BACWA BAY AREA CLEAN WATER AGENCIES

Executive Board Meeting
AGENDA
Friday, November 18, 2016, 9:00 a.m. – 12:30 p.m.
SFPUC, Hetch Hetchy Room, 13th Floor
525 Golden Gate Ave., San Francisco, CA

Agenda Item			Time	Pages
ROLL CALL AND INTRODUCTIONS			**9:00 AM**	
PUBLIC COMMENT			**9:03 AM**	
CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER			**9:04 AM**	
CONSENT CALENDAR			**9:05 AM**	
1 September 16, BACWA Executive Board Meeting Minutes				**3-4**
2 July, 2016 Treasurer's Reports				**5-13**
3 August, 2016 Treasurer's Reports				**14-17**
4 September, 2016 Treasurer's Reports				**18-21**
APPROVALS & AUTHORIZATIONS			**9:06 AM**	
5 Approval: Extention of PCB Abeyance Petition				**22-35**
OTHER BUSINESS - POLICY/STRATEGIC			**9:10 AM**	
6 Discussion: Nutrients				
a. Technical Work				
i. Science Plan 2024				
ii. NMS Report Updates	FY16 Annual Report			
Modeling Progress	Charts			
b. Governance Structure				
i. Steering Committee Meeting #11 Agenda				**36-43**
ii. Planning Subcommittee Meetings #21 and #22				**44-51**
iii. Revised Scenario Planning				**52-56**
c. Regulatory				
i. Comment Letter to EPA on CWA 308 based data request				**57-62**
Mining Nutrient Databases				
ii. Opt/Upgrade Update				
iii. Watershed Permit Proposal				
7 Discussion: Selenium Criteria Comment Letters	WSPA		**10:30 AM**	**63-74**
BACWA	BayKeeper			
LSB	LSB Data			
Dept of Fish and Wildlife				
OTHER BUSINESS - OPERATIONAL				
8 Discussion: Lystek Presentation			**10:40 AM**	
9 Discussion: Update on ELAP TNI Standards			**11:10 AM**	
10 Discussion: Microplastics			**11:25 AM**	**75-77**
11 Discussion: Drought/Recycling			**11:30 AM**	
a. Proposition 1	Draft Consultant Agreement			**78-82**
12 Discussion: Pardee Technical Seminar Debrief			**11:40 AM**	**83-90**

13	Discussion: Draft Agenda for Annual Meeting 2017		**11:50 AM**	**91-92**
14	Discussion: FY 18 Budget Adoption Schedule		**12:05 PM**	**93**
15	Discussion: Updates/Changes to 2017 Board Calendar		**12:10 PM**	**94**
REPORTS			**12:15 PM**	
16	Committee Reports			**95-109**
17	Member Highlights			
18	Executive Director Report			**110-118**
19	Regulatory Program Manager Report			**119**
20	Other BACWA Representative Reports			
	a. RMP TRC	Rod Miller		
	b. RMP Steering Committee	Karin North; Jim Ervin		
	RMP Dredger Fee Structure	RMP RWQCB Notice		
	c. Summit Partners	Dave Williams		**120-121**
	d. ASC/SFEI	Laura Pagano; Dave Williams		
	Clean Water Report			
	e. Nutrient Governance Steering Committee	Ben Horenstein; Jim Ervin		
	f. SWRCB Nutrient SAG	Dave Williams		
	CASA Update on Science			
	g. SWRCB Focus Group – Bacterial Objectives	Lorien Fono; Amy Chastain		
	h. SWRCB Focus Group – Mercury Amendments to the State Plan	Tim Potter		
	i. Nutrient Technical Workgroup	Eric Dunlavey		
	j. NACWA Taskforce on Dental Amalgam	Tim Potter		
	k. BAIRWMP	Cheryl Munoz; Linda Hu; Dave Williams		
	l. NACWA Emerging Contaminants	Karin North; Melody LaBella		
	m. CASA Statewide Pesticide Steering Committee	Melody LaBella		
	n. CASA State Legislative Committee	Lori Schectel		
	o. CASA Regulatory Workgroup	Lorien Fono		
	p. ReNUWIt	Mike Connor; Ben Horenstein		
	q. RMP Microplastics Liaison	Nirmela Arsem		
	r. AWT Certification Committee	Maura Bonnarens,		
	s. Bay Area Regional Reliability Project	Roger Bailey; Mike Connor		
	t. WateReuse Working Group	Cheryl Munoz;		
21	**SUGGESTIONS FOR FUTURE AGENDA ITEMS**		**12:27 PM**	
NEXT MEETING **The next regular meeting of the Board is scheduled for December 16, 2016 from 9:00 am – 12:30 pm at the EBMUD Treatment Plant, Lab Library, 2020 Wake Ave, Oakland, CA**			**12:28 PM**	
ADJOURNMENT			**12:30 PM**	

Executive Board Meeting Minutes

September 16, 2016

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Laura Pagano (San Francisco Public Utilities Commission); Joanna De Sa (San Jose); Michael Connor (East Bay Dischargers Authority); Ben Horenstein (East Bay Municipal Utility District); Lori Schectel (Central Contra Costa Sanitary District).

Other Attendees:

Name	Agency/Company
Tom Hall	EOA
Eric Dunlavey	San Jose
David Williams	BACWA
Lorien Fono	BACWA
Sherry Hull	BACWA

PUBLIC COMMENT

None.

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER

None.

CONSENT CALENDAR

1. August 19, 2016, BACWA Executive Board Meeting Minutes – The approved minutes will be placed on the BACWA website.

2. June, 2016 Treasurer's Reports and Financial Summary – The June Treasurer's Report and Financial Summary were included on **Pages 9-18**. The Executive Director gave a short overview.

Consent Calendar items 1 & 2 *were approved in a motion made by Joanna De Sa and seconded by Ben Horenstein. The motion was approved unanimously.*

AUTHORIZATIONS & APPROVALS

3. Board Approval: BACWA Leadership Changes – A Board Action Request was included in the Packet on **Page 19**. The Executive Director gave an overview of the request.

Item 3 *was approved in a motion made by Joanna De Sa and seconded by Lori Schectel. The motion carried unanimously.*

4. Chair Authorization: Solano Community College Agreement Fall 2016 Semester – A Chair Authorization was included in the Packet on **Pages 22-23.** The Executive Director gave an update to the Board on the status of the transition from Solano Community College as the sole

provider of training classes to Gavilan College as the new provider and noted that the hope is that cost of the program will be significantly reduced in future years.

Agenda **Item 23 - SUGGESTIONS FOR FUTURE AGENDA ITEMS**: None.

ANNOUNCEMENTS:
The next special meeting of the Board is the Pardee Technical Seminar at Pardee which is scheduled for October 13-14, 2016. The next regular meeting of the Board is scheduled for **November 18, 2016 from 9:00 am to 12:30 pm** at the **SFPUC, Hetch Hetchy Room, 13th Floor, 525 Golden Gate Ave., San Francisco, CA.**

To receive a copy of any materials provided to the Board at a BACWA Executive Board meeting contact Sherry Hull at shull@bacwa.org.

The meeting adjourned at 8:40 am.

Fund Balances

In FY 16 BACWA had seven funds of which three were operating funds (BACWA, Legal, and CBC) and four were pass-through funds for which BACWA provided only contract administration services. Beginning in FY17, with the AIR Committee becoming a regular BACWA committee supported by BACWA dues, the balance from the Pass-through AIR Fund has been consolidated into the BACWA Fund. The remaining three pass-through funds are not of particular concern as these funds simply track expenses and revenues to ensure that receipts are adequate to pay all expected expenses.

BACWA Fund: This fund provides the resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on September 30, 2016 was $1,429,528 which is significantly higher than the target reserve of $160,000 which is intended to cover 3 months of normal operating expenses. $445,500 of the ending fund balance is obligated to meet on-going operating line item expenses for BAPPG Committee Support, Legal services, IT services, Board meeting expenses, accounting services and BACWA staff support. This leaves an unobligated excess fund balance of $984,028. As the details of what regulatory requirements will be included in the next Nutrient Watershed Permit, these excess funds may be used to offset potential dues increases to the BACWA members.

CBC Fund: This fund provides the resources for completing special investigations as well as meeting regulatory requirements. The ending fund balance on September 30, 2016 was $1,242,169 which is significantly higher than the target reserve of $400,000. However, $405,464 of the ending balance is obligated to meet line item expenses for completion of the Optimization/Upgrade Studies contract, the Risk Reduction contracts, and for technical support. Total Disbursements for FY17 from the CBC Fund include the annual payment of $880,000 to SFEI for the Nutrient Watershed Permit commitment. As the details of what regulatory requirements will be included in the next Nutrient Watershed Permit, any excess CBC funds may be used to offset potential dues increases to the BACWA members.

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

Budget To Actual

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

Revenues as of September 30, 2016 (25% of the FY) are at 72% due to the payment of FY17 invoices by the Principal members.

Overall Expenses as of September 30, 2016 (25% of the FY) are at 66% and are tracking in accordance with the Annual Budget due to payment of Watershed Permit commitment early in the fiscal year. Individual expense categories with a plus or minus 10% variance at this point in the fiscal year are as follows:

Administration: This category is 14% expended at 25% of the FY due to the timing of invoices.

Meetings: This category is under-expended (i.e. 13%) due primarily timing of invoices.

Communications: This category is under-expended (i.e. 14%) due primarily to timing of invoices.

Legal Support: Budget of $4,500 and expenditures to date of $0 resulting in a favorable variance of $4,500 due to a low need for legal administrative advice.

Collaboratives: This category is under-expended (i.e. 0%) due to timing of invoices.

Tech Support: This category is 96% expended at 25% of the FY partly due to timing of the Watershed Permit Commitment invoice.

BACWA
BAY AREA
CLEAN WATER
AGENCIES

BACWA
FY 2017 Budget

25% of Fiscal Year

BACWA FY17 BUDGET	***Line Item Description***	**FY 2017 Budget**	**Actuals Sept 2016**	**Actual % of Budget Sept 2016**	**Variance**	**NOTES**
REVENUES & FUNDING						
Dues	Principals' Contributions	$477,544	$477,545	100%	$1	**FY17:** 2% increase.
	Associate & Affiliate Contributions	$175,072	$0	0%	-$175,072	**FY17:** approx. 2% increase.
Fees	Clean Bay Collaborative	$675,000	$450,000	67%	-$225,000	Unchanged from FY16
	Nutrient Surcharge	$800,000	$533,335	67%	-$266,665	Increased from $600,000 in FY16
	Voluntary Nutrient Contributions	$0	$60,000		$60,000	Palo Alto (FY17-$30k); Sunnyvale: (FY16-$30k, FY17-$30k); CCCSD (FY17-$97,500)
	Other	$0	$9,685		$9,685	Passthrough for Pharm Study; est. carryforward to FY17: $TBD (curr bal $28,409)
Other Receipts	AIR Non-Member	$6,350	$0	0%	-$6,350	Approx. 2% increase.
	BAPPG Non-Members	$3,700	$0	0%	-$3,700	Approx. 2% increase.
	Other	$0	$13,698		$13,698	Transfer of AIR Fund to BACWA Fund (not incl in total)
Fund Transfer	Special Program Admin Fees	$2,500	$0	0%	-$2,500	WOT only
Interest Income	Funds	$4,000	$3,880	97%	-$120	**FY17:** Actuals includes BACWA, Legal, & Nutrients Funds
	Investments	$0	$0		$0	Alternative Investments Interest
	Total Revenue	**$2,144,166**	**$1,534,445**	72%	-$609,721	

BACWA FY16 BUDGET	***Line Item Description***	**FY 2017 Budget**	**Actuals Sept 2016**	**Actual % of Budget Sept 2016**	**Variance**	**NOTES**
EXPENSES						
Labor						
	Executive Director	$189,370	$47,342	25%	-$142,028	3.2% CPI (SF/Oakland/San Jose Metro Area Dec 2015)
	Assistant Executive Director	$85,000	$22,158	26%	-$62,842	8.08% increase - requested 8.2%
	Regulatory Program Manager	$112,500	$21,645	19%	-$90,855	New contract for FY17 with L Fono
	Total	**$386,870**	**$91,145**	24%	-$295,725	
Administration						
	EBMUD Financial Services	$40,000	$3,070	8%	-$36,930	$3,070 is Audit Fee accrued from FY16 when it was on same line item as Accounting.
	Auditing Services (Maze)	$6,200	$0	0%	-$6,200	**FY17:** a separate line item from EBMUD Financial Services. (-$3,666=accrual from FY16)
	Administrative Expenses	$7,500	$531	7%	-$6,969	Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	$4,500	$4,266	95%	-$234	
	Total	**$58,200**	**$7,867**	14%	-$50,333	

EXPENSES						
Meetings						
	EB Meetings	$2,500	$352	14%	-$2,148	Catering, Venue, other expenses
	Annual Meeting	$7,000	$1,348	19%	-$5,652	Catering, Venue, other expenses
	Pardee	$6,000	$448	7%	-$5,552	Catering, Venue, other expenses
	Misc. Meetings	$1,100	$49	4%	-$1,051	Holiday Lunch, Committee Chair Lunch, Staff Mtgs, Summit Partners
	Total	**$16,600**	**$2,197**	13%	-$14,403	
Communication						
	Website Hosting (Computer Courage)	$600	$600	100%	$0	
	File Storage (Box.net)	$750	$0	0%	-$750	
	Website Development/Maintenance	$1,200	$0	0%	-$1,200	Domains, website changes, Logo EPS file
	IT Support (As Needed)	$2,600	$0	0%	-$2,600	
	Other Communication (MS, SM & Code42)	$800	$232	29%	-$568	MS Exchange, Survey Monkey, CrashPlanPro
	Total	**$5,950**	**$832**	14%	-$5,118	
Legal						
	Regulatory Support	$2,500	$0	0%	-$2,500	
	Executive Board Support	$2,000	$0	0%	-$2,000	
	Total	**$4,500**	**$0**	0%	-$4,500	
Committees						
	AIR	$50,000	$2,252	5%	-$47,748	Full BACWA Committee beginning in FY17
	BAPPG	$86,000	$32,270	38%	-$53,730	Includes CPSC @ $10,000,
	Biosolids Committee	$3,100	$104	3%	-$2,996	
	Collections System	$1,000	$0	0%	-$1,000	
	InfoShare Groups	$1,200	$162	14%	-$1,038	funds for 2 workgroups (Asset Mgmt & O&M)
	Laboratory Committee	$6,000	$0	0%	-$6,000	
	Permit Committee	$1,000	$0	0%	-$1,000	
	Pretreatment	$7,000	$0	0%	-$7,000	Request includes specific training sessions
	Recycled Water Committee	$1,000	$0	0%	-$1,000	
	Misc Committee Support	$35,000	$0	0%	-$35,000	
	Total	**$191,300**	**$34,788**	18%	-$156,512	

EXPENSES						
Collaboratives						
	Collaboratives					
	State of the Estuary (biennial)	$20,000	$0	0%	-$20,000	Bienniel in Odd Years
	Arleen Navarret Award	$0	$0		$0	Bienniel in Even Years
	FWQC (Fred Andes)	$7,500	$0	0%	-$7,500	Dues raised to $7,500 in FY16
	Stanford ERC (ReNUWIt)	$10,000	$0	0%	-$10,000	
	CWCCG	$0	$0		$0	State-wide function, absorbed by CASA in FY17
	Misc	$3,000	$0	0%	-$3,000	New budget line item in recognition of unanticipated expenses
	Total	**$40,500**	**$0**	0%	-$40,500	
Tech Support	**Technical Support**					
	Nutrients					
	Watershed	$880,000	$880,000	100%	$0	
	Additional work under permit	$50,000	$12,367	25%	-$37,633	**FY17:** LimnoTech
	Opt/Upgrade/Annual Reporting Studies	$18,128	$96,923	535%	$78,795	**FY17:** budget = remainder of lump sum
	Nutrient Program Coordination	$50,000	$0	0%	-$50,000	Prog Coord Pilot Study scheduled for FY17, started in April 2016
	Voluntary Nutrient Contributions	$0	$60,000		$60,000	Paid to SFEI for Modeling in FY17
	General Tech Support	$50,000	$0	0%	-$50,000	SFEI agrmt bal: $28,409.12. **FY17:** Assesmt Framework
	Chemicals of Concern	$15,000	$2,500	17%	-$12,500	Pesticide Mgmt support (Kelly Moran-TDC)
	Risk Reduction	$32,500	$4,548	14%	-$27,952	Remainder of Contracts executed for $50k in FY16 to be paid over two years
	Total	**$1,095,628**	**$1,056,338**	96%	-$39,290	
					$0	
	TOTAL EXPENSES	**$1,799,548**	**$1,193,167**	**66%**	**-$606,381**	
	NET INCOME BEFORE TRANSFERS	**$344,618**	**$341,278**			**5 Year Plan: Est 2017: $298,736**
	TRANSFERS FROM RESERVES	**$0**				

September 21, 2016

MEMO TO: Bay Area Clean Water Agencies Executive Board

MEMO FROM: D. Scott Klein, Controller, East Bay Municipal Utility District

SUBJECT: First Month 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, 2016 through July 31, 2016** (one month of Fiscal Year 2016-2017). 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),
- Air Issues and Regulation Group (AIR),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84),
- Prop50 Bay Area Integrated Regional Water Mgmt (PRP50)

Fund Balances as of July 31, 2016

DESCRIPTION	BEGINNING FUND BALANCE 07/1/16	TOTAL RECEIPTS	TOTAL DISBURSEMENTS	ENDING FUND BALANCE 07/31/16	OUTSTANDING ENCUMBRANCES	UNOBLIGATED FUND BALANCE 07/31/16
BACWA	1,060,239	15,223	55,564	1,019,898	514,501	505,397
LEGAL RSRV	300,000	-	-	300,000	-	300,000
CBC	1,252,817	62,355	-	1,315,172	521,801	793,370
AIR	13,698	-	13,698	0	-	0
TOTAL	2,626,754	77,578	69,262	2,635,070	1,036,302	1,598,768
WOT	33,608	52	-	33,660	-	33,660
TOTAL	33,608	52	-	33,660	-	33,660
PRP84	118,356	150,843	-	269,199	2,525	266,674
PRP50	150,663	196	-	150,859	-	150,859
TOTAL	269,019	151,039	-	420,058	2,525	417,533

BACWA Receipts Report as of July 31, 2016

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
800	BACWA	1011099	Principal's Contributions	477,544	-	-	-	-	-	-	-	477,544
800	BACWA	1011133	Assoc.& Affiliate Contr	175,072	-	-	-	-	-	-	-	175,072
800	BACWA	0408511	Administrative & General	-	-	-	(905)	-	-	(905)	(905)	905
800	BACWA	1014251	Non-Member Contributions (BAPPG)	3,700	-	-	-	-	-	-	-	3,700
800	BACWA	1011109	Fund Transfers	2,500	-	-	-	-	-	-	-	-
800	BACWA	1011117	BDO Interest Income	4,000	-	-	2,430	-	-	2,430	2,430	1,570
800	BACWA	1011108	BDO Other Receipts	-	-	-	-	-	-	-	13,698	-
800	BACWA	1014252	BDO Non-Member Contr AIR	6,350	-	-	-	-	-	-	-	6,350
800	BACWA	1014511	BDO-Alternative Investment Inc	-	197	-	(197)	197	-	(197)	-	-
	BACWA TOTAL			**669,166**	**197**	**-**	**1,328**	**197**	**-**	**1,328**	**15,223**	**665,141**
804	LEGAL	1011117	Interest Income	-	-	-	-	-	-	-	-	-
	LEGAL TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
802	AIR	1011117	Interest Income	-	-	-	-	-	-	-	-	-
	AIR TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	60,000	(60,000)	-	60,000	(60,000)	-	675,000
805	WQA-CBC	1011108	BDO Other Receipts	800,000	-	-	-	-	-	-	-	800,000
805	WQA-CBC	1011117	BDO Interest Income	-	-	-	2,355	-	-	2,355	2,355	(2,355)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	60,000	-	-	60,000	60,000	(60,000)
	WQA CBC TOTAL			**1,475,000**	**-**	**60,000**	**2,355**	**-**	**60,000**	**2,355**	**62,355**	**1,412,645**
	TOTAL			**2,144,166**	**197**	**60,000**	**3,683**	**197**	**60,000**	**3,683**	**77,578**	**2,077,786**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
810	WOT	1011117	BDO Interest Income	-	-	-	52	-	-	52	52	(52)
	WOT TOTAL			**-**	**-**	**-**	**52**	**-**	**-**	**52**	**52**	**(52)**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
811	PROP 84			-	-	150,687	156	-	150,687	156	150,843	(150,843)
815	PROP 50			-	-	-	196	-	-	196	196	(196)
	PROP TOTAL			**-**	**-**	**150,687**	**352**	**-**	**150,687**	**352**	**151,039**	**(151,039)**
	Grand Total			2,144,166	197	210,687	4,086	**197**	**210,687**	**4,086**	**228,668**	1,926,696

