Executive Board Meeting
AGENDA
Friday, December 15, 2023 9:00 AM - 12:00 PM (PDT)
SFPUC
525 Golden Gate Ave
San Francisco, CA 94102
To attend the meeting via Zoom or submit a comment please request access.

	Agenda Item		Time	Pages
	ROLL CALL, INTRODUCTIONS, AND HYBRID MEETING ETIQUETTE		**9:00 AM**	
	PUBLIC COMMENT	Guidelines	**9:05 AM**	
	CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER		**9:10 AM**	
	CONSENT CALENDAR		**9:15 AM**	
1	November 17, 2023 BACWA Executive Board meeting minutes			**3-7**
2	November 17, 2023 BACWA NST Special Executive Board meeting minutes			**8-9**
3	October 2023 Treasurer's Report			**10-20**
	APPROVALS AND AUTHORIZATIONS		**9:20 AM**	
	None			
	POLICY/STRATEGIC		**9:30 AM**	
4	Presentation: California Product Stewardship Coalition update	Link to Slides		
5	Informational: PFAS Fact Scheet Update			
6	Informational: CASA Air Toxics Update	link to Program Management RFQ		
7	Discussion: AQPI - next steps	link to 11/17 AQPI presentation to BACWA		
8	Informational: Updates to SWB Enforcement Policy			
9	Discussion: Next steps on wastewater communications			
BREAK			**10:30 AM**	
10	Informational: Notes from December 6, 2023 PSC meeting #81			**21-22**
11	Informational: Agenda for 12/18 meeting with BAAQMD			
12	Informational: Workforce development update			**23**
13	Informational: 2023 GAR preview (Mike Falk)			
14	Discussion: NMS Review presentation (Mike Connor)			**24-42**
15	Discussion : NMS priorities for next Fiscal Year (Dave Senn)			
	OPERATIONAL		**11:30 AM**	
16	Discussion: Launch discussion of annual meeting speakers			
17	Discussion: Arleen Navarrett Award Nomination form			**43-44**
18	Informational: BACC Update			**45**
			11:50 PM	
19	Committee Reports			**46-49**
20	Member highlights			
21	Executive Director Report			**50-51**
22	Board Calendar and Action Items			**52-53**
23	Regulatory Program Manager Report			**54**
24	Other BACWA Representative Reports			**55-56**
	a. RMP Technical Review Committee	Samantha Engelage, Alicia Chakrabarti		
	b. RMP Steering Committee	Karin North; Amanda Roa; Eric Dunlavey		
	c. Summit Partners	Lorien Fono; Amit Mutsuddy		
	d. ASC/SFEI	Lorien Fono; Amit Mutsuddy; Lori Schectel		
	e. Nutrient Governance Steering Committee	Eric Dunlavey; alternates: Lori Schectel		
	e.i Nutrient Planning Subgroup	Eric Dunlavey		
	f. SWRCB Nutrient SAG	Lorien Fono		
	h. BAIRWMP	Cheryl Munoz; Florence Wedington; Jackie Zipkin		
	i. NACWA Emerging Contaminants	Karin North; Melody LaBella		
	j. CASA State Legislative Committee	Lori Schectel		
	k. CASA Regulatory Workgroup	Lorien Fono; Mary Cousins		
	l. RMP Microplastics Liaison	Artem Dyachenko		

m. Bay Area Regional Reliability Project	Jackie Zipkin		
n. WateReuse Working Group	Cheryl Munoz		
o. San Francisco Estuary Partnership	Lorien Fono; Jackie Zipkin		
p. CPSC Policy Education Advisory Committee	Colleen Henry		
q. California Ocean Protection Council	Lorien Fono		
r. Countywide Water Reuse Master Plan	Karin North, Pedro Hernandez		
s. CHARG - Coastal Hazards Adaptation Resiliency Group	Jackie Zipkin		
t. California Water Quality Monitoring Council	Lorien Fono		
25 **SUGGESTIONS FOR FUTURE AGENDA ITEMS**		**11:59 PM**	
NEXT MEETING			
The next meeting of the Board is scheduled for January 19, 2024 at EBMUD			
ADJOURNMENT		**12:00 PM**	

Executive Board Meeting Minutes

Friday November 17, 2023

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Amy Chastain (San Francisco Public Utilities Commission); Eric Dunlavey (City of San Jose); Jackie Zipkin (East Bay Dischargers Authority); Greg Norby (Central Contra Costa Sanitary District); Amit Mutsuddy (East Bay Municipal Utility District).

Other Attendees and Guests:

Name	Agency/Company
Amanda Roa	CCCSD
Blake Brown	CCCSD
Dale Roberts	Sonoma Water
David Donovan	City of Hayward
Jennifer Dyment	BACWA
Jon Rutz	UCSD
Judy Erlandson	City of Livermore
Julie Wiess	City of Palo Alto
Lorien Fono	BACWA
Mary Cousins	BACWA
Meg Herston	Fairfield-Suisun Sewer District
Melody Tovar	City of Sunnyvale
Michael Connor	Consultant
Mira Chokshi	Climate Adaptive Systems
Patrica McGovern	McGovern McDonald Engineers
Rob Learmonth	City of San Mateo
Seppi Henneman	Brown & Caldwell
Talyon Sortor	Fairfield-Suisun Sewer District
Tim Lewis	City of San Jose
Tom Hall	EOA

Amit called the meeting to order at 9:07 am.

Agenda Item

ROLL CALL, INTRODUCTIONS, AND HYBRID MEETING ETIQUETTE

PUBLIC COMMENT

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER Item 19 will be moved up to the beginning of Policy \ Strategic

CONSENT CALENDAR

1 October 20, 2023 BACWA Executive Board meeting minutes

2 October 20, 2023 BACWA NST Special Executive Board meeting minutes

3 October 31, 2023 BACWA \ Regional Water Board joint meeting minutes

4 September 2023 Treasurer's Report

Consent Calendar items 1 thru 4: A motion to approve was made by Amy Chastain (SFPUC) and seconded by Jackie Zipkin (East Bay Dischargers Authority). The motion was approved by 4 and Central Contra Costa Sanitary District abstained from item 1.

APPROVALS AND AUTHORIZATIONS

5 Approval: SFEI NBS no-cost extension

Item 5: A motion to approve was made by Eric Dunlavey (City of San Jose) and seconded by Greg Norby (CCCSD). The motion was approved unanimously.

6 Approval: BACWA FY23 Annual Report

Item 6: A motion to approve was made by Jackie Zipkin (East Bay Dischargers Authority) and seconded by Amy Chastain (SFPUC). The motion was approved unanimously.

7 Approval: BACWA FY23 Audit and financial statement

Item 7: A motion to approve was made by Amy Chastain (SFPUC) and seconded by Eric Dunlavey (City of San Jose). The motion was approved unanimously.

8 Approval: Contingent Support for EBMUD/WRF Heterosigma Study, $150,000K

Item 8: A motion to approve was made by Jackie Zipkin (East Bay Dischargers Authority) and seconded by Greg Norby (CCCSD). The motion was approved unanimously.

POLICY/STRATEGIC

9 Informational: Chlorine Permit Amendment Adoption 11/8 - BACWA ED shared the amendment was adopted and BACWA's RPM was present at the meeting. The amendment is effective January 1, 2024, and RPM is working on a guidance document for members.

10 Informational: PFAS Fact Scheet Outline - BACWA ED will have a draft document by December board meeting. RPM summarized an outline of the fact sheet.

11 Informational: CASA Air Toxics Update link to Program Management RFQ – BACWA ED shared an update of the CASA 2-step process. BACWA is seeking 2 volunteers for the program management steering committee.

Action Item: BACWA ED to ask AIR committee for 2 volunteers.

12 Informational: Recycled Water collaboration workshop follow-up survey - BACWA ED said there is project summary is in the packet and a survey will go out after Thanksgiving holiday.

Action Item: BACWA staff to circulate meeting summary and survey to recycled water workshop participants.

13 Discussion: Next steps on wastewater communications - BACWA ED shared she met with the Sierra Club and they agreed to share capital and project information so they can support BACWA efforts when possible. Communication consultants have also been working on media outreach & pitches. General discussion followed.

Action item: BACWA ED to coordinate site tours for local NGOs, and coordinate story pitches media.

BREAK 10:30-10:40

14 Informational: Notes from October 27, 2023 NMS Steering Committee meeting - BACWA ED said notes are in the packet.

15 Informational: Notes from November 6, 2023 PSC meeting #80 - BACWA ED said notes are in the packet.

16 Informational: Risk reduction workshop - BACWA RPM shared that at the workshop they agreed to work on a fish consumption & subsistence questionnaire to make recommendations about the fish from the bay. Additional funding is needed to deploy survey. General discussion followed.

17 Informational: Workforce development - BACWA ED is working with BACWWE to develop a workforce development component to their program and shared that Silicon Valley Clean Water submitted a grant application to develop workforce and intern programs.

18 Informational: Follow up from March SFEP/BACWA DEIJ meeting - BACWA ED shared the efforts going on to move program forward.

19 Climate change scoping - AQPI Presentation - Jon Rutz summarized information about the Advanced Quantitative Precipitation Information (AQPI) project. The presentation slides are available here. AQPI can improve the accuracy, spatial resolution, and temporal resolution of radar-derived precipitation data compared to existing systems. The AQPI products can used to improve weather forecasts and flood modeling. Jon provided examples of past Bay Area events that successfully used AQPI. Most AQPI data are freely available (see example at https://psl.noaa.gov/data/obs/sitemap/ScanRadar/scan_radar_dual.php) but it can be costly to integrate the information into agency operations. Jon finished with a summary of what is next and potential economic benefits. Group discussion followed.

Action Item: BACWA to share with members that they have an opportunity to participate in the AQPI user group led by Jon Rutz.

Action Item: BACWA to share information about AQPI with Collection System and O&M committees.

OPERATIONAL

20 Informational: Revised BAR for Opt/Up Amendment - BACWA ED provided follow up information from the contingent approval of the HDR contract amendment approved at the October 20,

2023 board meeting. Costs and description for the original Nutrient Studies contract, as well as each of the amendments was provided. General discussion about BACWA contracting followed.

21 Discussion: Waste reduction at Board meetings- BACWA ED shared that we are trying to reduce waste at the board meetings. We are looking for ideas and feedback.

22 Discussion: Dates and locations for future FY24 Board meetings - BACWA group agreed that the Pardee Technical Meeting would be on Sept 5&6, 2024. Dates and location of BACWA board meetings from January through June 2024 are in the packet.

Action item: BACWA ED to reschedule Pardee meeting.

23 Informational: BACC Update - BACWA ED shared there was a document in the packet summarizing the project. BACC worksheets are due December 1, 2023.

24 Committee Reports BACWA RPM shared that the Regional Water Board selected BACWA's pesticides regulatory support consultant team (Tammy Qualls, Stephanie Hughes, and Kelly Moran) to receive the 2023 Dr. Teng-Chung Wu Pollution Prevention Award. Also, the recycled water site supervisor videos are completed and posted to BACWA's YouTube channel.

25 Member highlights San Jose shared that staff recently presented to the City Council's Transportation & Environment committee on the impact of nutrient regulations (Link to Video). EBDA shared that EPA plans to develop priorities for a future SF Bay Program Office (to replace the WQIF grant program) which will be finalized soon. There was also a discussion about SFEP potentially providing comments on the Bay Delta Plan, and if so, BACWA may need to recuse itself from the comment letter due to potential misalignment with water agency concerns. FSSD shared that they are negotiating a cogen permit and plan to work with the BACWA AIR committee on technical concerns related to the permit. Central San shared that they are working on biosolids long-term planning and fleet electrification. EBMUD shared that they held a progress meeting on their wet weather Consent Decree with EPA and also shared concerns about crime impacting operations and contractors.

Action Item: BACWA invite EPA to future meeting to discuss future SF Bay Program Office.

26 Executive Director Report - Report is in the packet.

27 Board Calendar and Action Items - Document is in packet.

28 Regulatory Program Manager Report - Report is in the packet.

29 Other BACWA Representative Reports

a. RMP Technical Review Committee Samantha Engelage, Alicia Chakrabarti

b. RMP Steering Committee Karin North; Amanda Roa; Eric Dunlavey

c. Summit Partners Lorien Fono; Amit Mutsuddy

d. ASC/SFEI Lorien Fono; Amit Mutsuddy; Lori Schectel

e. Nutrient Governance Steering Committee Eric Dunlavey; alternates: Lori Schectel

e.i Nutrient Planning Subgroup Eric Dunlavey

f. SWRCB Nutrient SAG Lorien Fono

h. BAIRWMP Cheryl Munoz; Florence Wedington; Jackie Zipkin

i. NACWA Emerging Contaminants Karin North; Melody LaBella

j. CASA State Legislative Committee Lori Schectel

k. CASA Regulatory Workgroup Lorien Fono; Mary Cousins

l. RMP Microplastics Liaison Artem Dyachenko

m. Bay Area Regional Reliability Project Jackie Zipkin

n. WateReuse Working Group Cheryl Munoz

o. San Francisco Estuary Partnership Lorien Fono; Jackie Zipkin

p. CPSC Policy Education Advisory Committee Colleen Henry

q. California Ocean Protection Council Lorien Fono

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

s. CHARG - Coastal Hazards Adaptation Resiliency Group Jackie Zipkin

t. California Water Quality Monitoring Council Lorien Fono

32 SUGGESTIONS FOR FUTURE AGENDA ITEMS

NEXT MEETING: The next meeting of the Board is scheduled for December 15, 2023 at SFPUC

ADJOURNMENT 12:26

Nutrient Strategy Team
November 17, 2023 Meeting Summary

ATTENDEES:
Executive Board Representatives: Amit Mutsuddy (EBMUD), Amy Chastain (SFPUC), Eric Dunlavey (San José), and Jackie Zipkin (East Bay Dischargers Authority)

Other Attendees:

Name	Agency/Company
Lorien Fono, Mary Cousins	BACWA
Andre Gharagozian	Carollo
Blake Brown, Amanda Cauble	CCCSD
Michael Connor	Consultant
Amanda Roa	Delta Diablo
Don Gray	EBMUD
Tom Hall	EOA
Talyon Sortor, Jordan Damerel, Meg Herston	FSSD
David Donovan	Hayward
Irene Chu	Hazen and Sawyer
Tim Lewis	San José
Nohemy Revilla, Humphrey Ho, Daniela Brandao	SFPUC
Cameron Kostigen Mumper, Melody Tovar	Sunnyvale
Armando Lopez, Tim Grillo	USD
Jennifer Harrington	Vallejo FWD

Amit Mutsuddy called the meeting to order at 1 pm and led introductions. The meeting was conducted in hybrid format, with participants joining virtually and in-person at EBMUD's Orinda Watershed Center. There was no public comment.

NUTRIENT WATERSHED PERMIT ADOPTION SCHEDULE
BACWA'S Executive Director provided an update on the anticipated schedule for adoption of the 3rd Nutrient Watershed Permit in 2024, The next regularly scheduled Executive Board meeting with Regional Water Board staff is January 30th, and the administrative draft will likely be released *before* that. To provide more opportunities for negotiation, BACWA will invite Regional Water Board staff to the December 15th and/or January 19th Nutrient Strategy Team meetings. All meetings will be held in hybrid format (virtual + in-person option).

INTERIM LIMITS
BACWA provided the Regional Water Board with a database of individual (i.e., not averaged) load estimates for Total Inorganic Nitrogen (TIN). The Regional Water Board plans to use this data set to calculate interim limits based on the 95th percentile of the lognormal distribution. The limits will be applied on a 5-month dry season average basis. The group discussed that for facilities that already remove a significant amount of nutrients, the final limits would likely not be higher than these interim limits, which may trigger a need to adjust the interim limits.

LOAD REDUCTION MEMO and FINAL EFFLUENT LIMITS

Before the meeting, BACWA circulated a memo summarizing member agencies' currently planned TIN load reductions. The memo is meant to be shared with Regional Water Board staff. For agencies with significant load reductions planned in the coming years, the planned reductions could be used as the basis for establishing final load limits. For agencies without planned load reductions, the final effluent limits would be calculated another way (i.e., using a % reduction through the plant, or a uniform concentration x flow). The group discussed the importance of protecting "early actors," and potential permit language for final effluent limit compliance that would accomplish this objective. The group also discussed the need for additional technical adjustments before the planned TIN load reductions are listed as final effluent limits.

PROPOSED PERMIT LANGUAGE FOR FACT SHEET AND SPECIAL STUDY

BACWA's Executive Director shared draft concepts for two sections of the 3rd Watershed Permit:

- A requirement for permittees to conduct a special study during the 5-year permit term. The special study would involve nutrient load reduction planning for all (or most) permittees. The group provided edits to the proposed project description during the meeting. BACWA will likely hire a consultant team to assist with completion of the study.
- The Fact Sheet will explain the need for a 10-year compliance schedule. EBMUD and San Jose staff volunteered to assist the BACWA Executive Director prepare draft language.

FINANCIAL INFORMATION

BACWA's Executive Director shared a summary of capital and operating costs that she compiled for agencies with larger wastewater plants (>10 MGD capacity). This cost information is being compiled in order to estimate the impact of nutrient load reduction projects on customer rates. The group identified several edits needed before the cost summary is finalized.

