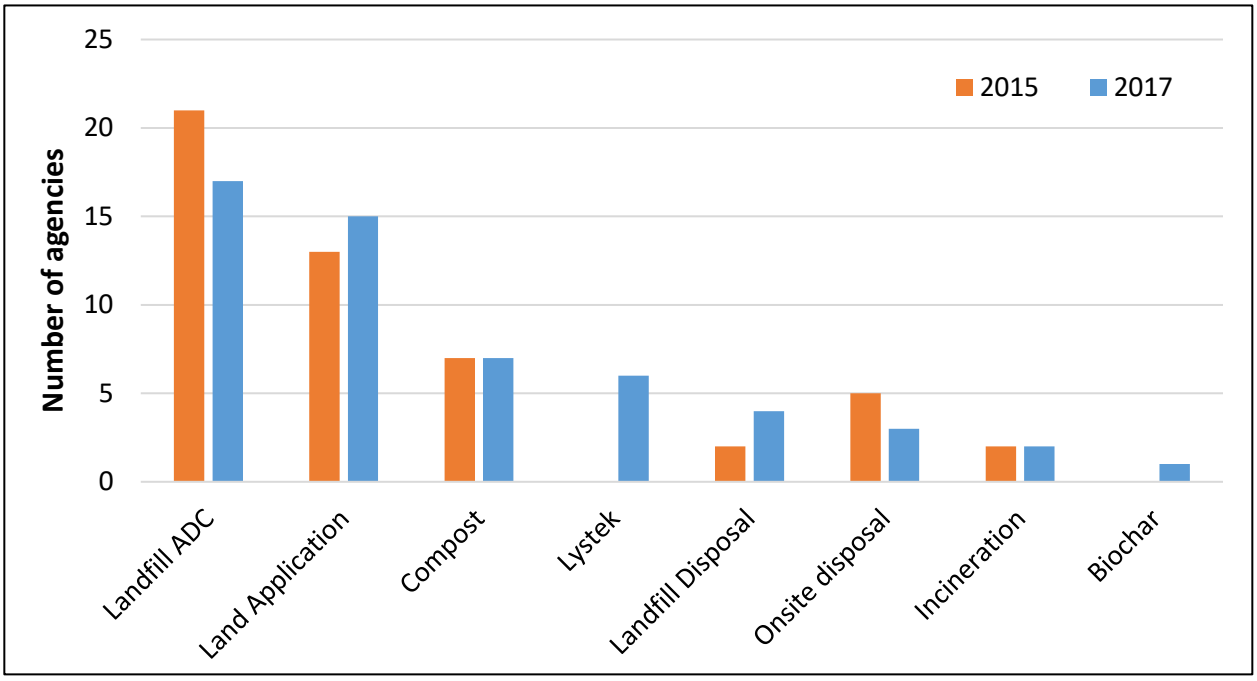


Figure 6. Changes in biosolids management practices for 31 survey respondents, 2015 to 2017.

As of 2017, six agencies were sending biosolids to the Lystek Organic Materials Recovery Center (OMRC) located in Fairfield. The OMRC began processing biosolids to produce Class A-EQ liquid fertilizer in 2016, and in 2017 it accounted for 5% of total wet tonnage produced by survey respondents (3% of total dry tonnage).

While Lystek grew in popularity as a biosolids reuse option, landfill ADC became less popular: In 2015, 21 agencies sent biosolids to landfill ADC, while in 2017, 17 agencies sent biosolids to landfill ADC. Fairfield-Suisun Sewer District, City of Millbrae, Oro Loma Sanitary District, and Union Sanitary District used biosolids for Landfill ADC in 2015, but not in 2017. More agencies are expected to move away from Landfill ADC in the future due to SB 1383 (see **Table 6**).

Management Costs

Agencies that send biosolids to multiple destinations report a range of costs per ton. Minimum and maximum reported hauling and tipping costs for each agency are reported in Table 3. Where costs were provided by the respondent as a range, the mean of the range was used for that destination. Total costs per agency are calculated by multiplying tons of solids by cost per ton for each destination and summing the destinations. Average costs for each agency are calculated by dividing total cost by tons of biosolids.

Table 3. Hauling and tipping costs for agencies

Agency	Minimum Cost ($/Ton)	Maximum Cost ($/Ton)	Average Cost ($/Ton)	Total Cost ($/Yr)
American Canyon, City of	Solids hauled as part of agency's franchise agreement.			
Central Contra Costa Sanitary District	Onsite incineration. Cost information not provided.			
Central Marin Sanitation Agency	$29	$96	$61	$393,200
Benicia, City of	$87	$87	$87	$230,100
Hayward, City of	Cost information not provided			
Millbrae, City of	$59	$59	$59	$101,000
Petaluma, City of	$49	$90	$51	$441,000
Sunnyvale, City of	$108[a]	$117[a]	$108[a]	$1,302,100[b]
Delta Diablo	$33	$55	$34	$447,700
Dublin San Ramon Services District	Onsite disposal. Cost information not provided.			
East Bay Municipal Utility District	$29	$77	$39	$3,280,400
Fairfield-Suisun Sewer District	$55	$55	$55	$970,400
Las Gallinas Valley Sanitary District	$9	$9	$9	$67,500
Livermore, City of	$40	$40	$40	$353,600
Mt. View Sanitary District	$52	$99	$75	$55,700
Napa Sanitation District	$43	$43	$43	$298,800
Novato Sanitary District	$15	$15	$15	$188,500
Oro Loma Sanitary District	$42	$42	$42	$178,900
Palo Alto, City of	$71[b]	$71[b]	$71[b]	$1,305,300[a]
San Francisco Public Utilities Commission	$58	$98	$65	$4,169,200
San Jose, City of	$30	$30	$30	$1,646,200
San Leandro, City of	$37	$37	$37	$144,200
San Mateo, City of	$37	$37	$37	$192,600
Santa Rosa, City of	$4	$85	$8	$309,800
Sewer Authority Mid-Coastside	$62	$62	$62	$17,700
Sewerage Agency of Southern Marin	$96	$96	$96	$108,800

Agency	Minimum Cost ($/Ton)	Maximum Cost ($/Ton)	Average Cost ($/Ton)	Total Cost ($/Yr)
Silicon Valley Clean Water	$41	$53	$43	$392,200
South San Francisco – San Bruno WQCP, City of	$58	$58	$58	$765,500
Union Sanitary District	$32	$56	$40	$798,000
Vallejo Flood & Wastewater District	Land application on District-owned land (Tubbs Island). Cost information not provided.			
West County Wastewater District	Solids hauled as part of agency's franchise agreement.			
Subtotal (25 of 31 agencies reporting)				$18,158,000

[a] Cost has been converted to equivalent for wet biosolids, although City pays based on dry weight basis. Dewatering is included in cost.

[b] Cost has been converted to equivalent for wet biosolids, although dry ash is hauled.

For the 24 agencies that reported costs in both 2015 and 2017, total costs rose about 12%, from about $16M in 2015 to $18M in 2017. This represents at 12% increase in costs over two years; by comparison, the U.S. inflation rate from 2015-2017 totaled 3%.

The range of hauling and tipping costs associated with each reuse and disposal alternative are plotted in **Figure 7**. City of Sunnyvale costs for land application, landfill ADC, and compost included dewatering and were therefore omitted from Figure 7. For agencies with available land, onsite disposal is by far the lowest-cost option. As in the previous survey, unit costs for landfill ADC and land application showed a very large range, with landfill ADC (median cost: $48/ton) proving to be more expensive than land application (median cost: $33/ton). This is true even if Santa Rosa is excluded (median land application cost excluding Santa Rosa: $43/ton); Santa Rosa operates its own land application program and reported significantly lower unit costs than any other agency. The median unit cost for land application stayed about the same from 2015 to 2017, while the median unit cost for landfill ADC increased from $43/ton to $48/ton (12% increase over 2 years).

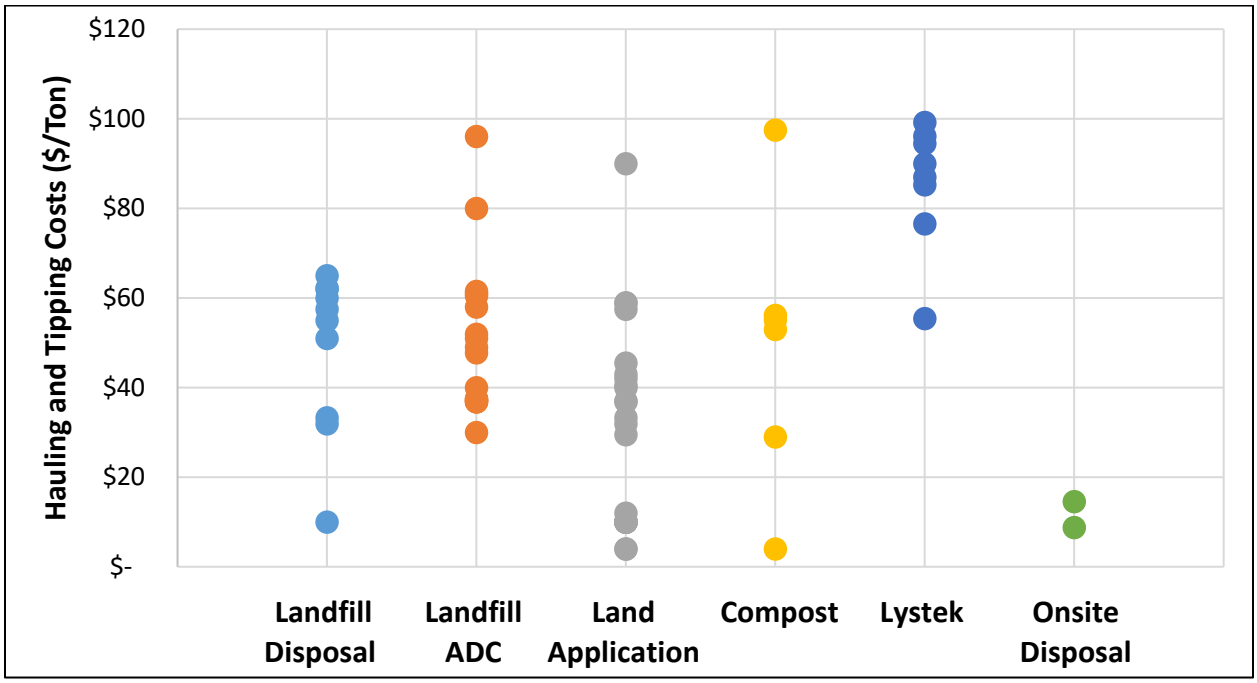


Figure 7. Tipping and Hauling Costs for each reuse/disposal alternative.

Hauling Distance

The range of round-trip hauling distances for each agency, as well as total ton-miles, are listed in **Table 4.** The ton-miles provides a metric for the total hauling burden for each agency.

Table 4. Round-trip Distance Hauled

Agency	Minimum Distance Hauled (Round Trip, miles)	Maximum Distance Hauled (Round Trip, miles)	Total Ton-Miles
American Canyon, City of	62	62	43,200
Central Contra Costa Sanitary District	Not avail.	Not Avail.	Not Avail.
Central Marin Sanitation Agency	35	296	415,300
Benicia, City of	70	70	185,100
Hayward, City of	70	70	475,300
Millbrae, City of	200	264	344,700
Petaluma, City of	75	108	911,600
Sunnyvale, City of	130	250	1,582,000
Delta Diablo	150	240	2,047,700
Dublin San Ramon Services District	0	0	0
East Bay Municipal Utility District	76	262	14,734,600
Fairfield-Suisun Sewer District	0	0	0
Las Gallinas Valley Sanitary District	0.3	0.3	2,600
Livermore, City of	19	175	907,600
Mt. View Sanitary District	42	74	51,600

Agency	Minimum Distance Hauled (Round Trip, miles)	Maximum Distance Hauled (Round Trip, miles)	Total Ton-Miles
Napa Sanitation District	6	6	41,700
Novato Sanitary District	0	0	0
Oro Loma Sanitary District	120	120	511,200
Palo Alto, City of	372	372	2,464,900[a]
San Francisco Public Utilities Commission	100	290	8,132,300
San Jose, City of	2	2	109,700
San Leandro, City of	240[b]	240[b]	935,600
San Mateo, City of	116	870	2,084,900
Santa Rosa, City of	1	229	1,416,800
Sewer Authority Mid-Coastside	8	8	2,300
Sewerage Agency of Southern Marin	43	43	48,800
Silicon Valley Clean Water	0	250	2,183,200
South San Francisco – San Bruno WQCP, City of	123	123	1,623,500
Union Sanitary District	128	242	3,468,600
Vallejo Flood & Wastewater District	24	24	279,200
West County Wastewater District	57	57	1,590,800
Total (31 of 31 agencies reporting)			**46,595,000**

[a] Total for hauling of dry ash.

[b] Estimated distance of Merced County.

The combined hauling burden for all survey respondents (46,595,000 ton-miles) represents a 14% increase compared to the total 2015 value of 41,011,000 ton-miles.

Dewatering Statistics

The on-site methods employed by agencies to dewater biosolids prior to final use included drying beds, centrifuges, presses, and dryers. Dewatering equipment employed by each agency, as well as the resulting percentage of solids, is listed in **Table 5.**

Table 5. Percentage Solids, Dewatering technology type and manufacturer for each agency

Agency	Percent Solids	Dewatering Technology	Equipment Manufacturer
American Canyon, City of	15%	Screw Press	OR-TEC
Central Contra Costa Sanitary District	Not avail.	Centrifuge	Sharples
Central Marin Sanitation Agency	25%	Centrifuge	Centrisys CS 18-4

Agency	Percent Solids	Dewatering Technology	Equipment Manufacturer
Benicia, City of	16%	Belt Filter Press	Ashbrook
Hayward, City of	85%	Drying Bed	-
Millbrae, City of	19%	Belt Filter Press	Andriz/Pilgram
Petaluma, City of	16%	Screw Press	FKC Screw Press
Sunnyvale, City of	24 to 26%	Centrifuge, Belt Filter Press	Andritz (centrifuge) and FRC (belt press)
Delta Diablo	25%	Centrifuge	Flottweg centrifuges
Dublin San Ramon Services District	<2%	No dewatering	N/A
East Bay Municipal Utility District	23%	Centrifuge	Flottweg and Humboldt centrifuges
Fairfield-Suisun Sewer District	16%	Screw Press	FKC
Las Gallinas Valley Sanitary District	5%	Sludge lagoons	N/A
Livermore, City of	17%	Belt Filter Press	Ashbrooks
Mt. View Sanitary District	27 to 42%	Centrifuge, Drying Bed	Centritech centrifuge
Napa Sanitation District	18%	Belt Filter Press	Ashcroft
Novato Sanitary District	6%	Sludge lagoons	Not Applicable
Oro Loma Sanitary District	80%	Belt Filter Press	BDP Belt Press
Palo Alto, City of	25-36%	Belt Filter Press	Ashbrook Simon-Hartley, Model WP (i.e., Bellmer Winklepress)
San Francisco Public Utilities Commission	23%	Centrifuge, Screw Press	Screw Press – FKC, Centrifuges – Humboldt/Sharpels
San Jose, City of	87%	Drying Bed	The City does not have a mechanical dewatering process in place yet but is in on track to construct a mechanical dewatering facility that will use centrifuges.
San Leandro, City of	Not avail.	Belt Filter Press, Drying Bed	BDP 3dp belt filter press
San Mateo, City of	25%	Centrifuge	Westfalia
Santa Rosa, City of	16%	Belt Filter Press	Ashbrook
Sewer Authority Mid-Coastside	18%	Belt Filter Press	Ashbrook 2 meter press
Sewerage Agency of Southern Marin	25%	Belt Filter Press	BDP Industries
Silicon Valley Clean Water	Not avail.	1st stage Fournier Press, 2nd stage Drying beds & Bioforce Tech	Fournier Press

Agency	Percent Solids	Dewatering Technology	Equipment Manufacturer
South San Francisco – San Bruno WQCP, City of	15%	Belt Filter Press	Komline-Sanderson
Union Sanitary District	24%	Centrifuge	Andritz D5LL Decanter Centrifuge
Vallejo Flood & Wastewater District	31%	Belt Filter Press	Ashbrook
West County Wastewater District	83%	Drying Bed	-

5. Challenges and Future Planning

Challenges

Agencies were asked to rank the challenges facing their biosolids program. The following challenges are ranked from the aggregate responses from most to least important:

1. Rising costs
2. Securing sustainable reuse options
3. Regulatory Restrictions on using Biosolids for Alternative Daily Cover
4. Hauling distance
5. Public perception/relations
6. Local restrictions on land application
7. Wet weather impeding drying operations
8. Space for drying operations
9. Other

Reasons listed as "other" included:

- Uncertainty regarding the future viability of on-site disposal
- Loss of drying beds due to space constraints
- Sea level rise
- Restrictions on land application due to organic farming

As in the 2016 survey, rising costs were the top concern overall. On an individual agency basis, rising costs were listed as the top concern for about half of the agencies that responded.