BACWA Expense Detail Report for July 31, 2016

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR												
AS-Executive Director	1011123	189,370	173,589	15,781	-	-	173,589	15,781	-	-	189,370	-
AS-Assistant Executive Directo	1011124	85,000	76,925	8,075	-	-	76,925	8,075	-	-	85,000	-
AS-Regulatory Program Manager	1011149	112,500	104,760	7,740	-	-	104,760	7,740	-	-	112,500	-
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	40,000	40,000	-	-	(3,666)	40,000	-	-	(3,666)	36,334	3,666
AS-Audit Services	1014512	6,200	6,200	-	-	-	6,200	-	-	-	6,200	-
AS-BACWA Admin Expense	1011118	7,500	-	-	375	-	-	-	375	-	375	7,125
AS-Insurance	1011126	4,500	-	-	-	-	-	-	-	-	-	4,500
MEETINGS												
GBS-Meeting Support-Exec Bd	**1014513**	2,500	872	128	-	-	872	128	-	-	1,000	1,500
GBS-Meeting Support-Annual	**1014514**	7,000	-	-	1,348	-	-	-	1,348	-	1,348	5,652
GBS-Meeting Support-Pardee	**1014515**	6,000	-	-	-	-	-	-	-	-	-	6,000
GBS-Meeting Support-Misc	**1014516**	1,100	-	-	49	-	-	-	49	-	49	1,051
GBS- Meeting Support	1011122	-	-	-	-	-	-	-	-	-	-	-
COMMUNICATION												
CAR-BACWA Website Hosting	**1014517**	600	-	-	600	-	-	-	600	-	600	-
CAR-BACWA File Storage	**1014518**	750	-	-	-	-	-	-	-	-	-	750
CAR-BACWA IT Support	**1014519**	2,600	2,600	-	-	-	2,600	-	-	-	2,600	-
CAR-BACWA IT Software	**1014520**	800	-	-	84	-	-	-	84	-	84	716
CAR-BACWA Website Development/	1011116	1,200	-	-	-	-	-	-	-	-	-	1,200
LEGAL												
LS-Regulatory Support	1011107	2,500	2,500	-	-	-	2,500	-	-	-	2,500	-
LS-Executive Board Support	1011110	2,000	2,000	-	-	-	2,000	-	-	-	2,000	-
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	50,000	50,000	-	-	-	50,000	-	-	-	50,000	-
BC-BAPPG	1011147	86,000	55,055	4,945	20,000	-	55,055	4,945	20,000	-	80,000	6,000
BC-Biosolids Committee	1011101	3,100	-	-	104	-	-	-	104	-	104	2,996
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,200	-	-	-	-	-	-	-	-	-	1,200
BC-Laboratory Committee	1011103	6,000	-	-	-	-	-	-	-	-	-	6,000
BC-Permit Committee	1011098	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Pretreatment Committee	1011146	7,000	-	-	-	-	-	-	-	-	-	7,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	35,000	-	-	-	-	-	-	-	-	-	35,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
CAS-CWCCG	1011148	-	-	-	-	-	-	-	-	-	-	-
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Misc Collaborative Sup	1014521	3,000	-	-	-	-	-	-	-	-	-	3,000
BACWA TOTAL		**703,920**	**514,501**	**36,669**	**22,561**	**(3,666)**	**514,501**	**36,669**	**22,561**	**(3,666)**	**570,065**	**133,855**
TECH SUPPORT												
WQA-CE Addl Work Under Permit	1014254	50,000	69,367	-	-	-	69,367	-	-	-	69,367	(19,367)
WQA-CE-Technical Support	1011127	50,000	28,409	-	-	-	28,409	-	-	-	28,409	21,591
WQA-CE CASA Chem of Concern	1011128	15,000	2,500	-	-	-	2,500	-	-	-	2,500	12,500
WQA-CE Opt-Upgrade Studies	1014255	18,128	390,426	-	-	-	390,426	-	-	-	390,426	(372,298)
WQA-CE Risk Reduction	1014023	32,500	31,099	-	-	-	31,099	-	-	-	31,099	1,401
WQA-CE-Nutrient WS Permit Comm	1014021	880,000	-	-	-	-	-	-	-	-	-	880,000
WQA-CE-Program Mgmt	1011131	50,000	-	-	-	-	-	-	-	-	-	50,000
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	-	-	-	-	-	-	-	-
TECH SUPPORT (CBC) TOTAL		**1,095,628**	**521,801**	**-**	**-**	**-**	**521,801**	**-**	**-**	**-**	**521,801**	**573,827**
GRAND TOTAL		**1,799,548**	**1,036,302**	**36,669**	**22,561**	**(3,666)**	**1,036,302**	**36,669**	**22,561**	**(3,666)**	**1,091,866**	**707,682**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

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

October 28, 2016

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: D. Scott Klein, Controller, East Bay Municipal Utility District
SUBJECT: Second Month 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, 2016 through August 31, 2016** (two months of Fiscal Year 2016-2017). 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),
- Air Issues and Regulation Group (AIR),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84),
- Prop50 Bay Area Integrated Regional Water Mgmt (PRP50)

Fund Balances as of August 31, 2016

DESCRIPTION	BEGINNING FUND BALANCE 07/1/16	TOTAL RECEIPTS	TOTAL DISBURSEMENTS	ENDING FUND BALANCE 08/31/16	OUTSTANDING ENCUMBRANCES	UNOBLIGATED FUND BALANCE 08/31/16
BACWA	1,060,239	492,768	85,899	1,467,108	484,287	982,821
LEGAL RSRV	300,000	-	-	300,000	-	300,000
CBC	1,252,817	1,045,690	922,367	1,376,140	509,434	866,705
AIR	13,698	-	13,698	0	-	0
TOTAL	2,626,754	1,538,458	1,021,964	3,143,248	993,721	2,149,526
WOT	33,608	12,052	-	45,660	-	45,660
TOTAL	33,608	12,052	-	45,660	-	45,660
PRP84	118,356	150,843	181,601	87,598	2,525	85,073
PRP50	150,663	196	-	150,859	-	150,859
TOTAL	269,019	151,039	181,601	238,457	2,525	235,932

BACWA Receipts Report as of August 31, 2016

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Ot hers	Admin & General	Contributons	Interest, Transfers,Ot hers	ACTUAL	
800	BACWA	1011099	Principal's Contributions	477,544	-	477,545	-	-	477,545	-	477,545	(1)
800	BACWA	1011133	Assoc.& Affiliate Contr	175,072	-	-	-	-	-	-	-	175,072
800	BACWA	0408511	Administrative & General	-	-	-	-	-	-	(905)	(905)	905
800	BACWA	1014251	Non-Member Contributions (BAPPG)	3,700	-	-	-	-	-	-	-	3,700
800	BACWA	1011109	Fund Transfers	2,500	-	-	(13,698)	-	-	-	-	2,500
800	BACWA	1011117	BDO Interest Income	4,000	-	-	-	-	-	2,430	2,430	1,570
800	BACWA	1011108	BDO Other Receipts	-	-	-	13,698	-	-	13,698	13,698	(13,698)
800	BACWA	1014252	BDO Non-Member Contr AIR	6,350	-	-	-	-	-	-	-	6,350
800	BACWA	1014511	BDO-Alternative Investment Inc	-	-	-	-	197	-	(197)	-	-
	BACWA TOTAL			**669,166**	**-**	**477,545**	**-**	**197**	**477,545**	**15,026**	**492,768**	**176,398**
804	LEGAL	1011117	Interest Income	-	-	-	-	-	-	-	-	-
	LEGAL TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	450,000	-	-	510,000	(60,000)	450,000	225,000
805	WQA-CBC	1011108	BDO Other Receipts	800,000	-	533,335	-	-	533,335	-	533,335	266,665
805	WQA-CBC	1011117	BDO Interest Income	-	-	-	-	-	-	2,355	2,355	(2,355)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	60,000	60,000	(60,000)
	WQA CBC TOTAL			**1,475,000**	**-**	**983,335**	**-**	**-**	**1,043,335**	**2,355**	**1,045,690**	**429,310**
	TOTAL			**2,144,166**	**-**	**1,460,880**	**-**	**197**	**1,520,880**	**17,380**	**1,538,458**	**605,708**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Ot hers	Admin & General	Contributons	Interest, Transfers,Ot hers	ACTUAL	
810	WOT	1011099	BDO Member Contributions	**-**	-	12,000	-	-	12,000	-	12,000	(12,000)
810	WOT	1011117	BDO Interest Income	-	-	-	-	-	-	52	52	(52)
	WOT TOTAL			**-**	**-**	**12,000**	**-**	**-**	**12,000**	**52**	**12,052**	**(12,052)**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Ot hers	Admin & General	Contributons	Interest, Transfers,Ot hers	ACTUAL	
811	PROP 84			-	-	-	-	-	150,687	156	150,843	(150,843)
815	PROP 50			-	-	-	-	-	-	196	196	(196)
	PROP TOTAL			**-**	**-**	**-**	**-**	**-**	**150,687**	**352**	**151,039**	**(151,039)**
	Grand Total			2,144,166	-	1,472,880	-	**197**	**1,683,567**	**17,784**	**1,701,548**	442,618

BACWA Expense Detail Report as of August 31, 2016

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR												
AS-Executive Director	1011123	189,370	(15,781)	15,781	-	-	157,808	31,562	-	-	189,370	-
AS-Assistant Executive Directo	1011124	85,000	(7,367)	7,367	-	-	69,557	15,443	-	-	85,000	-
AS-Regulatory Program Manager	1011149	112,500	(5,940)	5,940	-	-	98,820	13,680	-	-	112,500	-
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	40,000	-	-	-	-	40,000	-	-	(3,666)	36,334	3,666
AS-Audit Services	1014512	6,200	-	-	-	-	6,200	-	-	-	6,200	-
AS-BACWA Admin Expense	1011118	7,500	-	-	48	-	-	-	423	-	423	7,077
AS-Insurance	1011126	4,500	-	-	-	-	-	-	-	-	-	4,500
MEETINGS												
GBS-Meeting Support-Exec Bd	1014513	2,500	(125)	125	-	-	747	253	-	-	1,000	1,500
GBS-Meeting Support-Annual	1014514	7,000	-	-	-	-	-	-	1,348	-	1,348	5,652
GBS-Meeting Support-Pardee	1014515	6,000	-	-	-	-	-	-	-	-	-	6,000
GBS-Meeting Support-Misc	1014516	1,100	-	-	-	-	-	-	49	-	49	1,051
GBS- Meeting Support	1011122	-	-	-	-	-	-	-	-	-	-	-
COMMUNICATION												
CAR-BACWA Website Hosting	1014517	600	-	-	-	-	-	-	600	-	600	-
CAR-BACWA File Storage	1014518	750	-	-	-	-	-	-	-	-	-	750
CAR-BACWA IT Support	1014519	2,600	-	-	-	-	2,600	-	-	-	2,600	-
CAR-BACWA IT Software	1014520	800	-	-	74	-	-	-	158	-	158	642
CAR-BACWA Website Development/	1011116	1,200	-	-	-	-	-	-	-	-	-	1,200
LEGAL												
LS-Regulatory Support	1011107	2,500	-	-	-	-	2,500	-	-	-	2,500	-
LS-Executive Board Support	1011110	2,000	-	-	-	-	2,000	-	-	-	2,000	-
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	50,000	(1,001)	1,001	-	-	48,999	1,001	-	-	50,000	-
BC-BAPPG	1011147	86,000	-	-	-	-	55,055	4,945	20,000	-	80,000	6,000
BC-Biosolids Committee	1011101	3,100	-	-	-	-	-	-	104	-	104	2,996
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,200	-	-	-	-	-	-	-	-	-	1,200
BC-Laboratory Committee	1011103	6,000	-	-	-	-	-	-	-	-	-	6,000
BC-Permit Committee	1011098	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Pretreatment Committee	1011146	7,000	-	-	-	-	-	-	-	-	-	7,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	35,000	-	-	-	-	-	-	-	-	-	35,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
CAS-CWCCG	1011148	-	-	-	-	-	-	-	-	-	-	-
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Misc Collaborative Sup	1014521	3,000	-	-	-	-	-	-	-	-	-	3,000
BACWA TOTAL		**703,920**	**(30,214)**	**30,214**	**122**	**-**	**484,287**	**66,883**	**22,682**	**(3,666)**	**570,186**	**133,734**
TECH SUPPORT												
WQA-CE Addl Work Under Permit	1014254	50,000	(12,367)	12,367	-	-	57,000	12,367	-	-	69,367	(19,367)
WQA-CE-Technical Support	1011127	50,000	-	-	-	-	28,409	-	-	-	28,409	21,591
WQA-CE CASA Chem of Concern	1011128	15,000	-	-	-	-	2,500	-	-	-	2,500	12,500
WQA-CE Opt-Upgrade Studies	1014255	18,128	-	-	-	-	390,426	-	-	-	390,426	(372,298)
WQA-CE Risk Reduction	1014023	32,500	-	-	-	-	31,099	-	-	-	31,099	1,401
WQA-CE-Nutrient WS Permit Comm	1014021	880,000	-	-	880,000	-	-	-	880,000	-	880,000	-
WQA-CE-Program Mgmt	1011131	50,000	-	-	-	-	-	-	-	-	-	50,000
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	30,000	-	-	-	30,000	-	30,000	(30,000)
TECH SUPPORT (CBC) TOTAL		**1,095,628**	**(12,367)**	**12,367**	**910,000**	**-**	**509,434**	**12,367**	**910,000**	**-**	**1,431,801**	**(336,173)**
GRAND TOTAL		**1,799,548**	**(42,581)**	**42,581**	**910,122**	**-**	**993,721**	**79,250**	**932,682**	**(3,666)**	**2,001,988**	**(202,440)**
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-

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

November 8, 2016

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: D. Scott Klein, Controller, East Bay Municipal Utility District
SUBJECT: Third Month 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, 2016 through September 30, 2016 (**three months of Fiscal Year 2016-2017). 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),
- Air Issues and Regulation Group (AIR),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84),
- Prop50 Bay Area Integrated Regional Water Mgmt (PRP50)

Fund Balances as of September 30, 2016

DESCRIPTION	BEGINNING FUND BALANCE 07/1/16	TOTAL RECEIPTS	TOTAL DISBURSEMENTS	ENDING FUND BALANCE 09/30/16	OUTSTANDING ENCUMBRANCES	UNOBLIGATED FUND BALANCE 09/30/16
BACWA	1,060,239	502,453	133,164	1,429,528	445,500	984,028
LEGAL RSRV	300,000	-	-	300,000	-	300,000
CBC	1,252,817	1,045,690	1,056,338	1,242,169	405,464	836,705
AIR	13,698	-	13,698	0	-	0
TOTAL	2,626,754	1,548,142	1,203,200	2,971,697	850,963	2,120,733
WOT	33,608	12,052	-	45,660	-	45,660
TOTAL	33,608	12,052	-	45,660	-	45,660
PRP84	118,356	180,843	181,601	117,598	2,525	115,073
PRP50	150,663	196	-	150,859	-	150,859
TOTAL	269,019	181,039	181,601	268,457	2,525	265,932

BACWA Revenue Report as of September 30, 2016

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
800	BACWA	1011099	Principal's Contributions	477,544	-	-	-	-	477,545	-	477,545	(1)
800	BACWA	1011133	Assoc.& Affiliate Contr	175,072	-	-	-	-	-	-	-	175,072
800	BACWA	0408511	Administrative & General	-	-	-	-	-	-	(905)	(905)	905
800	BACWA	1014251	Non-Member Contributions (BAPPG)	3,700	-	-	-	-	-	-	-	3,700
800	BACWA	1011109	Fund Transfers	2,500	-	-	-	-	-	-	-	2,500
800	BACWA	1011117	BDO Interest Income	4,000	-	-	-	-	-	2,430	2,430	1,570
800	BACWA	1011108	BDO Other Receipts	-	-	-	-	-	-	13,698	13,698	(13,698)
800	BACWA	1014252	BDO Non-Member Contr AIR	6,350	-	-	-	-	-	-	-	6,350
800	BACWA	1014511	BDO-Alternative Investment Inc	-	-	-	-	197	-	(197)	-	-
800	BACWA	1014550	BDO-Other Receipts (PHARM)	-	-	9,685	-	-	9,685	-	9,685	(9,685)
	BACWA TOTAL			**669,166**	**-**	**9,685**	**-**	**197**	**487,230**	**15,026**	**502,453**	**166,713**
804	LEGAL	1011117	Interest Income	-	-	-	-	-	-	-	-	-
	LEGAL TOTAL			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	-	-	-	510,000	(60,000)	450,000	225,000
805	WQA-CBC	1011108	BDO Other Receipts	800,000	-	-	-	-	533,335	-	533,335	266,665
805	WQA-CBC	1011117	BDO Interest Income	-	-	-	-	-	-	2,355	2,355	(2,355)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	60,000	60,000	(60,000)
	WQA CBC TOTAL			**1,475,000**	**-**	**-**	**-**	**-**	**1,043,335**	**2,355**	**1,045,690**	**429,310**
	TOTAL			**2,144,166**	**-**	**9,685**	**-**	**197**	**1,530,565**	**17,380**	**1,548,142**	**596,024**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
810	WOT	1011099	BDO Member Contributions	**-**	-	-	-	-	12,000	-	12,000	(12,000)
810	WOT	1011117	BDO Interest Income	-	-	-	-	-	-	52	52	(52)
	WOT TOTAL			**-**	**-**	**-**	**-**	**-**	**12,000**	**52**	**12,052**	**(12,052)**

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers,Others	Admin & General	Contributons	Interest, Transfers,Others	ACTUAL	
811	PROP 84			-	-	30,000	-	-	180,687	156	180,843	(180,843)
815	PROP 50			-	-	-	-	-	-	196	196	(196)
	PROP TOTAL			**-**	**-**	**30,000**	**-**	**-**	**180,687**	**352**	**181,039**	**(181,039)**
	Grand Total			2,144,166	-	39,685	-	**197**	**1,723,252**	**17,784**	**1,741,233**	402,933