NEXT STEPS

- Provide feedback to Regional Water Board staff on proposed interim limit concept based on group discussion at this meeting.
- Circulate proposed permit language to the Nutrient Strategy Team regarding (a) 10-year compliance schedule and (b) special study.
- Request additional information from "early actors" to turn nutrient load reductions into proposed final permit limits.
- Discuss feasibility of an alternative pathway for final permit limit compliance with Regional Water Board staff.
- Prepare for engagement with Regional Water Board staff at upcoming December and/or January Nutrient Strategy Team meetings.

Amit Mutsuddy adjourned the meeting at 2:58 PM.

BACWA
BAY AREA
CLEAN WATER
AGENCIES

November 27, 2023

MEMO TO**:** Bay Area Clean Water Agencies Executive Board

MEMO FROM: Phoebe Grow, Treasurer, East Bay Municipal Utility District

SUBJECT: Fourth Month FY 2024 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, 2023 through October 31, 2023** (Four months of Fiscal Year 2024). 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),
- BACC Legal Reserve Fund (BACC Legal Rsrv),
- Water/Wastewater Operator Training (WOT),

Houck, Matt

From: Grow, Phoebe
Sent: Wednesday, November 29, 2023 1:04 PM
To: Houck, Matt
Subject: RE: October 2023 Treasurer's Report

Hi Matt – Approved for distribution. Thanks!

Phoebe Grow, P.E. (she/her) | **Principal Management Analyst** | 510.287.0205 | phoebe.grow@ebmud.com

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From: Houck, Matt <matt.houck@ebmud.com>
Sent: Tuesday, November 28, 2023 4:05 PM
To: Grow, Phoebe <phoebe.grow@ebmud.com>
Subject: October 2023 Treasurer's Report

Hi Phoebe,

Please approve BACWA – October 2023 Treasurer's Report for distribution.

Let me know if you have any questions.

Thanks,

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

Fund Balances

In FY23 BACWA has three operating funds (BACWA, Legal, and CBC) and three pass-through funds for which BACWA provides only contract administration services (WOT, BABC & BACC). As of October 31st, 2021, revenues are recognized when billed, not when payments are received.

BACWA Fund: This fund provides resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on October 31, 2023, was $875,545 which is significantly higher than the target reserve of $366,899 which is intended to cover 3 months of normal operating expenses based on the BACWA FY24 budget. $578,217 of the ending fund balance is shown on the BACWA Fund & Investments Balance Report October 31, 2023, 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 an actual unencumbered reserve of negative $69,571 (i.e., actual fund balance of $297,328 less target reserves) as of October 31, 2023. Reserves will increase as agencies remit their FY24 BACWA dues payments.

CBC Fund: This fund provides the resources for completing special investigations as well as meeting regulatory requirements. The ending fund balance on October 31, 2023, was $3,015,754 which is higher than the target reserve of $1,000,000. $477,935 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 reserve balance of $1,537,819 (i.e., actual fund balance of $2,537,819 less target reserves) as of October 31, 2023. As directed by the BACWA Executive Board, the CBC fund has diminished over time due to BACWA's ongoing funding of the NMS program to comply with the 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, 2023 (25% of the FY) are at 74%

Expenses as of October 31, 2023 (25% of the FY) are at 54%

FY 2023
BACWA BUDGET to ACTUAL

BACWA FY24 BUDGET	*Line Item Description*	FY 2024 Budget	Projected Revenue as of Oct 2023 Changes from budget in blue	Actual Oct 2023	Actual % of Budget Oct 2023	Variance	NOTES
REVENUES & FUNDING							
Dues	Principals' Contributions	$537,795	$537,795	$537,795	100%	$0	FY24: 2% increase 5 @ $107,559
	Associate & Affiliate Contributions	$190,078	$190,078	$190,578	100%	$500	FY24: 2% increase. 12 Assoc: $8876; 47 Affiliate: $1778; UC Berkeley $500
Fees	Clean Bay Collaborative	$675,000	$675,000	$450,000	67%	-$225,000	Same as FY23 Prin: $450,000; Assoc/Affil: $225,000
	Nutrient Surcharge	$1,400,000	$1,400,000	$956,824	68%	-$443,176	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions			$0	0%	$0	
Other Receipts	AIR Non-Member	$7,361	$7,361	$7,361	100%	$0	2% increase (Santa Rosa)
	BAPPG Non-Members	$4,114	$4,114	$4,114	100%	$0	2% increase (Sta Rosa, Sac Reg'l, Vacaville) $1,380/each
	Other			$2,939		$2,939	BAWSCA Annual Membership
Fund Transfer	Special Program Admin Fees (WOT)	$1,000	$1,000	$0	0%	-$1,000	
	Special Program Admin Fees (BACC)	$38,250	$38,250	$0	0%	-$38,250	400 hours of AED support $96.30/hr
	Special Program Admin Fees (BABC)	$6,000	$6,000	$0	0%	-$6,000	ED, AED and RPM support
Interest Income	LAIF	$60,000	$60,000	$38,170	64%	-$21,830	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments						
	Total Revenue	**$2,919,598**		**$2,187,781**	**74.93%**	**-$731,817**	

BACWA FY24 BUDGET	*Line Item Description*	FY 2024 Budget	Projected Expense as of Oct 2023 Changes from budget in blue	Actual Oct 2023	Actual % of Budget Oct 2023	Variance	NOTES
EXPENSES							
Labor							
	Executive Director	$218,548	$218,548	$54,636	25%	-$163,912	7% (incl. 4.9% CPI SF Bay Metro Area Dec 2022)
	Assistant Executive Director	$92,024	$92,024	$27,570	30%	-$64,454	7% (incl. 4.9% CPI SF Bay Metro Area Dec 2022); $76.69/hour; Reflects 1200 hours
	BACC Administrator	$38,520	$38,520	$6,260	16%	-$32,261	400 hrs AED support at $96.30 per hr
	Regulatory Program Manager	$152,179	$152,179	$35,958	24%	-$116,221	7% (incl. 4.9% CPI SF Bay Metro Area Dec 2022); $112.72/hour, Reflects 1350 hours
	Total	**$501,271**	**$501,271**	**$124,423**	**25%**	**-$376,848**	
Administration							
	EBMUD Financial Services	$43,297	$43,297	$11,516	27%	-$31,781	FY24 no change
	Auditing Services	$5,561	$5,561	$0	0%	-$5,561	Finanical Auditors through EBMUD; per auditor rate schedule
	Administrative Expenses	$8,118	$8,118	$0	0%	-$8,118	FY24 no change
	Insurance	$9,351	$9,351	$8,169	87%	-$1,182	15% increase over FY23 (10-15% est. increase per Alliant)
	Total	**$66,327**	**$66,327**	**$19,684**	**30%**	**-$46,643**	
Meetings							
	EB Meetings	$2,760	$2,760	$1,021	37%	-$1,739	2% increase from FY23
	Annual Meeting	$14,369	$14,369	$0	0%	-$14,369	FY24 no change
	Pardee	$6,801	$6,801	$2,567	38%	-$4,234	2% increase from FY23
	Misc. Meetings	$7,500	$7,500	$2,820	38%	-$4,680	30% increase from FY23 to accommodate conferences
	Total	**$31,430**	**$31,430**	**$6,407**	**20%**	**-$25,023**	
Communication							
	Website Hosting	$728	$728	$0	0%	-$728	2% increase from FY23, Go Daddy website hosting and domain registration
	File Storage	$796	$796	$0	0%	-$796	2% increase from FY22, box.net
	Website Development/Maintenance	$1,592	$1,592	$0	0%	-$1,592	2% increase from FY22
	IT Support	$2,759	$2,759	$0	0%	-$2,759	2% increase from FY22
	BACWA Value of Water Communication	$40,000	$40,000	$0	0%	-$40,000	New line in FY24
	Other Commun	$1,857	$1,857	$160	9%	-$1,697	2% increase from FY23; MS Exchange, Survey Monkey, PollEv, Zoom, Netfile

FY 2023
BACWA BUDGET to ACTUAL

EXPENSES							
	Total	**$47,732**	**$47,732**	**$160**	**0%**	**-$47,572**	
Legal							
	Regulatory Support	$2,929	$2,929	$0	0%	-$2,929	2% increase from FY23, Downey Brand LLP
	Executive Board Support	$2,355	$2,355	$0	0%	-$2,355	2% increase from FY23, Day Carter & Murphy LLP
	Total	**$5,284**	**$5,284**	**$0**	**0%**	**-$5,284**	
Committees							
	AIR	$76,000	$76,000	$22,491	30%	-$53,509	$75k consulting support, $1k misc expenses. Carollo Engineers
	AIR Support for ACE	$20,000	$20,000	$0	0%	-$20,000	New in FY23
	BAPPG	$159,000	$159,000	$42,902	27%	-$116,098	17% increase from FY23. Includes CPSC @ $5,000, OWOW @ $10,000, NSAC @ $10,00 and Pest. Reg Spt. @ $71,500
	Biosolids Committee	$0	$0	$0		$0	
	Collections System	$56,000	$56,000	$0	0%	-$56,000	SSS WDR Support
	InfoShare Groups	$500	$500	$0	0%	-$500	$500 decrease from FY23
	Laboratory Committee	$4,050	$4,050	$1,121	28%	-$2,929	$2350 less than FY23, TNI Training
	Permits Committee	$500	$500	$0	0%	-$500	$500 decrease from FY23
	Pretreatment	$500	$500	$0	0%	-$500	$500 decrease from FY23
	Recycled Water Committee	$10,000	$10,000	$0	0%	-$10,000	Carry forward from FY23
	Misc Committee Support	$45,000	$45,000	$3,740	8%	-$41,260	Same as FY23
	Manager's Roundtable	$1,000	$1,000	$254	25%	-$746	Same as FY23
	Total	**$372,550**	**$372,550**	**$70,509**	**19%**	**-$302,041**	
Collaboratives							
	Collaboratives						
	State of the Estuary (SFEP-biennial)	$0	$0	$0	0%	$0	Bienniel in Odd Fiscal Years. (Paid bienniely in odd years for even year conference)
	Arleen Navarret Award	$2,500	$2,500	$0	0%	-$2,500	Bienniel in Even Fiscal Years. FY24 Award likely to be paid in FY24
	BayCAN	$5,000	$5,000	$0	0%	-$5,000	
	Bay Area One Water Network	$5,000	$5,000	$0	0%	-$5,000	Same as FY23
	Bruce Wolf Scholarship	$4,000	$4,000	$0	0%	-$4,000	FY22, FY23, FY24, FY25 FY26
	Passthrough for CASA for air toxics	$425,000	$425,000	$0	100%	-$425,000	Estimate - new line in FY24
	Misc	$1,500	$1,500	$0	0%	-$1,500	NBWA ($1,500)
	Total	**$443,000**	**$443,000**	**$0**	**0%**	**-$443,000**	
Other							
	Unbudgeted Items						
	Other	$0	$0	$0	0%	$0	
		$0		**$0**	**0%**	**$0**	
Tech Support							
	Technical Support						
	Nutrients						
	Watershed	$1,800,000	$1,800,000	$1,000,000	56%	-$800,000	Advance funding for 2nd Watershed Permit Sciece Studies; Final $ TBD
	NMS Voluntary Contributions	$0	$0	$0	0%	$0	
	Additional work under permit	$100,000	$100,000	$0	0%	-$100,000	Includes HDR PO for $225k spread out over FY20-24.
	Regional Study on Nature based systems	$80,000	$80,000	$95,464	119%	$15,464	SFEI $500K, expires 06/30/2023: Possible funds left over from FY23 to be spent on additional work
	Regional Recycling Evaluation	$0	$0	$0	0%	$0	HDR $154K, expires 12/31/2023
	Nutrient Workshop(s)	$0	$0	$0	0%	$0	Pilot Studies/Plant Review/InDecative Technologies
	NMS Reviewer	$50,000	$50,000	$2,210	4%	-$47,790	M. Connor Contract
	General Tech Support	$100,000	$100,000	$11,105	11%	-$88,895	AB617 emissions factors, PFAS, other nutrient support
	CEC Investigations	$60,000	$60,000	$86,529	144%	$26,529	PFAS Study Phase II
	Risk Reduction	$12,500	$12,500	$0	0%	-$12,500	APA FSS completed $12,500 contract in FY20, CIEA will complete $12,500 contract in FY23
	Total	**$2,202,500**	**$2,202,500**	**$1,195,307**	**54%**	**-$1,007,193**	
	TOTAL EXPENSES	**$3,670,094**	**$3,670,094**	**$1,416,491**	**38.60%**	**-$2,253,603**	
	PROJECTED EXPENSE DEVIATION FROM BUDGET		**$0**				
	NET INCOME BEFORE TRANSFERS	**-$750,496**					
	TRANSFERS FROM RESERVES	**$750,496**					aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge

FY 2023

BACWA BUDGET to ACTUAL

EXPENSES							
	NET INCOME AFTER TRANSFERS	**$0**					
	TOTAL OPERATING BUDGET	**$1,467,594**					
	OPERATING RESERVE	**$366,899**					

BACWA Fund Report as of October 31, 2023

BACWA FUND BALANCES - DATA PROVIDED BY ACCOUNTING DEPT.

DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL BILLED REVENUE TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	OUTSTANDING ENCUMBRANCES	MONTH-END UNOBLIGATED FUND BALANCE
600	BACWA	347,671	742,078	214,204	875,545	578,217	297,328
604	LEGAL RSRV	300,000	-	-	300,000	-	300,000
605	CBC	2,097,905	2,113,156	1,195,307	3,015,754	477,935	2,537,819
	SUBTOTAL 1	*2,745,576*	*2,855,234*	*1,409,511*	*4,191,299*	*1,056,152*	*3,135,147*
602	BABC	*190,244*	176,600	33,665	333,179	*92,394*	240,785
606	BACC	*31,025*	*837*	*36,260*	(4,398)	*32,261*	(36,659)
607	BACC LEGAL RSRV	*60,000*	*30,000*	-	90,000	-	90,000
610	WOT	*253,257*	-	*(10,000)*	263,257	-	263,257
	SUBTOTAL 2	*534,526*	*207,437*	*59,925*	*682,038*	*124,655*	*557,383*
	GRAND TOTAL	**3,280,102**	**3,062,671**	**1,469,436**	**4,873,337**	**1,180,807**	**3,692,530**

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 BILLED REVENUE TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	RECONCILIATION TO FINANCIAL STATEMENTS A/R	RECONCILIATION TO FINANCIAL STATEMENTS A/P	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
600	BACWA	347,671	742,078	214,204	875,545	(421,536)	35,072	489,081	-	489,081	21%	-		priority # 3 for allocation
604	LEGAL RSRV	300,000	-	-	300,000	-	-	300,000	-	300,000	13%	-		priority # 1 for allocation
605	CBC	2,097,905	2,113,156	1,195,307	3,015,754	(1,240,983)	1,011,516	2,786,287	1,324,166	1,462,121	62%	-		priority # 4 for allocation
	SUBTOTAL 1	2,745,576	2,855,234	1,409,511	4,191,299	(1,662,519)	1,046,588	3,575,368	1,324,166	2,251,202	96%	-		
602	BABC	190,244	176,600	33,665	333,179	(152,100)	-	181,079	181,079	-	0%	-		pass-through funds, no allocation
606	BACC	31,025	837	36,260	(4,398)	-	-	(4,398)	(4,398)	-	0%	-		
607	BACC LEGAL RSRV	60,000	30,000	-	90,000	-	-	90,000	-	90,000	4%	-		priority # 2 for allocation
610	WOT	253,257	-	(10,000)	263,257	-	-	263,257	263,257	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	534,526	207,437	59,925	682,038	(152,100)	-	529,938	439,938	90,000	4%	-		
	GRAND TOTAL	**3,280,102**	**3,062,671**	**1,469,436**	**4,873,337**	**(1,814,619)**	**1,046,588**	**4,105,306**	**1,764,104**	**2,341,202**	**100%**			
							-	-	-	-				

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

Reconciliation to Trial Balance

Per Report above:			STB	14930	2,341,202	
General	2,855,234		STB	15050	1,764,104	
WOT, BABC, & BACC	207,437				**4,105,306**	-
PROP	-		STB	16300	1,814,619	
subtotal	**3,062,671**		STB	21350	(1,046,588)	
					4,873,337	-

Trial Balance Revenue Accounts

40100	Interest	(39,007)
40101	Mem Contrib	(1,396,771)
40102	Transfer	(30,000)
40103	Assoc Contrib	(181,702)
40104	Other	(1,415,191)
47310	State Grant	-
47320	Grant Retention	-
subtotal		**(3,062,671)**
Difference		**-**