Future Biosolids Management Plans

The survey asked respondents about their plans for biosolids management in 2019. 25 of 31 respondents selected the response "Same plan/strategy as 2017." The remaining 6 agencies had the following responses:

- City of Benicia: *"Hauling to Lystek where biosolids are converted to Class A EQ for fertilizer."*

- City of Petaluma: *"City to issue Biosolids RFP in 2019".*
- Dublin San Ramon Services District: *"Our Wastewater Treatment and Biosolids Facilities Master Plan in September 2017 identified future solids storage concerns. Due to the concern of solids accumulation and FSL/DLD capacity we are presently evaluating dewatering as an option to address the issue."*
- East Bay Municipal Utility District: *"In 2018 and 2019 we are increasing our diversion from ADC to compost and wet weather storage."*
- City of Palo Alto: "*Decommission sewage sludge incinerators and use new Sludge Dewater & Haul Facility to two other facilities for ultimate treatment and disposal."*
- Sewer Authority Mid-Coastside: *"Investigating creating soil amendments with Class A biosolids."*

The survey also specifically asked about agency's responses to SB 1383, which mandates diversion of organics from landfills in order to reduce short-lived climate pollutants (i.e., methane). SB 1383 will require a 75% reduction in organics from landfills compared to 2014 levels. This new legislation is expected to have two main impacts on biosolids disposal:

- Biosolids used as landfill ADC will be considered disposal instead of beneficial reuse, which will sharply limit ADC use of biosolids;
- Municipalities will need to divert organic materials (green waste, food waste, etc.) from landfills. If wastewater agencies provide opportunities for co-digestion of these diverted materials, there will be an increase in the production of digested biosolids and of biogas at POTWs.

Complete responses to the survey question about SB 1383 are shown below in **Table 6**. Three or more agencies mentioned each of the following strategies:

- Increase the amount of material sent to Lystek to produce Class A-EQ fertilizer.
- Increase reliance on land application.
- Install treatment facilities (e.g., pyrolysis) to reduce the amount of sludge requiring disposal.

Table 6. Agency Plans to Respond to SB 1383 as of 2018

Agency	How does your agency plan to respond to the likely limits on landfill reuse or disposal resulting from SB 1383?
American Canyon, City of	We are testing the Blue Frog technology in our sludge pond, with the hope that our need to off-haul biosolids will be significantly reduced.
Central Contra Costa Sanitary District	Continue to incinerate sludge, recycle ash

Agency	How does your agency plan to respond to the likely limits on landfill reuse or disposal resulting from SB 1383?
Central Marin Sanitation Agency	CMSA is in the process of securing a five years biosolids disposal contract with Redwood Landfill, starting in Jan 2019.
City of Benicia	Hauling to Lystek where biosolids are converted to Class A EQ for fertilizer.
City of Hayward WPCF	We are evaluating our options.
City of Millbrae	-
City of Petaluma	The City plans to review submittals from 2019 RFP and make a selection at that time.
City of Sunnyvale	Our current disposal portfolio consists primarily of land application. We plan to work with our current and any future contractors to ensure that this option, or an equivalent that complies with AB 1383, is available and prioritized.
Delta Diablo	Increase quantity of biosolids to composting
Dublin San Ramon Services District	Currently we use the Dedicated Land Disposal site (DLD) and as the DLD approaches capacity, DSRSD will start developing strategies that do not rely on landfill disposal.
East Bay Municipal Utility District	We plan to have alternatives in place prior to the deadlines. We are still waiting on the final regulations to determine the necessary timing to divert all material from ADC.
Fairfield-Suisun Sewer District	We will continue to send all biosolids to Lystek for further processing
Las Gallinas Valley Sanitary District	-
Livermore, City of	No solid plans yet
Mt. View Sanitary District	The District is evaluating the feasibility of using Bioforcetech dryers and pyrolyzer. And also negotiating an MOU with Lystek.
Napa Sanitation District	-
Novato Sanitary District	There is currently no plan beyond continuing to use the DLD and supporting industry efforts regarding Biosolids use and reuse.
Oro Loma Sanitary District	We can store on site until dry weather. Land application.
Palo Alto, City of	Undetermined
San Francisco Public Utilities Commission	Increased use of more expensive all weather agricultural options.
San Jose, City of	The City is constructing a mechanical dewatering facility that will allow more reuse options (composting, land application, soil amendment etc.) for future biosolids.
San Leandro, City of	We still land apply so no change as of yet
San Mateo, City of	No plan has been specifically addressed.
Santa Rosa, City of	Increase land application and increase amount going to Lystek. Continue to research other treatment options.

Agency	How does your agency plan to respond to the likely limits on landfill reuse or disposal resulting from SB 1383?
Sewer Authority Mid-Coastside	We are looking into technology to concentrate the digested sludge and hopefully decrease our solids disposal
Sewerage Agency of Southern Marin	Based on Waste Management, the manager for Redwood Landfill notified SASM staff that the landfill is working on a plan on behalf of its clients on how to fulfill the AB 1383 requirement.
Silicon Valley Clean Water	With BioForce Tech operating onsite the impact is not known at this point.
South San Francisco – San Bruno WQCP, City of	Dryer / Pyrolysis technologies
Union Sanitary District	Still exploring options.
Vallejo Flood & Wastewater District	Studying if we can accept biosolids from other agencies for land application on existing fields and/or storage
West County Wastewater District	Still studying options

6. Public Outreach

Marketing

The survey asked whether agencies directly market their biosolids products, or whether another entity markets biosolids products on their behalf.

- 1 agency (Santa Rosa) directly markets their own biosolids products.
- 5 agencies (Benicia, Petaluma, East Bay Municipal Utility District, and San Francisco Public Utilities Commission) reported that Lystek markets Lystegro on their behalf.
- 4 agencies (Sunnyvale, East Bay Municipal Utility District, Silicon Valley Clean Water, and Union Sanitary District) reported that another entity markets other finished products on their behalf, such as compost or biochar.
- Two agencies (San Francisco Public Utilities Commission and City of San Jose) reported that they have plans in the future to brand their biosolids product(s).

Outreach and Education

Agencies were asked whether they conduct any outreach or publicity pertaining to their biosolids programs, and via what venue. Seven agencies replied that they conduct outreach pertaining to biosolids, using a combination of YouTube videos, agency websites, print media, and social media, as illustrated in **Figure 8**. By comparison, in the 2016 survey, six agencies responded that they conducted this type of outreach. Sixteen agencies in this survey replied that they conduct outreach, but not for biosolids in particular. Eight agencies replied that they do not conduct outreach at all.

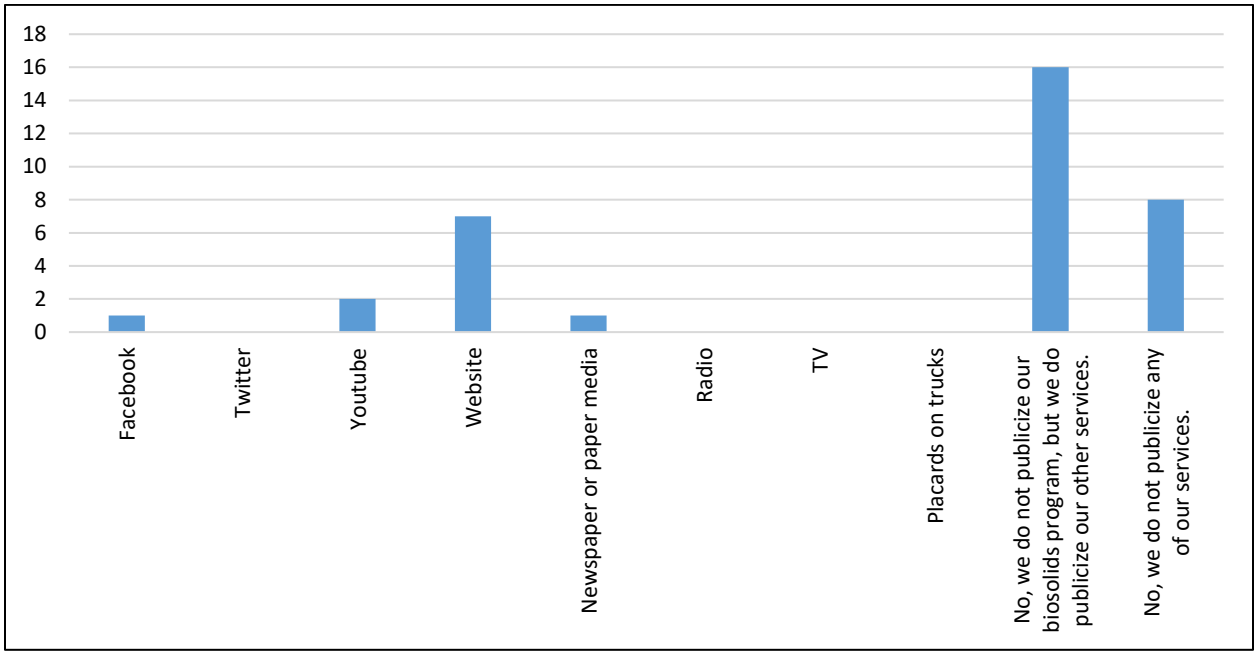


Figure 8. Number of agencies doing biosolids outreach via traditional and social media.

7. Biosolids Staffing

The final survey question asked respondents to describe how their agency manages biosolids staffing. 30 out of 31 agencies responded that they use their own staff, while 1 agency (Sunnyvale) uses contractors. Complete responses are shown below in **Table 7.** The two agencies with the largest dedicated staff are Santa Rosa (9 Full Time Equivalent positions) and the City of San Jose (>11 Full Time Equivalent positions). Adding up the 29 agencies that provided estimating staffing levels, the total is more than 40 Full Time Equivalent positions.

Table 7. Agency Staffing for Biosolids

Agency	Please explain below how your agency manages biosolids staffing		
	How many staff are involved with biosolids?	What % of their time is spent on biosolids?	Please describe their roles
American Canyon, City of	3 operators, 1 operations manager	1% when not operating screw press, 4% when operating screw press	
Central Contra Costa Sanitary District	N/A	N/A	N/A
Central Marin Sanitation Agency	2	5-10%	Typically, one operation staff would setup, operate the centrifuge.
Benicia, City of	1/2 per day	4 – 6 hours per day	pressing sludge to biosolids
Hayward, City of	4	10%	Operator, Maintenance, Laborer, Lab Tech
Millbrae, City of	four operators	5 % of 160 hrs or 8 hrs	Belt press operations
Petaluma, City of	5	0.85 FTE	Management for disposal and laboratory staff for compliance sampling
Sunnyvale, City of	2 contractors		
Delta Diablo	17	15%	Operators – produce and process the biosolids; Ops Supervisor and Manager – reporting & regulatory oversight of biosolids
Dublin San Ramon Services District	3 full time; 5 part time (seasonal)	3 full time (15%, 2%, 2%) part-time seasonal 100%	oversee operation, training, tractor/dredge operation
East Bay Municipal Utility District	Varied but there are no dedicated employees for just biosolids activities	5-50% depending on work area and task	Operations, field inspections, engineering, sampling, testing
Fairfield-Suisun Sewer District	0.5 FTE of total operator time, 0.25 FTE engineering	see above	see above

Agency	Please explain below how your agency manages biosolids staffing		
	How many staff are involved with biosolids?	What % of their time is spent on biosolids?	Please describe their roles
Las Gallinas Valley Sanitary District	1 operator, 1 lab staff	Operator ~18% FTE; lab staff ~20% FTE	Operator time is primarily for management of sludge pumping and anaerobic digesters. Lab staff for collection and analysis of digester and biosolids samples.
Livermore, City of	one operator daily, mostly 7 day operation	90% of shift for one operator	Filter Belt pressing, mechanically loading trucks & cleanup
Mt. View Sanitary District	7	15%	1 Lab Analyst performs weekly process control monitoring. 5 Operators and 1 Supervisor maintain and operate sludge pumps, grit removal, sludge thickening, sludge digestion, scum handling, sludge dewatering and disposal.
Napa Sanitation District	3 FTE	40%	The Reclamation Department is overseen by a manager. The department encompasses biosolids management and the required land practices. Mowing, preparing fields, spreading, discing, and working with growers. They perform ranch maintenance such as pesticide control, fence mending, road repair. They are also responsible for the ever-expanding distribution of recycled water, customer connections, meter reading, connection testing, system leaks.
Novato Sanitary District	All of the Operations staff (12) are involved with biosolids	(Very roughly – this is hard to estimate) 5%	Operators manage sludge transfer, return and balance of biosolids and all issues relating to the flare and the BAAQMD. Lab (and also Operations) monitor the health of the digester, %TS, %VS and manage the EPA reporting.
Oro Loma Sanitary District	5	varies (.01 to .5)	Two staff work half time to manage drying facility. Two staff manage annual testing and hauling operation (.05). One staff member manages EPA reporting (8 hours/year).
Palo Alto, City of	~10-20	5-25%	Operators, Maintenance, Lab staff, Engineers & Managers involved in regulatory compliance
San Francisco Public Utilities Commission	5	From 10%-100%	Biosolids Coordinator, Process Engineer, Resource Recovery Specialist, Soil Science Specialist, Business Services Manager

Agency	Please explain below how your agency manages biosolids staffing		
	How many staff are involved with biosolids?	What % of their time is spent on biosolids?	Please describe their roles
San Jose, City of	10 Residual Sludge Management , 1 program manager, 3 CIP engineers	(100 %) for sludge management and program manager; 10-20% for CIP	7 Heavy Equipment Operators, 2 Wastewater Attendants,1 Superintendent, 1 program manager, 3 senior/associate/sanitary engineers
San Leandro, City of	11 ops, 2 maint, 3 lab	5%ops, 25% maint, 1% lab	ops dewaters, maint manages drying beds and runs in bed equipment, lab testing
San Mateo, City of	5	20%	One operator is always scheduled to handle the solid-side process, along with some management associated with hauling contracts and report writing. Most future planning has been left to consultants.
Santa Rosa, City of	8	100%	Maintenance/operations
Sewer Authority Mid-Coastside	4	20 hrs	pump cleaning, process operation and optimization
Sewerage Agency of Southern Marin	3	25%	Operations, management, sample collection and data analysis of biosolids
Silicon Valley Clean Water	3	1-30%, 1-50%, 1-25%	Drying bed worker. This worker operates equipment to spread the biosolids and loads trucks. One operator who manages running the solids handling building operations. One supervisor.
South San Francisco – San Bruno WQCP, City of	8	20	Dewatering equipment operation and maintenance
Union Sanitary District	5	10%	Chief Plant Operator, Operations Supervisors, and Process Engineer.
Vallejo Flood & Wastewater District	2	30	Staff monitor amounts of solids transported, daily production, prepare reports, coordinate sample collection and work with contract farmer.
West County Wastewater District	11	not very much apiece, so hard to estimate	turning valves, collecting samples

8. Future Surveys

BACWA intends to repeat this survey in 2021, and every two years thereafter. This will give the region the ability to track changes in biosolids trends over time. Additionally, the Biosolids Committee may choose to expand the scope of this survey to a greater geographical area.