BACWA Expense Detail Report as of September 30, 2016

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD ENC	CURRENT PERIOD PV	CURRENT PERIOD DA	CURRENT PERIOD JV	YEAR TO DATE ENC	YEAR TO DATE PV	YEAR TO DATE DA	YEAR TO DATE JV	OBLIGATED	UNOBLIGATED
LABOR												
AS-Executive Director	1011123	189,370	(15,781)	15,781	-	-	142,028	47,342	-	-	189,370	-
AS-Assistant Executive Directo	1011124	85,000	(6,715)	6,715	-	-	62,842	22,158	-	-	85,000	-
AS-Regulatory Program Manager	1011149	112,500	(7,965)	7,965	-	-	90,855	21,645	-	-	112,500	-
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	40,000	-	-	3,070	-	40,000	-	3,070	(3,666)	39,404	596
AS-Audit Services	1014512	6,200	-	-	-	-	6,200	-	-	-	6,200	-
AS-BACWA Admin Expense	1011118	7,500	-	-	108	-	-	-	531	-	531	6,969
AS-Insurance	1011126	4,500	-	-	4,266	-	-	-	4,266	-	4,266	234
MEETINGS												
GBS-Meeting Support-Exec Bd	**1014513**	2,500	-	-	100	-	747	253	100	-	1,100	1,400
GBS-Meeting Support-Annual	**1014514**	7,000	-	-	-	-	-	-	1,348	-	1,348	5,652
GBS-Meeting Support-Pardee	**1014515**	6,000	-	-	448	-	-	-	448	-	448	5,552
GBS-Meeting Support-Misc	**1014516**	1,100	-	-	-	-	-	-	49	-	49	1,051
GBS- Meeting Support	1011122	-	-	-	-	-	-	-	-	-	-	-
COMMUNICATION												
CAR-BACWA Website Hosting	**1014517**	600	-	-	-	-	-	-	600	-	600	-
CAR-BACWA File Storage	**1014518**	750	-	-	-	-	-	-	-	-	-	750
CAR-BACWA IT Support	**1014519**	2,600	-	-	-	-	2,600	-	-	-	2,600	-
CAR-BACWA IT Software	**1014520**	800	-	-	74	-	-	-	232	-	232	568
CAR-BACWA Website Development/	1011116	1,200	-	-	-	-	-	-	-	-	-	1,200
LEGAL												
LS-Regulatory Support	1011107	2,500	-	-	-	-	2,500	-	-	-	2,500	-
LS-Executive Board Support	1011110	2,000	-	-	-	-	2,000	-	-	-	2,000	-
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	50,000	(1,001)	1,001	250	-	47,998	2,002	250	-	50,250	(250)
BC-BAPPG	1011147	86,000	(7,325)	7,325	-	-	47,730	12,270	20,000	-	80,000	6,000
BC-Biosolids Committee	1011101	3,100	-	-	-	-	-	-	104	-	104	2,996
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,200	-	-	162	-	-	-	162	-	162	1,038
BC-Laboratory Committee	1011103	6,000	-	-	-	-	-	-	-	-	-	6,000
BC-Permit Committee	1011098	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Pretreatment Committee	1011146	7,000	-	-	-	-	-	-	-	-	-	7,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	35,000	-	-	-	-	-	-	-	-	-	35,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
CAS-CWCCG	1011148	-	-	-	-	-	-	-	-	-	-	-
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Misc Collaborative Sup	1014521	3,000	-	-	-	-	-	-	-	-	-	3,000
BACWA TOTAL		**703,920**	**(38,787)**	**38,787**	**8,478**	**-**	**445,500**	**105,670**	**31,160**	**(3,666)**	**578,664**	**125,256**
TECH SUPPORT												
WQA-CE Addl Work Under Permit	1014254	50,000	-	-	-	-	57,000	12,367	-	-	69,367	(19,367)
WQA-CE-Technical Support	1011127	50,000	-	-	-	-	28,409	-	-	-	28,409	21,591
WQA-CE CASA Chem of Concern	1011128	15,000	(2,500)	2,500	-	-	-	2,500	-	-	2,500	12,500
WQA-CE Opt-Upgrade Studies	1014255	18,128	(96,923)	96,923	-	-	293,503	96,923	-	-	390,426	(372,298)
WQA-CE Risk Reduction	1014023	32,500	(4,548)	4,548	-	-	26,552	4,548	-	-	31,099	1,401
WQA-CE-Nutrient WS Permit Comm	1014021	880,000	-	-	-	-	-	-	880,000	-	880,000	-
WQA-CE-Program Mgmt	1011131	50,000	-	-	-	-	-	-	-	-	-	50,000
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	30,000	-	-	-	60,000	-	60,000	(60,000)
TECH SUPPORT (CBC) TOTAL		**1,095,628**	**(103,971)**	**103,971**	**30,000**	**-**	**405,464**	**116,338**	**940,000**	**-**	**1,461,801**	**(366,173)**
GRAND TOTAL		**1,799,548**	**(142,758)**	**142,758**	**38,478**	**-**	**850,963**	**222,008**	**971,160**	**(3,666)**	**2,040,465**	**(240,917)**
								TOTAL	**1,193,168**			
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
		-	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 5
FILE NO.: 17-23
MEETING DATE: Nov. 18, 2016

TITLE: Request for Board Approval of Extension of PCB Abeyance Petition

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

RECOMMENDED ACTION

Approve the extension of the PCB Abeyance Petition for two more years.

SUMMARY

BACWA continues to seek review of Order No. R2-2012-0096 amending NPDES Permit No. CA0038849 ("PCB Permit"). The specific issues and permit requirements which the State Water Board is requested to review include the following: (A) Improper effective date; (B) The inappropriate application of numeric effluent limitations without reasonable potential; (C) Inconsistent monitoring requirements among permittees; (D) Monitoring requirements using Method 1668c sampling; (E) POTWs' limited source control options and risk reduction abilities; and (F) The opportunity to allow mercury and PCB adjustments for treatment of stormwater and landfill leachate. BACWA first submitted the PCB Abeyance Petition in 2013 and requested a two-year extension in 2015. The current extension will expire on January 11, 2017 and BACWA has the option to extend the Abeyance Petition two more years to ensure our ability to object to provisions of the permit that are unacceptable to our membership.

FISCAL IMPACT

There is no fiscal impact to BACWA.

ALTERNATIVES

Do not request the extension. This is not recommended by BACWA's Regulatory Legal Advisor.

Attachments:

Expiring Petition

Approved:

_____ Date: _____

Laura Pagano, Chair
BACWA

DOWNEY BRAND LLP
MELISSA A. THORME (SBN 151278)
621 Capitol Mall, 18th Floor
Sacramento, CA 95814-4686
Telephone: (916) 444-1000
Facsimile: (916) 444-2100

Attorneys for Petitioner
Bay Area Clean Water Agencies

BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Bay Area Clean Water Agencies' Petition for Review of Action and Failure to Act by the California Regional Water Quality Control Board, San Francisco Bay Region, in Adopting Order No. R2-2012-0096 and Accompanying Monitoring and Reporting Program.	PETITION FOR REVIEW; PRELIMINARY POINTS AND AUTHORITIES IN SUPPORT OF PETITION (WATER CODE SECTIONS 13320); REQUEST TO PLACE PETITION IN ABEYANCE FOR TWO (2) YEARS

Petitioner, Bay Area Clean Water Agencies ("BACWA"), in accordance with section 13320 of the Water Code, hereby petitions the State Water Resources Control Board ("State Water Board") to review Order No. R2-2012-0096 ("PCB Permit") of the California Regional Water Quality Control Board, San Francisco Bay Region ("Regional Water Board"). The final order amended the National Pollutant Discharge Elimination System ("NPDES") Permit No. CA0038849, regulating Poly-Chlorinated Biphenyls ("PCBs") in Waste Discharge Requirements for Municipal and Industrial Wastewater Discharges to the San Francisco Bay, and superseding Order No. R2-2007-0077, as amended by Order No. R2-2011-0012. A copy of the Order is attached to this Petition as **Exhibit A**. A copy of the Petition has been sent to the Regional Water Board. The issues and a summary of the bases for the Petition follow. At such time as the full administrative record is available and any other materials are submitted, BACWA will file a more detailed memorandum in support of the Petition.[1]

[1] The State Water Board's regulations require submission of a memorandum of points and authorities in support of a petition, and this document is intended to serve as a preliminary memorandum. However, it is impossible to prepare a thorough memorandum or a memorandum that is entirely useful to the reviewer in the absence of the complete administrative record, which has not yet been requested since the petition has been requested to be placed in abeyance .

DOWNEY BRAND LLP

1. NAME AND ADDRESS OF PETITIONER:

Mr. David Williams
Executive Director
Bay Area Clean Water Agencies
PO Box 24055, MS 702
Oakland, CA 94623
(415) 308-5172 (Tel)
(510) 287-1351 (Fax)
Email: dwilliams@bacwa.org

However, all materials in connection with this Petition for Review should also be provided to the BACWA's counsel at the following addresses:

Melissa Thorme
Downey Brand LLP
621 Capitol Mall, 18th Floor
Sacramento, California 95814
Telephone: (916) 444-1000
Email: mthorme@downeybrand.com

2. THE SPECIFIC ACTION OF THE REGIONAL BOARD WHICH THE STATE BOARD IS REQUESTED TO REVIEW:

BACWA seeks review of Order No. R2-2012-0096 amending NPDES Permit No. CA0038849 ("PCB Permit"). The specific issues and permit requirements which the State Water Board is requested to review include the following: (A) Improper effective date; (B) The inappropriate application of numeric effluent limitations without reasonable potential; (C) Inconsistent monitoring requirements among permittees; (D) Monitoring requirements using Method 1668c sampling; (E) POTWs' limited source control options and risk reduction abilities; and (F) The opportunity to allow mercury and PCB adjustments for treatment of stormwater and landfill leachate.

The State Water Board is also requested to review the Regional Water Board's actions in adopting the amendments to NPDES Permit No. CA0038849 for compliance with due process, the California Water Code, the California Administrative Procedures Act ("APA"), the Policy for

Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California ("SIP"), and EPA regulations.

3. THE DATE ON WHICH THE REGIONAL BOARD ACTED:

The Regional Water Board adopted the PCB Permit on **December 12, 2012**.

4. A STATEMENT OF THE REASONS THE ACTION WAS INAPPROPRIATE OR IMPROPER:

A. Inaccurate Permit Effective Date

The Order was adopted on December 12, 2012. The Order set an effective date nineteen days later, on January 1, 2013. Pursuant to the NPDES Memorandum of Agreement between the U.S. Environmental Protection Agency and the California State Water Resources Control Board (Sept. 22, 1989) at page 22, section II.F.2, the permit should have been effective on the 50th day after the date of adoption.

B. Numeric effluent limitations on individual POTW discharges of PCBs are inappropriate.

BACWA recognizes that it has been the Regional Water Board's intent to implement Wasteload Allocations (WLAs) for POTWs via NPDES permits containing numeric effluent limits that represent current treatment plant performance. BACWA asked, however, that the Regional Water Board not apply numeric limits. Because issuing this PCB Permit without numeric limits is allowed by law, because of the paucity of data used to calculate performance-based limits and conduct reasonable potential analyses,[2] and because this permit is inconsistent with approaches taken in other areas of the country, the PCB Permit should be revised. BACWA's proposed approach would not foreclose the Regional Water Board from reissuing the permit with

[2] In addition to BACWA's comments submitted to the Regional Water Board, other entities, including the U.S. Environmental Protection Agency ("USEPA"), among others, raised similar concerns regarding the small data set on which the effluent limits were initially based using 1999-2001. (*See*, Response to Written Comments for Order No. R2-2011-0012, p. 24.) The limits have not been changed (*see* PCB Permit at pg. F-24) not withstanding that substantial time has passed since 2001 and additional data should have been used to ensure that the limits are truly performance-based and attainable.

enforceable water quality based effluent limits, if necessary, using more recent data on PCB concentrations in wastewater from more samples and more facilities.

1. Numeric effluent limits are not required by law and are infeasible to calculate with the limited data used.

The PCB Permit inappropriately requires numeric effluent limitations, based on "current" performance, that are consistent with the wasteload allocations in the TMDL. (Order at pg. F-24.) While numeric limits are often preferred because they provide the permittee, regulatory agencies, and the public with a straightforward and transparent mechanism for ascertaining compliance with regulations, these limits are not mandatory or appropriate in all circumstances. Federal regulations require a reasonable potential analysis prior to the imposition of effluent limits and, *where reasonable potential exists*, requires that permits contain effluent limitations that are "consistent with the assumptions and requirements of any available wasteload allocation for the discharge." (40 C.F.R. §122.44(d)(1)(iii) and then 40 C.F.R. §122.44(d)(1)(vii)(B).[3]) These limitations, however, do not need to be numeric. (*See also, Communities for a Better Environment (CBE) v. State Water Board/Tesoro*, 109 Cal.App.4th 1089, 1103-07 (2003); 40 C.F.R. § 122.44(d) (federal rules do not mandate numeric limitations); 40 C.F.R. §122.2 (the definition of "effluent limitation" refers to any restriction and does not specify that the limitation must be numeric).)

Moreover, federal regulations explicitly allow permit writers to express limitations as best management practices ("BMPs") when numeric limits are infeasible. (40 C.F.R. § 122.44(k)(3).) Numeric limitations for PCBs may be infeasible to meet and are also infeasible to calculate due to the outdated and small data set being used. The final effluent limits in the Order were calculated using the same data used to determine WLAs in the TMDL. This data set comprises only nine (9)

[3] The Regional Water Board asserts that §1.3 of the SIP, allows the Board to skip the mandated finding of reasonable potential if a TMDL has been developed. (*See* PCB Permit at F-16, and Response to Written Comments for Order No. R2-2007-0077, p. 20.) However, this is inaccurate. The SIP at §1.3 states that "The RWQCB shall conduct the analysis in this section for each priority pollutant with an applicable criterion or objective, excluding priority pollutants for which a Total Maximum Daily Load (TMDL) has been developed, to determine if a water quality-based effluent limitation is required in the discharger's permit." This section also allows the Regional Water Board, in Step 7, to consider 303(d) *listings* when determining if a water quality-based effluent limitation is required. However, the SIP does not remove the federal requirement of determining reasonable potential under 40 C.F.R. § 122.44(d)(1)(i)-(iii). If no reasonable potential is found, the Regional Water Board may then use §4.1 of the SIP to guide limit allocations, which need not equate exactly to the WLA, but must merely be "consistent" with the WLA.

samples from five (5) secondary treatment plants, and fourteen (14) samples from four (4) advanced secondary treatment plants.[4] (*See* Order No. R2-2011-0012, previous PCB Permit, at pg. F-8.) The small data set used in not only more than a decade old, it represented only twenty-three percent (23%) of the municipal permittees being regulated. A total of seventy-seven percent (77%) of the municipal permittees were not represented at all in the small data set used.

Additionally, the final effluent limits were based on samples analyzed for approximately forty (40) PCB congeners using Method 1668a (or similar). However, the PCB Permit requires compliance to be determined using Method 608, which permittees have previously utilized. (PCB Permit at pg. F-28). As a result of this disparity between the basis for the final effluent limits and the analyses to be conducted under the permit, the effluent limits are unsubstantiated.

Finally, the data set from the advanced secondary municipal wastewater treatment plants was documented in a study, which concluded that significant variability existed among the three laboratories receiving split samples for PCBs. The study report concluded that "[d]espite the use of methods in this study that are generally considered state-of-the-art, the inter-lab differences found in these results indicate that careful consideration of reported results in the context of historic data and other internal and external checks requiring a degree of professional judgment are still needed in addition to more routine evaluations of accuracy and precision." (*See* South Bay/Fairfield-Suisun Trace Organic Contaminants in Effluent Study, p. 31, (March 28, 2001).) In deference to the report's conclusions, these data should not have been used for the development of final effluent limits, which have serious compliance and enforcement ramifications. Even with the selected upper

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[4] The limited data set resulted in artificially low effluent limitations. For example, effluent limits for advanced secondary facilities were calculated based on 14 data points that were drawn from the 2001 SFEI Report. Each of these data points is an average of split sample results for "Total PCBs" (in this case the sum of approximately those congeners typically measured by the SFEI's Regional Monitoring Program (RMP)), from three different labs (The Final Staff Report of the Proposed Basin Plan Amendment implementing the TMDL for PCBs in San Francisco Bay, 2008, p. 44 and 2001 SFEI Report, Appendix A Tables 7 and 8). The use of these averages as the data set that serves as the basis of effluent limits calculations decreases the coefficient of variation which in turn *results in a lower AMEL and MDEL*.

In addition, results from any of the three labs were not included in totals and averages if they were much greater than those measured by the other two (2001 SFEI Report, Page 10), even when "no obvious causes could be found or corrected" to explain these differences (SFEI 2001 Study, Page 13). This practice also *resulted in an overall lower long-term average, and therefore lower effluent limits*.

confidence limit, this data set is too old,[5] was too small, and the variation is too great to conclude that the proposed limits accurately reflect current performance.[6]

Further, the Final Staff Report for the Proposed Basin Plan Amendment implementing the TMDL for PCBs in San Francisco Bay supports the fact that numeric effluent limits require additional reliable data:

> "Developing effluent limits for PCBs that accurately reflect treatment system performance require a substantial data set that accounts for system variability of a difficult to measure pollutant that is present at very low levels..." (Final Staff Report for the Proposed Basin Plan Amendment implementing the TMDL for PCBs in San Francisco Bay, Regional Water Board, 2008, p.71)

For these reasons, the imposed limits are inconsistent with the TMDL implementation plan's statement that be based on current performance.[7] Therefore, BACWA requests that the State Water Board remove the numeric limits, or remand the PCB Permit to the Regional Water Board with instruction that the permit not contain numeric limits until additional, more recent and reliable data can be collected and utilized. This approach is consistent with applicable regulations, and has recently has been used in other parts of the country. For example, in 2010, the USEPA issued a permit to the District of Columbia Water and Sewer Authority for their Blue Plains Wastewater

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[5] Courts have previously held that only the last three years of data should be used since data before that timeframe may not accurately reflect the actual plant performance. *See City of Woodland v. CVRWQCB and SWRCB, Order Granting Writ of Administrative Mandamus,* Alameda County Superior Court Case No. RG04-188200 (May 16, 2005) at page 13 (if no detections in 3 years prior to date of RWQCB Order, then no reasonable potential and the Order should not contain limits for that substance); *see also* 40 C.F.R. §122.21(j)(4)(vi)(suggesting using last 4.5 years of data).

[6] It should also be noted that each of the three labs chose different analytical techniques to measure PCBs (2001 SFEI Report, Page 9), and estimated that the "Total PCBs" measured by the RMP typically account for slightly over half of "Total PCBs" that include all 209 congeners (2001 SFEI Report, Page 2). Uncertainty regarding the accuracy of data from the 2001 SFEI Report led to the Regional Water Board's decision not to include effluent limits for dioxins in the 2003 reissuance of the three South Bay POTW NPDES permits (*See* Page 18 of Order No. R2-2003-0078). Therefore, *including effluent limits for PCBs based on data from this same study with very similar data quality issues is inconsistent with the Regional Water Board's 2003 decision*.

[7] The proposed limits are not performance-based mass limits based on the historical PCB discharge data for each discharger. The POTWs in each group all share the same concentration-based limits irrespective of historical performance. As the Regional Water Board acknowledged, POTWs that serve areas with more industry or historical industrial sites are likely to have more residual PCBs in their system when compared to a POTW with mostly residential customers. (*See*, Response to Written Comments for Order No. R2-2007-0077, p. 8.) New permit limits should always be based on the flow and treatment capacity, along with the influent loadings and effluent discharge, of each individual POTW. To set these numeric limits, the Regional Water Board indicated that additional data would be needed to derive truly performance-based limits. Therefore, deferral of numeric limits until that data are available is warranted. *Id.*

Treatment Plant (NPDES Permit Number DC002119). The TMDL WLA that the permit implemented was based on four (4) samples from the facility and, in lieu of numeric limits, required that the permittee monitor for PCBs and develop and implement BMPs to reduce sources of PCBs. (*See* NPDES Permit Number DC002119, p. 10.) BACWA believes that a similar approach is warranted here.

2. Reasonable potential has not been demonstrated for all permittees.

Under applicable federal regulations, NPDES permits must contain effluent limitations for all pollutants that are discharged at levels that "will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." (40 C.F.R. §122.44(d)(1)(i)-(iii); 40 C.F.R. §123.25(a)(15) (making section 122.44 applicable to State Programs).) To determine whether a discharge has "reasonable potential," the permitting authority must consider existing controls on point and non-point sources, the variability of the pollutant in the effluent, and the dilution of the effluent in the receiving water." (40 C.F.R. §122.44(d)(1)(ii).) While 303(d) listings may be considered, a 303(d) listing alone is inadequate to require an effluent limitation if the permittee is not causing or contributing to that impairment. (*See accord* Tosco Order, SWRCB Order No. WQ 2001-06, p. 20.) Permittees without the reasonable potential to cause or contribute to an instream exceedance of an applicable water quality standard are not required to be subjected to effluent limitations. (*See* SWRCB Order No. 2003-0012, p.15-16; Order Granting Writ of Administrative Mandamus, *City of Woodland v. CRWQCB for Central Valley Region*, Alameda County Sup. Ct., Case No. RG04-188200 (May 16, 2005) at pages 4, 13.)