BACWA Revenue Report as of October 30, 2023

Cost Center Code	Cost Center Description	Program Segment Description	Program Segment Value	Amended Budget	Current Period	FY24 - Year to Date	Unobligated
600	Bay Area Clean Water Agencies	BABC - AED and RPM Support	6200	(6,000.00)	-	-	6,000.00
		BACC - AED Support	6199	(38,250.00)	-	-	38,250.00
		BDO Affil/CS/Assoc Dues	6104	-	(39,616.00)	(39,616.00)	(39,616.00)
		BDO Affiliate/Associate Dues	6103	-	(44,450.00)	(44,450.00)	(44,450.00)
		BDO Assoc.&Affiliate Contr	6102	(190,078.00)	(97,636.00)	(97,636.00)	92,442.00
		BDO Fund Transfers	6141	(1,000.00)	-	-	1,000.00
		BDO Member Contributions	6101	(537,795.00)	-	(537,795.00)	-
		BDO Non-Member Contr AIR	6136	(7,361.00)	(1,380.00)	(1,380.00)	5,981.00
		BDO Non-Member Contr BAPPG	6135	(4,114.00)	(10,121.00)	(10,121.00)	(6,007.00)
		BDO Other Receipts	6105	-	-	(286.00)	(286.00)
		BDO Other Receipts (Misc)	6140	-	(2,653.00)	(2,653.00)	(2,653.00)
		BDO- Interest Income from LAIF	6142	(60,000.00)	(5,790.93)	(8,140.78)	51,859.22
		BDO-Alternative Investment Inc	6143	-	-	-	-
600 Total				**(844,598.00)**	**(201,646.93)**	**(742,077.78)**	**102,520.22**
602	Bay Area Biosolids Coalition	BDO Fund Transfers	6141		-	-	-
		BDO Member Contributions	6101		(103,100.00)	(176,600.00)	(176,600.00)
602 Total				**-**	**(103,100.00)**	**(176,600.00)**	**(176,600.00)**
605	Clean Bay Collaborative	BDO Fund Transfers	6141	-	-	-	-
		BDO Member Contributions	6101	(675,000.00)	(232,376.00)	(682,376.00)	(7,376.00)
		BDO Other Receipts	6105	(1,400,000.00)	(443,927.00)	(1,400,751.00)	(751.00)
		BDO- Interest Income from LAIF	6142	-	(14,302.88)	(30,028.80)	(30,028.80)
605 Total				**(2,075,000.00)**	**(690,605.88)**	**(2,113,155.80)**	**(38,155.80)**
606	Bay Area Chemical Consortium	BDO Member Contributions	6101	-	-	-	-
		BDO- Interest Income from LAIF	6142	-	(837.24)	(837.24)	(837.24)
606 Total				**-**	**(837.24)**	**(837.24)**	**(837.24)**
607	BACC Legal RSRV	BDO Fund Transfers	6141	-	-	(30,000.00)	(30,000.00)
607 Total				**-**	**-**	**(30,000.00)**	**(30,000.00)**
Grand Total				**(2,919,598.00)**	**(996,190.05)**	**(3,062,670.82)**	**(143,072.82)**

BACWA Expense Detail Report for October 31, 2023

Cost Center Code	Program Segment Description	Program Segment Value	Balance Type	Current Period Activity	FY24 - Year to Date
600	AIR-Air Issues&Regulation Grp	6153	Actual	13,485.00	22,491.25
			Encumbrance	(13,485.00)	65,274.09
			Obligated	-	87,765.34
	AS-Assistant Executive Directo	6175	Actual	8,090.80	27,570.06
			Encumbrance	(8,090.80)	91,653.94
			Obligated	-	119,224.00
	AS-Audit Services	6180	Actual	545.00	-
			Encumbrance		
			Obligated	545.00	-
	AS-BACWA Admin Expense	6173	Actual	-	-
			Obligated	-	-
	AS-EBMUD Financial Services	6176	Actual	11,515.79	11,515.79
			Encumbrance	(11,515.79)	40,391.36
			Obligated	-	51,907.15
	AS-Executive Director	6174	Actual	18,212.00	54,636.00
			Encumbrance	(18,212.00)	163,912.04
			Obligated	-	218,548.04
	AS-Insurance	6177	Actual	-	8,168.68
			Obligated	-	8,168.68
	AS-Regulatory Program Manager	6179	Actual	13,695.48	35,957.68
			Encumbrance	(13,695.48)	110,708.32
			Obligated	-	146,666.00
	Administrative Support	6178	Actual	-	-
			Obligated	-	-
	BC-BAPPG	6152	Actual	19,111.72	42,902.13
			Encumbrance	(19,111.72)	89,725.98
			Obligated	-	132,628.11
	BC-InfoShare Groups	6148	Actual	-	-
			Obligated	-	-
	BC-Laboratory Committee	6149	Actual	-	1,121.25
			Encumbrance	-	2,778.75
			Obligated	-	3,900.00
	BC-Manager's Roundtable	6154	Actual	-	254.34
			Obligated	-	254.34
	BC-Miscellaneous Committee Sup	6150	Actual	-	3,740.15
			Encumbrance	-	211.25
			Obligated	-	3,951.40
	BC-Permit Committee	6145	Actual	-	-
			Obligated	-	-
	BC-Pretreatment Committee	6151	Actual	-	-
			Obligated	-	-
	BC-Water Recycling Committee	6146	Actual	-	-
			Encumbrance	-	666.74
			Obligated	-	666.74
	CAR-BACWA File Storage	6165	Actual	-	(720.00)
			Obligated	-	(720.00)
	CAR-BACWA IT Software	6167	Actual	-	159.79
			Obligated	-	159.79
	CAR-BACWA IT Support	6166	Actual	-	-
			Encumbrance	-	2,652.00
			Obligated	-	2,652.00
	CAR-BACWA Website Dev/Maint	6163	Actual	-	-
			Obligated	-	-
	CAR-BACWA Website Hosting	6164	Actual	-	-
			Obligated	-	-
	CAS-Arleen Navaret Award	6160	Actual	-	-

Cost Center Code	Program Segment Description	Program Segment Value	Balance Type	Current Period Activity	FY24 - Year to Date
			Obligated	-	-
	CAS-BayCAN	6204	Actual	-	-
			Obligated	-	-
	CAS-Misc Collaborative Sup	6162	Actual	-	-
			Obligated	-	-
	CAS-PSSEP	6157	Actual	-	-
			Obligated	-	-
	CAS-Stanford ERC	6159	Actual	-	-
			Obligated	-	-
	GBS-Meeting Support-Annual	6170	Actual	-	-
			Obligated	-	-
	GBS-Meeting Support-Exec Bd	6169	Actual	373.74	1,020.90
			Obligated	373.74	1,020.90
	GBS-Meeting Support-Misc	6172	Actual	335.44	2,819.77
			Obligated	335.44	2,819.77
	GBS-Meeting Support-Pardee	6171	Actual	-	2,566.70
			Obligated	-	2,566.70
	LS-Executive Board Support	6156	Actual	-	-
			Encumbrance	-	4,499.00
			Obligated	-	4,499.00
	LS-Regulatory Support	6155	Actual	-	-
			Encumbrance	-	5,744.00
			Obligated	-	5,744.00
	WQA-CE-Nature Based Solutions	6196	Actual	-	-
			Obligated	-	-
	Write-Off Doubtful Accounts	6208	Actual	-	-
			Obligated	-	-
600 Total			**Actual**	**85,364.97**	**214,204.49**
600 Total			**Encumbrance**	**(84,110.79)**	**578,217.47**
600 Total			**Obligated**	**1,254.18**	**792,421.96**
602	AS-Assistant Executive Directo	6175	Actual	-	-
			Obligated	-	-
	AS-Regulatory Program Manager	6179	Actual	-	-
			Obligated	-	-
	Academia Research & Development	6203	Actual	-	-
			Obligated	-	-
	Administrative Support	6178	Actual	-	-
			Obligated	-	-
	BDO Contract Expenses	6186	Actual	-	-
			Obligated	-	-
	Collateral Development	6197	Actual	-	-
			Obligated	-	-
	Program Manager Expense	6202	Actual	13,833.00	33,664.50
			Encumbrance	(13,833.00)	92,394.10
			Obligated	-	126,058.60
	Technology Research & Development	6206	Actual	-	-
			Obligated	-	-
602 Total			**Actual**	**13,833.00**	**33,664.50**
602 Total			**Encumbrance**	**(13,833.00)**	**92,394.10**
602 Total			**Obligated**	**-**	**126,058.60**
605	Recycled Water Evaluation	6198	Actual	-	-
			Encumbrance	-	69,984.70
			Obligated	-	69,984.70
	WQA - CEC Investigations	6201	Actual	34,527.10	86,528.60
			Encumbrance	(34,527.10)	63,924.60
			Obligated	-	150,453.20
	WQA-CE Addl Work Under Permit	6191	Actual	-	-
			Encumbrance	-	8,398.00
			Obligated	-	8,398.00

Cost Center Code	Program Segment Description	Program Segment Value	Balance Type	Current Period Activity	FY24 - Year to Date
	WQA-CE Risk Reduction	6190	Actual	-	-
			Encumbrance	-	12,500.00
			Obligated	-	12,500.00
	WQA-CE Voluntary Nutr Contrib	6193	Actual	-	-
			Obligated	-	-
	WQA-CE-Nature Based Solutions	6196	Actual	64,925.63	95,463.80
			Encumbrance	(64,925.63)	167,803.22
			Obligated	-	263,267.02
	WQA-CE-Nutrient WS Permit Comm	6188	Actual	1,000,000.00	1,000,000.00
			Obligated	1,000,000.00	1,000,000.00
	WQA-CE-Technical Support	6181	Actual	2,562.50	11,105.00
			Encumbrance	(2,562.50)	70,284.75
			Obligated	-	81,389.75
	WQA-NMSReviewer	6205	Actual	-	2,210.00
			Encumbrance	-	85,040.00
			Obligated	-	87,250.00
605 Total			**Actual**	**1,102,015.23**	**1,195,307.40**
605 Total			**Encumbrance**	**(102,015.23)**	**477,935.27**
605 Total			**Obligated**	**1,000,000.00**	**1,673,242.67**
606	Administrative Support	6178	Actual	3,081.60	6,259.50
			Encumbrance	(3,081.60)	32,260.50
			Obligated	-	38,520.00
	BDO Fund Transfers	6141	Actual	-	30,000.00
			Obligated	-	30,000.00
	GBS-Meeting Support-Misc	6172	Actual	-	-
			Obligated	-	-
606 Total			**Actual**	**3,081.60**	**36,259.50**
606 Total			**Encumbrance**	**(3,081.60)**	**32,260.50**
606 Total			**Obligated**	**-**	**68,520.00**
610	Administrative Support	6178	Actual	-	-
			Obligated	-	-
	BC-BAPPG	6152	Actual	-	(10,000.00)
			Obligated	-	(10,000.00)
	BDO Contract Expenses	6186	Actual	-	-
			Obligated	-	-
610 Total			**Actual**	**-**	**(10,000.00)**
610 Total			**Encumbrance**	**-**	**-**
610 Total			**Obligated**	**-**	**(10,000.00)**
Grand Total Actual				**1,204,294.80**	**1,469,435.89**
Grand Total Encumbrance				**(203,040.62)**	**1,180,807.34**
Grand Total Obligated				**1,001,254.18**	**2,650,243.23**

Planning Subcommittee (PSC) Meeting No. 81
December 6, 2023
9:30 am – 12 pm
Teleconference
Chair: none
Meeting Notes

Attendees: Dave Senn, Ian Wren, Richard Looker, Lorien Fono, Tom Mumley, Kevin Lunde, Robert Schlipf, Amit Mutsuddy, Ariella Chelsky, Mike Connor, Tom Hall.

1. High-Level Reporting/Synthesis Products Priorities in the near-term

There was a discussion about prioritization and timing of reporting efforts. The group agreed that there is not urgency to provide any deliverables this month. The team will aim for the following schedule:

- Develop financial update for NMS Steering Committee meeting – February.
- Target high level synthesis prior to WSP adoption - April.

Dave shared an example of a budget-too-actual reporting sheet. The group agreed that we're almost there in terms of reporting needs. They will add information on revenues, changes in projected expenditures, and provide links to completed deliverables. We also need information on reserve levels.

Dave reminded the group that they had launched a project tracking site which hasn't been kept up. He requested that the group look back at the tool and let him know whether there are elements that could be carried forward.

2. Transition to Science Plan Discussion

There was a discussion about reorienting the science program to support decision making. Mike Connor had circulated a vision of reporting for the next permit focusing on adaptive management and an annual "state of the bay" report.

Dave asked for input on "how far upstream" we should go. We'd need to have this effort wrapped up by April.

Dave shared some previous slides on decision making alternatives, as well as DIN loading/concentration trends. Mike pointed out we need a synthesis of previous data to support the upcoming permit.

Ian expressed concern about not having clarity on how the Water Board is going to justify load reductions in the upcoming permit. Tom H asked about reporting on how the grant funding will impact the overall budget.

Mike recommended an increased focus on biology, and cutting the ocean impact work since in-Bay impacts will drive nutrient load reductions.

There was a discussion about using the future months to provide synthesis and explanation, versus revising the science plan. There was a discussion about the extent to which the 3rd permit will queue up future science work for refinements in the limits in the 4th permit. Richard responded that the Water Board intends to use multiple lines of evidence, and will share his thinking with the group. The Water Board cautioned that there is no "bulletproof" rationale, and that the results will leave both BACWA and the NGO community partially unsatisfied.

Richard recommended combining the synthesis and science plan update into a single effort. We could kick off the effort with a workshop. Mike recommended that a status of the Bay update be used to help formulate the priorities for the next 5 years.

3. Future meetings

We will have a quick PSC meeting on Jan 9. Dave will send out a poll to find a date for a synthesis/science planning workshop.

4. Action items:

- Develop financial report for next NMS meeting
- Kick off effort to develop synthesis/update science plan
- Review Water Board to share rationale for permit limits

AGENDA

BACWWE Scoping Meeting

Tuesday December 5, 2023

9:00 am – 11:00 am

EBMUD, 375 11th St, Oakland, CA, 94607, United States

2nd Floor Large Training Room

Or

Join Zoom Meeting

https://us06web.zoom.us/j/81923407341?pwd=bxQy5fdwAZp33pGwgpnabPIe49jXVR.1

Meeting ID: 819 2340 7341

Passcode: 043686

1. **Welcome and introductions** (5 min) – *all*
2. **Goals of this meeting** (5 min) - *Lorien and/or Jordan*
3. **Background on BACWWE/WOT** (10 min) - *Jordan & Lorien*
4. **Other ongoing efforts**
    a. BAYWORK stackable internships (5 min) - *Elizabeth Toups*
    b. BAYWORK/Valley Water instrument tech apprenticeship (5 min) - *Robert Scott*
    c. SVCW EPA Grant Proposal (5 min) - *Monte Hamamoto*
    d. CASA Workforce Development Committee (5 min)
5. **Summary of needs identified in 11/2022 meeting** (5 min) - *Jordan*
6. **What is BACWWE's vision for a more effective program?** (20 min)
7. **What support does BACWWE need to build a more effective program? Facilitated brainstorm of professional services scope items** (30+ min)
8. **Discussion of organizational roles/responsibilities; leads; supporters**; **funding; etc.** (20 min)
9. **Recap and next steps** (5 min)

Review of 2023 SFEI Reports

1. Introduction and Structure

This technical memorandum proposes some recommendations for BACWA's Nutrient Technical team to consider in their role as participants in the Nutrient Management Steering committee discussions of the latest SFEI monitoring and modeling findings. It is based on a review of selected SFEI 2023 reports, the status of permitting, and consideration of the needs of BACWA managers in explaining the program to their Boards. It does not comprise a formal peer review of the SFEI reports, but rather extracts portions of the publications' texts and figures to emphasize points of particular relevance to the BACWA agencies.

The tech memo begins with a list of overall comments for the BACWA Nutrient Technical Team, updating comments from last year and suggesting an approach for next year. Those comments are followed by discussions of publications and a Modeling Advisory Group (MAG) meeting summary. The discussions are organized to present a brief statement of each study's goals, major findings, and results that are most relevant to BACWA priorities. The following reports and the summary of the MAG meeting were used to generate the overall Nutrient Technical Team recommendations:

1. Nutrients in San Francisco Bay: Science & Management Priorities
2. Characterizing Lateral Variability in South Bay Water Quality to Inform Monitoring Program Design
3. Continuous Suspended Sediment Monitoring in South and Lower South San Francisco Bay Year One Report for 2022
4. Evaluation and Refinement of Chlorophyll-a Algorithms for Three High-Biomass Blooms in San Francisco Bay
5. San Francisco Bay Numerical Modeling: FY2021-FY2023 Update: Draft Report
6. Findings and Recommendations of an Expert Panel Evaluating a Physical-Biogeochemical Model Supporting the San Francisco Bay Nutrient Management Strategy: February 2023 Workshop
7. Modeling the Dispersal of the San Francisco Bay Plume over the Northern and Central California Shelf
8. Nonparametric and Additive Mixed Meta-Analysis

2. Overall Comments for BACWA's Nutrient Technical Team

2.1 Relevance of Last Year's Comments

These projects fill several gaps discussed in last year's 2022 recommendations and the SFEI annual workplan. Last year's summary of 2022 SFEI reports recommended BACWA attention to eight major themes:

- Support for SFEI monitoring of important ecosystem processes, including denitrification and zooplankton grazing, and updating dissolved oxygen (DO) goals.
- Support for the data viewer web tools that give agencies a way to quickly see phytoplankton data.
- Support for MAG model update recommendations.
- Expansion of focus beyond the Lower South Bay (LSB).
- Increased emphasis on understanding the effects of nutrients on Harmful Algal Bloom (HAB) events.
- Increased use of real-time data collection from satellites, buoys, and towed or self-propelled samplers.
- Increased measurements of chlorophyll/carbon ratios.
- Updating of the "assessment framework" strategy to make use of our improved understanding of the Bay.