BACWA member agencies are all permitted by the San Francisco Regional Water Quality Control Board. Although the Regional Water Board's jurisdiction does not have a direct bearing on biosolids regulation or management, regulatory requirements within NPDES permits indirectly affect biosolids management. Within the next few years, new regulations from the State and from the Bay Area Air Quality Management District regarding climate pollutants (e.g., methane) are expected to impact biosolids management to a greater extent than NPDES permit requirements.

As SB 1383 Regulations are implemented, and the next two years bring clarity to approaches for biosolids reuse and disposal in California, future survey questions may be refined to better understand how agencies are responding to this shifting landscape.

APPENDIX A – AGENCY DATA: 2017 Biosolids Management

American Canyon, City of	
type	ADC
location	Recology Landfill – Hay Rd, Vacaville
wet tons	696
cost ($/ton)	$62
round trip distance (miles)	0 – Recology hauls free as part of our franchise agreement. We expect this won't always be the case.

Central Contra Costa Sanitary District	
type	incineration
location	onsite
wet tons	75,004
cost ($/ton)	$0
round trip distance (miles)	0

Central Marin Sanitation Agency				
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**
type	ADC	Lystek	Land App	Compost
location	Redwood Landfill, Novato	Lystek A-EQ Land App	Synagro's Solano County land application site	Synagro's Central Valley Compost Facility
wet tons	3,406	1,862	1,120	18
cost ($/ton)	$47.78	$96.12	$45.50	$29.00
round trip distance (miles)	35	84	120	296

Benicia, City of	
type	landfill liner
location	Hay Road Landfill
wet tons	2,644
cost ($/ton)	$87
round trip distance (miles)	70

Hayward, City of	
type	ADC
location	Altamont Landfill
wet tons	6,790
cost ($/ton)	Not reported
round trip distance (miles)	70

Millbrae, City of		
	Destination 1	**Destination 2**
type	land application	land application
location	Sacramento	Merced
wet tons	1,691	25
cost ($/ton)	$58.90	$58.90
round trip distance (miles)	200	264

Petaluma, City of		
	Destination 1	**Destination 2**
type	ADC	Lystek A-EQ
location	Hayroad Landfill	Lystek
wet tons	8,100	490
cost ($/ton)	$49.00	$90.00
round trip distance (miles)	108	75

Delta Diablo			
	Destination 1	**Destination 2**	**Destination 3**
type	land application	ADC	compost
location	Solano, Sacramento, and Merced Counties	Hwy 59 landfill	Synagro Central Valley Compost Facility
wet tons	11,545	725	713
cost ($/ton)	$33.29	$33.29	$52.10
round trip distance (miles)	150	200	240

Dublin San Ramon Services District	
type	onsite
location	DSRSD owned land
wet tons	2,786
cost ($/ton)	-
round trip distance (miles)	0

East Bay Municipal Utility District					
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**	**Destination 5**
type	ADC	ADC	ADC	disposal	land app.
location	Potrero Hills Landfill	Vasco Road Landfill	Altamont Landfill	Altamont Landfill	Merced County
wet tons	18,760	9,551	94	3,315	41,453
cost ($/ton)	$37.40	$37.40	$37.40	$62.00	$29.49
round trip distance (miles)	88	82	82	82	262

East Bay Municipal Utility District (Continued)					
	Destination 6	**Destination 7**	**Destination 8**	**Destination 9**	**Destination 10**
type	Lystek	disposal	disposal	disposal	disposal
location	Lystek OMRC	Forward Landfill	Ox Mountain Landfill	John Smith Landfill	Keller Landfill
wet tons	7,708	2,519	71	867	49
cost ($/ton)	$76.55	$55.00	$65.00	$60.00	$57.50
round trip distance (miles)	76	158	88	192	62

Fairfield-Suisun Sewer District	
type	Lystek
location	Lystek Organic Materials Recovery Center (OMRC)
wet tons	17,500
cost ($/ton)	$55.45
round trip distance (miles)	-

Las Gallinas Valley Sanitary District	
type	land application
location	onsite
wet tons	7,694 wet tons (ang 4.7 % TS)
cost ($/ton)	-
round trip distance (miles)	-

Livermore, City of		
	Destination 1	**Destination 2**
Type	ADC	Land Application
Location	Vasco Road Landfill	Denali Water Solutions site
wet tons	4,100	4,741
cost ($/ton)	$40	$40
round trip distance (miles)	19	175

Mt. View Sanitary District			
	Destination 1	**Destination 2**	**Destination 3**
type	ADC	ADC	Lystek
location	Recology Hay Road Landfill	Potrero Hill Landfill	Lystek Organic Materials Recovery Center
wet tons	575	146	21
cost ($/ton)	$80	$51.91	$99.18
round trip distance (miles)	74	56	42

Napa Sanitation District	
type	onsite
location	onsite
wet tons	6,949
cost ($/ton)	$43
round trip distance (miles)	6

Novato Sanitary District	
type	onsite
location	Designated Land Disposal site
wet tons	12,945 wet tons
cost ($/ton)	$188,500 flat fee
round trip distance (miles)	0

Oro Loma Sanitary District	
Type	land application
Location	Silva Ranch (Synagro - Ione, CA)
wet tons	4,260
cost ($/ton)	$42
round trip distance (miles)	120

Palo Alto, City of	
Type	incineration
Location	Hazardous waste landfill, Kettleman City CA
wet tons	18,406 (in reality sent 6,626 dry tons of ash)
cost ($/ton)	197 (per dry ton of ash)
round trip distance (miles)	372

San Francisco Public Utilities Commission (Continues next page)				
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**
type	land application	Lystek	ADC	ADC
location	Solano County	Lystek OMRC	Potrero Hills Landfill	Vasco Rd Landfill
wet tons	20,236	5,496	20,285	14,466
cost ($/ton)	$56-$59	$92-$97	$58-$65	$57-$64
round trip distance (miles)	135	100	110	110

San Francisco Public Utilities Commission (Continued)			
	Destination 5	**Destination 6**	**Destination 7**
type	land application	ADC	compost
location	Sacramento County	Altamont Landfill	Merced County
wet tons	3769	362	23
cost ($/ton)	$84-$96	$57-$65	$96-$99
round trip distance (miles)	260	115	290

San Jose, City of	
type	ADC
location	Newby Island Landfill
wet tons	54,874
cost ($/ton)	$30
round trip distance (miles)	2

San Leandro, City of	
	Destination 1
type	Land app
location	Merced County
wet tons	Not provided – 1,248 dry metric tons of Class A and B were land applied
cost ($/ton)	$36 to $38
round trip distance (miles)	

San Mateo, City of				
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**
type	ADC	ADC	ADC	land application
location	Livermore	Suisun City	Los Banos	Colton
wet tons	158	2,428	888	1,756
cost ($/ton)	$36.82	$36.82	$36.82	$36.82
round trip distance (miles)	116	140	224	870

Santa Rosa, City of (Continues next page)					
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**	**Destination 5**
type	Compost	Land App	Land App	Land App	Land App
location	Compost Facility	Alpha Storage	Brown Farm	Lystek	Jacobsen
wet tons	8,578	6,773	1,936	510	1,760
cost ($/ton)	$3.25-$4	$4.00	$4.00	$85.26	$10
round trip distance (miles)	1	6	5	106	36-42

Santa Rosa, City of (Continued)					
	Destination 6	**Destination 7**	**Destination 8**	**Destination 9**	**Destination 10**
type	Land App	Land App	Land App	Land App	Land App
location	Leonard	Scallywag	Yenni	BBRRBR	Barella
wet tons	1,530	682	4,943	3,228	830
cost ($/ton)	$10	$10	$12	$10	$10
round trip distance (miles)	50-56	50-56	57-63	52	50
	Destination 11	**Destination 12**	**Destination 13**		
type	Land App	Land App	Landfill		
location	Herzog	Twin House	Redwood Landfill		
wet tons	2,038	1,957	1,758		
cost ($/ton)	$10	$10	$10		
round trip distance (miles)	48-54	48-54	42		

Sewer Authority Mid-Coastside	
type	ADC
location	landfill
wet tons	285
cost ($/ton)	$62.23
round trip distance (miles)	8

Sewerage Agency of Southern Marin	
type	ADC
location	Redwood Landfill
wet tons	1133.04
cost ($/ton)	$96.06/ton
round trip distance (miles)	43.1

Silicon Valley Clean Water					
	Destination 1	**Destination 2**	**Destination 3**	**Destination 4**	**Destination 5**
Type	Biochar	Compost	landfill disposal	ADC	land application
Location	Bioforce Tech	Merced County	Merced County	Solano County	Sacramento County
wet tons	266	964	659	256	6,956
cost ($/ton)	$48	$53	$51	$51	$38 Dry weather, $43 wet weather
round trip distance (miles)	0	250	250	150	250

South San Francisco/San Bruno	
type	ADC
location	Potrero Hills Landfill
wet tons	13,199
cost ($/ton)	$58
round trip distance (miles)	123

Sunnyvale, City of			
	Destination 1	**Destination 2**	**Destination 3**
type	land application	land application	Compost
location	Sacramento County	Merced County	Merced County
wet tons	11,883	66	94
cost ($/ton)	$450. Note that we pay Synagro a flat rate of $450 per dry ton regardless of the end use. It's a high rate because they dewater our solids on-site in addition to hauling/applying them offsite.		
round trip distance (miles)	130	250	220

Union Sanitary District			
	Destination 1	**Destination 2**	**Destination 3**
type	Compost	landfill disposal	land application
location	El Nido / Central Valley Composting Facility	Highway 59 Landfill	Sacramento and Solano Counties
wet tons	6,583.51	1624.27	11,783.80
cost ($/ton)	$56.16/wet ton	$31.94/wet ton	$31.94/wet ton
round trip distance (miles)	242	226	128

Vallejo Flood and Wastewater District	
type	land application
location	Tubbs Island
wet tons	11,632
cost ($/ton)	-
round trip distance (miles)	24

West County Wastewater Agency	
type	ADC
location	Keller Canyon Landfill
wet tons	27,908
cost ($/ton)	$0: barter with Republic
round trip distance (miles)	57

BACWA BAY AREA CLEAN WATER AGENCIES

ANNUAL REPORT to the
SOLANO COUNTY BOARD OF SUPERVISORS

LAND APPLICATION of BIOSOLIDS in SOLANO COUNTY

Photo Credit: Robin Scheswohl

Prepared by the BACWA Biosolids Committee
December 2020

Table of Contents

Introduction

With the 2020 application season recently completed, the Bay Area Clean Water Agencies (BACWA) Biosolids Committee is pleased to present its annual summary report on land application of biosolids in Solano County. BACWA wishes to express its sincere appreciation to the staff of the Environmental Health Services Division of the Department of Resource Management for the continuing support of the biosolids land application program. This program allows for the effective use of biosolids as an agricultural soil amendment in the County. We believe this partnership provides a valuable resource to Solano County agriculture and provides many Bay Area agencies with an opportunity to ensure their biosolids are put to their highest and best use by making a positive impact on the environment.

This report provides information on trends in the use of biosolids resources in California and the Bay Area, an update on regional biosolids programs, and specific information on projects from individual agencies currently applying biosolids in the County. It highlights each agency's compliance with the requirement in Solano County Code, Sec. 25-400 that "Class B biosolids may only be land applied provided that the generator of the Class B biosolids is individually or as part of a consortium having a portion of their biosolids produced as Class A Exceptional Quality biosolids, converting biosolids to energy, or otherwise diverting Class B biosolids away from land spreading or landfilling (as waste or as alternative daily cover)."

This report is intended as supplemental information to the report submitted by the County Department of Resource Management staff and by Synagro, contract haulers and appliers of biosolids. It has been prepared for the Solano County Board of Supervisors in response to the Board's request for an annual update on agency activities and progress towards compliance with the goals set forth in County Code, Chapter 25. The affected agencies have coordinated the required reporting through BACWA to produce a single report for the Board.

We would like to acknowledge the assistance of your staff in working with BACWA member

agencies throughout the year, particularly Jagjinder Sahota (Program Manager), Jeffrey Bell (Supervisor), Anthony Endow, and Joshua Lee.

Municipal Agencies Applying Biosolids in Solano County

The use of biosolids as an amendment supplies valuable plant nutrients and carbon to soils which enhances the productivity and financial resilience of local farms. Each agency that applies biosolids is required to meet strict standards and provides a report annually to the United States Environmental Protection Agency (USEPA) to demonstrate compliance. In 2020, the following Northern California agencies transported biosolids to agricultural land in Solano County under contract with Synagro:

- City of Calistoga
- Central Marin Sanitation Agency (San Rafael, Ross Valley, Larkspur, and Corte Madera)
- Delta Diablo (Antioch, Pittsburg, and Bay Point)
- East Bay Municipal Utility District (El Cerrito, Albany, Berkeley, Emeryville, and Alameda)
- City of Eureka
- Fort Bragg Municipal District #1
- Ironhouse Sanitary District (Oakley and Bethel Island)
- City of Petaluma
- San Francisco Public Utilities Commission
    - Southeast Water Pollution Control Plant
    - Oceanside Water Pollution Control Plant
- City of San Leandro
- Sonoma County Water Agency, Airport-Larkfield-Wikiup Sanitation Zone (ALWSZ)
- Union Sanitary District
- Town of Windsor

A total of 7,003 dry tons were land applied on agricultural sites in Solano County in 2020. The portion from each agency is shown in **Figure 1**. The total quantity of biosolids applied to agricultural land in Solano County has been relatively constant over the last ten years, as shown on the next page in **Figure 2.**

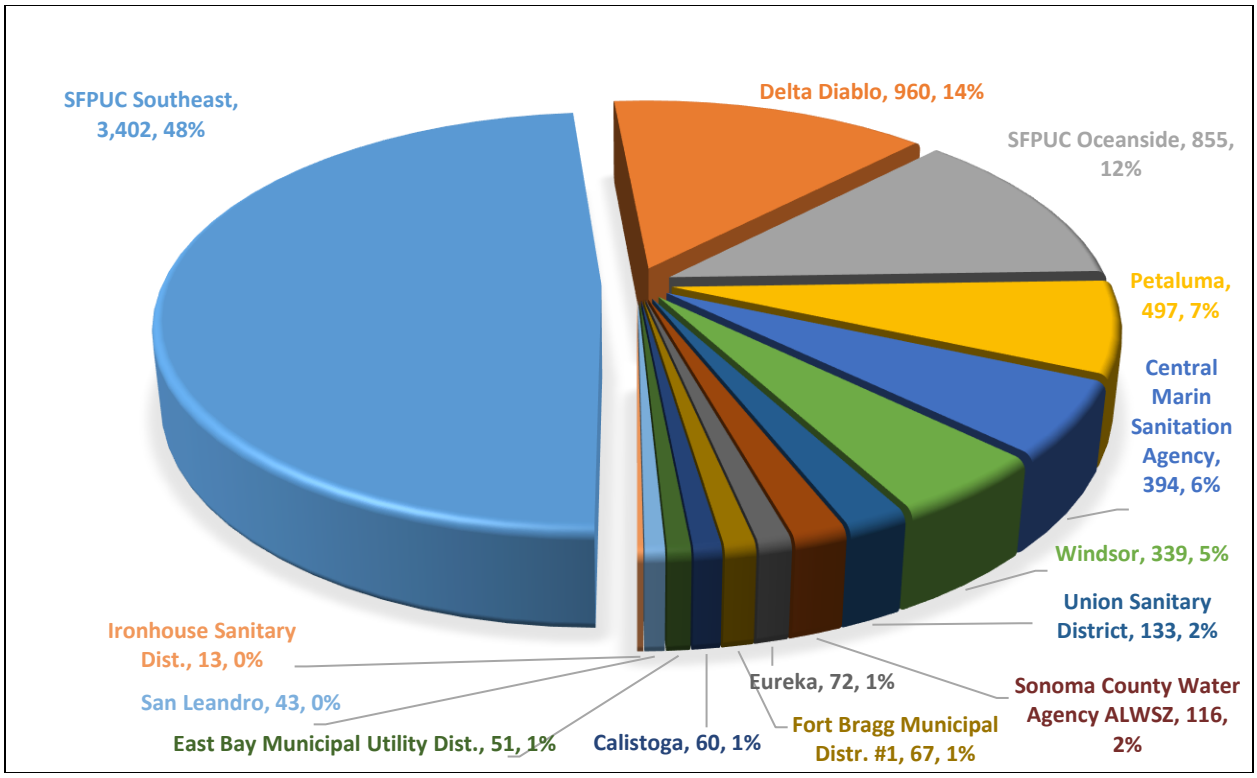


Figure 1. Biosolids (Dry Tons) Land Applied in Solano County by Each Agency, 2020
Data provided by Synagro