Inadequate data was used, since data was not available or not used for all POTWs covered by the PCB Permit. (*See* PCB Permit at F-46 (data with no attribution to any particular facility).) Nevertheless, the PCB Permit contains effluent limitations for *all* POTWs despite effluent data only being available for the nine (9) plants whose effluent data served as the basis for the TMDL WLAs. By automatically *presuming* reasonable potential for all municipal permittees in Tables 1A, the result is requirements are more stringent than mandated by federal law. (*See supra* footnote 3.) Because these requirements are more stringent than federal law, additional analysis under Water

Code section 13263, including the factors contained in Water Code section 13241, was therefore required. (*City of Burbank v. SWRCB,* 35 Cal. 4th 613, 618, 628 (2005).)

Moreover, it has been this Regional Water Board's practice to require collection of data prior to imposing effluent limits when data are limited. For example, while the Regional Water Board was waiting for municipal permittees to collect priority pollutant data pursuant to a 13267 letter issued on August 6, 2001, effluent limits were not mandated in permits when data were not available. Now that those (non-PCB) data have been collected and are available, the Regional Water Board has issued NPDES permits with effluent limits for these parameters, but only when reasonable potential was shown to exist.

Finally, it is not clear that effluent limits are even necessary since PCB loads are well below the POTW aggregate waste load allocation identified by the TMDL. These low loads are a testament to the excellent pollution prevention efforts by the region's POTWs.

For these reasons, the State Water Board should remove all effluent limitations from the PCB Permit for dischargers without demonstrated reasonable potential, or remand to the Regional Water Board to do the same. At the very least, language should be inserted into the PCB Permit stating that these limits, while intended to be reflective of current performance, will be revised should new information become available demonstrating that they are not.

C. Provide consistent monitoring requirements for all major POTWs.

BACWA requests that the frequency of monitoring using Method 1668c be the same as for all major dischargers as the frequency for total PCBs for all major permittees, at a semi-annual frequency . (*See* PCB Permit at E-3.) The PCB Permit's rationale that increased monitoring annually is justified based on agency resources to conduct the monitoring is not persuasive as larger POTWs do not necessarily have more financial resources to undertake this expensive analysis than do smaller ones. (*See* PCB Permit at F-28.) In addition, as the PCB Permit recognizes at page F-28, "monitoring for these additional congeners is unnecessary for evaluating compliance with the PCBs TMDL and for tracking PCB loads to San Francisco Bay." For these reasons, and because the disparity was inadequately justified, the State Water Board should modify

the PCB Permit so that all major dischargers monitor on a semi-annual frequency, or remand to the Regional Water Board to do the same.

D. Remove Additional Congener Monitoring Requirements until Method 1668C is Approved and a Corresponding Sampling and Analysis Plan is prepared and implemented.

On September 23, 2010, the USEPA issued a *draft* rule approving Method 1668c, but has yet to finalize the rule or address concerns raised about the inter-laboratory validation of that method. (*See accord* 75 Fed. Reg. 58024.)

Method 1668C was considered for promulgation by the EPA in 2012. The EPA received 35 comment letters on the method. Of these comments, only five (5) supported the approval of this method, and thirty (30) opposed citing various reasons including the many shortcoming of the inter-laboratory study conducted by EPA, data reproducibility, ubiquitous problem of background contamination, etc. The EPA deferred the promulgation of this method, and EPA staff have stated it will not be promulgated until after an interlaboratory validation study can be conducted.

In its comments on the PCB Permit, BACWA suggested that, until the sampling, analytical and reporting protocols for Method 1668C are further refined, the data gathered under that proposed method is of insufficient quality for a reevaluation of TMDL wasteload allocations and BACWA requested that the permit allow that some of the resources used for routine monitoring be reallocated to fund a special interlaboratory comparison study, and that the permit acknowledge the insufficient quality of the data collected. That was not done.

Therefore, BACWA requests review of this issue by the State Water Board and a ruling that, until this new methodology is approved by USEPA, it is appropriate for permittees to only conduct analyses with the approved Method 608.[8] Although the Regional Water Board found that "these monitoring and reporting requirements bear a reasonable relationship to the Regional Water Board's need for and the benefits obtained from the reports," there is no evidence to support this finding. (PCB Permit at F-28.) Moreover, due to the extremely high analytical costs of

[8] The larger issue is whether compliance will be based on Method 1668c at some point in the future. It is possible there are POTWs in the Bay Area who would not meet the proposed limits if Method 1668c is used for future

approximately $800-1,000 per sample and since the data appears not to be used for any purpose, this additional monitoring merely adds a large burden with no resultant benefits.

USEPA-approved methodologies, including sampling and analysis protocols, are needed in order to generate high quality, consistent and comparable data. Sampling consistency will improve the data available to refine the TMDL WLAs and to calculate future permit limits. For these reasons, the State Water Board should clarify the PCB Permit to make clear that only approved methodologies may be used for sampling, or remand to the Regional Water Board to do the same.

E. Recognize that POTW source control options and risk reduction impact for PCBs are limited.

The PCB Permit requires that Dischargers "develop and implement programs to identify and control manageable sources of mercury and PCBs," and "to implement and participate in programs to reduce mercury and PCB-related risks to humans from consumption of San Francisco Bay/Delta fish." (PCB Permit at 16-17 and F-30.) POTWs contribute relatively very little PCBs to the San Francisco Bay. In addition, POTWs do not generate PCBs, but may merely be conduits for PCBs that have been inadvertently introduced into wastewater collection systems.

Removal of PCBs from effluent is accomplished primarily through solids removal, which is why the TMDL indicates that POTWs will be required to "maintain optimum treatment performance for solids removal." (*See* PCB TMDL at A-7.) Other than solids removal, few source control measures are available to POTWs. In light of the absence of other source control options available to POTWs, the PCB Permit should only require optimization of solids removal, not a broader source control program.

Further, since PCBs have been phased out and significant changes in sources are not expected, requiring *annual* source identification and control evaluations and risk reduction programs may be unnecessary. For the reasons provided herein, the State Water Board should clarify the PCB Permit as requested, or remand to the Regional Water Board to do the same.

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compliance. Many POTWs have not conducted many Method 1668c analyses and do not know whether they would be in compliance using that more sensitive analytical method.

F. **Allow mercury and PCB adjustments for treatment of stormwater and landfill leachate**.

The PCB Permit allows POTWs that may accept and treat municipal separate storm sewer system ("MS4") flows to apply an adjustment to their PCB discharge concentrations prior to determining compliance with limits. (PCB Permit at 19.) The diversion and treatment of MS4 flows will also remove mercury, another pollutant of concern that is associated with solids. A similar adjustment, therefore, should also be allowed for mercury as is the case for adjustments for Recycled Water Use for Industrial Dischargers. (PCB Permit at 17-18.) Additionally, some POTWs in the San Francisco Bay area treat leachate from landfills. For these reasons, the State Water Board should modify the PCB Permit to allow "credits" for POTWs that treat stormwater or landfill leachate when calculating and reporting Total PCB and mercury concentrations in their effluent, or remand to the Regional Water Board to do the same.

5. THE MANNER IN WHICH THE PETITIONER IS AGGRIEVED:

The Regional Water Board's Order No. R5-2012-0096, as did its predecessor Order No. R2-2011-0012 (which also was petitioned by BACWA) prematurely established numeric effluent limits of PCBs, which are not required by law and may be infeasible to meet and are infeasible to calculate with existing data. The Board failed to establish the reasonable potential of permittees to cause or contribute to the exceedance of water quality standards, prior to establishing effluent limits, which is contrary to the requirements of federal law and regulations. Further, the Board mandated inconsistent monitoring requirements among permittees, and requires monitoring using method 1668C, a method not yet approved by the USEPA. The Board failed to adequately address the fact that POTWs do not generate PCBs and are limited in their ability to implement source controls and risk reduction programs.

The Board did provide for PCBs discharge concentration adjustments for POTWs who accept and treat municipal separate storm sewer system flows; but, the Board did not provide similar adjustments for mercury and for treatment of landfill leachate. Additionally, the Board provided an inaccurate effective date for the permit. And, finally, the PCB Permit does not clearly specify that

the PCB effluent limitations and discharge specifications are intended to reflect current performance only, but may not do so.

6. THE SPECIFIC ACTION BY THE STATE OR REGIONAL BOARD WHICH PETITIONER REQUESTS:

BACWA seeks an Order by the State Water Board that will modify Order No. R2-2012-0096, or remand to the Regional Water Board for revisions and with direction, to: (A) Remove numeric effluent limitation on discharges of PCBs where no reasonable potential exists, and impose limitations as best management practices for those permittees who have demonstrated a reasonable potential to cause or contribute to an excursion of the water quality standard; (B) Provide consistent monitoring requirements for all major POTWs; (C) Remove monitoring requirements using Method 1668C until that method is finally approved by USEPA and a Sampling and Analysis Plan is prepared and implemented; (D) Recognize that POTW source control options and risk reduction abilities for PCBs are limited; (E) Correct the effective date to 50 days after the adoption of the permit; and (F) Make any other changes necessary to provide clarification.

7. A STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION:

BACWA's preliminary statement of points and authorities are set forth in Section 4 above. BACWA may supplement this statement upon receipt and review of the administrative record.

8. A STATEMENT THAT THE PETITION HAS BEEN SENT TO THE REGIONAL BOARD AND TO THE DISCHARGER:

A true and correct copy of this Petition was mailed by First Class mail on January 11, 2013 to the Regional Water Board at the following address:

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400,
Oakland, California 94612

9. A STATEMENT THAT THE SUBSTANTIVE ISSUES OR OBJECTIONS RAISED IN THE PETITION WERE RAISED BEFORE THE REGIONAL BOARD, OR AN EXPLANATION WHY NOT.

The substantive factual and legal issues and objections set forth in this Petition were presented to the Regional Board either before, during, or after the PCB Permit adoption hearing on this matter. In fact, many are carried over from a previous petition on the last version of the PCB Permit since requested modifications were not made.

10. REQUEST FOR PETITION TO BE HELD IN ABEYANCE

BACWA requests this Petition be placed in abeyance for two years, until January 11, 2015, to allow the opportunity for resolution of these matters in further discussion and exchanges between the BACWA and the Regional Water Board.

Respectfully submitted,

DATED: January 11, 2013 DOWNEY BRAND LLP

By:_____
MELISSA A. THORME
Attorneys for Petitioner
BAY AREA CLEAN WATER AGENCIES

1296974.1

DOWNEY BRAND LLP

San Francisco Bay Nutrient Management Strategy (NMS)

Steering Committee Meeting # 10

September 6, 2016

Meeting Summary

Steering Committee Attendees

Organization	First	Last	Role	Present	Comments
BASMAA	Adam	Olivieri	Member		Tom Hall
	Matt	Fabry	Alternate		
	Geoff	Brosseau	Alternate		
BACWA	Ben	Horenstein	Member	X	
	Lori	Schectel	Alternate	X	
	Jim	Ervin	Member		
	Bhavani	Yerrapotu	Alternate		
Cal DFW	Becky	Ota	Member		
	Bill	Paznokas	Alternate		
Delta Stewardship Council	Sam	Harader	Member		
Napa County Farm Bureau	Jeff	Page	Member	X	
	Debby	Zygielbaum	Alternate		
U.S. Geological Survey	Joe	Holomuzki	Member		
NOAA Fisheries	Joe	Dillon	Member		
	Melanie	Harrison	Alternate	X	via phone
Regional San	Christoph	Dobson	Member		
	Lisa	Thompson	Alternate	X	
San Francisco Baykeeper	Ian	Wren	Member	X	Program Coordinator Team
SFCWA	Lynda	Smith	Member	X	
	Frances	Brewster	Alternate		
	Stephanie	Fong	Alternate		
U.S. EPA	Terry	Fleming	Member	X	
	Luisa	Valiela	Alternate		
U.S. FWS	Leanna	Zweig	Member		
WSPA	Kevin	Buchan	Member		
	Mike	Armour	Alternate		
Central Valley Water Board	Adam	Laputz	Member	X	
	Janis	Cooke	Alternate	X	
	Christine	Joab	Alternate		
SF Bay Water Board	Tom	Mumley	Member	X	Via phone
	Naomi	Feger	Alternate		

Additional Attendees

Dave Williams	BACWA
David Senn	SFEI, Science Manager, Program Coordinator Team
Phil Trowbridge	SFEI, Facilitator, Program Coordinator Team
Yun Shang	EBMUD
Mike Connor	EBDA
Robert Schlipf	Water Board
Richard Looker	Water Board
Eric Dunlavy	San Jose
Amanda Roa	Delta Diablo
Mike Falk	HDR

1. Welcome, Introductions and Agenda Review Welcome, Introductions and Agenda Review: The Facilitator welcomed all attendees and introductions were made. The agenda was reviewed with no changes suggested.

It was subsequently confirmed that a quorum was present. This followed a vote by the Steering Committee (SC) to allow Tom Hall to represent BASMAA. ***Action Item: Investigate a change to the SC membership which would recognize Tom Hall as an official alternate for BASMAA.***

2. Decision Item: Approve Prior SC Meeting Summaries

- The June 10, 2016 meeting summary was approved by a unanimous vote of the SC.

3. Action items

The two Action Items from the last meeting were reviewed. It was reported that both had been completed.

4. Program Update:

- Science Program and Financial update
- Planning Subcommittee update

The Science Manager (SM) reported that revenues are $120k less than anticipated due to less funding coming from the RMP, however SEP funds will be coming in that can supplement revenues. This was a result of the Water Board's effort to allow SFEI and the RMP to be the recipients of SEP funds. Up to $240k of revenues from SEP funds is anticipated.

After two months into the FY, expenses are 20% encumbered. The SM reviewed core programs and projects that the SC had previously approved and noted that C-1 thru C-6 and P-1 thru P-6 were approved with funding in place. Other projects were approved contingent upon funding becoming available. Due to voluntary funding commitments from Sunnyvale, Palo Alto, ($60k total from each agency over a two-year period) and CCCSD ($198k total over a two-year period) modeling projects in Suisun Bay (SB) and Lower South Bay (LSB) will also be moving forward with scopes adjusted to match the available funding. It was also noted that $300k should be coming in from the Delta Science Program.

A question was raised about project P8 dealing with risk and whether or not there was enough data to undertake risk assessments at this time. The SM explained that it is not too early to begin framing the risk issues now but that work will continue over time as more data is available.

The SM also confirmed that most of the additional funding will be going toward modeling efforts but the effect is that these additional funds will free up other funds that can be used for field investigations needed to better calibrate and validate the models. The modeling will extend into SB where it will interface with modeling being completed in the Central Valley. The SC would like to better understand the interface with the Central Valley modeling efforts. ***Action Item: The SM is to provide the SC with a revised FY 17 budget showing the additional revenue commitments and the associated scopes of work for the newly funded projects for SC approval at the December SC meeting.***

Other questions and responses were as follows:

Q: Is P7 happening?
R: The funding check is in the mail, so yes.

Q: Is there enough money to complete all of P9?
R: No, but available funds will allow starting the project. Core modeling is for the Bay proper with emphasis on LSB. P9 is focused on SB. Risk scenarios are focused on South Bay and LSB. The plan is to raise an additional $100k for further modeling in SB and extending into the Delta.

It was also noted that the Regional San ECHO nutrient treatment project (biological nutrient removal and filtration) will be coming online in two years and that with modeling you can focus on the most important data collection efforts needed. The Delta Research Plan is focused on a Delta model for nutrients which is anticipated to take 10 years to develop and cost $1M/yr. to develop.

It was also noted that EBMUD is using EPA grant funds as part of their side stream treatment investigation to look at effects on the Bay before and after the implementation of side stream treatment by POTWs.

5. Technical Update - Science Program

- Review of Science Plan addendum

The Facilitator noted that the Science Plan (SP) was written over many years, was discussed with the Science Advisors, comments received from a Peer Review (PR) and responses provided to the PR comments. The PR noted that the SP is underfunded. The response was that the SP was started at the level of available funds and will be better funded as more funding is developed. The underfunding either means that the SP will need to take more time or there will be less confidence in the results.

The PR also suggested that more focus be given to benthos, birds, fish, etc. (higher trophic levels) this however can be very costly to conduct. An isotope approach may be a better approach. The SM noted that there has been lots of discussion on the need for biological assessment but that a logical approach is to first look at the indicators (i.e. DO) to see if the standard is consistently being violated and if so then look at the impact in the biota. P11 and P12 will address problems related to the biota. It was noted that using DO as an indicator is a challenge because it assumes that one size fits all.

The Peer Review also noted that HABs are very difficult to investigate. The SM indicated that embedded in the SP is a staged approach to the HAB investigation. Success in the HAB investigation and off-ramps needed to be identified. Project P10 presents a tiered approach to the HAB investigation.

The accuracy of models was raised as an issue. The SM noted that models are not expected to be extremely precise but can constrain a number of factors. For example "Darwin Models" can be useful in answering the threshold question as to whether a bloom can even take place and which species is expected to dominate.

A motion and second was made to accept the SP as final with the addendum on reviewer's comments added as well as the response to those comments. It passed unanimously. ***Action Item: The SM is to post the Science Plan on the SFEI NMS website.***

- Review guidance document for retaining external advisors

The SM explained that the External Reviewer document was intended to clarify terminology and operating rules for the use of external technical reviews. It was noted that the document had not been changed significantly since the last time it had been presented to the SC.

A motion was made and seconded to accept the document. It was unanimously accepted. ***Action Item: Amend the Charter to include the approved guidance for engaging external advisors and post the new version on the SFEI NMS web site.***

- Annual Report

The SM distributed copies of the Annual Report and walked through the key sections. The feedback from the SC was that the report looked excellent. A motion was made and seconded to accept the Report. The motion passed unanimously.

BREAK at 10:30 AM

6. Discussion Item: Alternatives Analysis/Scenario Planning

- Presentation of approach and schedule for outreach
- Proposed workshop
- Q&A/Feedback

The Program Coordination Team presented the Scenario Planning document explaining that the intent was to begin looking at approaches to nutrient reductions that would result in multiple benefit approaches aside from reliance only on treatment. The Team was seeking feedback on the document.

The Team noted that there are many challenges in dealing with nutrients as follows:

- High level of uncertainty

-no way to assess impairment
-other sustainability/regulatory objectives
-how to integrate economic and environmental considerations

- Other Impacts
  -Green House Gas (GHG) generation from energy production needed
  -chemical addition needed
  -energy requirements
  -increase biosolids production

The conclusion is that multiple benefit approaches would be the most cost-effective way to deal with nutrients. The draft scope of work for the scenario planning effort included identifying the full range of drivers e.g. recycling, population growth, drought, air quality, etc.; identifying complimentary and conflicting activities; and identifying institutional and regulatory challenges. This effort is being viewed as a multi-year effort that ultimately could end up in identifying engineering needs to pursue various scenarios.

To seriously investigate a multiple benefits approach will require a high level of stakeholder involvement. Given that limited fund are available to being this investigation, a question was raised should the scenario planning effort attempt to broadly cover all possible regional multi-benefit scenarios (breadth of scenario planning) or should it focus on specific potential components (depth of scenario planning) of a multi benefit approach (e.g. trading, wetlands, recycling, etc.)? Questions and comments followed:

C: Challenge is in the breadth of the scope of work. It seems formidable and might ultimately cost millions so perhaps initially depth is more important. Example would be looking at trading or the interface between nutrient reduction and recycling.

Q: Where is there interest and what is probability of success?

C: Another example is in the use of green infrastructure or wetlands.

Q: has ReNUWIt been approached?

C: Green infrastructure does not interest EPA.