The monitoring program has made some progress in all these areas except for the assessment framework. Maintaining these improved monitoring strategies and solidifying their implementation will be important for BACWA to track. If anything, the assessment framework process regressed: permit discussions centered around historic water quality standards, not even using the updated Suisun Bay methodology. The need for clear water quality assessment strategies will be crucial to the recommendations for BACWA to pursue in the future.

3. New Perspectives to Pursue in 2024

The monitoring/modeling approach so far has followed a Total Maximum Daily Load (TMDL) strategy of using monitoring data to develop and calibrate a model that could then be used to set nutrient loading goals. Since the nutrient loading goals under consideration will be quite challenging for the agencies to fund and construct in the next two decades, the TMDL strategy needs to be modified to address other management questions. For instance, adaptive management strategies are a major element of the state's water management approaches. Given the slow overall pace of infrastructure construction and the implementation already of several nutrient load reduction efforts (Sacramento, San Jose, EBMUD, Oro Loma), there is an adaptive management opportunity to evaluate how effectively the many early implementation projects are performing. Garnering public support for multi-billion expenditures will require clear measures of improvement in the health of the Bay and ways to adapt those programs based on evaluating its success.

Supplementing the TMDL framework with an adaptive management approach would require a series of steps listed below that would develop some consensus over how progress would be evaluated:

1. Develop three short (4-10 pages) summaries that follow SFEI's Nutrients in San Francisco Bay summary reviewed below.
2. Use these summaries to develop about a dozen "assessment" measures that can be used to characterize the status of the Bay's water quality, and use these measures to characterize the Bay's basins for the last 10–20 years.
3. Use the measures to evaluate the status of water quality before and after the early implementation projects.
4. Compare these outcomes to the predicted outcomes from the Bay Eutrophication Model.
5. Use this process to characterize the annual variation in these parameters due to non-nutrient sources.
6. Use this process to evaluate the uncertainty associated with model predictions.

4. Individual Summaries

This section discusses key points of the SFEI publications and MAG summary. It includes some of the SFEI figures, using the same figure numbers from the original documents, for ease in referring back to the original documents. Some of the SFEI conclusions and figures have been edited for relevance to BACWA managers.

4.1 Nutrients in San Francisco Bay: Science & Management Priorities

4.1.1 Goals

This summary publication lays out an overview of the nutrient science program underway in San Francisco Bay.

4.1.2 Summary of Results

The summary emphasizes four focus areas: (1) nutrient loads, transport, and transformations; (2) high phytoplankton production and low DO levels; (3) harmful algae blooms (HABs); and (4) coastal impacts. The list of priority questions in each of these areas lays out a clear outline for some short summary reports that BACWA should recommend be updated annually. Elements of these listed priorities that should be included in summary reports for the first three areas are listed below. Coastal impact analysis has not yet included sufficient modeling to justify a summary report.

Nutrient Loads, Transport, and Transformations

- Quantify nutrient sources to San Francisco Bay (space, time).
- Report San Francisco Bay nutrient concentrations (space, time).
- Assess important nutrient transformation rates chemistry, such as, uptake, denitrification, and sediment release.
- Quantify the relative contributions of individual nutrient sources to ambient concentrations.
- Simulate future nutrient loads.

High Phytoplankton Production and Low DO Levels

- Identify ecologically protective phytoplankton productivity and DO levels.
- Determine where and when high-phytoplankton/low-DO conditions occur at present.
- Quantify the relationship between nutrient loads and high-phytoplankton/low-DO;
- Predict its future occurrence.
- Quantify the relationship of load reductions to DO response.

Harmful Algal Blooms (HABs)

- Identify ecologically-protective HAB and HAB-toxin levels.
- Determine where, when, and how much HABs and HAB toxins occur.
- Quantify the relationship between HAB events and historic nutrient loads.
- Predict the relationship of load reductions to HAB response.

4.2 Characterizing Lateral Variability in South Bay Water Quality to Inform Monitoring Program Design

4.2.1 Goals

Monitoring and modeling in previous years have suggested that much of the primary production and nutrient impacts in San Francisco Bay occur in the shoals on the eastern side of the South Bay. Increased numbers of mooring stations and six-day-long mapping surveys with continuous data-logging water quality sensors were used to better quantify the differences between the shoals and the deep channels, where most of the historic data collection exists.

4.2.2 Summary of Results

The increased density of data collection demonstrated the importance of both temporal and spatial variation in characterizing water quality in the South Bay. While the central tendency of chlorophyll (Figure 25) and DO (Figure 26) concentrations showed a significant amount of overlap between the shoals and deep channel, the variation in the shoal stations was much greater. Mapping often showed water-quality hot spots of 10–20 km^2 (Figure 5). Mooring data (Figure 11) showed that chlorophyll concentrations could vary as much as ten-fold during a single day. For this 2021 data set, the annual pattern showed a seasonal decline in percent DO saturation (Figure 13), but also much more daily variation skewed to daily supersaturation versus sub-saturation, suggesting planktonic primary production processes could overcome mixing with the atmosphere, but respiration processes were less likely to overcome mixing. This pattern may have been disrupted in the 2022 HAB event.

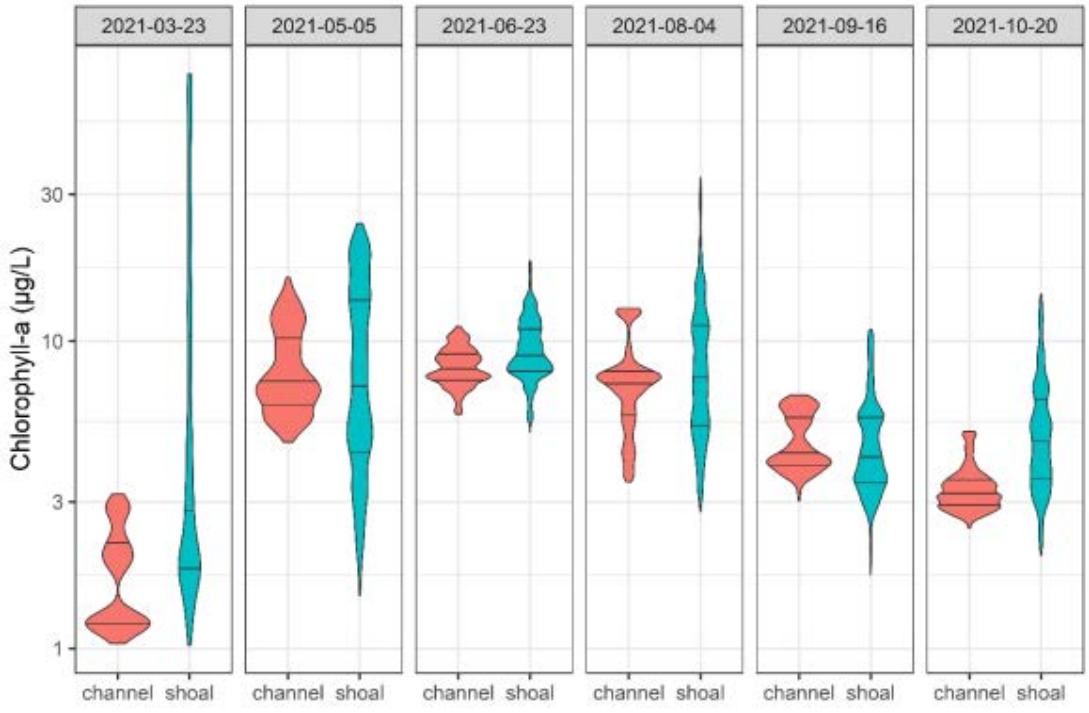

Figure 25. Comparison of chlorophyll-a values between channel and shoal regions.

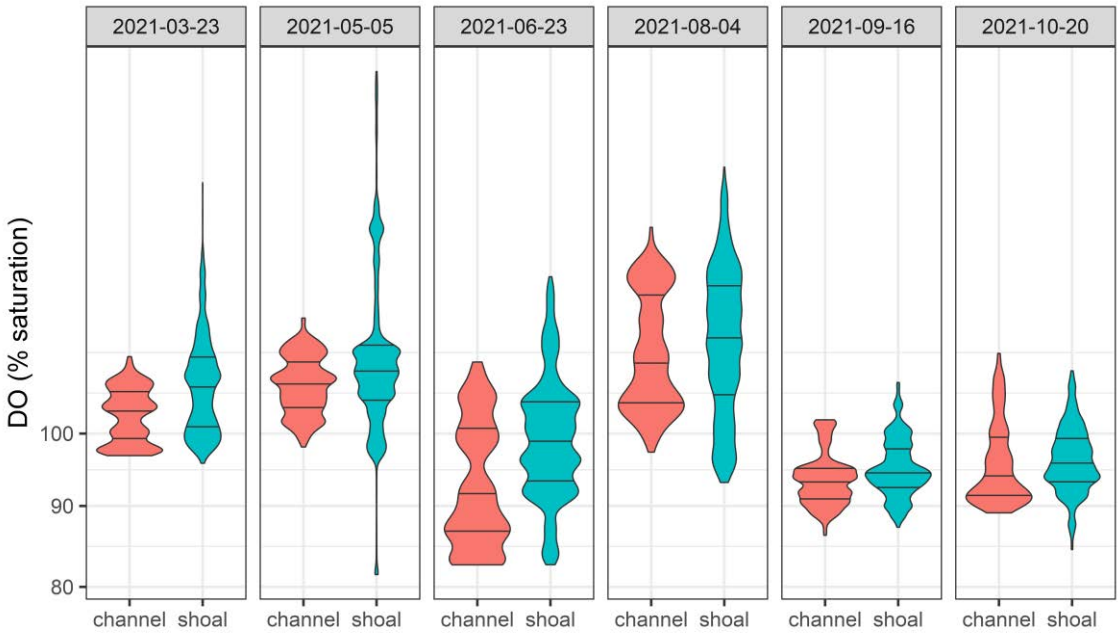

Figure 26. Comparison of DO (% saturation) values between channel and shoal regions.

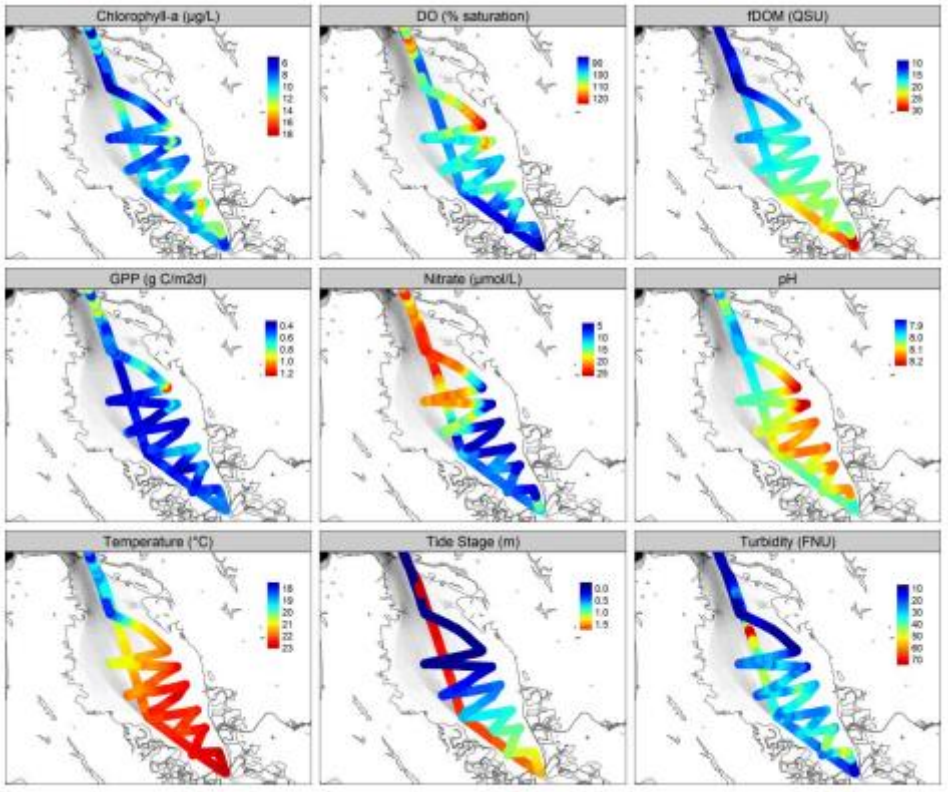

Figure 5. June 23, 2021 mapping survey results, overview of eight parameters along with tidal stage at time of measurement.

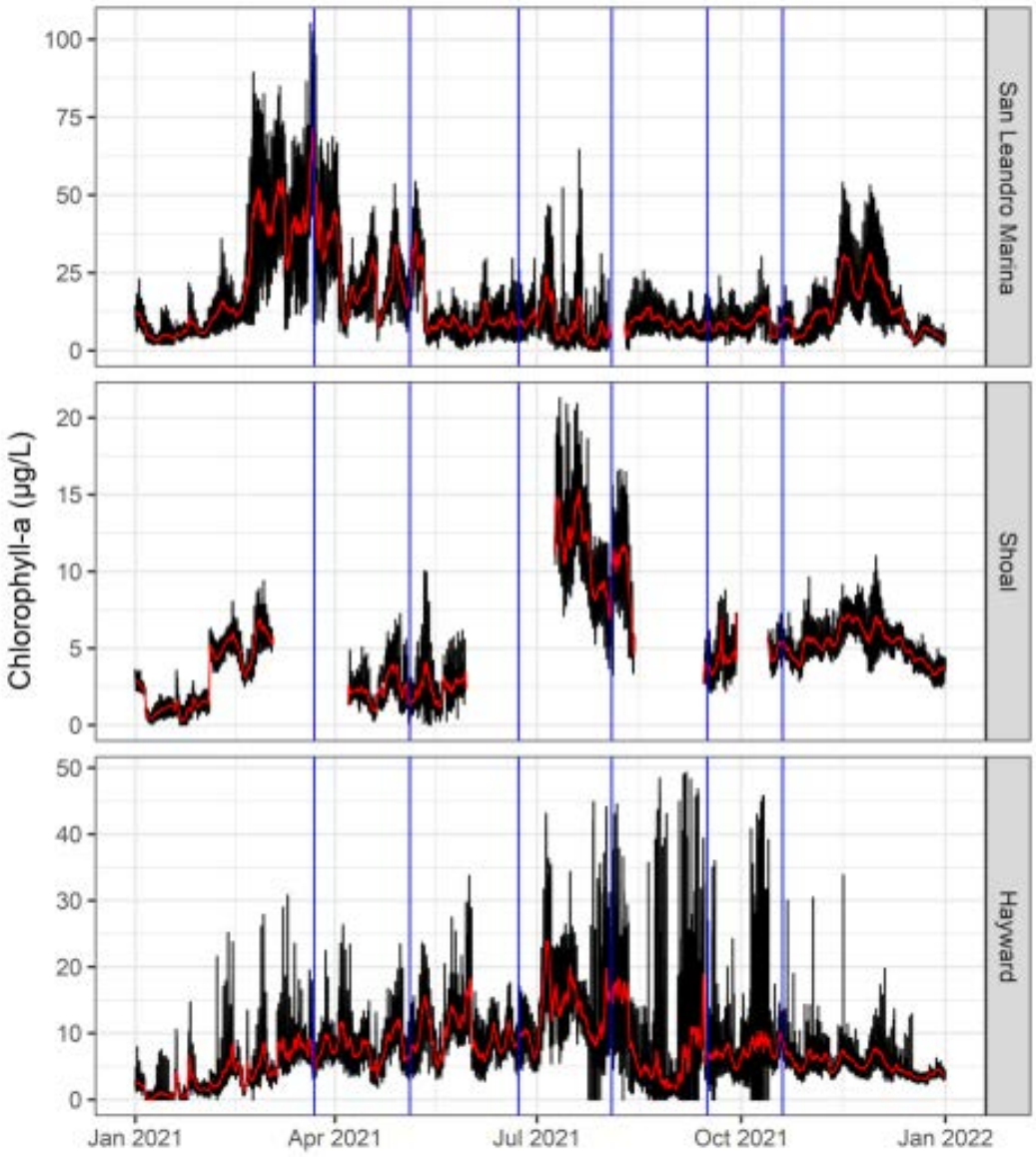

Figure 11. Chlorophyll-a (µg/L) at San Leandro (SLM), Shoal (SHL), and Hayward (HAY) moorings. Blue vertical lines correspond to mapping survey dates.