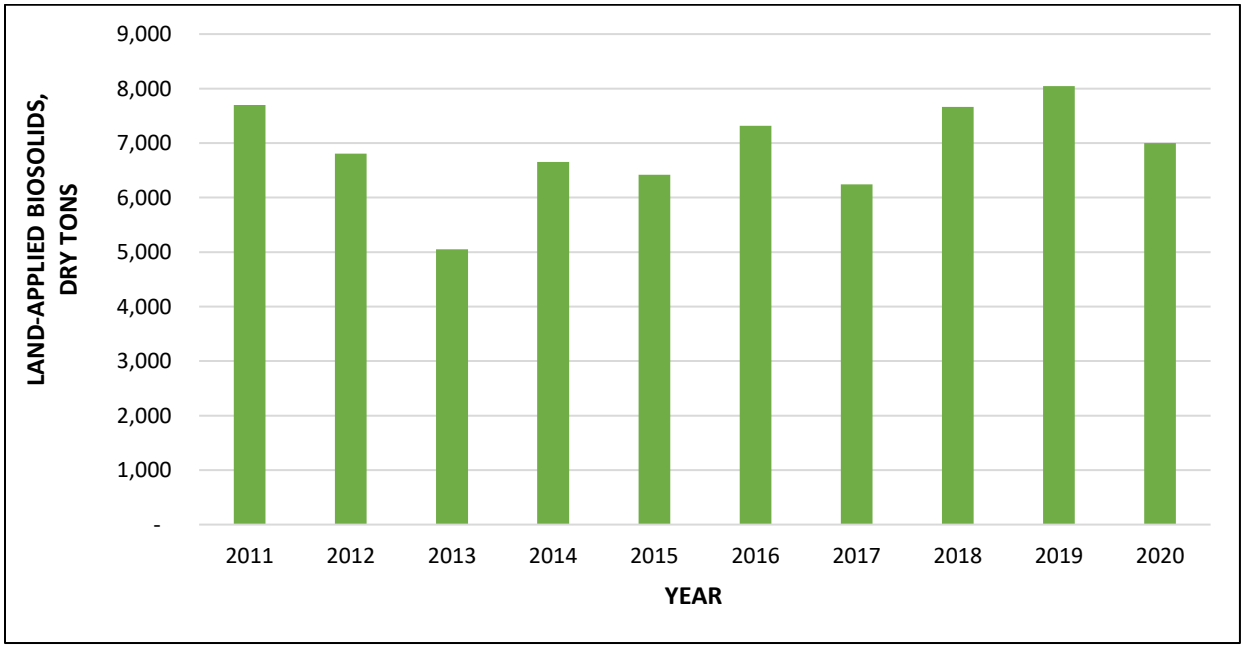


Figure 2. Biosolids (Dry Tons) Land Applied in Solano County, 2011-2020
Data provided by Synagro

Trends in Biosolids Usage in California

Wastewater agencies in California are continuing to identify and evaluate new options for biosolids reuse and recycling, including emerging technologies as well as established practices such as composting and heat drying.

Overall California Use Summary. The use of biosolids in California for calendar years 2009 through 2019 is summarized in **Figure 3**. Statewide data for 2020 are not yet available and will be included in the 2021 report. The number one use statewide continues to be land application for agriculture in the form of compost, Class B biosolids and Class A biosolids. The use of biosolids compost has increased steadily, accounting for 20% of statewide biosolids use in 2011 to 34% in 2019. Land application of Class A and Class B biosolids has held steady, together accounting for 32% of all biosolids use. Biosolids have proven to be a safe, reliable, and nutrient-rich soil amendment that offers a more cost-effective alternative to chemical fertilizers, which are increasingly expensive and energy intensive to produce.

The beneficial use of biosolids as alternative daily cover in landfills and landfill disposal are also common management practices for biosolids in California, accounting for 20% and 5% respectively of statewide biosolids use. In 2019, a significant biosolids use – 6% of the statewide total – went to backfilling of the H.M. Holloway gypsum mine in Kern County. This use is tracked as "landfill beneficial use" below in Figure 3.

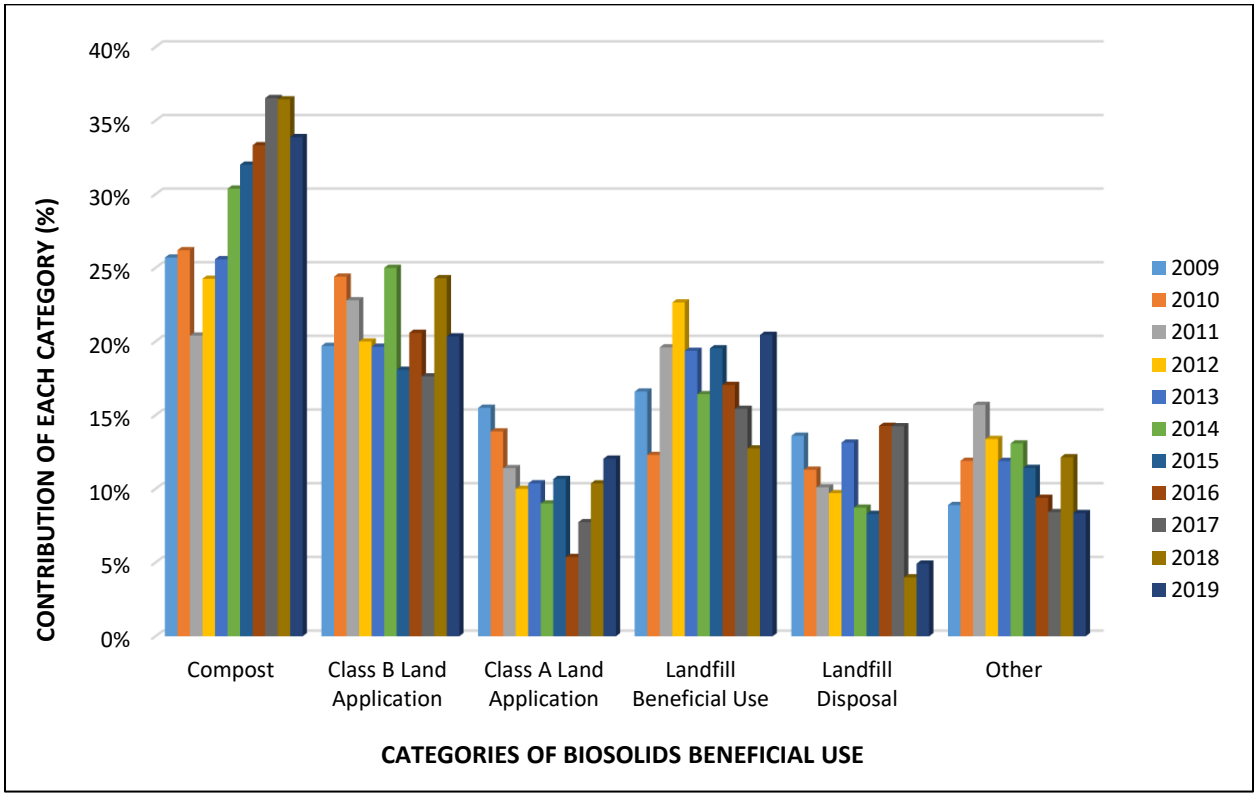


Figure 3. California Trends in Biosolids Uses, 2009-2019
Data provided by USEPA Region 9

Bay Area Trends. Looking solely at the nine county Bay Area, **Figure 4** illustrates end uses of biosolids in 2019. The primary uses continue to be landfill beneficial use, land application, and incineration, which together account for 85 percent of biosolids end uses in the Bay Area. Compost, landfill disposal, and surface disposal levels remained similar to 2015 percentages.

Tonnage for biosolids conveyed to the Lystek Organic Materials Recovery Center (OMRC) is categorized as Class A Exceptional Quality (EQ) liquid fertilizer and has increased from representing 3.8% of Bay Area biosolids end uses in 2017 to 4.5% in 2019. Several Bay Area agencies send their biosolids to the Lystek OMRC. The OMRC conducts further biosolids processing by utilizing LysteGro technology to create a Class A EQ product. Lystek's hydrolysis process uses high speed shearing, low pressure steam and alkali in an enclosed reactor to transform sludge or biosolids into a liquid fertilizer. Lystek's fertilizer program in Solano County began in spring 2017. The following agencies sent material to Lystek in 2019: City of Benicia, Central Marin Sanitation Agency, Fairfield-Suisun Sewer District, City of Palo Alto, City of Petaluma, San Francisco Public Utilities Commission, City of Santa Rosa, and Vallejo Flood & Wastewater District. LysteGro is used primarily in Solano County, and the product is registered as a fertilizer with the California Department of Food and Agriculture. As a Class A EQ product, LysteGro can be used with no restrictions, and is not subject to the Solano County biosolids ordinance (Solano County Code, Sec. 25-400).

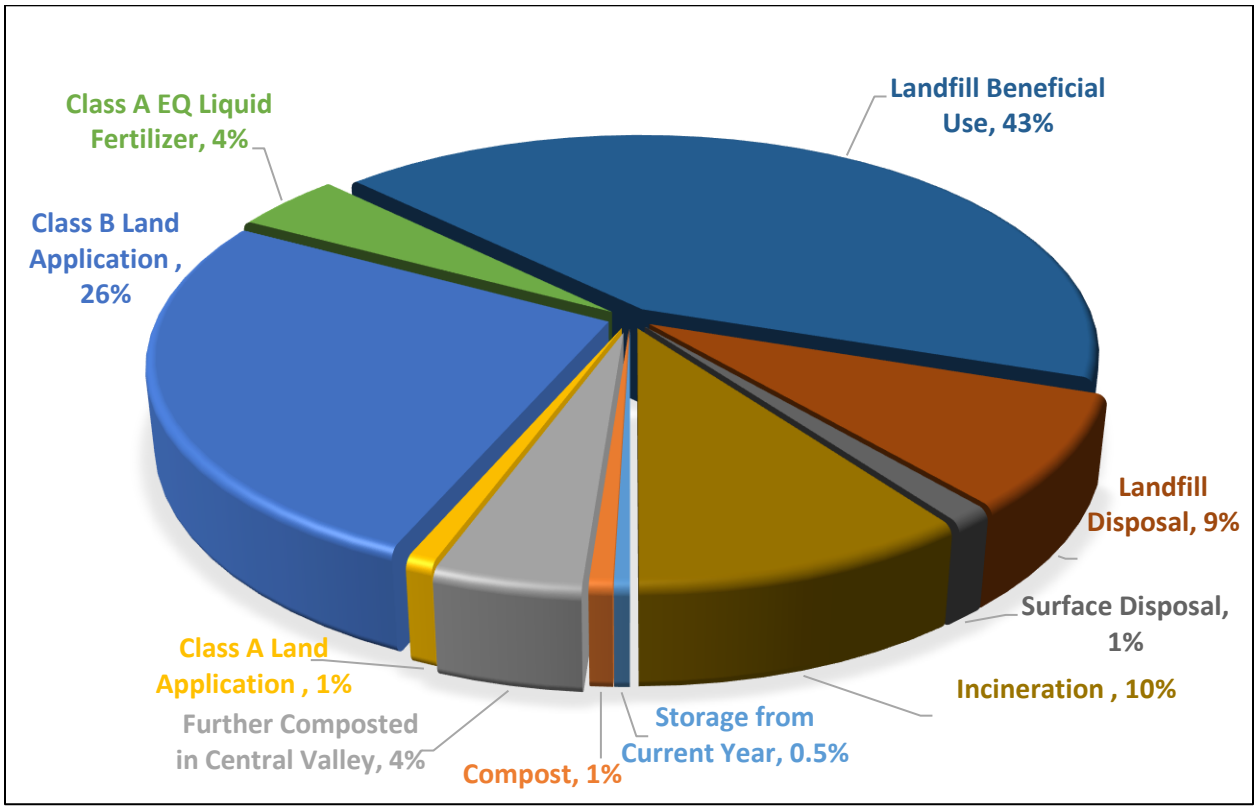


Figure 4. Bay Area Usage of Biosolids, 2019
Data Provided by USEPA Region 9

Counties where biosolids are land applied. Biosolids were predominantly applied to agricultural land in three Northern California counties in 2019 – Sacramento, Merced, and Solano – with Solano County ranking third. **Figure 5** illustrates the distribution of land-applied biosolids among the counties. Smaller amounts were also land applied in Madera, Sonoma, Stanislaus, and Napa counties, among others.

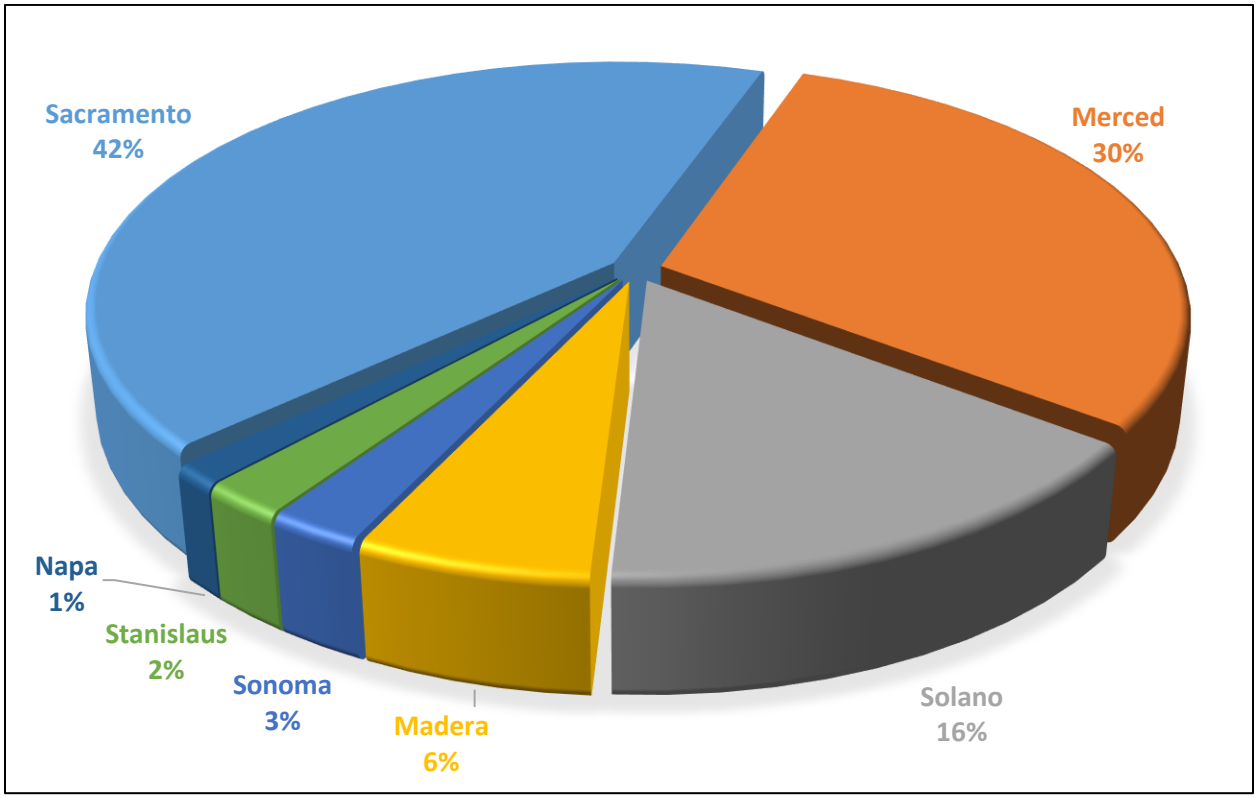


Figure 5. Distribution of Biosolids Land Application among Northern California Counties, 2019

Data provided by USEPA Region 9 and individual agencies

Bay Area Regional Efforts

BACWA Biosolids Committee. The mission of the BACWA Biosolids Committee (The Committee) is to support the development and maintenance of cost-effective, sustainable biosolids management options for the more than 160,000 dry metric tons of biosolids produced in the Bay Area annually. The Committee was formed to provide proactive support and information sharing to member agencies on regional biosolids issues, projects, and proposed regulations and legislation.