C: Green infrastructure is mainly focused on stormwater.

C: Perhaps Ag should be considered

C: Green infrastructure could include horizontal levees

C: Not all scenarios are regional in nature, some are agency specific

C: Probably best to stay at the regional level

C: Who would be the beneficiaries of scenario planning? Many plants are doing master planning that will address the most cost-effective scenarios available to them.

C: Make sure you get the loads right. What about other load contributors of nutrients?

C: Could use some case studies to help inform the big picture

C: This approach could be used to push back on regulators at the national level who are imposing one size fits all approaches.

C: The Water Board would be the main beneficiary of scenario planning. They have already put load caps on the table but it would be important to consider other scenarios that might affect loadings such as recycling. There are competing issues. Supports an initial level of assessment to determine what should be further considered. The Water Board needs to understand what large scale issues should be considered aa they pursue development of WQS.

C: Benicia is looking at nutrient reduction vs. recycling. Costs are almost a wash.

C: Consensus seems to be towards the broader approach. Look at competing issue to help the regulators make decisions.

C: Emphasis should be on regulator and institutional challenges to achieving multi-benefits.

The SM noted that the next steps are to form workgroups to pursue scenario planning.

C: Could look at range of drivers and have case studies that would open up other scenarios other than treatment.

C: Caution about ranking alternatives, better to identify a range of alternatives without ranking and leave to agencies to consider what works for them.

A workgroup was formed that includes the Program Coordination Team, the BACWA Executive Director and Mike Falk from HDR. The consensus of the group was to put more of an emphasis on drilling down on a few key issues, rather than tackling all issues broadly. The regulatory agencies and NGOs should be the primary audience.

7. Discussion Item: Nutrient Management activities; Presentation of EBMUD WQIF project and sidestream projects (EPA WQIF grant recipients)

EBMUD staff gave a presentation on their EPA funded sidestream treatment research project (see presentation posted on SFEI NMS website).

A side stream flow is generated by the dewatering of digested solids at wastewater treatment processes. The side stream is generally sent back to the headworks of the plant. These side streams typically account for less than 1% of the flow but roughly 20% of the total nitrogen (TN) loading on the plant and 30% of the total phosphorus TP load. Treatment of this concentrate nutrient loading can be the most cost-effective way of reducing the effluent loads from treatment plants.

The EPA grant was for investigating innovative technologies that could cost-effectively reduce nutrient loadings, particularly TN loadings. Four case studies were presented as follows:

EBMUD: using anammox
SFPUC: anammox with different media
Oro Loma: zeolite anammox
Delta Diablo: CANDO

EBMUD: Their side stream has an unusually high ammonia concentrate of 2000 mg/l vs. 800 – 1400 which is more typical for a POTW. With typical bacteria growth rates, populations double in a few hours however with slow growing anammox it takes 12 days to double. Anammox is not commercially available and thus plants often grow their own culture. EBMUD did this and showed success in reducing nutrients but a process upset killed the culture and the pilot was stopped. The cause of the upset was not determined.

SFPUC: Their side stream concentration was 1400 mg/l. due to a change in their digestion process they are expecting 3000mg/l as future concentrations. Their pilot tested anammox using plastic media, in solution, and using a zeolite media which encourages ion exchange. Their test is still on-going. It was successful at 1400 mg/l but at higher concentrations an upset occurred. They are trying to replicate the conditions for the upset to determine the cause of the upset.

Oro Loma: They tested anammox using zeolite at 500 mg/l concentration. The lower concentration resulted from diluting the side stream to control struvite formation. They seeded the initial bench scale start-up with 10% which took a couple of weeks to develop a culture. The pilot scale was not seeded and took 1 month to develop the needed population. Their trickling filter pilot got clogged which hindered obtaining good results.

Delta Diablo: CANDO is a process developed by Stanford that produces nitrous oxide which can serve as an energy source. Their culture grows faster than anammox but requires some carbon addition and alkalinity control. The two step process converts ammonium to nitrite and nitrite to nitrous oxide. The challenge is to get the first step corking properly. They just recently got the first step working and are now pursing the conversion of nitrite to nitrous oxide.

Summary: The pilot results showed typical side stream concentrations of 500- 1940 mg/l; loadings at 0.32-1.11 Kg-N/cubic meter/day. NH3 removals raged from 80-89%. The main challenges were in process start-ups and follow-on upsets.

An effort is being made to look at the potential impact on the Bay from side stream treatment. There are 37 plants in the watershed permit. Few have side stream sampling so data is scarce. Through site visits and quantifying potential load reductions, it was found that 18 plants are good candidates for conversion of ammonia to nitrate and 25 plants have potential for TN removal. This results in varying amounts of nitrogen reduction in the 5 subembayments (range from 5-25%). Overall you could expect 15-20% TN reduction from side stream treatment. Efforts are being made to calculate the cost per pound of nitrogen removal. As an example, for EBMUD, preliminary estimates are that it would cost $50-60 M for side stream treatment that would result in a 20% reduction in their nitrogen load to the Bay. In order to get an 80% reduction and upgrade of their plant would be needed at a preliminary cost of roughly $1.5B. EBMUD is preparing a simple spreadsheet based tool for calculating costs and

benefits of side stream treatment. There was interest in having them demonstrated the tool to the SC when completed.

A question was raised about the use of innovative side stream treatment technology. The consensus was that it would be years before the technologies were fully vetted such that public agencies would begin implementing the innovative treatment technologies at their plants.

Xx Mention FWT contract with remaining funds

8. Other Business

- Updates from other activities

Region 5 is sponsoring a workshop on nutrients that the NMS is supporting. It will be held November 29th and 30th in Sacramento. The topic will be looking at nutrient forms and ratios for controlling nutrients in the Delta and SB.

9. Action Items and Wrap-up
Confirm next meeting date: December 9, 2016 at Water Board.

Adjourn: The meeting adjourned at 12:43 pm.

Planning Subcommittee (PS) Meeting Summary No. 21

October 5, 2016

9:00 am – noon
Water Board Offices

Meeting Summary

Attendees: Tom M., David S., Ian W., Ben H., and Dave W. (notes)
Note: Action Items and Decisions are shown in *bold italic*.

1. Agenda Modifications: There were no modifications to the agenda.

2. Review Outstanding Action items: Action Items were discussed and all were completed or on the current agenda for further discussion. On the issue of tapping EPA funding, it was pointed out that in order to access any available funds, EPA would want to see a comprehensive approach for the region rather than being asked to fund individual agency efforts. Priority will also be given to implementation projects such as the EBMUD sidestream treatment investigation vs. planning efforts.

3. Science Program update

a. **Staffing:** The SM reported that two new hires have been made plus his is interviewing for a new modeler.

Other: The Science Manager (SM) reminded the group that the Steering Committee (SC) had authorized projects through P-10 at the June meeting pending availably of funds. Additional funding has been identified. And includes $240k potential from SEP funds which will help offset the reduction in RMP nutrient funding from $500k to $380k. The State requires that specific projects be identified when using these SEP funds. The RMP will develop and endorse a standing list of projects for potential funding. The PS should ensure that the projects identified by the RMP include projects aligned with the NMS. A question was asked if the list of projects should contain smaller projects. It was pointed out that the RMP prefers funding complete projects vs. partially funding projects therefore any projects identified should be for discrete modules. ***Action Item: The SM will produce and update a working list of projects that could be funded with additional SEP funds.***

In total the SM has identified $860k of additional funds available for NMS projects. RWQCB 5 has also indicated an interest in contributing $400k for

projects of mutual interest. Overall budget and spending is tracking well. Both are a function of hiring the folks needed to do the work.

The SM reported that there had been a lot of field work completed over the summer. The new USGS vessel also had its maiden voyage in August.

The SM also reported that he is investigating possible economies of scale associated with coordinating with the Delta Science Plan on monitoring efforts such as monitoring the impacts of the new Regional San project coming online.

Finally, it was reported that there may be delays or even cancellation of the ammonium workshop that had been planned due to key scientists deciding that they will not be presenting at the workshop. Nonetheless the Suisun Synthesis, which would have been presented at the workshop, will be completed by the original planned date for the workshop. The Synthesis will provide a point-counterpoint discussion on the N:P ratio and ammonium issue.

4. Priority Updates

a. **Report-Outs:** There were no report outs

i. Other issues

b. **Current Issues**

i. September SC Meeting Debrief: In general the September meeting went well. Shorter meetings, as in September, should be considered in the future where appropriate. As the science progresses, the SC will be getting into the more substantive issues associated with the NMS. An issue was raised on how to ensure that the SC is provided the opportunity to provide the high level direction needed to guide the NMS efforts.

At the December SC meeting the plan is to discuss HABs and what are indicators of success in the HAB investigations. It was pointed out that the SC should also be weighing in on the direction of the science plan on investigating beneficial uses. Engaging the SC to provide more steering vs. watching progress was discussed.

The SM stated that DO is also an issue for SC discussion. The issue is whether site specific objectives are needed for DO or can the Bay tolerate some fluctuations. The resource stakeholders feel that you need to what levels present problems. The SC provides a buffer against any one member making key decisions.

ii. **Alternatives analysis discussion:** The Program Coordination team distributed a revised scope of work for the scenario planning effort that was based on feedback from stakeholders and the SC. It was pointed out that regulators need to be educated on the myriad of requirements that POTWs are facing. An idea was to include, as part of the scenario planning, a compilation of all existing regulations facing POTWs. Task 3 of the revised scope involves taking a deeper dive into one particular issue. Task 4 involves preparing a multi-year work plan. The PS members felt in general the revised scope was acceptable. It was proposed to use recycling as the issue for taking a deeper dive under Task 3. How to account for competing drivers that will be increasing nutrients will be a key issue under Task 3. The WB's interest is how to offset increases in nutrients. Load caps is one possibility.

The desire is not to have the scenario planning effort be a book report that will set on the shelf. The key is to determine how the information presented would be used. It was suggested that once the scope is finalized that it go back to BACWA for a final review.

iii. **ReNEWIt/UCB efforts:** The SM informed the PS that ReNEWIt is conducting a series of interviews with key stakeholders regarding the nutrient issue in the Bay. He felt it was imperative to ensure that the RNEWIt effort, being conducted by UC Berkeley, is thoroughly coordinated with the NMS particular on the scenario planning effort. A plan will be produced by ReNEWIt. If the next steps put forth in the plan are coordinated with the NMS, there could be a savings of resources. The idea of tapping their labor to supplement the work on scenario planning was discussed. The SM stated he would try to meet with the UC Berkeley team leading the ReNEWIt effort to discuss how their effort can coordinate with that of the NMS.

iv. **Fundraising Update:** See above discussion.

v. **Brainstorm agenda for next SC meeting:** At SC Meeting #11 in December the SM plans on discussing the monitoring program development and the HAB work plan. In addition, some time will be allocated to discuss scenario planning and the priorities for next year. A question was raised on if the scenario planning input was key to making budgeting decisions for FY 18 and should key advisors be brought into the discussion? The plan for the agenda is to spend enough time on the HAB issue to ensure it is fully vetted. A risk-based approach is being planned for the HAB investigation. The SM noted that a modest reduction

in nutrient loadings may not make a difference in the risk associated with occurrence of HABs. The HAB issue is significant and thus it was agreed to spend more time on this topic at the next PS meeting in October. ***Action Item: The SM will discuss the proposed monitoring program and HAB presentation in more detail at the next PS meeting.***

A question was raised as to whether the plus delta assessment should keep on the agenda for the next SC.

c. **NMS Calendar Review**

i. **Review future SC and PS meeting schedules:** The date for the next meeting of the PS was discussed. The original date of November 2nd was not going to work. A new date of October 31st from 1-3 pm was tentatively set. The next meeting of the NMS SC was scheduled for December 9th at the WB offices.

5. Other Updates: See above discussion

a. **Progress report on development of a monitoring program proposal**

b. **Status update on the Suisun Synthesis**

6. Planning the next Subcommittee meeting

a. **Review of Action items from meeting:** All Action Items were reviewed and agreed to.

b. **Next steps: T**he October 31st meeting of the PS will be confirmed by email.

7. Parking Lot of Identified PS Future Agenda Items

a. **Brainstorming on future priorities for the PS:** The EBMUD investigation into nutrient trading was discussed and it was felt that at some point a presentation to the SC may be warranted. First it was decided to consider a meeting with BayKeeper, SFEI, EPA, BACWA and the WB to better understand the effort.

b. **EPA nutrient criteria discussion**

c. **Discuss concept of holding an annual forum on nutrients**

8. **Adjourn: T**he meeting was adjourned at noon.

Planning Subcommittee (PS) Meeting Summary No. 22
October 31, 2016
1:00 pm – 3:00
Water Board Offices
Meeting Summary

Attendees: Tom M., David S., Ian W., Ben H., and Dave W. (notes)
Note: Action Items and Decisions are shown in *bold italic*.

1. Agenda Modifications: There were no modifications to the agenda.

2. Review Outstanding Action items: Action Items from the previous meeting were reviewed. All were completed or are on the agenda for further discussion.

3. Science Program update

a. **Staffing:** The Science Manager (SM) reported that things are going fine on the staff front, however he still needs to get fully staff for the modeling effort.

b. **Other:** The SM distributed his Program Update Report. He reported that Regional San may come up with $100k starting in FY 18 for the Suisun/Delta area. It was noted that roughly $800k has been identified as potential additional funding for Suisun/Delta work that had not been identified 8 months ago. A proposal for bringing on a Cornell post-doc onboard was also submitted.

Funding for the NMS via the SEP program will help in bridging the funding shortfall in the Science Plan. There are 2 NMS projects totaling $440k on the SEP list that ultimately could get funded. A discussion ensued on the need to ensure NMS projects were on the SEP list. It was noted that putting projects on the list was not time critical as the list is viewed as a working list that can be adapted as needed. It would be good to have a range of project costs on the list since the RMP prefers to approve projects in modules that can be completed within the funds available. The ideal range of project module costs is from $60k to $600k. The issue of a nexus between the proposed project and the environmental issue is important but the nexus can be broad.

By June the NMS will have an updated project list which can be incorporated into the RMP SEP list.

The SM reported that the N:P/NH4 Workshop that had been in the planning stages was still moving ahead despite the fact that several of the key scientists decided not to participate. Regional Water Board (WB) 5 is sponsoring the workshop with the NMS contributing $10k in funding.

A question was raised about updating the monitoring plan. The SM manager provided a simple illustration of the monitoring plan as it currently stands.

Another question was asked about how to integrate the early science output with subsequent management actions that may later get refined with additional science output but at that point the management actions would already have been implemented. The conclusion was that the confidence in the science will rest with the SM and the policy call will rest with the WB. The issue of management actions will need to be addressed in a realistic time frame. As part of the current Science Plan, outputs will be periodically produced. The robustness of those outputs will be critical. The WB noted that they need to be well informed in time for the issuance of the 2nd Watershed Permit in 2024. Late 2018 will provide a good check-in point on the science. There are milestones that the NMS needs to work towards achieving and will require the needed resources and efforts to accomplish the milestones in the allotted time frame. A caution was raised to the SM to not get into a situation of trying to force fit science output to an arbitrary timeframe, but the intent is to have some sort of limits by 2024.

4. Priority Updates

a. **Report-Outs**

i. **Other issues:** No report

b. **Current Issues**

i. **HAB Workplan:** The SM presented a Gantt chart for his HAB workplan. He will present this as a 5 pager with key assumptions noted. He may end up deleting project #5. A question was raised as to the feasibility of partnering on the national issue of chronic toxicity in resident organisms? Also will the workplan be looking at

what comes in from the ocean? The SM responded that it would not look at ocean impacts.

Another question was raised on how rigorous is the scientific data on the health risks of HAB toxins, is the data rather sparse? The SM stated that domoic acid is fairly standard, but that microcystins data may not be that sound since no one may be eating organisms contaminated with microcystins. This could be an area for further research. It was noted that there have been instances along the coast where releases of HABs have killed some mammals. Currently there is a HAB explosion in freshwater bodies.
In the Chesapeake the issue is not HABs but low DO.

ii. **Monitoring Workplan:** See above discussion.

iii. **Agenda for Dec 9 SC meeting:** The SM presented the draft agenda for the next Steering Committee (SC) Meeting on December 9, 2016. It was suggested that Jim Hobbs make the DO presentation for the Lower South Bay (LSB), also to have the resource agencies present what they are working on and what are their key issues. The WB believes the main issues are HABs and DO but not biota monitoring. It was pointed out that a lot of work is being done on biota monitoring and perhaps it would be worthwhile to have a presentation. After some discussion it was decided that it may be worthwhile to present the work that has been done on biota monitoring. The key issue is to what extent is the productivity of the LSB at risk. Care should be taken when reviewing biota data since you can't forecast with biota data but only see trends. ***Action Item: The SM will inform San Jose that Dr. Hobbs will be invited to the December SC Meeting.***

it was decided that the 3 key issues for the SC would be HABs, the monitoring plan and biota investigations. On the issue of presenters, it was decided that having the resource agencies present would be a good means to help ensure the best engagement of the stakeholders. A suggestion was to shift a bit more time from HABs to the monitoring topic. The SM intends to have a 5 pager to tee-up the monitoring plan discussion. Priorities for FY 18 will be presented under the Science Plan update on the

agenda. ***Action Item: The SM will re-work the draft agenda to incorporate the suggestions from the PS.***

c. **NMS Calendar Review**

i. **Review future SC and PS meeting schedules:** It was agreed that there would be no need for a PS meeting in December. The next PS meeting will be on January 4, 2016. The next SC meeting will be at the WB offices. ***Action Item: Ian to populate the calendar for the next several meetings.***

5. Other Updates

a. **Progress report on development of a monitoring program proposal:** See above discussion.

b. **Status update on the Suisun Synthesis:** The SM stated that this is not a time sensitive issue but that it would be wrapped up shortly

6. Planning the next Subcommittee meeting

a. **Review of Action items from meeting:** Action Items were reviewed.

b. **Next steps:** Prepare for December SC meeting.

7. Adjourn

Parking Lot of Identified PS Future Agenda Items

a. **Brainstorming on future priorities for the PS**
b. **EPA nutrient criteria discussion**
c. **Discuss concept of holding an annual forum on nutrients**

Phase 1 Nutrient Management Alternatives Analysis for San Francisco Bay

PROPOSED SCOPE OF WORK, SAN FRANCISCO ESTUARY INSTITUTE, NOVEMBER 2016

Participants and major stakeholders of the Nutrient Management Strategy (NMS) recognize the need for advanced planning to address likely nutrient reduction standards. Through funding from the Bay Area Clean Water Agencies (BACWA), the NMS has tasked San Francisco Estuary Institute (SFEI) with exploring alternatives for achieving nutrient reductions through multi-benefit approaches, including resource recovery (water, nutrients, energy) and use of green infrastructure (treatment wetlands, levees, basins). This task will supplement the work of HDR Inc. to identify site-specific opportunities for optimization and upgrades to wastewater treatment. Neither of these efforts are intended to supplant the master planning process, but will help to inform these plans and future regulatory decision-making.

Feedback on Prior Versions

- Scenario planning a useful tool but are we ready for that yet?
- General assessment of multi-benefit approaches suitable for the region at-large is too general.
- Consider narrowing the scope to generate a more tangible benefit and clear outcomes.
- Assessment of regulatory framework, specifically for POTWs, would be very useful, particularly to inform regulators of competing interests.
- Targeted analysis of a particular strategy (i.e. recycling or wetland treatment) or facility more useful to BACWA than a general assessment of the available options.

Revised Scope

Feedback received to date has identified the desire for conducting a regional-scale analysis of opportunities and constraints to nutrient management, coupled with site and/or topic-specific reports. For example, some stakeholders are interested in knowing the range of regulatory challenges faced by the wastewater community as a whole, in terms of how a number of existing and upcoming regulations may be in conflict – while others believe evaluations of particular regulatory scenarios are needed to foster near term implementation efforts. In the near term, SFEI will focus on regional-scale considerations, supplemented by brief case studies to inform future planning needs and in recognition that each facility and management tactic features unique demands.