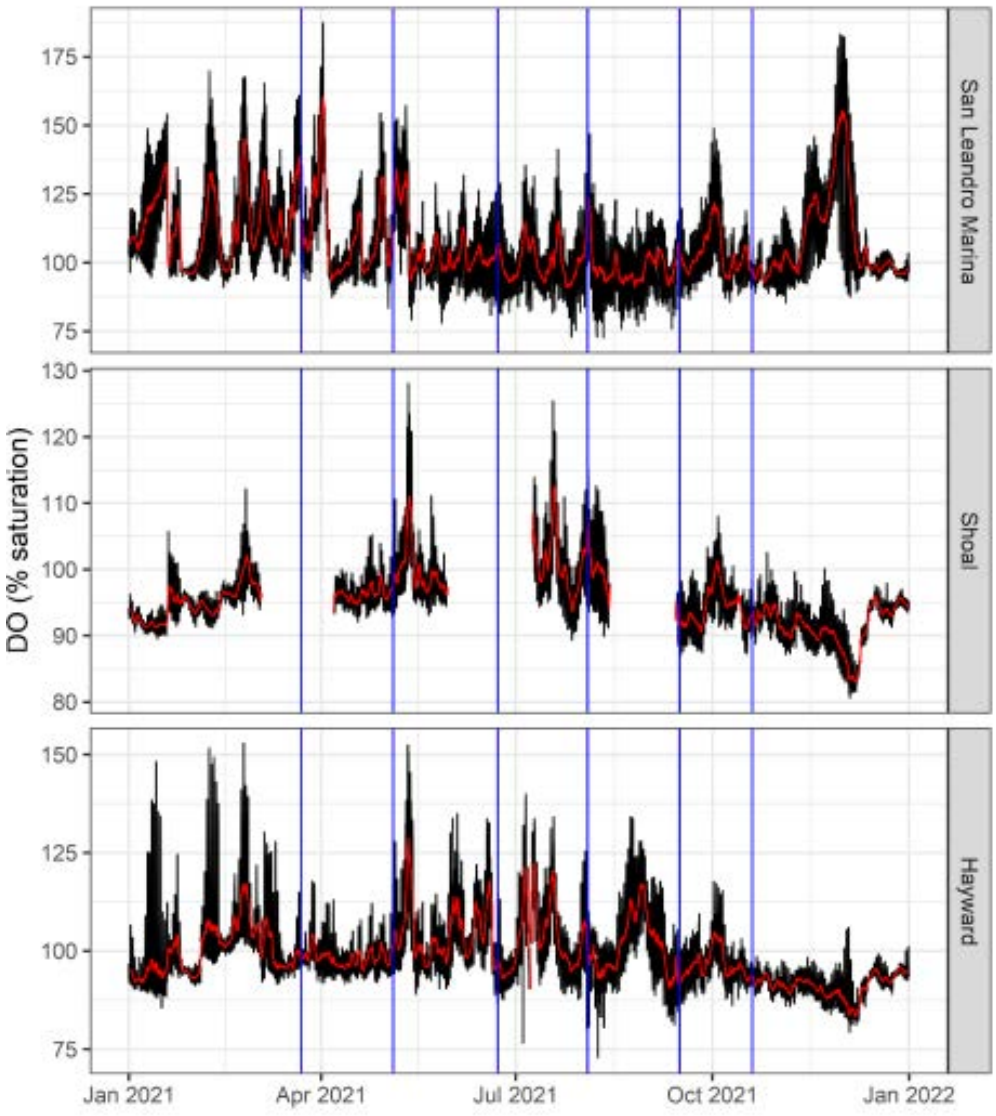

Figure 13. Dissolved oxygen (percent saturation at San Leandro (SLM), Shoal (SHL), and Hayward (HAY)moorings. Blue vertical lines correspond to mapping survey dates.

4.2.3 Importance to BACWA

This report shows the extensive variability in the Bay's water-quality parameters both in space at a range of a few kilometers, but also on a daily basis. It points to the difficulty of developing a workable way to characterize Bay water quality in space and time, much less predicting its response to management actions.

4.3 Continuous Suspended Sediment Monitoring in South and Lower South San Francisco Bay Year One Report for 2022

4.3.1 Importance of Suspended Sediment

High concentrations of suspended sediment can impede the penetration of light into natural waters, thereby reducing rates of plant growth. Most of the existing San Francisco Bay data are available for deeper channel stations, but nearshore stations are more likely to be impacted by tides and wind resuspending surface sediments or receiving sediment-rich water from adjacent marshes and ponds.

4.3.2 Summary of Results

SFEI (nutrients and RMP monitoring, combined with wetlands-restoration funding) paired eight moored high-frequency turbidity monitoring stations in the South and Lower South Bays with discrete suspended-sediment concentration (SSC) measurements every 3–5 weeks. Regression analyses allowed conversion of the turbidity data to continuous estimations of SSC, enabling predictions of light penetration, contaminant transport, and marsh accretion. Figure 4 shows the high variability of the continuous turbidity measurements (gray lines) that make daily average behavior (solid lines) complicated. As hypothesized, the historic measurements in deep channels were much lower than nearshore shoals, particularly the Lower South Bay sloughs.

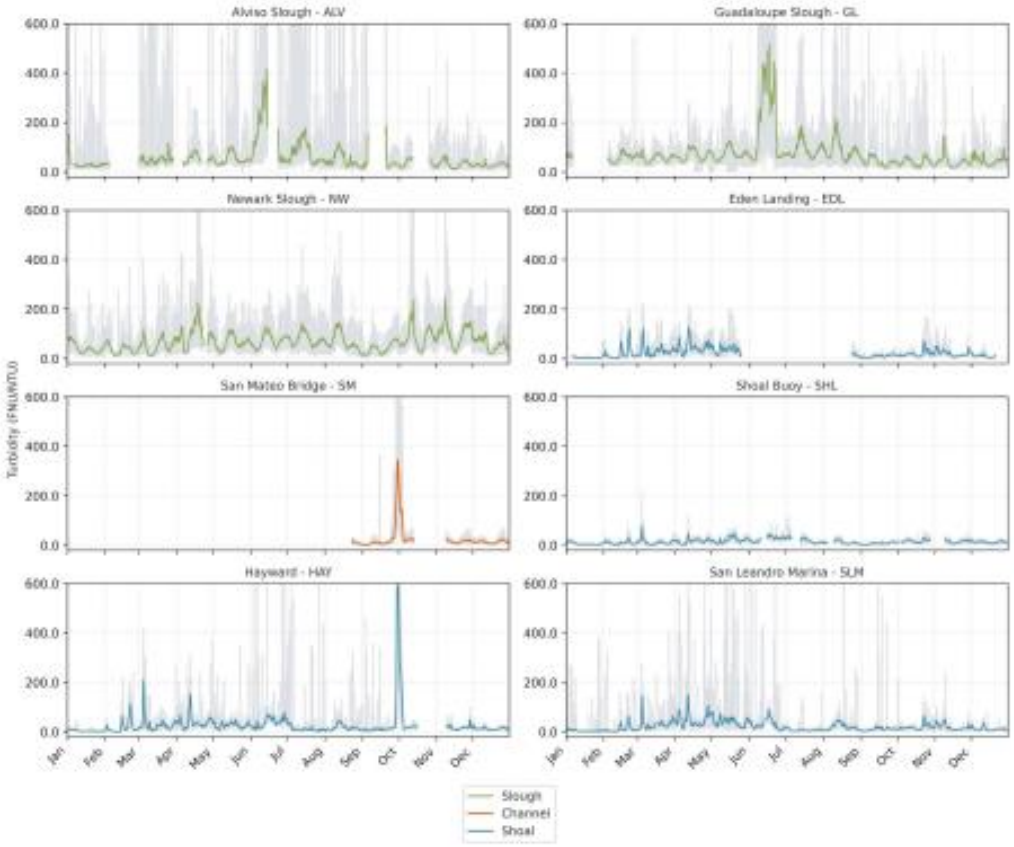

Figure 4. Turbidity data at the eight monitoring stations from January–December 2022.

An additional problem for the interpretation was that the methodology is not considered very reliable when turbidity is high compared to the SSC collected for model calibrations (Figure 5, orange lines). As a result, predicting long-term SSC values misses the periods of maximum concentrations (compare the y-axes of Figures 4 and 5).

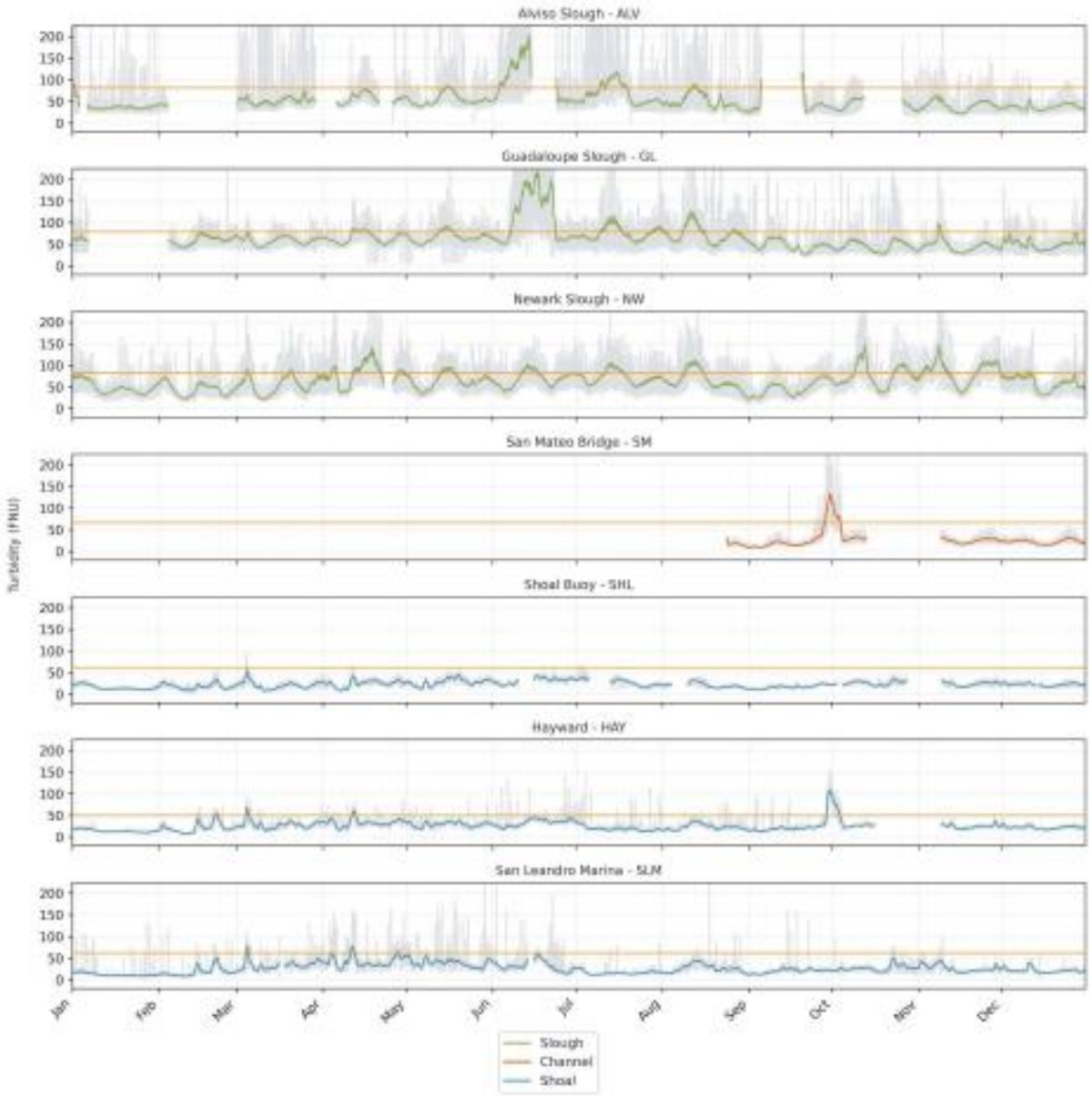

Figure 5. Time-series plots of continuous SSC data from 2022 from sampling sondes. Large gaps in the daily rolling means are due to data loss from turbidity sensors. Data above the orange horizontal lines are out of range for the USGS calibration standards.

4.3.3 Importance to BACWA

There is evidence to suggest that HABs are most likely when turbidity is lessened in times of low tidal amplitude and low winds, thereby allowing sunlight to penetrate deeper and algal cells to have longer periods to photosynthesize and reproduce. This report reminds us how hard it is to measure and model parameters causing light limitation. BACWA should keep emphasizing the priority of this issue.

4.4 Evaluation and Refinement of Chlorophyll-a Algorithms for Three High-Biomass Blooms in San Francisco Bay

4.4.1 Goals

Satellite remote sensing is the quickest, cheapest tool for characterizing HABs in real time. Turbidity, chlorophyll-a, and dissolved organic matter (DOM) directly affect the optical properties of water, and can be estimated using satellites. However, the optical complexity of estuarine waters can make it difficult to reliably interpret remote-sensing data, which have more commonly been used for the open ocean. Raphe Kudela and his team used the extensive data sets collected during the HAB event in 2022 to improve the algorithm suitable for operational use and near-real-time product generation. The final version of the algorithm successfully minimizes error for both non-bloom periods while also capturing extreme events.

4.4.2 Summary of Results

The benefit of this new algorithm (called RE-SFB) is demonstrated by a plot comparing it to the traditional algorithm (C2RCC) during the initiation of the 2022 HAB.

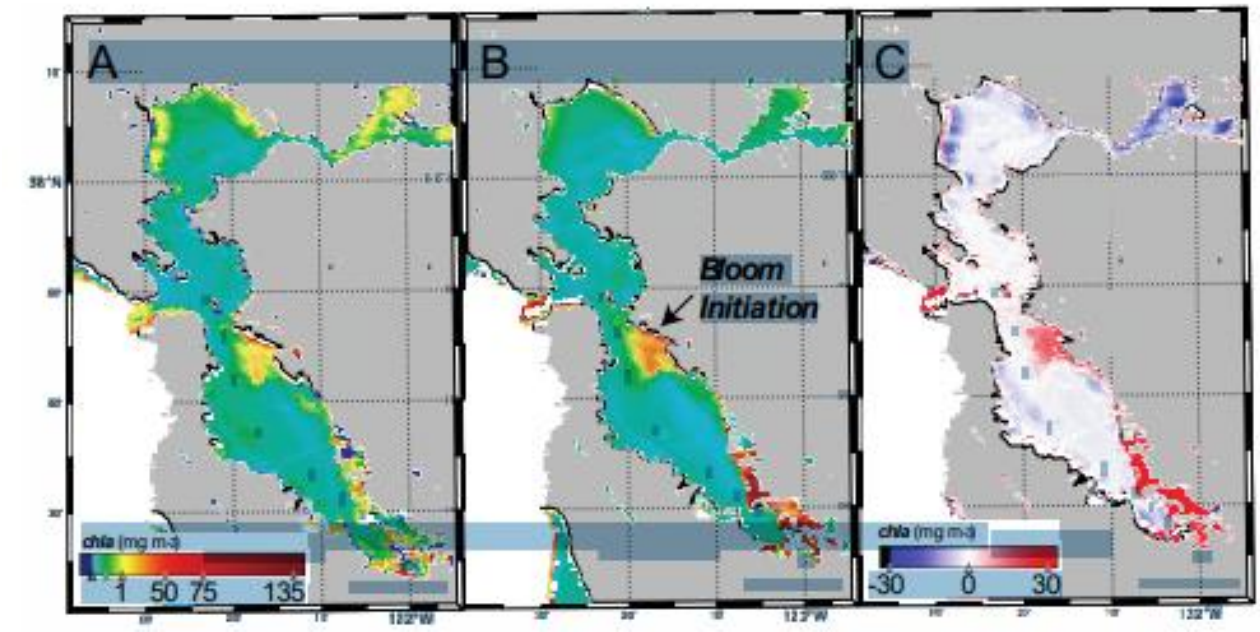

Figure 7. (A) C2RCC chlorophyll-a for August 7, 2022 plotted as log chlorophyll-a (B) RE-SFB; and (C) RE-SFB minus C2RCC plotted in a linear chlorophyll-a scale. RE-SFB reduces the chlorophyll-a in North Bay, while providing greater delineation (e.g., nearshore intensification) to the south of the initiation site.

4.4.3 Importance to BACWA

This work has significantly improved Bay managers ability to track HABs and chlorophyll trends in San Francisco Bay. It is an important achievement of the SFEI program. One caution in using this family of algorithms is that they perform poorly below chlorophyll-a concentrations of approximately one milligram per cubic meter, a concentration not crucial to management considerations.

4.5 San Francisco Bay Numerical Modeling: FY2021–FY2023 Update: Draft Report

4.5.1 Goals

This report is the third update of the status of SFEI's modeling work for briefing the MAG.

4.5.2 Summary of Results

A comparison of the model predictions to data in different seasons from 2013–2018 gives a broad overview of the model's reliability (Figures 3.21 and 3.22. The model does a reasonable job of capturing spatial and temporal trends, but the data show much wider variability. Chemical measurements are better captured than biological ones (chlorophyll and gross primary productivity).