In 2020, the Committee completed the 2018 Biosolids Trends Survey Report, which is available at https://bacwa.org/wp-content/uploads/2020/12/BACWA-2018-Biosolids-Survey-Report-Final-2020-12-10.pdf. BACWA plans to repeat the survey in 2021.

Because of member agencies' level of engagement in the Bay Area Biosolids Coalition at the current time (see below), the Biosolids Committee was placed on hiatus in 2019. The email distribution list continues to be maintained so that the committee can meet again when there is interest. While meetings are on hiatus, the committee will continue to produce this Annual BACWA Report to Solano County, as well as the Biannual BACWA Biosolids Trends Survey.

Bay Area Biosolids Coalition. The Bay Area Biosolids Coalition originally formed in 2004 when a group of agencies came together to evaluate the feasibility of a regional biosolids management project to avoid the threat of a potential ban on land application of biosolids. By 2008, the membership expanded and the group decided to officially brand itself as the Bay Area Biosolids to Energy (BAB2E) Coalition to take advantage of opportunities anticipated to be developed under new state legislation (specifically, Assembly Bill 32 or AB 32). Assembly Bill 32 was adopted in 2006 requiring the state to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020 (with further reductions through 2050). To achieve GHG reductions, the state created numerous programs incentivizing renewable energy and low carbon fuel production. This legislation served as a driver to prioritize the conversion of biosolids to energy for the BAB2E Coalition.

In 2016, Governor Brown announced five overarching "pillars" by which he planned to achieve the 2030 GHG reduction target under Senate Bill 32 (SB 32), 40 percent below 1990 levels. These pillars recognize that several major areas of the California economy will need to reduce emissions and do so by:

1. Reducing petroleum use in cars and trucks by 50 percent
2. Increasing the procurement of electricity derived from renewable sources from 33 to 50 percent
3. Doubling the energy efficiency achieved at existing buildings
4. Reducing the release of short-lived climate pollutants (which includes methane)
5. Increasing land-based carbon sequestration

To enact these pillars, Governor Brown signed legislation that either directly or indirectly impacts the disposal and use of WWTP biosolids at landfills, as well as the diversion of other organic waste streams to WWTPs. In an effort to holistically address biosolids end use options, the BAB2E Coalition re-branded themselves as the Bay Area Biosolids Coalition in 2017. While the Coalition continues to be vigilant in identifying biosolids to energy opportunities, the Coalition has expanded its focus to biosolids end use options that manage additional nutrient loading and produce other value-added products to address the Governor's goals and associated regulations in support of GHG reductions statewide. The updated focus of the Coalition continues to satisfy the Solano County Code requirements for land application of biosolids.

The Coalition continues to evaluate biosolids management options with the intent of supporting implementation of at least three options within the next two to three years and

generate products that can be beneficially used locally in all seasons of the year. The Coalition also continues to pursue a multi-pronged approach that includes:

- Educating the public on biosolids management issues in California through public outreach efforts, including the creation of a public website and securing media coverage.
- Advancing the industry and legislative state of knowledge on biosolids as a valuable resource.
- Investigating viable, year-long (weather resilient) alternatives to land application that look beyond "biosolids to energy" and seek to responsibly recycle back value-added products of biosolids to the environment.
- Serving as a technology incubator - particularly for pre-commercial technologies.
- Supporting land application in the Bay Area by seeking to create more capacity for biosolids in the Bay Area marketplace.

The Coalition has established the following goals in support of achieving the above-mentioned objectives, for which associated strategies and key outcomes have been defined that will be pursued over the next one to two years:

- Communicate the value of biosolids for the purposes of increasing understanding, support, and market demand for biosolids.
- Advance independent scientific research on the safety and efficacy of biosolids to inform science-based regulations, guidelines and best management practices.
- Support and expand biosolids land application in the Bay Area.
- Support the development of diverse, cost-effective, and reliable all-weather biosolids projects for the San Francisco Bay Area.

Current Coalition members are:

Central Marin Sanitation Agency
City of Millbrae
City of Petaluma
City of Pleasanton
City of San Jose
City of Santa Rosa
Delta Diablo
Dublin San Ramon Services District
East Bay Municipal Utility District
Fairfield-Suisun Sewer District
Ironhouse Sanitary District
North San Mateo County Sanitation District
San Francisco Public Utilities Commission
Union Sanitary District
Vallejo Flood & Wastewater District
West County Wastewater District

Individual Agency Programs. Individual BACWA agencies are responsible for their own biosolids management programs and each develops its own plan in addition to participating in regional programs. Below are program descriptions from all agencies which sent biosolids to Solano County for agricultural use via land application. All agencies described below produce biosolids according to 40 CFR regulations.

Agencies that land applied Class B biosolids in Solano County either participated in the Bay Area Biosolids Coalition and/or converted portion of their biosolids to Class A either through their own means or at a 3rd party conversion facility (e.g., compost facility or Lystek OMRC).

City of Calistoga. At the City's Dunaweal Wastewater Treatment Facility, solids are processed by the treatment methods of thickening and application to drying beds. The material is picked up and land applied to various fields in Solano County by Synagro, and a portion of this material is diverted to produce Class A Biosolids at Synagro's Central Valley Compost site.

Central Marin Sanitation Agency. The Central Marin Sanitation Agency (CMSA) has a contract with Synagro for land application of its biosolids during the dry weather season in Solano county. CMSA also has contracts in place for sending the biosolids to Redwood Landfill for landfill beneficial use and to Lystek International for further processing to meet Class A biosolids requirements. CMSA is currently serving as the Bay Area Biosolids Coalition lead agency.

Delta Diablo. Delta Diablo produces Class B biosolids and contracts with Synagro for biosolids management. Over 90% of the biosolids are land applied in either Solano, Sacramento or Merced Counties with a portion of the material sent to Synagro's Central Valley Compost facility. Delta Diablo is an active participant in the Bay Area Biosolids Coalition and continues to explore additional and alternative biosolids management options.

East Bay Municipal Utility District. EBMUD produces Class B biosolids. In 2020 approximately 62% of the biosolids were land applied, approximately 13% were composted, and the remainder were used for landfill alternative daily cover. While most of the land application occurred in Merced County, a small portion was land applied in Solano County. EBMUD is a participant in the Bay Area Biosolids Coalition.

City of Eureka. The City of Eureka's Elk River Wastewater Treatment Plant contracts with Synagro to land apply biosolids to farmland in Solano, Sonoma, and Sacramento Counties. As part of the Synagro contract, Synagro diverts a portion of Eureka's biosolids to the CVC composting facility in Dos Palos, CA where a Class A product is produced. The City of Eureka continues to investigate feasible and cost-effective Class B disposal options as well as Class A processes for the future.

Fort Bragg Municipal District #1. The Fort Bragg Municipal District #1 Wastewater Treatment facility produces Class B biosolids and contracts with Synagro for biosolids disposal. Synagro transported a portion of the facility's biosolids to their Central Valley Compost site to be further processed into Class A Biosolids.

Ironhouse Sanitary District. The Ironhouse Sanitary District (ISD) Water Recycling Facility is designed to produce Class B biosolids. Approximately half of ISD's biosolids are land applied on District-owned property. The remaining balance are managed by Synagro, which land applies in Solano and Sacramento Counties and typically sends a load per year to Synagro's Central Valley

Compost site for Class A transformation. ISD continues to be a member agency and active participant in the Bay Area Biosolids Coalition.

City of Petaluma. The City of Petaluma's Ellis Creek Water Recycling Facility produces Class B biosolids. Digested solids are used as alternative daily cover at municipal solid waste landfills, applied to agricultural land in Solano County, or transferred to the Lystek OMRC for production of and subsequent reuse as Class A biosolids. The City of Petaluma is a member of the Bay Area Biosolids Coalition.

San Francisco Public Utilities Commission (Southeast and Oceanside WPCPs). The San Francisco Public Utilities Commission (SFPUC) marked its twentieth consecutive season of land application of biosolids for agricultural use in Solano County. The SFPUC also contracts with Synagro to use Class B biosolids for agriculture in Sacramento County and with Lystek to produce a Class A EQ liquid fertilizer. A portion of biosolids were used for alternative daily cover at the Potrero Hills landfills during the 2019-2020 wet weather season, although there are no plans to have SFPUC biosolids used as alternative daily cover for the 2020-2021 wet weather season. The SFPUC is an active participant in the Bay Area Biosolids Coalition.

City of San Leandro. The City of San Leandro's Water Pollution Control Plant typically produces Class A EQ biosolids. In 2020, due to storage of materials in the drying beds from construction, all material was deemed Class B. Production of Class A EQ biosolids is anticipated to resume in 2021. Biosolids are land applied primarily in Sacramento County, with a small fraction going to land application in Solano County.

Sonoma County Water Agency. The Sonoma County Water Agency's (SCWA's) Airport-Larkfield-Wikiup Sanitation Zone treatment plant uses a pond treatment system without routine biosolids removal. Accumulated biosolids are periodically removed from the treatment ponds. In 2020, SCWA contracted with Synagro for a project to remove, dewater, transport, and dispose of the accumulated biosolids. Class B Biosolids were land applied in Solano County and Sacramento County in 2020. The project is ongoing and SCWA will be sending biosolids to Synagro's Central Valley Compost site in 2021.

Town of Windsor. The Town of Windsor Water Reclamation Facility contracts with Synagro to land apply biosolids to farmland in Solano and Sacramento Counties. As part of the Synagro contract, Synagro diverts a portion of its biosolids to its Merced County facility for composting. The Town of Windsor continues to investigate feasible and cost-effective Class B biosolids treatment and process options.

Union Sanitary District. Union Sanitary District (USD) beneficially used most of its biosolids in 2020 and met all USEPA regulations for the 27th consecutive year. USD continues to contract with Synagro for its biosolids management, with nearly 65 percent of USD's biosolids land applied to farmland in Sacramento, Merced and Solano Counties. Approximately 35 percent of biosolids production was delivered to Merced County for producing Class A compost.

AIR ISSUES & REGULATIONS COMMITTEE

A Committee of the Bay Area Clean Water Agencies

BACWA-BAAQMD Leadership Meeting

December 7, 2020

1

BAAQMD-BACWA Partnership

- Partners in…
  - Regulatory development
  - Innovative technology support
  - Funding development support

- Mimic BACWA-RWQCB partnership
  - Regular meetings – Quarterly?
  - 1-2 topics per meeting

Agenda – Common Air Quality Goals

- Methane Reduction
  - BAAQMD Regulation 13
  - SB 1383 Regulations - Organic Waste Diversion/Methane Reduction
- Air Toxics Reporting/Reduction
  - CARB AB 617 Reporting / AB 2588 Compound List Updates
  - Emission Factor Development (statewide wastewater sector effort)
  - BAAQMD Rule 11-18 Risk Reduction Plan Coordination
- Future Meeting Topic: Standardizing Permit Conditions & Enforcement
- Next Meeting

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METHANE REDUCTION

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BAAQMD Regulation 13: Climate Pollutants

Rule Development Suspended due to COVID-19 & Lack of Data

Rule	Next Workshop	Board Workshop	Notes
13-1: Significant Methane Releases	TBD	TBD	Tabled indefinitely to focus on source-specific rules.
13-2: Organic Waste Handling	TBD	TBD	Draft is focused on organic material handling: Material Recovery Facilities, Transfer Facilities, Chip & Grind Facilities.
13-3: Composting Operations	TBD	TBD	Draft language in development, not released.
13-4: Sewage Treatment & Anaerobic Digestion	TBD	TBD	BACWA providing input on draft language. Draft rule to consider biogas produced/collected, minimizing other pollutants, flare requirements, record keeping, reporting requirements, etc. Working with BAAQMD to collect information on BMPs to inform rule development and scoping a non-competitive proposal
13-5: Hydrogen Plants	TBD	TBD	Focus on hydrogen production at petroleum refineries.
8-34: Solid Waste Disposal (Landfills)	TBD	TBD	Focus on methane from landfills – BAAQMD to align with state and federal requirements.

BAAQMD Regulation 13: Climate Pollutants

Example Engagement for Future Reference

- Early involvement, BAAQMD sought input from BACWA
- Participants on Organic Recovery Technical Working Group

- BACWA is…
  - Working to summarize existing Best Management Practices already in place that control methane and VOC emissions, to determine if there is a need for further reduction
  - Supporting BAAQMD in reviewing and revising the scope of the non-competitive proposal to identify methane and VOC emissions mitigation options

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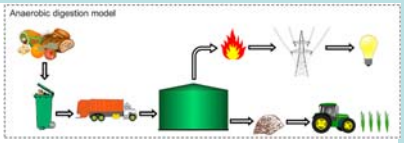
SB 1383 Regs: Organics Diversion & SLCP Reduction



- 40% methane reduction by 2030
- Organic waste diversion from landfills, 50% by 2020 and 75% by 2025
- Incentivizes biogas production
- BACWA members to discuss role in broader organic waste diversion/ methane reduction with SWRCB Dec 9th, supporting the Co-Digestion Capacity Analysis findings

- **Issues**: BAAQMD regulations do not consider overall methane reduction (i.e., at landfills) and act to limit increases in biogas production

- **Asks:** Consider CARB/CalRecycle/SWRCB's scope for total methane reduction in Rule 13-4 development and support increased biogas production/utilization

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SWRCB Co-Digestion Capacity Analysis

Purpose:
"*Enable the Water Board to work with wastewater agencies, local governments, community members and other stakeholders to inform approaches* ***to better coordinate and cost-effectively maximize*** *organic waste* ***diversion*** *from landfills,* ***co-digestion at wastewater treatment plants****, and* ***beneficial biogas and biosolids utilization***."

California Water Boards

SWRCB Co-Digestion Capacity Analysis

1. Estimated amount/spatial distribution of food waste in 2025 and 2030
2. Assessed existing excess capacity of digestion and key receiving/biogas/biosolids processes without rehab/modifications
3. Estimated capacity and investments needs for key processes to fully utilize digestion capacity and maximize co-digestion
4. Assessed GHG emission reduction potential through co-digestion
5. Case Studies: Investigated opportunities and barriers at small- to medium-sized facilities
6. Case Studies: Examined impacts on biogas/ biosolids production at two larger facilities with full-scale demonstrations
7. Appendices with analysis details, decision-making tool

CWEA-CASA Webinar September 9th

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AIR TOXICS REPORTING/ REDUCTION

AIR Issues & Regulations Committee
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10

Air Toxics: AB 617 / AB 2588 Program Updates

- Criteria Air Pollutant and Toxic Air Contaminant Reporting (CTR)

  Requires WWTPs to report full Hot Spots compound list (>500 compounds).

  - Implements statewide annual reporting of criteria air pollutant and toxic air contaminant emissions data from facilities. It establishes new policies to improve emissions inventory data (critical to understanding sources of emissions contributing to adverse health risks or other impacts at the local, regional, and statewide level).