In the next six months SFEI proposes to focus on regulatory issues facing the region's wastewater community and the role recycled water could play as a multi-benefit nutrient management tool. These efforts are captured in the first two of four proposed tasks. Tasks three and four serve to help inform regional planning and integrated assessments of how the region can best allocate resources to meet the challenges of nutrients, resource recovery, air emissions, biosolids, population growth, and the need for enhanced regionalization. Reports associated with the following 4 tasks shall be completed by April 30, 2017:

1) Assessment of conflicting and complimentary regulatory requirements and sustainability objectives
2) Examination of the use of wastewater recycling as a nutrient management strategy
3) Identification of drivers impacting the available nutrient management approaches
4) Development of a work plan for future in-depth scenario planning and integrated management

Task 1: Assessment of Conflicting and Complimentary Regulations for Wastewater Dischargers

Within the wastewater community, nutrient management is hardly the only regulatory or sustainability challenge. The need to optimize available resources extends to myriad other regulatory requirements and

voluntary objectives related to shifts within the industry to maximize resource recovery (Fig. 1). Existing and potential requirements include those related to air quality (i.e. AB 32 and EPA PSD and Title V permitting rules for greenhouse gases), energy (SB 1122 - bioenergy projects and AB 1900 - pipeline biomethane), solids (AB 341 - waste diversion) and water recycling (CA Recycled water policy and SB 163 – recycling bill under consideration). Voluntary objectives are related to the desire to enhance resource recovery and the need to plan for sea level rise and other climate adaptation considerations.

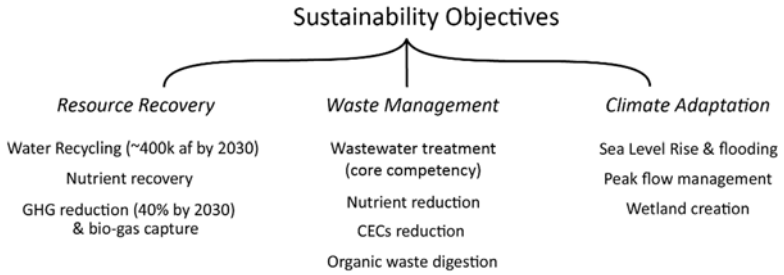


Figure 1. Some of the sustainability objectives expected or required of Bay Area wastewater facilities

The costs associated with implementing all goals, mandates and requirements clearly outnumber existing resources, suggesting a strong need for integrated assessments to maximize the adoption of multi-benefit approaches. Not all processes and goals are mutually beneficial, however, and the realities of operating publicly-owned facilities do not easily lend themselves to implementing non-regulatory initiatives, regardless of the real or perceived benefits. For example, optimizing POTWs for nutrient removal introduces the potential for enhanced energy use, increased generation of additional greenhouse gases as well as other contaminants, enhanced infrastructure costs, chemical additions – and may require fundamental institutional changes in regional water and wastewater management.

This task involves a deeper examination of the regulatory- and resource recovery-based drivers facing wastewater facilities in the Bay Area. Regulations facing Bay Area POTWs shall be summarized, with respect to surface water discharges, biosolids management, recycled water, air quality and habitats/species, followed by an examination of the synergies of conflicts between optimizing POTWs for nutrient removal and achieving other sustainability goals.

These analyses shall be synthesized within three (3) case studies, examining the regulatory pathway, coupled with a quantitative analysis, based on published values, of the costs and benefits associated with delivering the following three management approaches at an individual, yet hypothetical, facility in the region:

- Treatment approach to achieve a 50% N-load reduction (chosen among strategies identified by HDR)
- Recycling 50% of discharges, through use of IPR (near term) and DPR (when possible)
- Near-field release of 50% of treated wastewater to a wetland/horizontal levee complex

Deliverables: Report analyzing the regulatory- and resource recovery-related drivers affecting infrastructure upgrades among Bay Area wastewater agencies, with case studies examining the regulatory hurdles, costs and benefits of implementing three (3) unique approaches.

Task 2: Examine the Use of Wastewater Recycling as a Nutrient Load Reduction Strategy

Throughout the state, wastewater recycling is being prioritized as a means to enhance drought resilience and local supplies in the face of supply reductions. In the Bay Area, however, high rates of conservation, coupled with diverse and relatively stable supplies, have made recycling less attractive compared with other regions in the state. As of 2009, when the last comprehensive statewide recycling survey was conducted, the Bay Area generated only 6% of the state's recycled water, despite representing 16% of the state population.

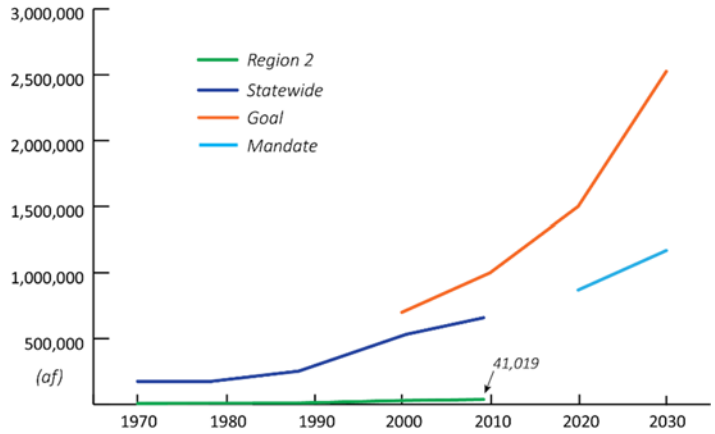


Figure 2. Wastewater recycling rates, as of 2009, and CA Recycled Water Policy goals and mandates

Potential nutrient load reduction requirements, however, may change the historic disincentives to widespread wastewater recycling in the Bay Area. Removal of water from the waste stream could result in a 1:1 reduction in pollutant loads, assuming alternative disposal or management of reverse osmosis concentrate. And preliminary analysis by HDR Inc. found that the cost of nutrient removal may not be that different from full wastewater recycling for some facilities.

This task involves analyses of:

a) The current state of and future plans for wastewater recycling in the Bay Area and California, including relevant policies;
b) Quantification of potential nutrient load reduction scenarios through the use of recycled water deployment;
c) Challenges and potential solutions for disposal of concentrated waste from the reverse osmosis process;
d) Scientific questions regarding water quality in the Bay with a nexus to both nutrients and recycled water, which could be addressed with shared funding from the NMS and water supply agencies; and
e) Opportunities and constraints to regional cooperation, such as funding, applicability of load reduction credits, and provision of recycled water to customers outside an agency's service area.

Deliverables: Report analyzing the use of recycled water as a nutrient load reduction strategy.

Task 3: Summarize Full Range of Nutrient Management Driving Forces

Dischargers in the region are tasked with achieving multiple regulatory requirements while attempting to achieve other sustainability objectives. To identify the range of drivers impacting infrastructure upgrades, as related to nutrient management, SFEI shall conduct a literature review and interviews with representatives of the NMS Steering Committee, as well as members of the wastewater, water supply, stormwater, agriculture, water recycling and resource agency/regulatory communities. The intent is to gather perspectives on nutrient management needs and identify the full range of identifiable drivers impacting infrastructure upgrades over the coming 20 years, for the purposes of informing options to maximize regulatory- and voluntary-based sustainability objectives.

This effort will focus on the wastewater community, though other point and non-point sources shall be considered. Examples of the range of drivers include:

1. *Nutrient-based forces (e.g. harm to beneficial uses, nutrient load caps, approach to determining impairment/implementing the Assessment Framework, uncertainty and factors controlling future loading)*
2. *Other pollution-based forces* (e.g. CECs, microplastics, selenium)
3. *Regulatory-based forces* (e.g. CWA, Porter-Cologne, Antidegradation Policy, water quality trading, scope of permittees subject to regulation, air quality, energy capture)
4. *Drinking water demand-based forces* (e.g. population increase, regional economy, variability in demand portfolio among service areas)
5. *Drinking water supply-based forces* (e.g. existing supplies, potential supplies)
6. *Cost-based forces* (e.g. treatment cost, water reclamation cost, potable costs, funding alternatives, available pricing structures)
7. *Perception-based forces* (e.g. value of water quality, potable reuse perceptions, resistance to change/regulatory mandates)
8. *Engineering-based forces* (e.g. concentrate management, recharge ability, recycled water supply and distribution)
9. *Institution-based forces* (e.g. regionalization vs. localization, silo-ization of various water agencies, sharing financial/technical resources, governance, uncertainty of stakeholder-driven decision making)
10. *Macro-forces* (e.g. federal/state funding, bond ratings, long-term population, drought, climate change)

This information shall be used to inform future scenario planning efforts and assist in identifying the need for additional analyses regarding the challenges associated with engineering and science, governance and policy, or economics.

Deliverables: Report and accompanying table summarizing the range of driving forces affecting major infrastructure upgrades over the coming decades.

Task 4: Multi-Year Work Plan for Watershed-Scale Scenario Planning

Tasks 1-3 represent preliminary examinations needed for conducting detailed scenario planning or the pursuit of innovative approaches to compliance with multiple environmental requirements. For Task 4, we will develop a multi-year work plan for more comprehensive scenario planning, which will identify studies to fill data gaps and processes to engage with stakeholders at a deeper level. Potential recommendations for future study or planning include:

- Scientific studies (ecological, economic, engineering) to fulfill knowledge gaps and inform scenario planning exercises.
- Processes for conducting detailed scenario planning at the regional and subembayment basis.
- Processes for addressing opportunities for regional collaboration (e.g. credit trading, and advancing "one water" concepts), revenue generation (e.g. credit trading and sale of recovered materials), and regulatory approaches (e.g. bubble permits, integration of air and water quality based considerations, watershed-based NPDES permitting).
- Regulatory outreach to reconcile conflicting requirements and potential approaches to maximizing benefits through integrated assessment approaches.

Deliverables: Brief report outlining recommended studies, processes and considerations for advancing multi-benefit strategies through science, stakeholder outreach and policy changes.

Milestone Schedule

Project Task / Milestone	Draft	Final
Task 1 Report (Wastewater regulatory assessment)	January 15, 2016	April 30, 2017
Task 2 Report (Wastewater recycling as a nutrient management tool)	March 15, 2016	April 30, 2017
Task 3 Report (Drivers of change)	March 15, 2016	April 30, 2017
Task 4 Report (Multi-year work plan)	March 15, 2016	April 30, 2017

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 20 2016

Dear Sir or Madam:

OFFICE OF WATER

I am writing to make you aware of a study entitled the National Study of Nutrient Removal and Secondary Technologies that the U.S. Environmental Protection Agency (EPA) Headquarters office is initiating to evaluate nutrient control at secondary treatment facilities. As part of this study, EPA intends to conduct a census of all publicly owned treatment works (POTW) in the U.S. to collect nationally representative data on POTW treatment performance.

The EPA has recently published a Federal Register Notice containing the proposed information collection request for the initial census for all treatment plants. More information about the census, a draft of the questionnaire, and directions on submitting public comments can be found at the study's website, https://www.epa.gov/eg/national-study-nutrient-removal-and-secondary-technologies. I encourage you to review these materials and provide comment regarding any concerns you may have. The comment period for this notice closes on November 18, 2016.

Nutrient pollution is a current and growing threat to public health and local economies: excess nutrients contribute to harmful algal blooms which have already impacted drinking water, closed beaches and affected local economies all across the nation; nitrogen contamination of drinking water, which can be dangerous for infants, occurred in many communities last year; and an alarming proportion of the Nation's waters have nutrient levels associated with harmful ecological impacts. See EPA's most recent strategy for addressing the nutrient problem in partnership with states, available at https://www.epa.gov/sites/production/files/2016-09/documents/renewed-call-nutrient-memo-2016.pdf.

As more states adopt nutrient frameworks and strategies, wastewater treatment facilities, both major and minor, are expected to play an important part in addressing nutrient issues. This National Study of Nutrient Removal and Secondary Technologies will provide critical information needed for POTWs, states, tribes and EPA to work together to identify realistic and achievable nutrient reduction strategies – particularly lower-cost operation and management strategies – for POTWs of different sizes across different geographical locations with different treatment technologies.

While equipment upgrades are one way to tackle nutrients, such upgrades can be capital intensive. Fortunately, studies have shown that operation and management practices are available that many facilities across the country may be able to apply to improve nutrient removal at low or minimal cost. These practices also provide simultaneous benefits like improved process stability and reduced energy usage. EPA's Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reduction at Wastewater Treatment Plants outlined 12 case studies documenting such practices and their benefits (https://www.epa.gov/nutrient-policy-data/case-studies-implementing-low-cost-modifications-improve-nutrient-reduction).

These 12 case studies cannot be extrapolated to all POTWs nationwide in addressing nutrient issues. Therefore, EPA has initiated this study to identify and validate practices that improve nutrient removal at POTWs across the country, determine the ancillary benefits, and characterize the types of facilities employing such practices. We hope to identify low-cost practices, improvements and benefits that may be available to secondary treatment facilities based on their similarities to facilities successfully reducing their nutrient discharges.

In order for the study to achieve the goal of providing statistically representative information on low-cost practices available to the diversity of wastewater treatment plants nationwide, EPA must first gather basic information on all municipal wastewater treatment plants in the nation to develop a national profile. Once this information is collected, EPA can select a statistically representative sample of treatment plants from the national population for further study.

In order to generate an accurate, comprehensive, national profile of treatment plants, the initial phase of the study will be a mandatory questionnaire, collecting basic information from all POTWs in the nation. The questionnaire is short and should only require between 1.5 to 3.5 hours to complete, as confirmed by engineers who have reviewed it.

A high response rate on this initial census is imperative to identify a statistically representative sample of treatment plants for further characterization. Therefore, EPA will use authority under Section 308 of the Clean Water Act for this census. It is important to emphasize that EPA is planning to use 308 authority for this census of POTWs for the sole purpose of ensuring a full response for research and information collection purposes only and to ensure a level of response adequate to support a statistically representative sample of plants for potential follow-up surveys, not for any enforcement purposes.

I encourage you to review this proposed information collection request and invite you to comment. EPA is soliciting comments through November 18, 2016.

Sincerely,

Elizabeth Southerland

Elizabeth Southerland, Director
Office of Science and Technology

November 18, 2016

VIA ELECTRONIC SUBMISSION

Elizabeth Southerland, Director
Office of Science and Technology
Environmental Protection Agency,
1200 Pennsylvania Ave. NW.,
Washington, DC 20460;

Subject: Proposed Collection; Comment Request; Proposed Information Collection Request for the National Study of Nutrient Removal and Secondary Technologies: Publicly Owned Treatment Works (POTW) Screener Questionnaire (Docket ID No. EPA–HQ–OW–2016–0404)

Dear Director Southerland:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to comment on the Proposed Information Request for the National Study of Nutrient Removal and Secondary Technologies: POTW Screener Questionnaire (Questionnaire). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay (SF Bay) Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health.

In the San Francisco Bay Region, nutrients are a major priority for the water quality community. Historically, the San Francisco Bay has not been adversely impacted even though it has relatively high nutrient loading. However, there are growing concerns that its natural resiliency due high turbidity, low stratification and filter feeding organisms is decreasing. There are substantial uncertainties about the nature of potential impacts due to nutrient loadings, as well as what level of nutrient reductions may be required to mitigate these possible impacts. In the face of these uncertainties, the members of the Bay Area POTW community that discharge to the San Francisco Bay voluntarily collaborated with the San Francisco Bay Regional Water Quality Control Board (Water Board) to enter into a Nutrient Watershed Permit[1] that requires on-going monitoring and reporting of nutrient loadings and substantial funding of the science program whose goal is to address the uncertainties.

[1] NPDES No. CA0038873

The Nutrient Watershed Permit has four tenets:

1. *Monitoring* – Each agency covered by the permits must monitor for and report concentrations and loads of nitrogen and phosphorus species.
2. *Reporting* – Agencies must submit an Annual Report either individually or as a group through BACWA. All the agencies covered by the permit have elected to participate in the Group Annual Report.
3. *Support for Scientific Studies* – Prior to the adoption of the Nutrient Watershed Permit, BACWA supported scientific studies examining the impacts of nutrients in the San Francisco Bay. The Nutrient Watershed Permit captures and increases that support for the science. Scientific studies are governed by a Steering Committee made up of BACWA, regulators, and other stakeholders. The Steering Committee ensures that studies are prioritized and funded in a manner that addresses the concerns of all these different constituencies. This scientific process and its oversight are managed through the San Francisco Estuary Institute and referred to as the San Francisco Bay Nutrient Management Strategy[2].
4. *Optimization and Upgrade Studies* – Agencies with flows greater than 1 mgd are required to evaluate alternatives for each individual POTW for reducing nutrient loads to the San Francisco Bay, including process optimization, sidestream treatment, and process upgrades, and to consider alternative means of reducing nutrient loads such as increased water recycling. They are also required to evaluate costs, as well as beneficial and adverse ancillary impacts associated with each nutrient treatment alternative, such as changes in the treatment plant's energy use, changes in greenhouse gas emissions, changes in sludge and biosolids treatment or disposal, and reduction of other pollutants (e.g., pharmaceuticals) through advanced treatment. Agencies were given the option to complete these studies either individually or as part of the group, and they all elected to participate in the group study.

Through this extensive program, BACWA, Regional Regulators, and other stakeholders aim to ensure than any actions taken to address nutrients are supported by science, with a comprehensive understanding of their costs and benefits.

Because we are involved in this complex, multi-stakeholder effort to address nutrients in our Region, the BACWA community is uniquely positioned to evaluate the potential effectiveness of the Questionnaire proposed by EPA for gaining an understanding of nutrient treatment nationwide. BACWA retained a consultant team, including HDR Inc., to assist with the preparation of the Optimization and Upgrade studies required by the Nutrient Watershed Permit. HDR has prepared a list of "lessons learned" on obtaining information from agencies to better understand nutrient discharges for the purpose of regulatory decision-making. HDR is working with NACWA to submit these "lessons learned" to EPA in a separate communique, but BACWA wishes to also highlight them as part of our comments on the EPA survey. BACWA's "lessons learned" which mirror those of HDR are summarized below:

[2] For more information, visit the San Francisco Bay Nutrient Management Strategy Website at http://sfbaynutrients.sfei.org/

1) Getting the plant loadings correct is key to understanding current conditions and establishing a basis for further analysis. When little nutrient monitoring information is available, such as when plants sample infrequently and there is limited data (for example only sample 1x/month), the basis for analysis is tenuous.
2) The perception of the purpose for gathering the survey information and how it will be used is influential and may shape the responses and accuracy of the information received. Experience has shown that it takes on average 2 to 3 phone calls, or direct contacts with individual treatment plants, to illicit complete responses, sort out questions, and address details of the survey.
3) It is important to understand existing treatment objectives because descriptors like Secondary Treatment vs. Advanced Treatment do not tell the whole story of the process configuration. Some plants are comprised of portions for advanced treatment and portions for secondary. Also, the treatment processes and configuration may change seasonally.
4) The structure of discharge permit effluent limits may influence the information gathered in a survey. Averaging periods and Load v. Concentration based limits, etc. impact on how a plant operates, and consequently on the effluent performance data.
5) Water recycling complicate effluent quantities. In some cases, the effluent flows are significantly reduced from influent flows. Reuse applications also make a difference in the sense that in some cases the recycled water comes back to the facility. For example, recycled water used for power plant cooling water is returned to the treatment plant in concentrated form, sometimes with different nutrient concentrations or nutrient speciation.
6) Individual facilities are very unique. Even after requesting historical plant performance data, compiling it, and spending a day with each individual facility, there are still numerous communication exchanges required to fully understand the effluent data and develop individual nutrient reduction strategies.
7) Individual facility operational histories and personal preferences may limit what modifications can be done to existing facilities to reduce nutrient discharges. Options such as “splitting the plant into two” with one side reducing nutrients and the other side maintaining secondary treatment, may be a viable optimization strategy, but may be unacceptable to some. It may be important to develop a metric for the willingness to change and/or improve to do new things, such as nutrient removal, in order to evaluate the potential for optimization efforts.
8) The decision to implement opportunities for nutrient reduction may be challenging for plant managers. The costs for potential nutrient optimization efforts may not be insignificant. Modifications may result in facility changes that are inconsistent with long term objectives such as plans for future upgrades, treatment capacity reserved for future growth, or capacity allocated to existing (industrial or residential) customers that needs to be preserved.