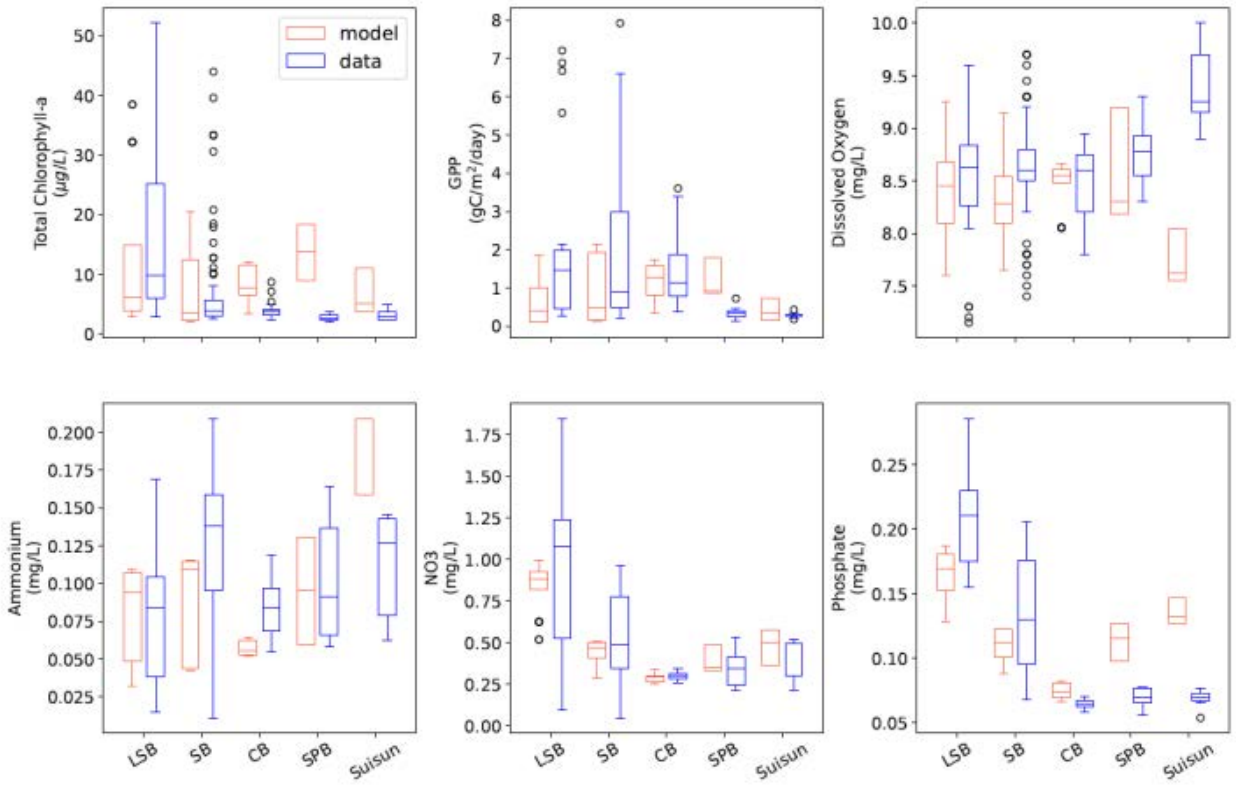

Figure 3.21. Box and whisker plots of aggregated grid model outputs and data for spring (February–April) for water years 2013–2018.

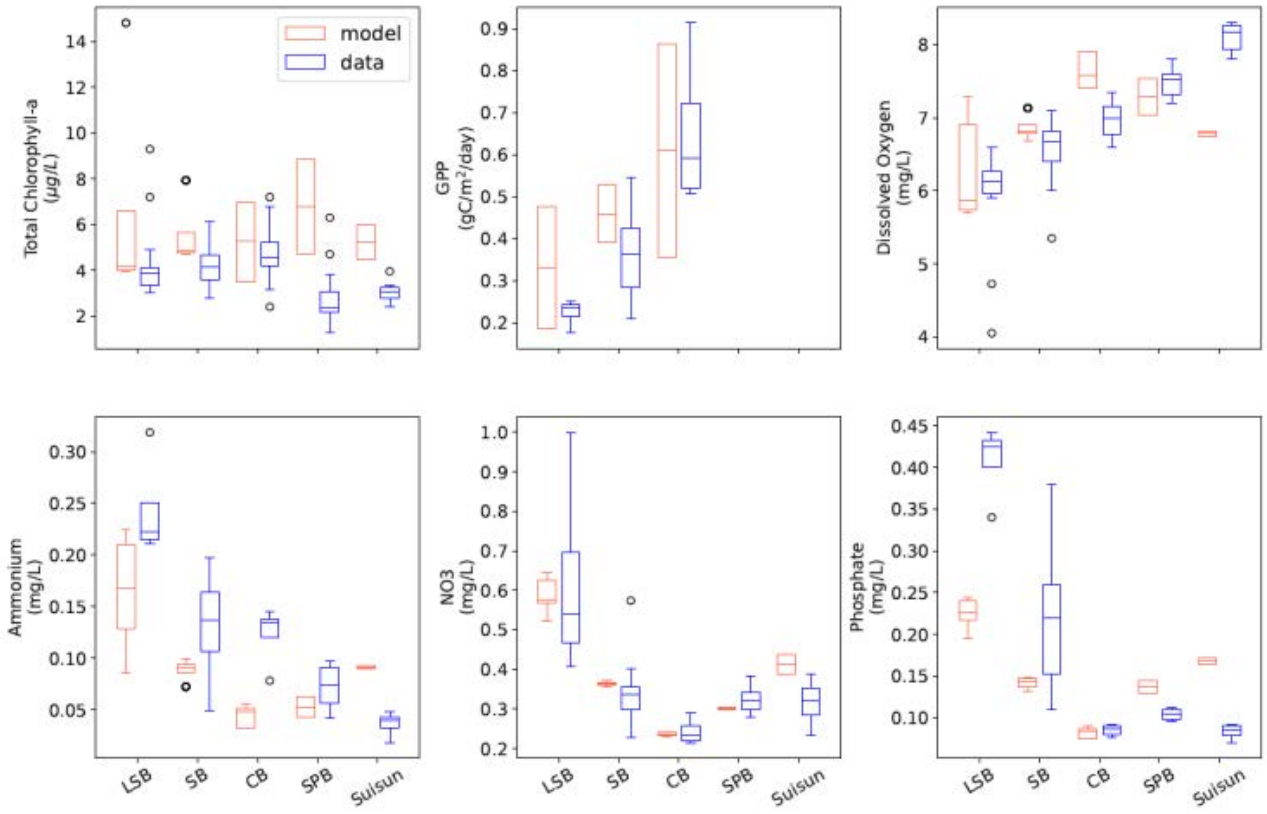

Figure 3.22. Box and whisker plots of aggregated grid model outputs and data for summer (July–August) for water years 2013–2018.

4.5.3 Importance to BACWA

While the MAG supports the model as a useful tool, their report below also cites its limitations. It would be important for SFEI and the MAG to develop some quantitative measures around the uncertainty surrounding the model predictions so that managers and the general public can understand the limitations of the "best available science."

Section 3 .6 of the report does a sensitivity analysis to determine those parameters that have the largest effect on model predictions and therefore warrant improved characterization. These parameters include maximum algal growth rate, light extinction, growth in the shoals, and top-down grazing controls. BACWA should consider this list when evaluating annual monitoring plans.

4.6 Findings and Recommendations of an Expert Panel Evaluating a Physical-Biogeochemical Model Supporting the San Francisco Bay Nutrient Management Strategy: February 2023 Workshop

3.6.1 Goals

SFEI set up the MAG to provide internal peer-review comments. At this meeting, the group was asked to comment on the status of model evaluation and the readiness for using the model to support upcoming permitting decisions. The group expressed its confidence that the model is an important science tool and is moving quickly towards being a useful management tool.

4.6.2 Recommended Model Validation Tasks

The report sets out a number of recommended tasks to demonstrate the validity of the model and its readiness for management use:

1. Development of a conceptual synthesis that includes global mass balances and validation comparisons that are consistent with management needs.
2. Hydrodynamic model validation to include temperature and determination of the length of time for sufficient model spin-up.
3. Improved nitrogen-cycle validation to include distinguishing more completely the different organic and inorganic forms of nitrogen, the variation in concentrations of nitrogen imported from offshore, and the variation of phosphate concentrations in the Delta.
4. Improved validation of phytoplankton biomass and primary productivity by expanding the estimation of primary productivity to utilize the apparent oxygen utilization (AOU) methods available from the extensive mooring and towed-sensor data sets and changing the carbon to chlorophyll estimation process, which would be particularly relevant to characterizing HABs.
5. Several improvements to DO validation, including the expansion from depth-averaged results to validating the concentration profiles with depth, using the AOU methods to remove the effect of temperature and salinity on DO response, validating DO on a sub-daily basis, validating DO in different sub-basins, and sensitivity analyses to determine the effect of dissolved organic carbon oxidation rates.
6. Improved validation of sediment diagenesis that compares carbon and nitrogen pools in the surface sediments of the South Bay shoals, more extensive measurements of denitrification, estimating the relative importance of sediment oxygen demand in different sub-basins, and adding model-data comparisons of nitrate/nitrite fluxes, temperature comparisons of sediment diagenesis, and surface sediment carbon and nitrogen pools.
7. Improved measurements of light limitation and grazing.
8. Including numeric management endpoints in model validation, such as quantifying multiple DO thresholds to define the effects of the management definition of “low DO.”

4.6.3 Recommended Use of Model for Management Decision Making

While the peer review supports of the model as a tool. the number of comments suggested above should remind BACWA and the Water Board that the model is still at a very early stage as a management tool and its improvement should be considered a long-term, iterative process.

The report recommends additional actions to make incremental improvements in confidence in the model:

- Characterize model uncertainty in quantitative terms, including percentage difference in model predictions and observations, the response of outcome variables relative to sensitivity in model parameters that are the most uncertain, and perturbations in the boundary conditions.
- Expand the consideration of future scenarios to include minimally disturbed conditions, nutrient loads that trigger thresholds under chronic conditions, return frequency of conditions that favor dinoflagellate blooms, effects of sea level rise, effects of alteration of freshwater flows, effects of alternative nutrient management scenarios, investigation of the zones of influence of different sources, and scenarios supporting optimization of monitoring.

The report concludes with two pages of important discussion about how to define modeling scenarios on a temporal and spatial (horizontal and vertical) basis. It emphasizes the importance for BACWA and the other stakeholders to reach consensus on how to interpret the large amount of quantitative model data for a variety of parameters, including DO, chlorophyll, nutrients, organic carbon, and phytoplankton species concentrations.

4.7 Modeling the Dispersal of the San Francisco Bay Plume over the Northern and Central California Shelf

4.7.1 Goals

This publication in an influential estuarine science journal represents the latest level of modeling of the dispersal of San Francisco Bay water to the offshore. Model results are compared to previously collected data from historic data collection and High Frequency Radar from the Ocean Observing System. A major driver of the effort is an estimate by Hurst and Bruland (2008) that San Francisco Bay is a significant source of nutrients, organic matter, and dissolved and suspended contaminants to the shelf, with loads similar to open ocean inputs (Hurst, M.P., Bruland, K.W., 2008. The effects of the San Francisco Bay plume on tracer metal and nutrient distributions in the Gulf of the Farallones. Geochimica et Cosmochimica Acta 72, 395–41).

4.7.2 Examples of Outputs

The Bay plume exported through the Golden Gate disperses (1) along the southern coast towards Monterey Bay, (2) along the northern coast towards Point Arena, and (3) directly offshore but restricted within the shelf break. Over the two years of the study, 2011–2012, the along-shore zone of impact of the northward plume was about 1.5 times longer than when it travels south (Figure 9). Due to the mix of northerly or southerly winds, the southern plume branch was roughly twice as wide as the northern plume, which extended roughly two times deeper due to coastal downwelling. Depending on season, the plume could remain within the Gulf of the Farallones for as long as 50 days (Figure 11).

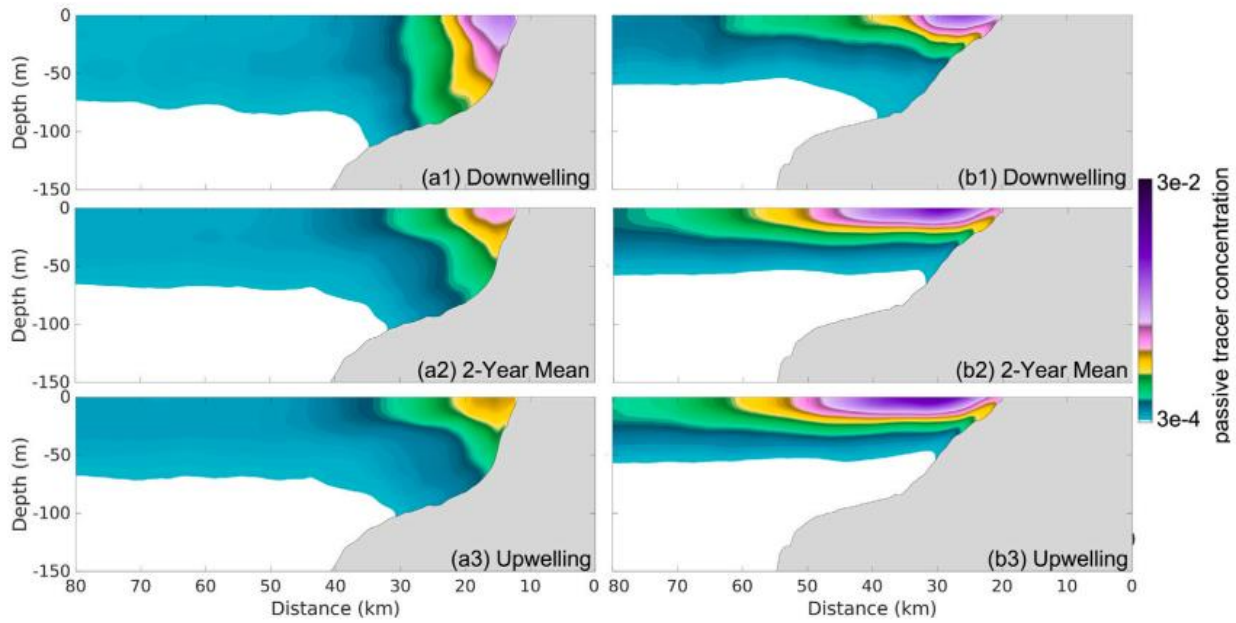

Figure 9. Cross-shore contours of passive tracer concentrations at transects into the Gulf of the Farallones about 20 miles North (a) and South (b) of the Golden Gate for different conditional averaging: (1) during downwelling (southerly winds) conditions, (2) the two-year mean, and (3) during upwelling (northerly wind) conditions. Note that the scale for dilution of San Francisco Bay dispersal ranges from 0.03% to 3%.

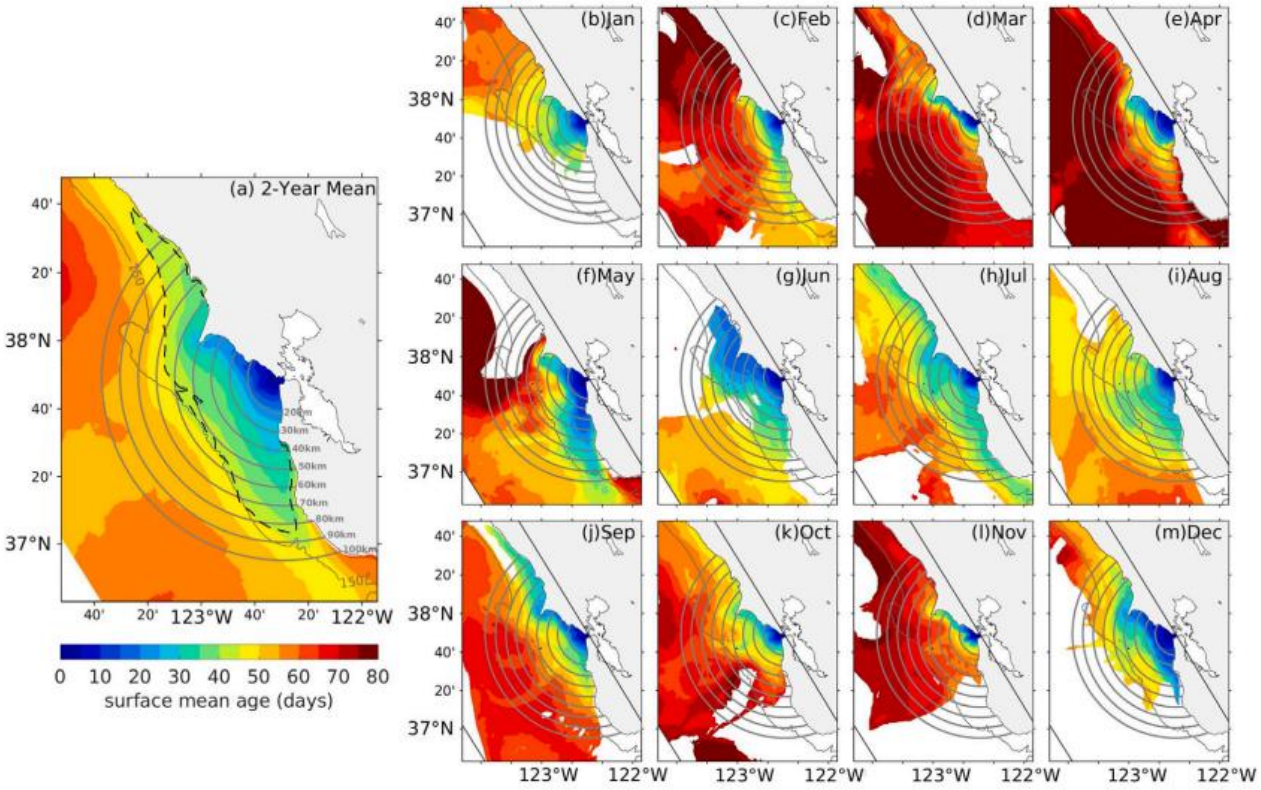

Figure 11. Surface mean age in days, where depth-integrated passive tracer concentration of the Bay discharge is greater than 0.01%: (a) two-year mean; (b–m) monthly mean in the year 2012. Gulf of the Farallones boundary indicated by dashed lines.