- AB 2588: Air Toxics "Hot Spots" Program (Hot Spots Program)

  Expands Hot Spots compound list by >10,000 compounds (including functional groups of compounds).

  - Establishes a statewide program for the inventory of air toxics emissions from individual facilities, as well as requirements for risk assessment and public notification of potential health risks.

ISSUE: *As written, CTR may require Wastewater Sector to test for and report ALL (>10,000) compounds listed under the Hot Spots Program!*

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11

Air Toxics: AB 617 / AB 2588 Program Updates

- BACWA members have been working with CARB on approach for determining a shortlist of relevant toxics to report
  - CARB confirmed WWTPs can report as they were (BAU) through 2026 – due to absence of sampling/quantification methods and toxicity information for most existing and proposed compounds
  - CARB confirmed <u>wastewater sector has until 2026</u> to perform a "two-step process" (collaborating with CARB and air districts) to determine shortlist of compounds to quantify/report in 2027 forward. Steps are:
    1. GC/MS Scan for determining sector-specific compound list
    2. Quantification Process (once quantification methods have been approved by CAPCOA and Scientific Review Panel) - mimics 1990 Pooled Emissions Estimation Program (PEEP)

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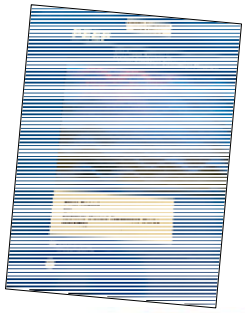
Air Toxics: 1990 Pooled Emissions Estimation Program (PEEP)

- Provided participating agencies a standard estimation methodology for determining air toxics emissions from their respective facilities.
  - 25 POTWs across CA formed a JPA
  - 18 unit processes (liquid, solid, gas)
  - 20 sites (managed as north and south)
  - 3 rounds of sampling over 5 months
  - Project duration: ~2 years (1989-1990)
  - Budget: $2.5M (1990)



- Result: Emission factors for a short-list of targeted compounds determined by participating agencies and air district staff

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

- Phased implementation based on cancer prioritization – WWTPs in Phase 2 (starting in late 2020/early 2021)
- **Issues**:
  - Emission factors are based on old influent data and can result in erroneously high Prioritization Scores
  - Timing of Rule 11-18 risk reduction implementation conflicts with timing of CARB-approved two-step process for updating emission factors
- **Asks:** Coordinate risk reduction plan development with statewide two-step process (to be complete in 2026) to give time to:
  - Update relevant TAC emission factors
  - Determine needed and cost-effective risk reduction measures (considering rate payer impacts)

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14

Future Meeting Topic: Standardizing Permit Conditions & Enforcement

- **Issues:**
  - Widely varying conditions set for similar facilities
  - Inspector interpretations have conflicted with permit language
- **Asks:**
  - Continue review and edit of existing standard permit conditions (as BACWA has provided for digestion related conditions)
  - Consider ways to coordinate/check inspector interpretations with permit language

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15

Thank you!

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16

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BAAQMD-BACWA Leadership
Meeting Summary

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

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

a) Methane Reduction

   i) BAAQMD Proposed Regulation 13

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

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

      (3) BAAQMD and BACWA to hold a deep dive on the latest Nitrous Oxide related research (summarizing the latest work done to understand emissions from various treatment processes and the effluent)

   ii) SB 1383 Implementation - Organic Waste Diversion

      (1) BACWA will share a copy of the SWRCB Co-Digestion Capacity Analysis report with BAAQMD.

      (2) While BAAQMD supports the diversion of organics to POTWs and has flexibility with regard to the approach for managing/controlling methane, there is no budging on criteria air pollutants and toxic air contaminants (which may lead to a discussion of other non-combustion options for biogas utilization – e.g., pipeline injection or transportation fuel).

      (3) Regarding managing/controlling methane, BAAQMD:

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

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

(c) Requests that BACWA provide examples of projects where the permitted throughput was found to be different than what was proposed (wrt biogas production).

b) Air Toxics Reporting/Reduction

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

ii) The two-step process referenced in the first bullet will be used to update the emissions factors for those compounds already being reporting to the BAAQMD under Rule 11-18 for which the original data is outdated.

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

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

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

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

Toxicity Plan:
Implementation Update

December 8, 2020
BACWA Permits Committee

Robert Schlipf
San Francisco Bay Water Board

CALIFORNIA
Water Boards

Overview

- Part of the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California*
  - Supersedes Regional Board Basin Plan and SIP
  - Establishes *numeric* acute and chronic toxicity objectives
- Requires Toxicity Test Methods and Analyses
  - Data Analysis using Test of Significant Toxicity (TST)
  - Tier Classifications for Test Species
- Prescriptive Implementation for POTWs
  - Species Sensitivity Screening & Reasonable Potential Analysis
  - Effluent Limits
  - ***Ceriodaphnia* specific requirements**
  - Monitoring Requirements
  - Toxicity Reduction Evaluation

Test of Significant Toxicity

1. **Statistical t-test** that compares the Instream Waste Concentration (IWC) response to control response
2. **Null Hypothesis.** IWC is toxic.
3. **Alternative Hypothesis.** IWC not toxic, if you reject the null hypothesis.

Test Species

1. **Tier 1 (West Coast test species)** shall be used unless unavailable.

2. **Tier II (East Coast test species)** in Region 2 permits include mysid shrimp (*Americamysis bahia)* and inland silverside *(Menidia beryllina)*

Species Sensitivity Screening

1. **Conduct** screening prior to or within 18 months after the first permit reissuance, unless a representative screening has been done in the last 10 years.

2. **Then** at least every *15 years* (after initial screening)

Screening Requirements

1. **Species screening** one vertebrate, one invertebrate, and one plant
2. **Four sets of tests** over one year, *seasonal or intermittent discharges may use fewer than four sets of tests*
3. **Screen** at IWC or higher effluent concentration
4. **Select test species** with highest percent effect at IWC

Reasonable Potential Analysis

- POTW ≥ 5.0 MGD, *with pretreatment program,* effluent limits required.
- POTW < 5.0 MGD, RPA required.
- Reasonable Potential exists if:
  - Any toxicity test results in a “fail” of TST, or
  - Percent effect is greater than 10% at IWC

Effluent Limits

1. **Maximum Daily Effluent Limit:** "fail" at the IWC and percent effect greater than or equal to 50 percent.
2. **Monthly Median Effluent Limit:** No more than one test in a calendar month may result in a "fail" at the IWC for any endpoint

Ceriodaphnia Effluent Limits

Current Permit Effluent Limitations	Permit Effluent Limitations through December 31, 2023 for New Permits
Scenario 1: No numeric effluent limitations	MDEL using *C. dubia* MMET using *C. dubia*
Scenario 2: Existing numeric effluent limitations	Option A: MDEL using *C. dubia* MMEL using *C. dubia* Option B: MDEL using *C. dubia* MMET using *C. dubia* MMEL using green alga or fathead minnow

Monitoring Frequency

Facility Type	Routine*	Reduced
POTW ≥ 5 MGD	Monthly	Quarterly
POTW < 5 MGD with RP	Quarterly	Twice per year

**New Category for POTW < 1 MGD, Twice per year monitoring.*

.

Reduced Monitoring

1. **If permit includes effluent limits**: Will need to show compliance for five years.

2. ***<u>If no effluent limits</u>***:
   a. Analyze all toxicity tests (minimum of 10) with TST
   b. No “fails” at the IWC or at a higher concentration

Reduced Monitoring

3. ***Twice per year compliance monitoring***, under the following:

   a. Initial dilution of at least 20:1

   b. Additional twice per year "*surveillance monitoring**" at a concentration at least double the IWC

*Test at 10 percent effluent.

Toxicity Reduction Evaluation

1. Required when two or more MDEL or MMEL* violations occur in a month or two successive calendar months.

2. Regional Board may require when surveillance monitoring shows two consecutive “fails”

**MMET for Ceriodaphnia*

Timeline

1. **December 2020:** Adopted by the State Water Board

2. **Between April and June 2021**: OAL and U.S. EPA approval

3. **After EPA Approval**: Incorporate in Region 2 NPDES Permits

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

1. Presentations on power supply reliability plans
    - Central San?
    - SJ?
    - SFPUC?

2. Do agencies have different strategies for specific scenarios?
    - Stage 3 emergency shutdowns
    - Public Safety Power Shutoff
    - Temporary Substation power loss
    - Planned power shutdowns
    - Natural disaster loss of regional power (Storm, earthquake, fire)
    - Do strategies differentiate between average dry weather flow and peak wet weather flow conditions?

3. What consequences are the strategies focused on preventing?
    - Staff life / safety
    - SSOs/street and home backups
    - Discharges of untreated/partially treated sewage to the Bay
    - Loss of secondary treatment process biology
    - Loss of biosolids process biology

4. Treatment plant power backup strategies, which combo do agencies use?
    - Dual PGE power feeds (automatic transfer v. PG&E transfer; determination of fault location)
    - Cogen (automatic transfer, responding to trips after PG&E outage)
    - Emergency backup generation (size & fuel storage)
    - Battery
    - Temporary Influent storage or mid-treatment storage

5. Collection system power supply strategies
    - Definition of “critical” load
    - Full v. H&S on-site generators
    - Portable generators
    - Portable pumps, bypass piping, and hauling sewage

6. What trainings/drills do agencies do? How frequently?

7. What documents codify their strategies?
    - Contingency plan
    - PS process SOPs
    - Emergency Ops plans
    - Other?

Potential dates for Pardee Technical Seminar 2021

(all Thursday/Friday)

Sept 16 & 17

Sept 23 & 24

Oct 28 & 29.

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

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

Recycled Water Committee –
Report to BACWA Board

Recycled Water Committee Meeting on: 11/17/2020
Executive Board Meeting Date: 12/18/2020
Committee Chairs: Stefanie Olson, Reena Thomas

Committee Request for Board Action: none

Detailed notes from meetings are posted online.
29 attendees (all participating remotely) representing 12 member agencies

Regional Recycled Water Evaluation Update

Mike Falk of HDR provided an update on the Regional Recycled Water Evaluation:

- The team has updated the template for individual plant reports based on BACWA's comments submitted in October.
- Now that the template is finalized, the project team will begin preparing the individual plant reports, which are targeted for completion later in 2021. They plan to test drive the template using a "first wave" of facilities; this short list will be identified around the end of 2020.

Monitoring and Reporting Program (MRP) for Statewide General Order NOA

The committee discussed requirements in the MRP. Priority pollutant monitoring is not required because the regional MRP overrides the statewide MRP.

The MRP also includes requirements for salt and nutrient monitoring, but is not clear about whether individual Salt and Nutrient Management Plan (SNMP) monitoring plans override the sampling requirements in Table 3. Reena requested clarification from the Regional Water Board. Melissa Gunther confirmed that SNMP monitoring can be used in lieu of Table 3; Administrators should state in their Annual Report if this is the case. Melissa also noted that samples can be collected at any representative location (e.g., at the plant or at a tank), and do not need to be collected at a recycled water use site.

Updates on funding opportunities:

No new funding opportunities have been announced for the federal WIIN program or at the state level for Round 2 of Prop 1. Local agencies and the state continue to finishing up agreements for Prop 1, Round 1.

EPA's Draft National Water Reuse Action Plan

Agencies involved with water recycling in the South Bay will be meeting on November 19th to discuss interagency issues impacting regional water reuse. The conversation is supported by BACWA with help from EPA and WateReuse, and will include information on interagency cooperation from the current Water Reuse Action Plan.

Member Updates

Members discussed recycled water use site supervisor training during COVID. Strategies include videoconferencing, training while social distancing, and suspending training temporarily. Even before COVID, some agencies had stopped offering routine training, using an "on-demand" model instead.

Eric Hansen SVCW announced that construction of their demonstration treatment project (Staged Anaerobic Fluidized Bed Membrane Bioreactor, or SAF-MBR) is complete, and startup will occur in January. The project is funded by the California Energy Commission and others, and involves collaborating with Stanford University researchers to quantify pollutant transformation and energy use.

Next Meeting – Tuesday, January 19, 2020, 10:30 am to 12:30 pm, via Zoom

All meetings for 2021 have been added to the BACWA calendar https://bacwa.org/events/month/

Collection Systems Committee
Report to BACWA Board

Collection Systems Committee Meeting: 11/19/2020
Executive Board Meeting Date: 12/18/2020
Committee Chair: Andrew Damron (Napa San)

Committee Request for Board Action: None

41 attendees, representing 21 member agencies.

Roundtable Discussion on Manholes

Led by Andrew Damron (Napa Sanitation District), Tyree Jackson (City of Oakland) and Stephen Miksis (Ross Valley Sanitary District), attendees discussed manhole design, inspections, maintenance, and rehabilitation. Key points are highlighted below.

Inspections

- Several agencies reported moving to a completely digital inspection report using tablets/cell phones. Others are still doing hand sketches or inspection reports and later digitizing the results.
- Artificial intelligence is being increasingly used for inspections, with the goal of "taking the operator out of the inspection." For example, Ross Valley Sanitary District has a new IBAK 4K SI that can complete an inspection and generate maintenance codes all within a few minutes.
- Inspections for I&I should be conducted during wet weather, after the ground is saturated. Inspection frequencies vary widely; some agencies (e.g., City of Oakland) are required to conduct manhole inspections at a defined frequency.
- Dry weather inspections are useful for looking for problems like broken water lines, a common source of infiltration.
- Prioritize inspections for basins known to have high I&I.
- A thermal scanner can show whether a manhole has been properly sealed.

Ways to Reduce Manhole I&I

- Add HDPE inserts that sit under the manhole cover and stop inflow that is generated from ponding.
- Gel grout injection is not expensive and can be completed quickly (within a day).
- Curtain grouting works well for some agencies.
- Require waterstops on manhole inlets and outlets.
- Manhole epoxy coating from **Mainstay** was reported as highly effective and appears to be durable. Such products can even be applied on brick and on horizontal surfaces (not just vertical surfaces in the manholes), as an alternative to CIPP.
- Agencies noted success with using **SealGuard** polyurethane grout for sealing infiltration into manholes. Others reported success with **Avanti** products applied as a curtain grout, to prevent water from coming in higher up. When grouting manholes via grout injection, it's good practice to do it when groundwater levels are high.
- Good practice is to keep a manhole asset inventory, keeping track of each manhole separately (age, condition, type of manhole, etc.). Every time operators pop a manhole for other reasons (such as line cleaning) they should do a quick check for I&I and/or corrosion in the manhole.

Design

- Napa San is revising their design standards because they have had negative experiences with cast-in-place structures developing defects and infiltration within a few years of installation. It is difficult for the construction inspectors to observe concrete thickness during installation. However, most other agencies allow cast-in-place.
- Most agencies are moving away from having ladders installed in the manholes, and are cutting out existing ladders.

Leadership

- The vice chair position of the committee remains open.

SSS WDR Update

State Water Board staff have completed an internal administrative draft of the SSS-WDR update and it continues to be circulated internally. It will be ready for public review in approximately February 2021. There will be a new requirement related to resiliency, which will apply to both capital planning and O&M. The CASA working group is currently assessing the cost of compliance for this new requirement. The new order will cover discharges to waters of the state (i.e., groundwater), not just waters of the US. It will use the term "leakage" instead of "exfiltration."

The SSS-WDR update is expected to include a new Category 4 for SSOs less than 50 gallons that do not need to be reported to CIWQS.

Next Collection System Committee Meeting

Our next committee meeting will be held on Thursday, February 18th, at 10 AM via Zoom. The committee will be meeting quarterly, but may schedule additional meeting(s) to respond and develop comments to the proposed new SSS-WDR.