9) Most plant operations are primarily focused on meeting existing discharge limits. Some utilities may be reluctant to pursue nutrient optimization for a number of reasons, including existing treatment process challenges, aversion to risks, avoidance of distractions, diversion from prime compliance objectives, resource limitations, etc.

More information about BACWA's efforts pertaining to nutrients is available on our website at http://bacwa.org/nutrients/. I would be happy to discuss our program further at your convenience.

Respectfully Submitted,

David R. Williams

David R. Williams
Executive Director
Bay Area Clean Water Agencies

cc: BACWA Executive Board
Bruce Wolfe, San Francisco Regional Water Quality Control Board
Tom Mumley, San Francisco Regional Water Quality Control Board
Naomi Feger, San Francisco Regional Water Quality Control Board
David Clark, HDR
Terry Fleming, U.S. Environmental Protection Agency
David Smith, U.S. Environmental Protection Agency
Roberta Larson, California Association of Sanitation Agencies
Adam Krantz, National Association of Clean Water Agencies

October 28, 2016

VIA ELECTRONIC SUBMISSION

U.S. Environmental Protection Agency Region 9
Docket ID No. EPA-HQ-OW-2015-0392
75 Hawthorne Street
San Francisco, CA 94105

COMMENTS ON THE WATER QUALITY STANDARDS: ESTABLISHMENT OF REVISED NUMERIC CRITERIA FOR SELENIUM FOR THE SAN FRANCISCO BAY AND DELTA, CA DOCKET ID NO. EPA-HQ-OW-2015-0392

Thank you for the opportunity to comment on the draft selenium criteria for the San Francisco Bay and Delta. This letter is being submitted on behalf of the State Water Resources Control Board, the San Francisco Bay Water Quality Control Board and the Central Valley Water Quality Control Board. In addition to the two Regional Water Boards where the proposed criteria would be in effect, the other California Regional Water Boards share the concerns and comments expressed in this letter due to the potential for this proposed rule to establish a precedent for how selenium criteria would be expressed in the rest of California.

We acknowledge the extensive effort the U.S.EPA put into development of the selenium criteria for the San Francisco Bay and Delta (SFB/Delta) and appreciate the opportunity to submit comments on U.S. EPA's draft criteria for selenium. We have followed U.S. EPA's criteria development since 2007, and we especially appreciate the opportunities we have had for joint fact-finding and informative discussions during the development of both the proposed criteria, and the North San Francisco Bay selenium TMDL that U.S. EPA recently approved.

We support the proposed whole-body and muscle, tissue-based concentrations to protect fish and aquatic life in the SFB/Delta but are concerned about a number of issues with the proposed criteria. First, the criteria should be tiered, such that attainment of the fish tissue concentrations is considered attainment of the overall criteria. Other proposed elements should be considered either as secondary criteria elements or excluded from consideration as criteria elements. Second, the data and modeling used to develop the criteria are based on a segment of the North Bay, and have limited applicability to the South Bay. If dissolved water column concentrations are included in the criteria, they should not be the basis for establishing reasonable potential for setting effluent limits in NPDES permits for the South Bay because fish tissue criteria are attained. Third, the approach applied to derive numeric dissolved criteria should be revised to account for food web differences in the South Bay and to address overly-conservative assumptions. Fourth, the criteria should explicitly state how proposed elements of

the criteria expressed as “not to be exceeded,” are to be evaluated. We provide specific details on these general points in Appendix A of this comment letter.

If you have any questions on these comments please feel free to contact me at rik.rasmussen@waterboards.ca.gov or Naomi Feger at our San Francisco Bay Water Quality Control Board at Naomi.Feger@waterboards.ca.gov.

Sincerely,

Rik L. Rasmussen, Manager

Water Quality Standards and Assessment Section

Appendix A

Specific Comments

1. The proposed rule should clearly establish that the fish tissue concentrations should be the primary criteria.

U.S. EPA's proposal for fish tissue-based criteria, which provide a direct link to impairment, is appropriate for a bioaccumulative pollutant such as selenium. The proposed rule for the SFB/Delta should follow the national recommended criteria for freshwaters that clearly state that the fish-tissue concentrations take primacy over allowable water column concentrations. The proposed rule for SFB/Delta considers all criteria elements to be equivalently protective and an exceedance of any one element would indicate an impairment of the designated use. This is a concern due to the large uncertainties incorporated into the translated water column/clam criteria and the proposed "not to be exceeded" frequency for both the fish tissue element and clam (dietary) element of the criteria. The uncertainties force the modeled allowable water concentrations below ambient levels in systems, such as San Francisco Bay, where selenium concentrations are already very low.

There is a number of San Francisco Bay segments, especially in the South Bay, where fish tissue concentrations are below the proposed criterion, but dissolved water column concentrations exceed what U.S. EPA is proposing. These segments should not be considered impaired. Water column and dietary elements of the criteria are not equivalent to the fish tissue criteria as they are not directly linked to bioaccumulation (see rationale below), and should be treated as secondary elements, for example, to guide monitoring requirements. The proposed rule should acknowledge this fact. This would be consistent with the national recommended chronic criteria for freshwaters that rely on the same fish tissue thresholds and translation approach. In addition, we disagree that the list of species identified in the proposed rule, e.g., green sturgeon, black scoter, would be negatively impacted from exposure to selenium water column concentrations above 0.2 µg/L or that is necessary to have dissolved and particulate water column and prey-tissue values included in the criteria in order to protect clam-eating fish and birds and insect-eating fish.

Additional evidence to support this perspective is based on estimates of invertebrate bioaccumulation with biodynamic modeling which show that uptake of dissolved selenium from the water column is responsible for less than 2% of selenium found in tissue of bivalves (Presser et al. 2008)[1]. Since selenium bioaccumulation and toxicity cannot be predicted from selenium concentrations in the water column alone, the water column criteria elements cannot be treated in the same way as tissue concentrations. This is also conveyed in the U.S. EPA's Technical Support Document (June 2016), which says: "The availability of selenium under different physical and biological conditions explains why water column concentrations may **not** *[emphasis added]* by themselves be sufficient indicators of toxicological effect."

Selenium uptake within a food web is both species and environment specific and is most directly evident in increasing fish tissue concentrations. Selenium uptake is also governed by complex bio-geochemical transformations with high spatial and temporal variability. The dynamics of these transformations are not well understood nor can they be controlled. This provides a

[1] Presser, T.S., Luoma, S.N. and E.E. McNaughton. 2008. *Aquatic Ecosystem-Scale Selenium Modeling for Invertebrates, Fish and Birds.* Presentation at the Nov 2008 SETAC Meeting.

challenge when choosing the parameter values for linking the concentrations in fish with other media. This challenge applies to the prey (clam) tissue criterion proposed by U.S. EPA. Prey tissue selenium concentrations are highly variable, are two steps removed from selenium maternal transfer to offspring, and should be considered a secondary element of the criteria, rather than a standalone criterion.

The proposed rule also includes a criterion for particulate selenium in the water column. Quantification of particulate selenium concentrations in the water column is difficult, necessitates simultaneous measurements of total suspended material (for particulate selenium to be expressed as µg/g), and requires meticulous consideration of spatial and temporal conditions due to the large variability of this parameter. For these reasons, inclusion of particulate selenium as a criterion seems problematic. In addition, the U. S. EPA's Technical Support Documents remain silent on how particulate selenium should be measured and how intricate the sample collection effort can be. A lack of explanation on what constitutes "particulate selenium" as a criteria element can easily lead to confusion. If particulate selenium remains as an element of the criteria, it should be considered a secondary element, and the proposed rule should include a clear definition of particulate selenium and provide an explanation on how the particulate data should be collected and interpreted.

Fish tissue should be the primary criteria proposed by the U.S. EPA for application to San Francisco Bay as it accounts for the most direct exposure of concern, addresses sensitive endpoints, and is protective due to the conservative assumptions that have been built into the criteria derivation process. We support the fish tissue criteria proposed by the U.S. EPA.

2. Allowable dissolved selenium concentration should be revised to reflect conditions over the entire San Francisco Bay, including the South Bay

Although the draft criteria are proposed for the entire San Francisco Bay and the estuarine portions of the Delta, the translation from fish tissue to water column concentrations uses the data from Carquinez Strait and Suisun Bay only (see map in Appendix B). Therefore, the fish and bird food webs, diet combinations and trophic transfer factors, which form the basis for the derivation of the water column criteria elements, do not consider the conditions in South Bay. Also, see additional comments in comment 4 below. We do however support application of dissolved water column concentrations as 30-day averages, not to be exceeded more than once in three years, as a secondary element of the selenium criteria.

A: South Bay implementation issues

In the proposed rule "EPA assumes that naturally-occurring selenium may be the primary source of selenium in the Lower and South San Francisco Bay." However, this natural enrichment is not addressed nor is it considered in derivation of the water column elements of the proposed criteria. In addition, U.S. EPA should evaluate site-specific data, looking at current *P. amurensis* abundance information and sturgeon diet studies from the South Bay and apply an appropriate food model to develop water column criteria protective of the South Bay, as a secondary element of its selenium criteria. In Appendix C of this comment letter we provide an example approach for the U.S. EPA to consider, which considers an abundance of *P. amurensis* equivalent to other clam species. Densities of *P. amurensis* were greatest post-invasion in the northern reaches of San Francisco Bay (up to 1000-fold higher) than in South Bay (Carlton et al, 1990)[2]. (See also discussion regarding *P. amurensis* abundance in comment 4 below).

[2] Carlton, J.T and J.K. Thompson. 1990. Remarkable invasion of San Francisco Bay (California, USA) by the Asian clam Potamocorbula amurensis. I. Introduction and dispersal. *Marine Ecology Progress Series* 66: 81-94.

B: Implementation and alternative regulatory approaches – South Bay

The promulgation of the SFB/Delta dissolved water column criteria as currently proposed will result in all of the municipal wastewater treatment plants in South San Francisco Bay having a reasonable potential to cause or contribute to an excursion of the proposed dissolved water column criterion. It is unlikely that further reductions of already low selenium concentrations can be achieved using currently available treatment technologies.

The proposed rule states that California will have considerable discretion to implement selenium criteria where concentrations may exceed the proposed thresholds (e.g. in South Bay), including removal of designated uses, development of site-specific criteria, variances, compliance schedules and dilution credits. None of the implementation approaches suggested in the proposed rule are ideal for application to the South Bay. We provide reasons below as to why these approaches are not feasible and suggest instead that U.S. EPA recommend or provide guidance relative to implementation in the Proposed Rule consistent with the draft recommendations for *Implementing WQS* [selenium criteria for freshwaters] *in Clean Water Act Section 402 – National Pollutant Discharge Elimination System (NPDES) Programs.* The draft implementation guidance released for public comments on October 13, 2016 states the following:

> *EPA considers that its 2016 selenium criterion's water column element is the most appropriate predictor for whether the discharge causes, has the RP* [reasonable potential] *to cause or contributes to an in-stream excursion above the applicable WQC. However, the state or authorized tribe might be able to make the determination that there is no RP if the following conditions exist simultaneously: (1) the sources of selenium are already present in a waterbody and are not expected to increase; (2) the population of fish have been exposed to the existing levels of selenium and the system is determined to be in steady-state (based on scientifically defensible documented data); and (3) relevant and timely collection of fish tissue data, accounting for the duration of the discharge relative to collected fish tissue, demonstrate that the fish tissue levels are significantly below the criterion's fish tissue element.*

Our preliminary evaluation indicates that the conditions in the South Bay meet all three of the requirements described above and therefore no RP would be identified. In order to take advantage of this approach to determine RP, changes would be required to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The State would need to amend the SIP to incorporate U.S. EPA's implementation recommendations.

The alternative regulatory approaches listed in the draft proposed rule for the SFB/Delta are not feasible because:

- It is highly unlikely that the Bay-wide beneficial uses such as estuarine habitat and preservation of rare and endangered species could be modified or removed from San Francisco Bay, in whole or in part, consistent with CWA section 303(c) and 40 C.F.R. section 131.10, even temporarily. Even if plausible, such modification or removal would be deeply undesirable given the critical role the San Francisco Bay and Delta estuary plays in California's ecological and economic well-being (noted in Section III.A, Necessity [page 46035, subheading Ecological Health of the Estuary]).
- The proposed rule states that developing site-specific objectives is an alternative regulatory approach. Due to the time necessary for developing site-specific objectives, dischargers would continue to have a determination that they have RP and require

effluent limits, which may be inappropriate, until such time as site-specific objectives could be established. No additional regulatory work would be needed if we can rely solely on the fish tissue criteria being proposed.

- Water quality standard variance would not address the feasibility of meeting effluent limitations based on the proposed water column criteria using current treatment technology. It is unclear to what length of time a variance would have to extend such that effluent limitations based on the proposed criteria could eventually be met. As stated in the State Implementation Plan (SIP) section 5.3, a categorical exception from the State Implementation Plan can only be "short-term or seasonal." In addition U.S. EPA's new variance regulations (40 CFR 131.14) require review of any variance every five years which could lead to an unacceptable regulatory burden for both the regulated community and the Water Boards.
- While a compliance schedule would allow time for a discharger to meet effluent limitations based on the proposed selenium criteria, it would not address the feasibility of meeting these limits using current treatment technology. It is unclear that such treatment technology could be developed and purchased or constructed and installed within the maximum time allowed (up to 10 years) for a compliance schedule under State Water Board Resolution No. 2008-0025.
- In addition, the U.S. EPA identifies dilution credits as an option to comply with water column-based selenium criterion by municipal dischargers in South Bay [Section VI.B, Method for Estimating Costs, page 46040]. However, current selenium treatment technology is not sufficient to meet effluent limits based on the existing chronic water quality criterion (5.0 µg/L) unless they are calculated to account for a dilution ratio up to 10:1. It is also not sufficient to meet effluent limits based on the proposed water column criterion (0.2 µg/L as dissolved selenium). A mixing zone and associated dilution cannot be granted to a water body if the background concentrations exceed the value of the criterion, such as in South San Francisco Bay.

3. Clarify the interpretation of "not to be exceeded" to be consistent with the draft Technical Support for Fish Tissue Monitoring for Implementation of EPA's 2016 Selenium [freshwater] ***Criterion***[3]

U.S. EPA is proposing criteria values for fish and clam tissue as instantaneous measures not to be exceeded. In its recently published *draft Technical Support for Fish Tissue Monitoring for Implementation of EPA's 2016 Selenium* [freshwater] *Criterion;* this is defined as a mean of all fish tissue data for a single species. The guidance recommends using the t-test to evaluate whether the mean exceeds the fish tissue criterion. We support application of this interpretation to all tissue criteria elements.

4. The proposed dissolved chronic criteria element is artificially low and should be revised

The proposed dissolved water column concentrations are artificially low because of the multiple conservative assumptions used in the modeling, selection of water column concentrations reflective of ducks rather than fish which are the most sensitive to selenium impairment, and

[3] Included in Technical Support Materials (TSMs) for the Freshwater Aquatic Life Selenium Criterion released for public comments on October 13, 2016

inappropriate averaging of the 75th percentile of K_d values. Specific comments on the conservative assumptions used in the modeling are provided below:

- The model, which translates fish tissue criteria to dissolved water column criteria, depends on the value of the partitioning coefficient (K_d) to link dissolved concentrations with fish tissue concentrations, and this linkage is weak. K_d values are calculated as a ratio of particulate selenium in µg/g to dissolved selenium in µg/L, and vary more widely than any other parameter used in the translation process. K_d values are also susceptible to composition and the amount of particulate material in the water column and the precision and accuracy of measurements. In particular, in San Francisco Bay a K_d value could be artificially inflated because dissolved concentrations in the denominator are very low (1999-2012 transects; dissolved Se range 0.058-0.164 µg/L), which forces the modeled allowable selenium to reach concentrations below background levels.
- As per USGS recommendations, K_d variability was constrained by selecting a subset of the data limited to Carquinez Strait and Suisun Bay, and the subsequent choice of modeling parameters weighs heavily on dry seasons. This way the proposed dissolved concentration becomes biased by "the worst case scenario" rather than taking into account representative food webs and exposure pathways existing under conditions prevailing in San Francisco Bay (Appendix B).
- The implicit hypothesis that *P.amurensis* is present in all segments of the Bay all the time at the highest selenium concentrations is unsubstantiated. Therefore, the modeled water column concentrations, which suppose constant exposure of clam-eating fish and birds to the unrealistically high selenium levels, are biased low.
    - For example, a 15-year long monitoring record (Kleckner et al., 2010)[4] shows that selenium concentrations in *P.amurensis* span a wide range from ~5 to 22 µg/g and change with season, location and year. At monitoring stations in Suisun Bay where concentrations are usually the highest the annual averages are from 7.1-14.2 µg/g (measured at St. 8.1 for the period of 2000-09), and 5.2-14.0 µg/g (measured at St. 4.1 for the period of 2001-09, the average annual concentrations at this station are below 10 µg/g for 2002-2009).
    - There is also evidence that *P.amurensis* are less abundant in the South and Central Bay segments, so the proportion of this clam in the diet of fish and birds is lower than assumed in the translation. Poulton and others (2004)[5] analyzed more than 1700 core samples in San Pablo Bay and found an approximately 20-fold decline in *P.amurensis* abundance compared to the levels observed in 1998. The most recent unsuccessful attempt by USGS to re-establish a *P.amurensis* monitoring station in San Pablo Bay confirms that this clam may not be as abundant as the modeling assumes. Similarly, there is no recent published information on the presence, distribution and selenium concentrations in *P.amurensis* in South Bay. Although *P.amurensis* was observed in South Bay in

[4] Kleckner, A.E., Stewart, A.R., Elrick, K., and S.N.Luoma. 2010. Selenium concentrations and stable isotopic compositions of carbon and nitrogen in the benthic clam Corbula amurensis from Northern San Francisco Bay, California: May 1995–February 2010: U.S. Geological Survey Open-File Report 2010-1252, 34 p.

[5] Poulton, V.K., Lovvorn, J.R. and J.Y. Takekawa. 2004. "Spatial and overwinter changes in clam populations of San Pablo Bay, a semiarid estuary with highly variable freshwater inflow". Estuarine, Coastal and Shelf Science,59: 459–473.

the past (1991-95) as part of the phytoplankton study (Thompson et al., 2008) selenium in *P.amurensis* was never measured in any of the South Bay locations. The consistently low selenium concentrations in sturgeon caught in South Bay suggests that *P.amurensis* is not the main food source for sturgeon in that part of the Bay.

- There is no justification, statistical or otherwise, for the averaging of four values of 75thpercentile K_ds (3966 = mean of 75th percentile K_ds in Table 4-9, TSD June 2016) in order to select protective dissolved selenium thresholds for each representative species. The K_d values should be translated into concentrations first, and then the range of concentrations averaged. Even applying the U.S.EPA's conservative assumptions, the correct interpretation of the predicted concentrations in Table 4-9 would lead to a numeric criterion of 0.361 µg/L (rounded to **0.4 µg/L**) for fish. This same comment also applies to the other calculations from Table 4.9.
- The main focus of setting appropriate selenium criteria is to protect fish (e.g. sturgeon), which have been identified as the most sensitive and/or susceptible to selenium exposure in SFB/Delta. However, the main reason for selection of the 0.2 µg/L threshold appears to be the modeling of clam-eating birds such as scaups and scoters (Table 4.9). This value again was chosen from the incorrect averaging of the 75th percentile K_ds. If average of all translated concentrations is used, then the protective dissolved concentration calculated for clam-eating ducks is 0.316 µg/L (or approximately 0.3 µg/L).
- The selenium concentration calculated for clam-eating ducks is also likely to be overly conservative because of the timing when ducks are present in the Bay, frequent changes of their feeding locations, much lower abundance of *P.amurensis*, and ducks natural ability to quickly depurate selenium. One hypothesis for the lack of chronic health effects in ducks and sea birds is that these birds have higher tolerance to selenium toxicity because, through their life history, they have evolved mechanisms to sequester and metabolize trace elements more efficiently than freshwater birds (Badzinski *et al.* 2009, Wainwright-De La Cruz 2010)[6]. For example research indicates that the majority of all scoters wintering in San Francisco Bay is found in San Pablo Bay during December, in January individuals begun to disperse, and shift to Central Bay during February and March (De La Cruz et al., 2014). In all of these locations *P.amurensis* seems to have lower abundance than previously thought.