4.7.3 Importance to BACWA

Of interest to BACWA is the over-statement of the Hurst and Bruland (2008) conclusion, as quoted below from the abstract:

> The dissolved data and estimates of the plume dynamics suggest that the impact of anthropogenic inputs of nutrients and trace metals in the San Francisco Bay plume contributes substantially to the concentrations found in the Gulf of the Farallones (10–50% of estimated upwelled flux values), but does not greatly disrupt the natural stoichiometric balance of trace metal and nutrient elements within coastal waters given the similarity in concentrations to sources in upwelled water. In all, the data from this study demonstrate that the flux of dissolved nutrients and bioactive trace metals from the San Francisco Bay plume contribute to the high and relatively constant phytoplankton biomass observed in the Gulf of the Farallones.

Much of the historic interest in the impact of the export of Bay nutrients to the offshore waters occurred five years ago, when it appeared that the Bay might be too light-limited to be showing much within-Bay effects from nutrient discharges. With the advent of the concern over HABs and the subsequent load reductions and model predictions of additional dilutions of Bay discharges by a factor of 10–100, it seems likely that this issue will have a reduced priority.

4.8 Nonparametric and Additive Mixed Meta-Analysis

4.8.1 Goals

This draft submitted manuscript explores the statistical development of a more robust tool for determining long-term trend analyses for San Francisco Bay water quality parameters. It uses the biweekly monitoring data collected by SFEI and the USGS to determine seasonal average concentrations and standard errors of chlorophyll-a. It uses cases from different locations and seasons to illustrate different statistical phenomena with the new methods.

4.8.2 Examples of Outputs

The document uses chlorophyll-a data from Station 30 in the Lower South Bay to demonstrate the effectiveness of the additive mixed meta-analysis.

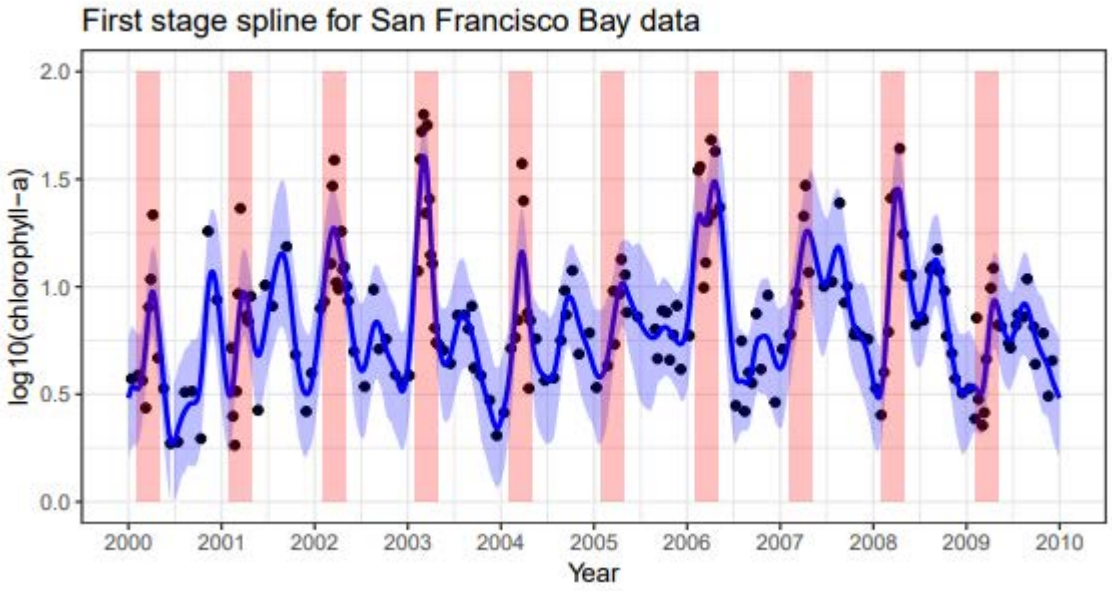

Figure 1. Ten years of chlorophyll-a data from Station 30, with a fitted spline and its 95% confidence interval (± 2 standard errors, blue). Red vertical bands show spring of each year. The first stage of analysis produces the mean and standard error from the spline of each year's spring or fall (not shown).

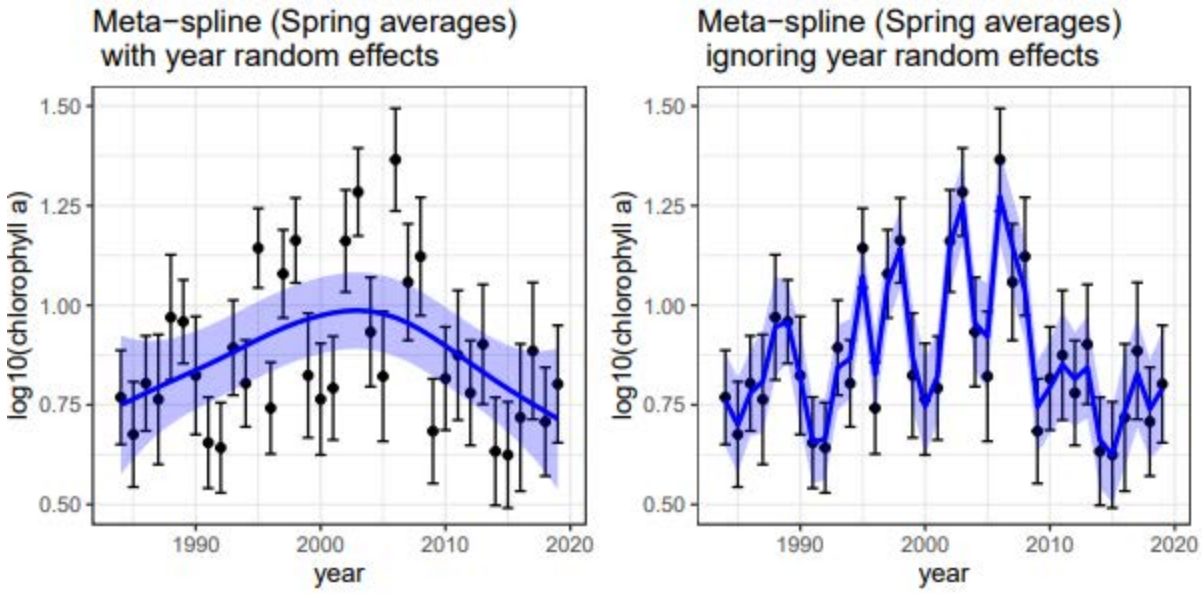

Figure 2. Meta-splines for spring seasonal averages across years from Station 30, with (left) and without (right) year (study) random effects. The case on the right is clearly overfit. Best Linear Unbiased Predictors +/- two standard errors are shown for the spline terms.

4.8.3 Importance to BACWA

Demonstrating trends across years in the Bay will be important for managers, but presents quite complicated statistical challenges. Understanding the details of the different statistical techniques is probably less important to BACWA members than knowing that they are standardly used in other estuary programs around the country. On the other hand, it will be important for managers to understand what trends are being observed, what are hypothesized to be the causal factors, standards that are used to assessed their level of concern, and whether the effectiveness oof billions of dollars of funding will be measurable. At this point, BACWA's priority could be emphasizing statistical methods or developing some standardized procedures and summaries that can be used to make management decisions.

Arleen Navarret Leadership Award

Nominee:
Name: _____ *E-mail:* _____

Nominator:
Name: _____ *E-mail:* _____

Agency: _____ *Phone:* _____

What is it?

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

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

Who is eligible?

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

How to apply

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

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

Arleen Navarret Leadership Award

e. concluding paragraph describing how this individual has or has the potential to positively impact and contribute to the wastewater community.

Deadline and Selection

Applications are due March 1, 2024 and should be submitted by e-mail as an attachment to jdyment@bacwa.org. The winner will be selected by the Award Committee and the award will be presented to the recipient at the BACWA Annual meeting on May 3, 2024. (Funds may be used for travel, lodging and meals, but not any alcoholic beverages.)

FY2024-25 BACC Update

December 2023

Based on the results of the BACC Annual Chemical Survey we will be preparing the bid documents for the following chemicals:
Aluminum Sulfate
Ammonium Sulfate
Aqueous Ammonia
Citric Acid
Ferric Chloride
Ferrous Chloride
Hydrofluosilicic Acid (Fluoride)
Liquid Chlorine
Sodium Bisulfite
Sodium Hydroxide
Sodium Hypochlorite
Sulfuric Acid

BACC Agencies submitted their Estimated Quantities and Delivery Details spreadsheets. By December 1, 2023.

FY2024-25 BACC Bid Timeline

- ~~Agency FY2024-25 Estimated Quantities, Delivery Details, Contact information due December 1, 2023~~
- **Updating database and preparing draft of bid documents. December 2023**
- Agencies will review and approve FY2024-25 BACC bid documents late December 2023 until first week or two of January 2024
- Bids will go live in Planet Bids on January 25, 2024
- Bids will be opened in Planet Bids on February 22, 2024
- Preliminary Bid Results reports will be available for agencies to review February 27, 2024
- Recommendations will be available for agencies to review mid March 2024
- Awards Letters will be issued to vendors late March early April 2024

Committee Request for Board Action: None

32 attendees, all participating remotely, representing about 16 member agencies

Regional Purified Water Pilot Project

Jan Lee (Assistant General Manager, Dublin San Ramon Services District) provided an overview of a purified water pilot project concept that has been developed by DSRSD in partnership with the City of Livermore, Alameda County Water District, LAVWMA, Zone 7 Water Agency and Union Sanitary District (link to slides). The project would produce up to 0.2 MGD of purified water using treated wastewater from LAVWMA. The pilot treatment system would provide advanced treatment via membrane filtration, RO and UV/AOP. The purified water would be discharged to the Alamo Canal (a tributary of Alameda Creek), and then diverted downstream for groundwater recharge via ACWD's Quarry Lakes. The Alamo Canal discharge is already approved in DSRSD's 2022 NPDES permit. The main goals of the pilot are to demonstrate the purified water treatment train, provide an opportunity for public outreach and data collection, and promote regional collaboration. The next steps are to begin preparation of public outreach and education materials, and pursue grant funding.

Cross-Connection Control Policy Handbook

Stefanie Olson (DSRSD) reported on the schedule for upcoming revisions to the Cross-Connection Control Policy Handbook, which will replace Title 17. The handbook is expected to go to the State Water Board for approval on December 5th. Once the handbook is approved, water agencies will have 12 months to prepare and submit a Cross-Connection Control Plan. The draft version of the handbook requires water agencies to have a cross-connection control specialist to perform hazard assessments. It also contains provisions related to use of swivel-ells.

Site Supervisor Training Update

The Site Supervisor videos are done! Links are available below.

Video 1 – What is Recycled Water? Download YouTube

Video 2 – Treatment and Water Quality Download YouTube

Video 3 – California Regulations Download YouTube

Video 4 – Site Supervisor Responsibilities Download YouTube

Legislation and Regulatory Update

- Direct Potable Reuse – A revised version of the DPR regulations was released for comment in October 2023. Adoption is expected by the end of 2023.
- Onsite Non-potable Reuse - Rulemaking will begin in Spring 2024, with projected adoption in Fall 2024.

Volumetric Annual Reports

Data from 2022 volumetric annual reporting is now available through the State Water Board (interactive map) or the California Open Data Portal. In the Bay Area, the total volume recycled in 2022 (54,360 acre-feet) was similar to 2021 levels (56,965 acre-feet). The apparent reduction is due to a change in the reporting approach for process water at one large facility.

BACWA Updates

The Regional Water Board plans to reissued the Nutrient Watershed Permit in May 2024, and a draft may be available by January 2024. The permit is expected to contain dry season effluent load limits for Total Inorganic Nitrogen. For many agencies, recycled water projects are likely to be part of their compliance approach.

Meeting Schedule for 2024 – January 16, April 16, July 16, and October 15 (Quarterly)

Asset Management Committee
Report to BACWA Board

Committee Meeting on: 11/14/2023
Executive Board Meeting Date: 12/15/2023
Committee Chairs: Rebecca Overacre (EBMUD) and Khae Bohan (CCCSD)

Committee Request for Board Action: None

27 attendees representing 11 member agencies, plus two guest speakers

Evolution of Project Prioritization at Hampton Roads Sanitation District

Erin Girardi, Chief of Capital Finance at Hampton Roads Sanitation District in southern Virginia, presented on HRSD's system for prioritizing capital projects. He was joined by Anas Malkawi, HRSD's Chief of Asset Management. The presentation and ensuing discussion noted the following:

- The District serves 20 communities in southern Virginia and operates more than 5,000 miles of interceptor sewers. Their 10-year CIP has about 200 projects. In FY2023-2028, the number of CIP projects is not increasing, but the capital expenditures will be increasing significantly (2-3x typical levels) as HRSD implements several components of the SWIFT project. This project will recharge treated wastewater into the Potomac aquifer and is needed for regulatory compliance (nutrient discharge limitations into Chesapeake Bay). It will also address saltwater intrusion and land subsidence concerns. Due to the SWIFT project and others, HRSD's current capital program is mostly driven by new regulatory concerns ("reactive mode"). However, in the future, they expect this will shift back to being driven primarily by capital improvements ("proactive mode").
- About a decade ago, HRSD develop a list of 10 organizational values that were used for CIP project prioritization (Safety; Regulatory; Reliability/Risk; Capacity; Community Impacts; Net O&M Savings; Customer Service; Coordination; Sustainability; Implementability). At the time, this approach was a significant improvement over their previous approach because it reduced staff conflict during the prioritization process.
- HRSD recently enhanced its approach to CIP prioritization process, and now develops more information about each potential capital project before including it in the CIP prioritization system. When new CIP projects are proposed, there is an initial review meeting to understand the project concept and need; about half the time, the CIP project is modified at this stage.
- HRSD now uses a likelihood-vs-consequence rubric for project prioritization based on an a risk reduction ratio calculated for each project. The risk reduction ratio considers risk from environmental impact, regulatory compliance, public health, organizational risk (reputation/customer perception), safety, and financial impact (e.g., a cyberattack). The likelihood of failure score is based on the project as a whole, including all the assets within it. HRSD prioritizes the projects with the highest risk reduction score, although it is not the only tool used to develop the CIP.
- HRSD also shared details of their Asset Management Plan and Renewal Planning Model, which are used for longer-term planning These software systems run on Microsoft BI with linkages to HRSD's CMMS software as well as other systems, such as hydraulic modeling. Each asset has a service life and an "effective age" that is based on condition assessments / performance.

Next Meeting: Early 2024, TBD

Collection Systems Committee
Report to BACWA Board

Collection Systems Committee Meeting: 11/16/23
Executive Board Meeting Date: 12/15/23
Committee Chairs: Tyree Jackson (Oakland) and Paul Seitz (Central San)

Committee Request for Board Action: None

45 attendees (including 2 guest speakers) from 30 member agencies

Presentation on Inland Empire Utilities Agency's Mutual Aid Program

Lucia Diaz and Ed Makowski from Inland Empire Utilities Agency (IEUA) presented on a mutual aid program that IEUA operates with nine other public agencies located in their service area (link to presentation slides). IEUA serves about 1 million residents and is headquartered in Chino, CA. IEUA operates five wastewater treatment plants, while most wastewater collection services are provided by partner agencies. In 2004 IEUA entered into a mutual aid agreement with their regional partners. Aspects of the mutual aid program covered in the presentation included:

- The mutual aid partners meet quarterly, conduct joint regional training, and support one another in emergencies – particularly sanitary sewer spills. This helps all the partner agencies comply with the statewide general order for sanitary sewer systems.
- During training sessions, operators familiarize themselves with one another, their vehicles and others equipment from partner agencies. This increases comfort and efficiency during a coordinated emergency response. They offer CEUs for the training sessions.
- The mutual aid partners share on-call numbers and the equipment that they have available for bypass pumping, etc. The lists are updated at each quarterly meeting.
- Mutual aid partners also share information about source control and illicit dischargers, which helps protect water quality.
- Lucia's advice for agencies that would like to emulate this program is to "start small" by holding coordination meetings and sharing contact information with one another. This initial step does not require a formal mutual aid agreement. Conducting joint training sessions is another good way to begin.