Meeting Date: December 2, 2020
Executive Board Meeting Date: December 18, 2020
BAPPG Chairs: Autumn Cleave, Robert Wilson

Detailed Committee Notes are available online.
32 attendees representing 24 member agencies

Updates on Committee Activity

- SGA has completed their fall 'What to Flush' campaign. The total marketing cost was $5,500 and had 34,000 clicks, for an average cost of $0.16/click. The spring campaign will focus on pesticides and will also include information related to silver in clothing (to be developed between now and spring).
- Budget is on-track with 44% spent about halfway through the fiscal year.
- BASMAA will be 'pausing,' so OWOW will need to find a new organization to host its activities. Meanwhile, the Public Information/Participation Committee will continue to meet through June 2021.
- Microenterprise Home Kitchen Operations (MEHKO) will go into effect in Alameda County in Q2 2021. A MEHKO ordinance is also under development in Berkeley. Although the FOG disposal to the sewer may be prohibited, there is a concern that the inability for wastewater staff to conduct routine restaurant inspections may ultimately lead to FOG problems. Outreach to new MEHKO facilities will be important to prevent problems.

Main Discussion: Legislation 101 from the California Product Stewardship Council

- Doug Kobold, Executive Director and Joanne Brasch, Special Project Manager of the California Product Stewardship Council (CPSC) educated the committee members about the Council's mission of increased producer responsibility for a range of products, from batteries to textiles to mattresses. Their 'Legislation 101' presentation describes how CPSC advocates for legislation to be developed and passed.
- 'Extended Product Responsibility' in which producers pay for recycling and disposal of products is a key CPSC focus, but they also advocate for (Non-Extended) 'Producer Responsibility' to increase product recyclability.
- The 2021 Legislative session starts in January, and CPSC will be advocating for bills related to batteries and power tools.
- Passing legislation is a difficult task, but CPSC has developed best practices such as:
    - Identifying the right champion to author the bill.
    - Bills 'live or die' in appropriations committee, so it's helpful to make bills cost-neutral for the State budget.
    - Close relationships with their industry groups (i.e., product manufacturers) are important to identify ways to 'help the leaders lead.'
- A microfiber bill may be released in the 2021 legislative session.

Pesticide Registration Letters

Upcoming due dates for pesticide registration letters are as follows:
December 17: Inorganic Halides (Sodium Bromide) *(changed from original due date of Dec. 2)*
December 22: Methoprene, Halohydantoins, Cyhalothrins, and Organic Esters of Phosphoric Acid (OEPA)

Next BAPPG General Meeting: February 3, 2020

Laboratory Committee – Report to BACWA Board

Laboratory committee meeting on: December 8, 2020
Executive Board Meeting Date: December 18, 2020
Committee Chair: Dan Jackson (Union Sanitary District)

Committee Request for Board Action: none

29 attendees (via teleconference only) representing 22 member agencies

Clean Water Act Methods Update
Nicole Van Aken (FSSD) presented an update on the 2019 Clean Water Act Methods Update Rule. The final rule is expected to be published before the end of the year, and will go into effect 30 days later. The most significant changes are to the method for TSS; changes include the duplicate frequency, and removal of the requirement to pre-dry filters before filtering (among others). Samples out of range will also allowed with qualifiers. The updated BOD method will be less restrictive regarding pH requirements and dilutions, and allows use of optical DO sensors.

Phase 1 PFAS Sampling
Members shared experiences regarding the recent Phase 1 sampling for influent, effluent, and biosolids for the Regional PFAS Study. There is eagerness to find out whether the blank samples were contaminated or not; as several agencies reported having to construct new sampling equipment out of approved materials. Members felt that the sampling instructions provided by SFEI were sufficiently clear. A summary of the discussion was provided to SFEI.

COVID
Several members reported that their agencies are returning to staggered shifts.

Toxicity Provisions
BACWA staff provided an update on the toxicity provisions recently adopted by the State Water Board. The group discussed that the removal of acute toxicity monitoring will be a great asset; lab staff will spend any freed-up time on quality assurance procedures soon to be required by ELAP TNI (effective date of January 1, 2024). It requires approximately 0.25 FTE for acute toxicity monitoring to be performed in-house. Members expressed interest in accelerating implementation of this aspect of the toxicity provisions, if feasible. TRE plans may be a discussion topic for a future meeting.

Monitoring Survey Results
BACWA staff provided an overview of group responses to the Alternative Monitoring & Reporting program survey. Member agencies noted that in addition to contract laboratory costs, it requires laboratory staff time to collect samples, ship to contract labs, and manage the resultant data.

Announcements
- EBMUD reported a recent positive experience obtaining ELAP certification for 10 methods.
- EBMUD and FSSD are joining the X-LIMS platform.
- Samantha Bialorucki will circulate information received from CDPH stating that POTWs do not need to register as medical waste generators.
- The holiday social quiz is available for recycling at https://create.kahoot.it/share/bacwa-lab-permits-holiday-social-final/3d78ce71-8ebf-4de6-951c-24df22df55fd

Next meeting: February 9, 2021

Permits Committee –
Report to BACWA Board

Permits Committee Meeting on: December 8, 2020
Executive Board Meeting Date: December 18, 2020
Committee Chair: Mary Lou Esparza, CCCSD

Committee Request for Board Action: None

31 attendees by teleconference, representing 18 member agencies and 3 Regional Water Board staff.
Action items shown in red.

Chlorine Basin Plan Amendment

- The Chlorine Basin Plan amendment was adopted by the Regional Water Board on November 18. Regional Water Board staff estimated that the effective date will be in late 2021, since State Water Board approval is required in addition to OAL and EPA approval.
- The committee discussed the possibility of a blanket permit amendment incorporating new effluent limits and monitoring requirements. Dilution credits would only be incorporated for deep water dischargers. The ED explained that a blanket permit amendment should include both deep and shallow water dischargers, to allow time averaging for all dischargers.

Statewide Toxicity Provisions

- Statewide toxicity provisions were adopted by the State Water Board on December 1. Robert Schlipf from the Regional Water Board presented a summary of key changes to Region 2 NPDES permits that will result from the statewide toxicity provisions, including proposed region-specific requirements. The anticipated effective date is April to June 2021. Robert's slides will be distributed to the committee.
- The presentation states that Tier 2 species will be phased out, except in cases where a Tier 1 species is not available. Most Region 2 dischargers use mysid shrimp, a Tier 2 species. Left unresolved is whether dischargers can keep using mysid until they are required to complete a re-screening, or if they will be assigned a new test species upon NPDES permit reissuance. Committee leadership will pursue this question with RWQCB staff and report back to the committee.
- Ahead of the meeting, John Madigan of the Regional Water Board distributed proposed toxicity language to be incorporated into Region 2 permits. Member agency comments will be due to BACWA by mid-January. BACWA will then compile member agency comments and return them to the Regional Water Board by early February.
- For deep water dischargers with initial dilution of at least 20:1, the draft region-specific requirements include 2x/year surveillance monitoring using a sample concentration of 10% effluent, and 2x/year compliance monitoring at the IWC. The surveillance monitoring will be reported to a yet to be created sampling point so that data is not co-mingled. The Regional Water Board is presuming that the large dilution (small IWC) will result in compliance for these dischargers, thereby qualifying them for quarterly monitoring overall. The specifics of this surveillance monitoring are likely to be a focus of BACWA comments.
- The default plan was to implement the new provisions permit-by-permit. However, the committee members also broached the possibility of removing acute toxicity monitoring requirements as part of a region-wide blanket permit amendment.

Climate Change Surveys Planned by Regional Water Board

- The Regional Water Board described their revised draft climate change survey. BACWA will assist the Regional Water Board in identifying 2-4 volunteers for a "test drive" of the survey to be completed in in Q1 2021.

Alternative Monitoring & Reporting (AMR) Program (Order No. R2-2016-0008)

- The RPM presented the results of a monitoring cost and frequency survey that was completed by committee members. Based on the survey results, it is theoretically possible to replace the current AMR with a new suite of monitoring reductions that continues funding for the RMP Special Studies without including chronic toxicity screening as part of the monitoring reduction.
- The next step is for BACWA to develop a technical package that includes a specific, technically-justified proposal. Regional Water Board staff requested a specific technical justification for each proposed monitoring reduction.

Nutrients

- BACWA will be conducting a survey regarding member agency planning related to nutrients. The survey will inform development of a load cap implementation strategy for discussion with the Regional Water Board.
- Members were invited to the December 18th Executive Board meeting, where subembayment delineation and nutrient trading will be discussed further.
- BACWA ED has prepared a chart illustrating various nutrient-related committees, which will be presented at a future meeting.

Next BACWA Permits Committee Meeting: February 9, 2021

Executive Director's Report to the Board
November 2020

NUTRIENTS:

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

- Discussed NMS issues with Science Manager
- Discussed NMS and nutrient permitting issues with individual Executive Board members
- Updated and posted draft RFP for NMS technical review
- Updated NMS Reviewer RFP with extension, and coordinated with selection committee. Reviewed proposals.
- Reviewed and edited abstract for WEFTEC
- Developed graphic of BACWA nutrient workgroup participation
- Reviewed NMS manuscripts

EXECUTIVE BOARD MEETING AND SUPPORT

- Edited minutes and action items from 10/16 Executive Board meeting
- Worked with BACWA staff to plan and manage 11/20 Executive Board meeting
- Drafted agenda for 11/30 Special Joint meeting with Water Board
- Conducted the Executive Board meeting agenda review with the BACWA Chair
- Updated draft Strategic Plan
- Continued to track all action items to completion
- Finalized FY20 BACWA Annual Report

COVID-19:

- Participated in 11/5 COVID-WEB Steering Committee meeting

COMMITTEES:

- Reviewed draft Solano Biosolids Report
- Reviewed draft 2018 BACWA Biosolids trends survey report

REGULATORY:

- Attended, prepared for, and gave oral comment at Chlorine Residual Basin Plan amendment adoption
- Discussed PFAS issues with CASA
- Discussed options for PFAS regulatory advocacy with members and CASA Leg lead
- Discussed sampling schedule and budget with SFEI staff
- Participated in CASA meeting on microplastics research
- Participated in CASA calls on State Toxicity Provisions
- Developed testimony for 12/1 Toxicity Provisions Adoption hearing
- Participated in meetings with five State Water Board members regarding Toxicity Provisions
- Reviewed sea level rise planning information request from Regional Water Board staff

FINANCE:

- Reviewed the monthly BACWA financial reports, summary, and budget to actual tracking sheet for September 2020
- Reviewed and approved invoices
- Reviewed FY20 Financial Statement from auditor
- Communicated with Internal Controls Auditor

COLLABORATIONS:

- Participated in 11/2 Clean Water Summit Partners Meeting
- Participated in call for WRAP Interagency issues with South Bay members and Valley Water
- Participated in CASA RWG meeting 11/19

ASC

- Reviewed materials sent via email by ASC ED

BABC:

- Discussed contracting for UC Davis Study
- Participated in portion of 11/9 meeting

BACC:

- Reviewed materials and email to BACC members

ADMINISTRATION:

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

MISCELLANEOUS MEETINGS/CALLS:

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

Board Calendar

January 2021 – March 2021 Meetings

DATE	AGENDA ITEMS
December 18, 2020 Online Meeting 9:00 – 1:30pm	**Policy / Strategic Discussion**: • Paul Stacy Presentation • David Senn SFEI Presentation **Operational**: • Annual Meeting Agenda • FY22 Budget Schedule & Key Issues
January 15, 2021 Online Meeting	**Policy / Strategic Discussion**: • Nutrient Group Annual Report **Operational**: • Annual Meeting Final Agenda • FY22 Budget Schedule & Key Issues
February 19, 2021 *Annual Members Meeting 9-3pm* Online Meeting	**Policy / Strategic Discussion:** • Jack Broadbent briefing • Sean McGuire from the SWRCB the Executive Officer, Michael Montgomery, of the of the SF Bay Regional Water Board, as well as Board Chair Jim McGrath **Operational:**
March Online Meeting	**Policy / Strategic Discussion:** **Operational:** • Draft budget

BACWA ACTION ITEMS

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

FY21: 12 of 18 Action items completed
FY20: *69 of 70 Action Items completed*
FY19: *110 of 110 action Items completed*
FY18: *66 of 66 Action Items completed*
FY17: *90 of 90 Action Items completed*

Regulatory Program Manager's Report to the Executive Board

November 2020

BACWA BULLETIN: Circulated November Bulletin.

CHLORINE RESIDUAL: Reviewed revised Chlorine Basin Plan Amendment and attended Regional Water Board adoption hearing.

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

BIOSOLIDS REPORTS: Completed draft 2020 Solano County Biosolids Report and 2018 Biosolids Survey Reports, and circulated for review.

MONITORING: Compiled results of member survey regarding replacement to current Alternate Monitoring & Reporting Program (Order No. R2-2016-0008), including draft cost information.

NUTRIENTS: Began review of proposals for Nutrient Technical Review.

COMMITTEE SUPPORT:
BABC – Attended committee meeting and prepared meeting summary
BAPPG – Attended steering committee meeting, submitted comment letter to EPA regarding antimicrobial use of 3(2H)-isothiazolone, 4,5- dichloro-2-octyl (DCOIT), and assisted with scheduling virtual meetings.
Collection Systems – Attended meeting, prepared Board report, and assisted with scheduling meetings for 2021.
Recycled Water – Attended meeting, prepared Board report, and assisted with scheduling meetings for 2021.
Executive Board – Attended Executive Board meeting and joint meeting with Regional Water Board staff, and reported on PFAS, toxicity provisions, alternate monitoring program, and climate change survey.

ADMINISTRATION/STAFF MEETING – Participated in monthly staff meeting.

BACWA MEETINGS ATTENDED:
Bay Area Biosolids Coalition (11/9)
BAPPG Steering Committee (11/10)
Recycled Water Committee Meeting (11/17)
Collection System Committee Meeting (11/19)
Executive Board (11/20)
Joint Region 2 Water Board – Exec. Board (11/30)

EXTERNAL EVENTS ATTENDED:
Microplastics Expert Panel (11/2)
CASA Toxicity Subgroup (11/4)
Regional Water Board Meeting (11/18)

Lorien Fono

From: Jared Voskuhl <JVoskuhl@casaweb.org>
Sent: Thursday, December 3, 2020 4:50 PM
Subject: [Regulatory] CASA December 2020 Regulatory Update

Categories: Board Packet

Good Afternoon,

Please find below regulatory updates from November and for December.

Also, we are pleased to introduce Alma Musvosvi, the newest staff member at CASA! Alma will serve as the Association's Legislative and Regulatory Analyst and be a key point of contact for CASA members on legislative and regulatory issues. Before coming to CASA, Alma completed a fellowship program in the California State Assembly, and she earned dual B.S. degrees in biochemistry and health communication. Help us give Alma a warm welcome at amusvosvi@casaweb.org!

Our next workgroup meetings will be through Zoom on Wednesday, December 16. Please pass along any items you would like agendized, and let us know if you have any problems accessing the hyperlinked materials.

Thank you,
The RWG Team

WATER QUALITY

SWB Adopts Toxicity Provisions on 12/1

Earlier this week, the State Water Resources Control Board (State Water Board/SWB) adopted the toxicity provisions for inland surface waters (Provisions). Over the month of November, CASA met with SWB members, staff, and counsel, in conjunction with the other Summit Partners, to discuss the remaining issues and details for the practicable implementation of the regulations. Notwithstanding CASA's overarching concerns with the Provisions' use of numeric limits for chronic toxicity and mandating the TST, from CASA's perspective, the final version of the Provisions, Staff Report, and adopting Resolution represent an acceptable compromise by the State Water Board. In light of the fact that the SWB and staff had to balance numerous interests and secure compromises between stakeholders, we feel their commitment to proceeding with the upcoming cerio study, conducting a meaningful check in when it is done, and the express statements by at least 2 Board members that the study design should address our

fundamental concerns with the cerio reproduction test, all represent a meaningful step in the right direction.

The adoption hearing video is available here. The Board previously released its first Change Sheet (November 25) and a second Change Sheet (November 30) for the Adopting Resolution (November 20). The text of the final resolution that they added is available here, and the final versions of the Provisions and supporting materials will soon be available on the SWB's Toxicity program page.