Implementation of Reissued General Order for Sanitary Sewer Systems (SSS-WDR)

- BACWA has hired a consultant team to update the 2015 Guidance Document on Sewer System Management Plans. The consultant team (R. Cunningham, J. Fischer, P. Causey and S. Rose) solicited input from the committee on items to include in the guidance document.
- Some agencies have reported that they did not receive a response to emails sent to SanitarySewer@waterboards.ca.gov. If issues arise, contact Afrooz Farsimadan (Afrooz.Farsimadan@Waterboards.ca.gov).
- The State Water Board may soon issue a revised version of the pre-inspection questionnaire to reflect the reissued SSS-WDR. Old versions are still available on the State Water Board's website.

BACWA Announcements

- The Sacramento Metro Air Quality Management District recently determined that Tier 4 emissions controls are the Best Available Control Technology (BACT) for standby diesel engines larger than 50 hP (link). This ruling is likely to apply in the Bay Area in the near future.
- AB 1594 was signed by the Governor in October. The bill exempts some public agencies from having to replace specialized vehicles with zero-emission vehicles when they are needed for emergency response capabilities. CARB is still determining how to integrate this into the Advanced Clean Fleet Rule.

Upcoming Events

- Sam Rose is offering two training sessions on spill reporting:
  - Dec. 7: Annual Spill Reporting of Category 4 and Lateral Spills
  - Feb. 7: Preparing and Submitting the Annual Report

Next Collection System Committee Meeting: February 8, 2024 on Zoom

Remaining meetings in 2024 will be held May 9, Aug 8, and Nov. 14. The May or August meeting will tentatively be held in-person for a tour or demonstration.

Meeting Date: December 6, 2023
Executive Board Meeting Date: Dec 15, 2023
BAPPG Chairs: Robert Wilson, Autumn Ross

Committee Request for Board Action: None

37 attendees participating virtually, representing 27 member agencies, the Regional Water Board, and two guest speakers.

Updates on Committee Activity and Announcements

- Regional Water Board Announcements: Alessandra Moyer noted that she will be circulating tips for completing and submitting Pollution Prevention reports, which are due at the end of February.
- Pesticides Subcommittee: The City of Palo Alto recently completed an informational flyer for flea and tick medication for use in veterinary offices; the graphics are available on the BACWA website. For more information, contact Olivia Trevino. BAPPG's February meeting will feature a presentation on flea and tick pesticides from Stephanie Hughes. AB 363 banning over-the-counter sales of neonicotinoids for use in lawns and gardens was recently signed into law (article here, text of bill here). While it does not address indoor uses of neonics, such as flea/tick treatments, it does require the state to complete a review of all non-agricultural uses.
- Budget. The FY24 budget is on track.
- Outreach / Marketing: Robert Wilson shared the results of SGA's fall campaign (see slides). Virtually all of the ad impressions were on mobile devices, highlighting the importance of creating outreach materials for that medium.
- BACWA Announcements: The report for BACWA's PFAS study is nearly complete, and BACWA will be sharing a Fact Sheet soon. Members that are preparing their own PFAS outreach materials should coordinate with their BAPPG peers to develop information for one another's use and for posting on the Baywise website (which currently has no PFAS information).
- CWEA: The CWEA P3S conference will be held February 4-7 in Anaheim. Also, Susan Hiestand shared that CWEA has small grants available ($500-$2500) to help start up public outreach campaigns. The deadline has been extended to December 29th. See CWEA website.

National Stewardship Action Council Update

Jordan Wells, Director of Advocacy & Communications at the National Stewardship Action Council (NSAC) presented background information about the concept of Extended Producer Responsibility and highlighted recent NSAC outreach efforts. The slides are available here. Recent legislative successes at the state level include SB 212 for meds/sharps, AB 818 for wipes, and SB 54 for plastic packaging. Implementation of SB 54 is just beginning through CalRecycle (link to CalRecycle SB54 Website). NSAC is running a SB 54 Implementation Working Group that agencies could join for $500/year (see NSAC website). Jordan also shared information about Extended Producer Responsibility efforts on mercury (phasing out fluorescent bulbs) and, in Vermont, household hazardous waste. The federal WIPPES Act (HR 2964) is another priority; BAPPG has signed letters of support for this legislation, which recently passed out of committee.

California Product Stewardship Council Update

Doug Kobold, Executive Director of the California Product Stewardship Council (CPSC) provided an overview of the most recent state legislative session, focusing on about a dozen Extended Producer Responsibility (EPR) bills out of the 2,262 bills introduced last January 2023. The slides are available here. Bills that passed included SB 592 (a pilot program with solid waste haulers to reduce illegal dumping), AB 1526 (adding aerosol paints to the state's EPR program for paint), SB 244 ("Right-to-Repair' for electronics) and SB 353 (adding juice containers to the beverage container program). Notable vetoes include all three PFAS bills (menstrual products, cleaning products, and artificial turf). Doug also provided information about key issues where CPSC continues to conduct advocacy, including textiles, EV batteries, non-refillable gas cyclinders, solar panels, and marine flares (which contain toxic chemicals, including perchlorate).

Next BAPPG General Meeting: February 7, 2023, 10am – 12pm, on Zoom

Executive Director's Report to the Board

November 2023

EXECUTIVE BOARD MEETING AND SUPPORT

- Worked with BACWA staff to plan and manage 11/17 Executive Board meeting
- Conducted the Executive Board meeting agenda review with the BACWA Chair
- Hosted 11/17 Executive Board meeting and developed meeting notes
- Continued to track all action items to completion

COMMITTEES:

- Attended Pretreatment Comm meeting, 11/2
- Arranged and attended O&M Infoshare reboot at Livermore, 11/7

REGULATORY:

- Worked to developed survey for RW collaboration workshop participants
- Attended Chlorine BPA adoption hearing, 11/8
- Attended Summit Partners Air Toxics PM RFQ meeting, 11/15
- Reached out to BAAQMD staff regarding Workgroup Action items

NUTRIENTS:

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

- Met with member agencies to discuss nutrient permitting
- Met with NGO staff to discuss nutrient removal planning and permitting
- Met repeatedly with Water Board to discuss nutrient data and proposed limit methodology
- Compiled agencies' budging information
- Reviewed memo describing nutrient reduction planning efforts
- Met with CASA OAH subgroup, 11/13
- Met with members of SCCWRP OAH TAC Steering committee, 11/14
- Participated in SCCWRP OAH TAC steering committee process, 11/14
- Reviewed and updated nutrient data metrics for interim limits and possible final limit allocations
- Planned and hosted NST meeting, 11/17
- Attended and developed meeting summary for NMS Planning Subcommittee meeting, 11/6
- Discussed NMS programmatic issues with SFEI ED
- Discussed Nutrient funding scenarios with consultant
- Discussed science program with R2 EO

COMMUNICATIONS

- Held weekly progress meetings with Civic Edge
- Reviewed key messaging materials and provided edits
- Refined news pitches

FINANCE:

- Reviewed the monthly BACWA financial reports
- Reviewed and approved invoices
- Summarized Nutrient Reduction Study contract and amendment history

COLLABORATIONS:

- Participated in CASA CWSRF meetings, 11/1, 11/28
- Attended Transforming Shorelines Core team meeting, 11/2
- Co-hosted wastewater equity follow-up meeting with SFEP, 11/9
- Attended SFEP IC meeting, 11/14
- Attended CASA Air Toxics meeting 11/15
- Worked with Summit Partners to plan regulatory workshop
- Attended CASA RWG water meeting, 11/16
- Attended BayCAN Winter meeting, 11/29

ASC (AQUATIC SCIENCE CENTER)

- Reviewed materials sent via email by ASC ED
- Attended ASC/SFEI Board meeting

BABC (BAY AREA BIOSOLIDS COALITION)

- Attended meeting and developed meeting summary, 11/13

BACC (BAY AREA CHEMICAL CONSORTIUM)

- Discussed administrative and policy issues with administrator

BACWWE (BAY AREA COALITION FOR WATER/WASTEWATER EDUCATION)

- Planned scoping meeting for future of program
- Met with SVCW and supported proposal to EPA for workforce development grant

ADMINISTRATION:

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

MISCELLANEOUS MEETINGS/CALLS:

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

Board Calendar

January 2024 – March 2024 Meetings

DATE	AGENDA ITEMS
January 19, 2024 ***EBMUD Downtown, Small Training Room 2nd Floor***	**Approvals & Authorizations:** • **Policy / Strategic Discussion:** • Group Annual Report • EPA Program Office • Civic Edge Comms Update • Recycled Water Community of Practice **Operational:** • NMS second payment
February 16, 2024 ***EBMUD Orinda***	**Approvals & Authorizations:** • **Policy / Strategic Discussion:** • Science plan update **Operational:** • FY25 Draft Budget first review
March 15, 2024 ***Central Sanitary***	**Approvals & Authorizations:** • **Policy / Strategic Discussion:** • **Operational:** • FY25 Draft Budget second review • Committee Budget presentations

BACWA ACTION ITEMS

Number	Subject	Task	Responsibiity	Deadline	Status
	Action Items from November 17 2023 BACWA Executive Board Meeting		**resp.**	**deadline**	**status**
2023.11.15	CASA Air Toxics Update Ink to Program Management RFQ	BACWA ED to ask AIR committee for 2 volunteers	ED	11/30/2023	complete
2023.11.16	Recycled Water collaboration workshop follow-up survey	BACWA staff to circulate meeting summary and survey to recycled water workshop participants.	ED	12/15/2023	WIP
2023.11.17	Next steps on wastewater communications	BACWA ED to coordinate site tours for local NGOs, and coordinate story pitches media	ED	11/30/2023	complete
2023.11.18	Climate change scoping - AQPI Presentation	BACWA to share with members that they have an opportunity to participate in the AQPI user group led by Jon Rutz.	ED		WIP
2023.11.19	Climate change scoping - AQPI Presentation	BACWA to share information about AQPI with Collection System and O&M committees	ED		WIP
2023.11.20	Dates and locations for future FY24 Board meetings	BACWA ED to reschedule Pardee meeting	ED \ AED	11/30/2023	complete
2023.11.21	Member highlights	BACWA invite EPA to future meeting to discuss future SF Bay Program Office	ED	11/30/2023	complete
	Action Items Remaining from Previous BACWA Executive Board Meetings				
2022.10.22	BACWA Reserve Policy	BACWA ED will bring a revised draft Reserve Policy to the Executive Board for approval at a future meeting.	ED		WIP
2022.3.42	Plain-language review of nutrient science program	BACWA ED to work with SFEI to augment plain-language review to include graphics, simplified text, and a summary of what we have learned so far.	ED		on going
2023.10.8	Informational: BAAQMD 9/18 Workgroup meeting debrief	BACWA Executive Director to request a meeting with BAAQMD's Executive officer.	ED	12/31/2023	WIP
2023.10.9	PFAS - Phase 2 draft report and Summit Partners Workshop	BACWA Executive Director and RPM to produce a FAQ sheet on the PFAS Phase 2 Study	ED / RPM	12/15/2023	WIP
2023.10.10	Debrief from Recycled Water Interagency Workshop Sept 20	BACWA Executive Director to send out a survey about next steps	ED	12/15/2023	WIP

FY24: 14 of 21 Action Items are complete
FY23: 56 of 58 Action Items are complete
FY22: 51 of 52 Action items are completed
FY21: 51 of 51 Action items completed
FY20: *70 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 2023

BACWA BULLETIN: Completed and circulated November Bulletin.

CHLORINE: Spoke at adoption hearing for chlorine blanket permit amendment; prepared draft version of guidance document for members.

CLIMATE CHANGE: Participated in BayCAN meeting and strategized next steps for providing technical assistance to BACWA members.

NUTRIENTS: Edited draft memo summarizing load reduction estimates provided by BACWA member agencies; participated in Nutrient Strategy Team meeting and prepared summary; participated in load projection discussion with Central San staff.

PFAS: Prepared draft outline for PFAS handout; calculated PFAS removal rates for Phase 2 study.

COMMITTEE SUPPORT:

Asset Management – Attended November committee meeting; prepared and circulates notes to members.
BAPPG – Participated in pesticides subcommittee meeting and determined impacts of proposed Mill Fee increase; attended pollution prevention award ceremony.
Biosolids – Began preparation of draft biosolids land application report to Solano County.
Collection System – Assisted with hosting duties for Clean Water Summit Partners webinar; prepared for and participated in November committee meeting; prepared and circulated meeting notes.
Laboratory – Finalized notes from October meeting with Water Boards staff; began preparations for December joint meeting with Permits committee.
O&M Infoshare Group – Attended meeting and tour; prepared notes.
Permits – Finalized comment letter on NPDES permitting Basin Plan Amendment.
Pretreatment – Prepared for and participated in November committee meeting; prepared notes.
Recycled Water – Prepared for and participated in November committee meeting; prepared draft notes; posted final versions of site supervisor videos to YouTube.
Executive Board – Prepared regulatory updates for Executive Board meeting.

ADMINISTRATION/STAFF MEETING – Participated in two Staff Meetings

BACWA MEETINGS ATTENDED:
Pretreatment Committee (11/2)
O&M Infoshare Group (11/7)
Bay Area Biosolids Coalition (11/13)
BAPPG Pesticides (11/14)
Recycled Water Committee (11/14)
Asset Management Committee (11/14)
Collection Systems Committee (11/16)
Executive Board (11/17)
Nutrient Strategy Team (11/17)

EXTERNAL EVENTS ATTENDED:
Clean Water Summit Partners SSS-WDR Webinar (11/1)
Workshop on Subsistence Fishing Questionnaire (11/3)
Regional Water Board Meeting (11/8)
CASA Collection Systems Committee (11/15)
CASA Regulatory Workgroup (11/16)
BayCAN (11/29)

DRAFT
EPA REGION 9 SAN FRANCISCO BAY PROGRAM OFFICE
FY24 ANNUAL PRIORITY LIST

- In December of 2022, the Fiscal Year 2023 National Defense Authorization Act (NDAA) was signed into law and authorized the establishment of San Francisco Bay Program Office, specifically with this language:

(1) Establishment

The Administrator shall establish in the Environmental Protection Agency a San Francisco Bay Program Office. The Office shall be located at the headquarters of Region 9 of the Environmental Protection Agency.

- The authorizing language in the NDAA set out certain expectations for the Program Office including an annual priority list to direct funding towards:

The annual priority list shall include the following:

(A) Projects, activities, and studies, including restoration projects and habitat improvement for fish, waterfowl, and wildlife, that advance the goals and objectives of the San Francisco Bay Plan, for-

(i) water quality improvement, including the reduction of marine litter;
(ii) wetland, riverine, and estuary restoration and protection;
(iii) nearshore and endangered species recovery; and
(iv) adaptation to climate change.

And consult with and consider the recommendations of-

(A) the Estuary Partnership;
(B) the State of California and affected local governments in the San Francisco Bay estuary watershed;
(C) the San Francisco Bay Restoration Authority; and
(D) other relevant stakeholder involved with the protection and restoration of the San Francisco Bay estuary.

- EPA has developed this list to reflect mutual priorities identified in the CCMP, the Water Board's Basin Plan, the Restoration Authority's stated objectives, and Implementation Plan of the San Francisco Bay Joint Venture.

Priority Projects, Activities and Studies Needed to Restore San Francisco Bay and Build Its Climate Resilience

Project/Activity/Study	**Link to CCMP**
Wetlands Regional Monitoring Program	Action 8: Implementing a Wetlands Regional Monitoring Program Action 10: Protect, restore, and enhance tidal marsh habitat
Beneficial Reuse of Dredged Material Support	Action 6: Manage sediment and soil on a regional scale and advance beneficial use.
Nutrient Management Strategy	Action 20: Advance nutrient management in the Estuary.
Subtidal eelgrass and oyster reef restoration	Action 4: Implement climate adaptation projects that prioritize natural and nature-based strategies. Action 9: Protect, restore, and enhance intertidal and subtidal habitats.
BRRIT	Action 3: Overcome challenges to accelerate implementation of climate adaptation projects that prioritize natural and nature-based strategies.

	Action 9: Protect, restore, and enhance intertidal and subtidal habitats.
Large scale tidal wetlands restoration	Action 4: Implement climate adaptation projects that prioritize natural and nature-based strategies. Action 7: Decrease carbon emissions and subsidence in the Delta and increase carbon sequestration on natural and agricultural lands. Action 12: Maximize habitat benefits of managed ponds and other non-tidal wetlands and waters.
In-Bay Monitoring of Pollutants, including trash, and Algal Species under the Regional Monitoring Program	Action 20: Advance nutrient management in the Estuary. Action 21: Address emerging contaminants in the Estuary's waters.
Large scale shoreline resilience, multi-benefit projects	Action 1: Plan for increased climate resilience that incorporates natural resource protection. Action 4: Implement climate adaptation projects that prioritize natural and nature-based strategies.
Large scale implementation of urban green stormwater infrastructure	Action 19: Manage stormwater with low impact development and green stormwater infrastructure. Action 23: Reduce trash and marine debris in the Estuary
Special studies/projects for addressing PFAS in SF Bay	Action 21: Address emerging contaminants in the Estuary’s waters. Action 22: Reduce human health risks due to legacy contaminants and contaminants in fish.
Special studies/projects for addressing PCBs under TMDL implementation plan	Action 22: Reduce human health risks due to legacy contaminants and contaminants in fish.