With regard to the *cerio* study, on October 30, the SWB released this document for a study entitled "Development of the Quality Assurance Recommendations for the Ceriodaphnia Toxicity Test," for which a final report is due at the end of 2022. During the adoption hearing, the SWB members also requested an informational update from staff in early 2021 about the study. The first stakeholder meeting for the study has been scheduled for December 8, and its agenda and members of the stakeholder committee have been released.

Thank you to all of our members who supported our outreach and efforts last month. Please reach out to Jared Voskuhl if you have questions.

R9 Board Votes to Defer to 12/8 their Biological Objectives BPAs

On November 18, the San Diego Regional Water Control Board was scheduled to adopt its Basin Plan Amendments to incorporate a water quality objective for biological condition. MS4 permittees, SOCWA, and CASA provided comments about the inclusion of modified streams and engineered channels in the proposed Stream Biological Objective, and the ultimate attainability of the proposed regulations in those settings due to the associated costs for achieving a numeric biological water quality objective of greater than or equal to a 0.79 California Stream Condition Index (CSCI) score.

In a fine exhibition of a public body stewarding a major policy decision to incorporate stakeholder input to ensure a workable outcome, the San Diego Regional Water Board moved to conclude the Public Hearing and Comment, but instead of formally voting on the Basin Plan Amendments, continue deliberation and defer that final decision to their December 8 meeting, to allow for more coordination with staff and interested parties to seek an acceptable path forward on the issues and challenges identified.

The December 8 agenda and supporting materials have been released now, with the Executive Officer's write-up for this vote referring its Discussion section to a supporting document, but that document only provides a narrative chronology of regulatory developments and does not engage with the "key issues" identified in the write-up of the November 18 hearing. Stay tuned, and if you have any questions about these developments, please reach out to Jared Voskuhl.

SLAP Template for PFAS Sampling Available & PFAS Workshops Online

As previously shared, on September 16 and October 28, the Clean Water Summit Partners (BACWA, CASA, CVCWA, CWEA, and SCAP) hosted workshops on the SWB's investigative order of PFAS at publicly owned treatment works. Presentation slide decks and videos are all available here. There may be a third workshop in 2021, but details are still being discussed.

During the second workshop, there was mention of a SLAP template in development. It is now available, here, for agencies preparing to collect samples or seeking Regional Board approval of their plan. This document is provided to the publicly owned wastewater treatment plant members of the Clean Water Summit Partners. Key contributors to this

document were: Amber Baylor, Lisa Haney, Steve Jepsen, Lyndy Lewis, Heather Rankin, Josie Tellers, and Jared Voskuhl. The intended use of this document is to be used as a template and tailored to each specific organization required to comply with WQ Order No. WQ-2020-0015. Agencies may use the SLAP by filling in site-specific information in its yellow sections. Reach out if you have any questions or concerns!

New US EPA Memo on NPDES Monitoring of PFAS

On November 30, the U.S. Environmental Protection Agency (EPA) issued a press release and memorandum with recommendations and non-enforceable guidance for phasing in monitoring requirements of PFAS in NPDES permits. Notably, the memo, "recognizes the need for reliable and accurate analytical methods and resulting data when considering the incorporation of monitoring provisions into NPDES permit requirements... [and] *recommends a phased approach to any potential PFAS monitoring provision, such that monitoring requirements are triggered at a time after EPA's multi-lab validated methods are made available to the public*. [Office of Water] expects to have a multi-lab validated PFAS analytical method available for detecting certain PFAS in wastewater and several other matrices in 2021. EPA water quality methods are developed with particular attention to accuracy and precision and have been through single- and multi-lab validation." Please reach out to Jared Voskuhl with comments or questions.

SCCWRP Exfiltration Vote on 12/4 & Exfiltration Research Library Update

On December 4, the Commission for the Southern California Coastal Water Research Project (SCCWRP) will hold a public meeting, and amongst other items on their 12/4 agenda, are (1) a vote on whether to endorse a $5.6m contract with the County of San Diego to conduct a study to identify and quantify the relative sources and transport pathways of human fecal material to the Lower San Diego River watershed during dry and wet weather, and (2) a presentation by Josh Steele, a microbiologist at SCCWRP, about his related efforts in this arena.

Separately, the latest version of our exfiltration research library is available here, and it now includes over twenty references which were provided over the last several months as part of the first step in our coalition's initial outreach and strategy effort. Please contact Jared Voskuhl with any additional materials or if you have questions.

CWQMC 12/3 Meeting & New Co-Chair Announced – Dr. Mark Gold

On December 3, the California Water Quality Monitoring Council met for which the agenda is available here, and itemized topics included the Council's priorities for 2021, the Council's updated memorandum of understanding (MOU), progress for the SWB's wastewater based epidemiology efforts, and performance measures for stormwater reporting, as well as workgroup updates for wetlands monitoring and environmental flows and a discussion on justice, equity, diversity, and inclusion as it pertains to the Council's efforts.

During the segment on the Council's updated MOU, it was announced that Dr. Mark Gold, Director of the Ocean Protection Council, will now serve also as the Council's co-chair, alongside Karen Mogus, from the State Water Board. Additionally, a new draft of the revised MOU is available, and input has been requested by December 10, specifically as it compares to the original MOU, which was terminated in 2018 (@ 34:00 – 1:23:00).

Please reach out to Shelly Walther (Council Representative) and Jared Voskuhl (Alternate) with input, comments, or questions.

US EPA Webinar on Coastal Acidification Adaptation and Mitigation Strategies on 12/1 and 12/3

On December 1 and 3, the US EPA is hosting a webinar on ocean and coastal acidification (OCA). Five speakers will present on several topics including, OCA impacts and mitigation strategies, seagrass restoration, and refugia restoration. You may register here. For technical webinar questions, email Cecilia Kane and for all other questions please email Matt Liebman.

OEHHA Climate Change Symposium on 12/2 and 12/3

On December 2 and 3, CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) is hosting a climate change symposium exploring the latest scientific evidence for the interconnectedness of climate change and its impacts. The agenda is here, and you may register here. Please reach out to Sarah Deslauriers, CASA's Climate Change Program Manager, for further information.

California Water Data Initiatives in 2020

Over the last year, several new water data initiatives have launched for which we thought you may be interested, in case you were not tracking them, as we head into 2021.

In June, the California Water Data Consortium (Consortium) hosted its inaugural meeting, after the Governor's Office of Planning and Research met multiple times between November 2018 and February 2019 to recommend a governance structure and areas of focus for a non-profit organization to complement state agency efforts to implement AB 1755. In August, the Consortium appointed Tara Moran as President & CEO, and in October held its second meeting on October 22, for which the agenda is available here, to introduce the newly announced steering committee, which held its first meeting on November to discuss topics on their agenda. While there are not any scheduled meetings for the Consortium in December, we anticipate their efforts will increase in the next year.

In October, the state launched CalData to empower the use of data used by state agencies. The mission of CalData is to ensure the state has the infrastructure, processes, and people to manage, access, and use data efficiently, effectively, securely, and responsibly. CalData's strategy document from 2020 is available here, their Open Data policy here, and the Statewide Data portal is accessible here, where you can search for and access state datasets.

Finally, in consideration of how some data most recently has been utilized, over the summer on June 29 and 30, the SWB virtually hosted its annual water data science symposium. This year's agenda is linked, and video presentations referring to aspects of wastewater operations are itemized and hyperlinked on their time stamp, including: automated data about discharges to surface waters for real time drinking water consumer confidence reports (@ 4:28:45), changes in a SWB methodology for how to statistically quantify non-detection sampling results (@ 5:58:40), research findings from a study of pesticide residues in effluent (@ 6:38:20), an update and overview of the implementation of AB 1755 (open and transparent water data act) (@ 4:30:05), sewershed surveillance & wastewater based epidemiology (@ 4:39:10), drone monitoring of macroalgae (@ 5:19:50), and multiple efforts related to harmful algal blooms (@ 5:19:50 – 5:44:45).

Please reach out to Jared Voskuhl to discuss any of these efforts or if you have feedback, comments, or questions.

SWB November Meeting Agendas, 2021 Strategic Plan, & E.D. Reports

Here are recent State Water Board agendas for their meetings on November 4 (SAFR), November 17 (R4 approval of watershed management programs), and December 1 (Toxicity). Additionally, the SWB released its draft 2021 Strategic Work Plan. The State Water Board's agenda for their December 15 meeting has not been released. The Executive Director report is available for October (reconvened CEC's panel, volumetric annual reporting of wastewater and recycled water) and November (PFAS sampling for military owned wells and systems, CEC's panel).

BIOSOLIDS

SB 1383 Regs Approved by OAL, Model Tools Webinar Online, and Local Services Rate Analysis Report Released

On November 10, CalRecycle e-mailed notice that the Office of Administrative Law has approved the regulatory package to implement the provisions of SB 1383, which was submitted to them on October 9.

CalRecycle has agreed to join CASA for a webinar to discuss the rule and its implications which will likely be scheduled in early January. A summary of the regulations are available, which discuss the wastewater and biosolids sectors specifically. (Note that there are also impacts to jurisdictions which largely address solid waste and that are not included in this summary.)

Additionally, CalRecycle's recent webinars on Model Tools to facilitate implementation of the regulations for SB 1383 are available online on CalRecycle's webpage.

Finally, at the end of October, CalRecycle published the SB 1383 Local Services Rates Analysis Report conducted by R3 Consulting Group, Inc. (R3). The purpose of this report is to provide information regarding the cost impacts of SB 1383 to local jurisdictions. The results of this R3 study have been incorporated into a CalRecycle report required by Section 42653 of SB 1383 (Lara, Chapter 395, Statutes of 2016), which requires CalRecycle, in consultation with the California Air Resources Board, to analyze the progress that the waste sector, state government, and local governments have made in reducing organic waste disposal. The report can be downloaded here, and it addresses options and recommendations for funding mechanisms that can be used by jurisdictions to implement the collection requirements and support the development of organics recycling infrastructure. As fees for service, otherwise known as "customer rates," are the most common funding mechanism that pays for solid waste collection, this report discusses how rates can be structured to address necessary cost increases. For more information go to Short-Lived Climate Pollutants. Please let Greg Kester know if you have questions or comments.

Arizona PFAS Land Application Research

As previewed in the Summit Partner's second PFAS workshop, research of PFAS in biosolids by Dr. Ian Pepper, Jacobs Engineering, and the National Science Foundation, in coordination with the Pima County Regional Wastewater Reclamation Department, found minimal migration of PFAS at land application sites and no impact to groundwater. The report is available here.

By way of background, the Pima County Board of Supervisors took a conservative approach of enacting a temporary moratorium on land application of biosolids in response to a concern that was brought to their Board of Supervisors in late 2019, for the potential

contamination of groundwater with PFAS from the biosolids. Pima County began landfilling their biosolids on January 1, 2020, until the risks from PFAS in biosolids could be fully evaluated, and the county commissioned the subject study which began in March 2020 at long term biosolids land application sites in Pima County and concluded there is minimal transport through the topsoil and negligible concern for groundwater.

The analyses were conducted by an international certified analytical laboratory, Eurofins TestAmerica, specializing in PFAS determination in soils. Results found minimal migration of PFAS and no impact to groundwater. (It should be noted that even though Pima County has an extremely arid climate with minimal rainfall, the application sites received significant irrigation equating to similar rainfall levels as the regions of the US with some of the highest precipitation rates.

Many thanks to all involved in this study! Please reach out to Greg Kester to discuss the research further or to connect with Dr. Pepper.

Vermont Study of PFAS Biosolids

Vermont's state biosolids coordinator, Eamon Twohig, provided this research presentation on PFAS in biosolids from a comprehensive state study. Please let Greg Kester know if you any questions or comments.

US EPA Biosolids PFOA and PFOS Problem Formulation Meeting Slides and Agenda

On November 12, US EPA held a problem formulation webinar for the risk assessment of PFOA and PFOS in biosolids. The meeting's agenda is available here, and meeting slides for presentations are hyperlinked here. Reach out to Greg Kester with comments or questions.

SWB Co-Digestion Discussion on 12/9

On December 9, there will be a small meeting with State Water Board's climate leaders to discuss their recent co-digestion capacity analysis completed by Carollo Engineers. They have been strong advocates of co-digestion and allies to our efforts. A press release about the report is available here. Please reach out to Sarah Deslauriers if you have questions.

CASA Submits Comment Letter to CARB on LCFS

On November 5, CASA submitted a comment letter to the California Air Resources Board on their low carbon fuel standard program. CASA requested the facilitation of developing Tier 1 calculators for the co-digestion of organic waste at wastewater treatment plants. Please let Greg Kester know if you have any questions or comments.

NACWA, NEBRA, WEF, and CDM Smith Report Released on the Cost of PFAS Management

In October, a new report on the cost of PFAS management for wastewater treatment plants and biosolids was released by CDM Smith in collaboration with NACWA, NEBRA, and WEF. The report provides a cost analysis of the impacts of PFAS policies and regulations on municipal utilities and biosolids management entities. The report's objective was to produce informative materials to share with federal, state, and local legislators, regulators, government officials, and the broader public to inform PFAS policy decisions and identify unintended consequences, which is important to ensure that PFAS receivers, like water resource recovery facilities (and thus their rate payers) are not unduly penalized

for receiving and processing PFAS that they did not produce, while appropriately protecting public health. Please let Greg Kester know if you have comments or questions.

New SWB Biosolids Coordinator

Laleh Rastegarzadeh will be the State Water Board's new biosolids coordinator, replacing Johnny Gonzales, who retired in December 2019. Her email is: Laleh.Rastegarzadeh@waterboards.ca.gov. Greg Kester has reached out to connect for an introduction, and we look forward to collaborating in the new year.

Bioresources Alliance Symposium Pres & Videos Available

On November 12 and 13, the California Bioresources Alliance held a symposium featuring many excellent panels with CASA members providing their expertise on a variety of topics. Greg Kester moderated two panels, one on SB 1383 with presentations from CalRecycle, CMSA, Rethink Waste, SWRCB, and Senator Ben Allen, and the other on fire reclamation using biosolids with our Co-PI's from the Las Virgenes MWD demonstration project and other updates.

The presentations from the 2020 California Bioresources Alliance Symposium are now posted on EPA's website here. The site also contains links to the videos recorded by UC Davis. The Day 1 recording of the symposium is available here (Passcode: CBAS2020!), and the Day 2 recording here (Passcode: CBAS2020!). Please let Greg Kester know if you have any questions, comments, or recommendations for future symposia.

Northwest Biosolids' Research Libraries for 2020

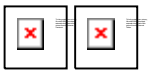
The research library for December is out from Dr. Sally Brown (University of Washington) and NW Biosolids. This month's articles are on residential uses, for which the introduction to the papers' abstracts are linked. Materials from prior months are available too: October research library and intro (fire reclamation), August research library and intro (NPDES permits, effluent, and water recycling), June research library and intro (soil health), May research library and intro (benefits of biosolids), April research library and intro (COVID-19), March research library and intro (contaminants), February research library and intro (nitrous oxide emissions). As usual, please let Greg Kester know if you would like any of the complete articles from these items.

DATES

Dec. 1	SWB Meeting (Toxicity Provisions; Agenda)
Dec. 1&3	EPA OCA
Dec. 2&3	OEHHA

Dec. 3	CA Water Quality Monitoring Council Meeting (Agenda)
Dec. 4	CASA Federal Legislative Committee Planning Meeting
Dec. 4	SCCWRP Commission (Exfiltration)
Dec. 8-10	US EPA National Biosolids Meeting (Register)
Dec. 9	SWB Meeting on Co-Digestion
Dec. 11	CASA State Legislative Committee Planning Meeting
Dec. 15	SWB Meeting
Dec. 15	OPC Meeting (Agenda)
Dec. 15	CASA & CWEA COVID-19 Webinar
Dec. 16	CASA Regulatory Workgroup

Dec. 17	CASA Air Quality, Climate Change, and Energy Workgroup



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