Given the rationale above, the proposed dissolved water column concentration of 0.2 µg/L was incorrectly calculated and not representative of the most sensitive fish species. The most appropriate value for the water column criterion established from calculations for sturgeon, which is the organism that needs to be protected by these criteria is **0.5 µg/L**[7] and may even be higher for the South Bay.

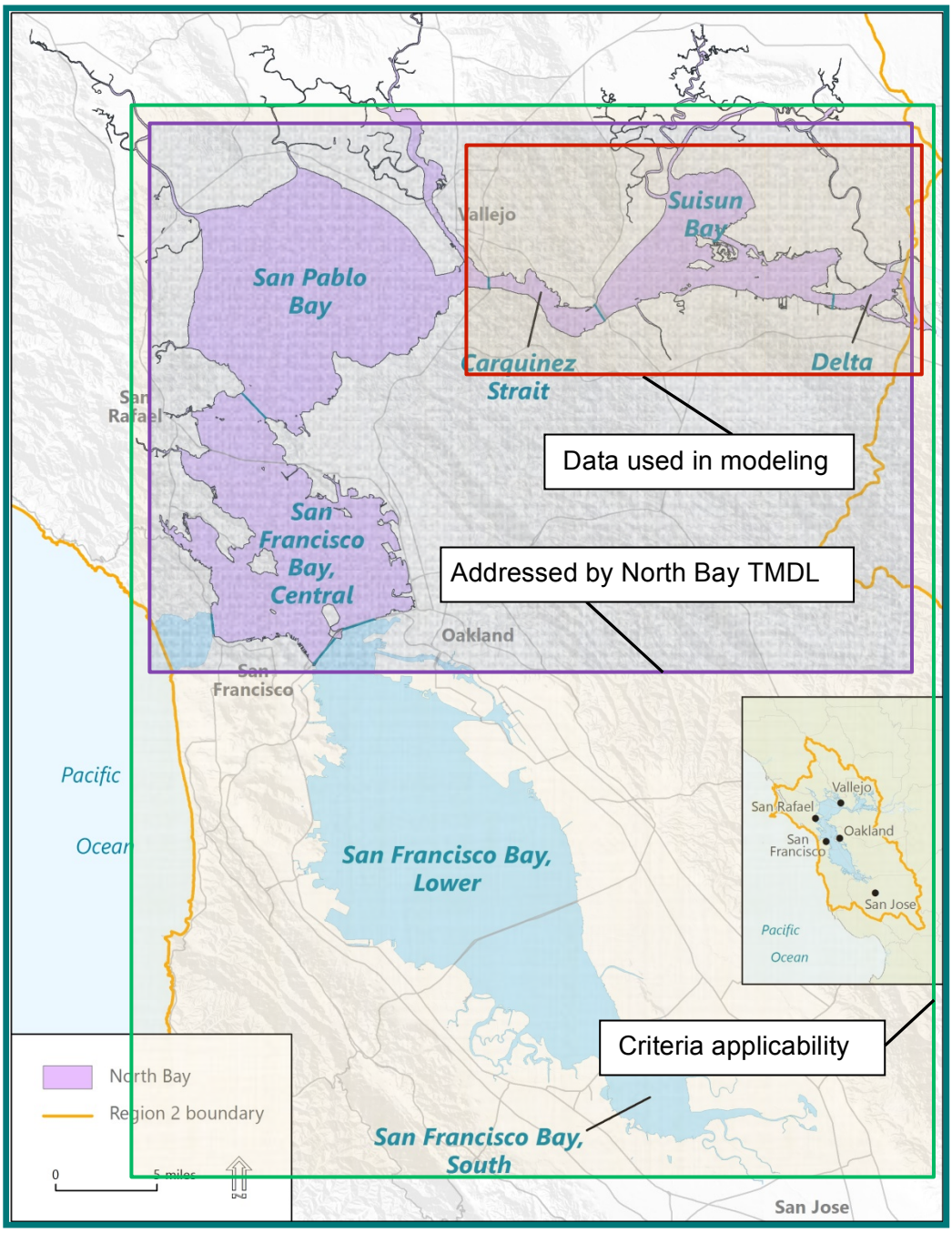
[6] Badzinski, S.S., Flint, P.L., Gorman, K.B. and S.A. Petrie. 2009. "Relationships between hepatic trace element concentrations, reproductive status, and body condition of female greater scaup". Environmental Pollution. 157, 1886-1893.

Wainwright-De La Cruz, S.E. 2010. Habitat, Diet, and Contaminant Relationships of Surf Scoters Wintering in San Francisco Bay: Implications for Conservation in Urban Estuaries. Ph.D. Dissertation. Davis (CA): University of California Davis.

[7] The assumptions for the derivation of the protective water column concentration for the North Bay are presented in the North Bay TMDL Staff Report (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/seleniumtmdl.shtml) and the example calculations for the South Bay are included in Appendix C of this comment letter.

Appendix B

Map of San Francisco Bay



Appendix C

Example Calculation of Allowable Dissolved Selenium Concentration Derived for the South Bay

The tables below show the specific steps and parameter values applied in the translation from the proposed fish tissue criterion (**8.5** µg/g whole body dry weight) to the water column specific to the South Bay which has a smaller abundance of the clam species *P. amurensis*. The calculations are performed for a benthic food web scenario and clam-eating fish. Depending on the choice of *TTFs* for clams, the modeled selenium concentration in the water column is in the range from 0.47 to 0.69 µg/L (Table C-2).

Table C-1: Assumptions and parameter values for translation from the proposed fish tissue criterion to a water column concentration

Translation parameters	**Assumptions**
Fish tissue criterion: **8.5** µg/g wb dw	Benthic food web: clam-eating fish. Calculated based on white sturgeon
Trophic Transfer Factor $TTF_{generic\ fish}$: **1.1**	*TTF* value from prey to fish used by EPA to estimate water column concentrations for clam-eating fish
Diet Mix: **40**% clams and **60**% other food items	*P. amurensis* **20**% *M. balthica* **20**% Annelids and Crustaceans **60**% The diet mix of 40/60 is unchanged but the clam portion of the diet (40%) comprises equal ratios of *P. amurensis* and *M. balthica* (or equivalent). The existing data suggest that *P. amurensis* is much less prevalent in the South Bay segments than in Suisun Bay. *P. amurensis* was observed in South Bay in the past (1991-95) as part of the phytoplankton study (Thompson et al., 2008) and after the initial invasion (Carlton and Thompson 1990). However, the consistently low selenium concentrations in white sturgeon caught in the South Bay suggest that *P. amurensis* is not the main food source for sturgeon in that part of the Bay and, indirectly, that concentrations in this clam might be much lower than in Suisun Bay, where higher selenium concentrations in *P.amurensis* are only found at one station in close proximity to Carquinez Strait (USGS Station 8.1). Selenium concentrations in clams at station 4.1 in the eastern portion of Suisun Bay remain low despite suspended particulate concentrations being similar.
$TTF_{Annelids\ and\ Crustaceans}$: **= 1.3**	*TTF* value for annelids and crustaceans used by EPA to estimate water column concentrations for clam-eating fish (after Presser and Luoma 2010)

Translation parameters	**Assumptions**
TTF $_{suspended\ particulate\ material\ to\ P.\ amurensis}$: = **17**	Used by EPA to estimate water column concentrations for clam-eating fish based on the site-specific data and dry season conditions in Suisun Bay
Alternative TTF $_{suspended\ particulate\ material\ to\ P.\ amurensis}$ = **8**	As conditions in South Bay are different compared to Suisun Bay, the *TTF* estimated with physiological parameters from laboratory experiments with *C. amurensis* (Presser and Luoma 2010) is a more appropriate value for modeling allowable water column concentrations in South Bay. *TTF* value of 8 represents the upper range of the estimates and therefore it is deemed conservative.
TTF $_{suspended\ particulate\ material\ to\ M.\ balthica}$ = **8**	*TTFs* for *M.balthica* calculated based on physiological parameters range from 4.5 to 11.2 (Presser and Luoma 2010). However, Se concentrations in this clam collected in South Bay (near Palo Alto) are low (1995-2015, range: 1.9 -6.7 µg/g, mean: 4.4 µg/g±1.1(stdev), n=100), which suggests that *TTF* of 11.2 is not appropriate. We used a *TTF* of 8, calculated as a ratio of selenium concentration in *M.balthica* to suspended particulate material concentration: mean selenium concentration in *M.balthica* = 4.4 µg/g mean particulate Se concentration = 0.6 µg/g (transect data -1999-2012 from North Bay) *TTF* = 4.4/0.6 = 7.3 (=~8). This *TTF* equals to the average *TTF* calculated from physiological parameters.
Partitioning Coefficient K_d	75th percentile K_d*s* computed from transect data for focused seaward locations in North Bay used by EPA to estimate water column concentrations for clam-eating fish.
Combined prey *TTF* for mixed 40/60 diet: Calculated with *TTF* $_{P.amurensis}$ = 17 Calculated with *TTF* $_{P.amurensis}$ = 8	*TTF* = *TTF* $_{P.amurensis}$ * (prey fraction)+ *TTF* $_{M.\ balthica}$ * (prey fraction)+ *TTF* $_{Crustaceans}$ * (prey fraction) *TTF* = (**17***0.2) + (8*0.2) + (1.3*0.6) = **5.8** *TTF* = (**8***0.2) + (8*0.2) + (1.3*0.6) = **4**
Modeled water column concentration	$\boldsymbol{C_{water}} = \frac{Fish\ criterion(8.5)}{\boldsymbol{TTF}_{prey} * \boldsymbol{TTF}_{fish} * \boldsymbol{K}_d}$

Table C-2: Estimates of water column concentrations protective of clam eating fish with different *K_ds and prey TTFs*

Transect	Jun-98	Oct-98	Apr-99	Nov-99	Average modeled concentration µg/L
75th %tile K_d	1414	4498	2861	7089	
TTF_{prey}	5.8	5.8	5.8	5.8	
Modeled selenium concentration µg/L	**0.94**	**0.30**	**0.47**	**0.19**	**0.47**
TTF_{prey}	4	4	4	4	
Modeled selenium concentration µg/L	**1.37**	**0.43**	**0.68**	**0.27**	**0.69**

Presser, T.S. and S.N. Luoma. 2010. “A methodology for ecosystem-scale modeling of selenium”. *Integrated Environmental Assessment and Management*, Vol. 6, 685–710. Supplemental Table B http://wwwrcamnl.wr.usgs.gov/Selenium/Library_articles/Presser_Luoma_2010_IEAMv6no4_supporting.pdf

Thompson, J.K., Koseff, J.R., Monismith, S.G. and L.V. Lucas. 2008. Shallow water processes govern system-wide phytoplankton bloom dynamics: A field study. *Journal of Marine Systems*, 74, 153-166.

Carlton, J.T. and J.K. Thompson. 1990. Remarkable invasion of San Francisco Bay (California, USA) by the Asian clam Potamocorbula amurensis. I. Introduction and dispersal. *Marine Ecology Progress Series* 66: 81-94.

Sherry Hull

From: Sherry Hull
Sent: Wednesday, November 9, 2016 3:29 PM
To: Sherry Hull
Subject: BACWA Comments on the Microplastics Strategy

-------- Forwarded Message --------
Subject: Re: BACWA Comments on the Microplastics Strategy
Date: Tue, 25 Oct 2016 16:40:39 -0700
From: Rebecca Sutton <rebeccas@sfei.org>
To: North, Karin <Karin.North@cityofpaloalto.org>
CC: dwilliams@bacwa.org <dwilliams@bacwa.org>, Lorien Fono (lfono@bacwa.org) <lfono@bacwa.org>

Thanks for getting us all these great comments so promptly!
Becky

On Mon, Oct 24, 2016 at 2:36 PM, North, Karin <Karin.North@cityofpaloalto.org> wrote:

> Becky-
>
> Thank you very much for your thorough microplastics strategy. BACWA has reviewed the strategy and have the following comments:
>
> *1. A robust method selection and development process should precede the monitoring studies*
>
> Many of the proposed studies will be conducted concurrently with method development. Before any of the sampling and analysis takes place, researchers should ensure they are using the best available protocols. Since there are many methods mentioned in the literature, we recommend they begin by compiling that information in a literature review. The Strategy Document states that EPA is engaged in method development, and we suggest the strategy document explain the scope of work EPA is underwriting.
>
> The method selected for these studies should be standardized and validated through inter-laboratory testing before starting work. As part of this process, a QA plan is needed to define some fundamental standards:
>
> - Definition of microplastic - including size
> - Method for sample collection in each matrix
> - Method to be used for determining microplastic, including QA/QC elements for each matrix
> - Report format, documentation, and record keeping to ensure traceability and transparency
>
> *2. How does this research interact with similar efforts ongoing around the country and around the world?*

We understand that the RMP is collaborating with researchers in Canada and the U.S. However, aspects of this research, such as health effects of microplastics, are an enormous undertaking, and results may not be specific to the San Francisco Bay. We recommend that the Strategy Document explain how the RMP will leverage research ongoing elsewhere so that we do not fund duplicative studies.

3. We need a better understanding of the metrics by which microplastics are quantified

BACWA recommends that the RMP further investigate the significance of microplastic particle count versus concentration. It is possible that the shape and count of microplastic particles may be useful for source identification and tracking, but concentration may be more significant for toxic effect.

4. Studies on control alternatives should not precede identification of an environmental problem

While it makes sense to parallel track certain investigations, the decision about whether to perform some of the studies depends on the results of previous studies. In order to conserve limited resources, BACWA would like to stress that investigations into alternatives for removing microplastics should not proceed unless the science indicates that there is an environmental problem due to microplastic pollution.

5. Modeling will be premature without reliable, good quality data.

For reasons similar to #4, above, BACWA recommends that modeling be postponed pending the results of monitoring studies.

6. Public education should not be written off as infeasible before further consideration.

It is too early to dismiss public education as a means of source control, which is the lowest cost, most immediate way to control microplastic pollution. The statement, 'Significant reduction in use of synthetic textile appear unlikely' (p. 27) is premature without even considering public education and outreach messaging.

7. It is unlikely that incinerators contribute to microplastic pollution in water.

Incinerators are governed by strict air quality regulations that govern the release of microparticulate matter into the air. As such, incinerators employ effective controls to capture particles that are produced due to incombustible material or incomplete combustion. Additionally, organics that are incinerated begin to burn at 593 degrees F, a temperature at which plastic will oxidize, and will therefore not be released in particulate form even absent the required controls. We recommend that the Strategy document remove reference to incinerators as a potential source of microplastics.

8. BACWA concurs that all future analyses should verify that microparticles are composed of plastic.

BACWA was pleased to see the Strategy Document address the recent finding that not all microparticles identified in previous studies are plastic. We agree that all future studies should use spectroscopy to verify that particles found in effluent, stormwater, ambient water, solids, and biota are, in fact, plastic.

Finally, while we are pleased with the overall direction in which this research is headed, we would like to caution that when evaluating whether to proceed with specific projects, it is important to bear in mind the relative importance of microplastics compared to other emerging contaminants. The Strategy Document includes $1.125M of costs for potential studies by 2020, among the RMP and its partners. This does not include the work and expenditures by EPA, NOAA and other external efforts researching mircoplastics. It will

be important to appropriately allocate the level of effort designated for microplastics within the framework of emerging contaminants as a whole.

Feel free to contact me if you want to discuss any of the points above in more detail.

Thank you again for your hard work on this subject.

Best,

Karin North

650-329-2104

--
Rebecca Sutton, Ph.D.
Senior Scientist

San Francisco Estuary Institute
4911 Central Avenue
Richmond, CA 94804
@beckysuttonphd
510.746.7388

Task 3—Assumption

Preliminary AqMB™ Simulations: AqMB™ modeling will be performed to define model assumptions and set up alternatives in AqMB™**.**

TASK 4—FEASIBLE ALTERNATIVES

Task 4.1—AOP and Wetlands Pilot Testing

Consultant will perform bench tests Treatment of ROC by Advanced Oxidation Processes (AOPs) and pilot tests of AOP and Engineered Treatment Wetlands to evaluate its cost-effectiveness and beneficial uses.

Consultant and sub consultants (including the University of California at Berkeley (Berkeley) and Stanford University (Stanford), the San Francisco Estuary Institute (SFEI)), will evaluate the technical and economic feasibility of ROC treatment by Engineered Wetlands with or without AOP pretreatment.

4.1.1 Workplan Preparation and Project Management

The Consultant will develop a phased workplan that will meet the specific task activities. Quarterly project meetings will be conducted to allow the key project team members to report progress, exchange ideas and develop deliverables.

Deliverable:

Project workplan, schedule, and quarterly project meetings. Project meetings might be held more frequently if needed.

4.1.2 Identify contaminants of concern

The Consultant will develop a list of priority wastewater contaminants based upon the literature and SFEI's ongoing research related to the Bay. Bay regional action plans for contaminants of emerging concern (CECs) will inform the prioritization. This list will serve as the basis for the CECs to be evaluated in later tasks.

Deliverable:

Brief technical memorandum reporting on CECs to target.

4.1.3 Laboratory experiments to facilitate pilot-scale system design

Consultant will conduct preliminary experiments o assess the required dose of oxidants, extent of photosynthetic respiration needed to raise solution pH and the survival and growth of algae in the concentrate. Consultant will evaluate the application of ozone and UV/hydrogen peroxide AOP treatment of RO concentrate at laboratory-scale. The efficacy of this treatment will be evaluated in terms of the dose requirements needed to achieve removal of the water quality parameters evaluated. Additionally, Consultant will consider the potential for generation of

unwanted byproducts (e.g., bromate). Laboratory work will include the evaluation of the ability of these treatments to degrade metal-EDTA complexes.

Deliverables:

1. Laboratory-scale evaluation of AOP Treatment of ROC Test Plan.

2. Technical memorandum reporting on the results of the laboratory-scale evaluation of AOP Treatment of ROC (draft and final).

4.1.4 Design, Install, and Test Temporary Engineered Wetland

Consultant will complete design and temporary installation of an above ground pilot-scale engineered treatment wetland to test hypotheses about the performance of wetland systems and oxidative pre-treatment.

The most likely location for the system is adjacent to the SVAWPC, where RO concentrate is readily available, or another agreed upon site. District will provide infrastructure for the study, including power, sanitary facilities, RO concentrate, and discharge for the pilot engineered treatment wetland effluent. District will secure the site by fencing or other appropriate means.

Based on previous results and design experience, the Consultant team anticipates that the pilot-scale system will consist of an open water unit process wetland system and flow-through oxidative treatment system. The system will likely occupy approximately 500 ft^2 and would treat approximately 5,000 gallons per day (~3.5 gpm). The team anticipates splitting the cell into two parallel cells: one receiving untreated ROC and one received oxidative pre-treatment to compare these scenarios side-by-side. For the oxidative pre-treatment, this would require a ~2 gpm flow-through unit (e.g., ozone treatment unit) for rental at the site. The AOP bench tests would inform this task regarding the type of AOP (i.e., ozone or UV/hydrogen peroxide) and dose requirements to evaluate. Provisional sums for a total of $150,000 are included in the fee estimate to allow for the rental of the AOP equipment ($50,000) and the temporary installation of the Engineered Wetland ($100,000). The provisional sum for the Engineered Wetland temporary installation includes preliminary design drawings (up to 2 sheets) and tabulated specification sheets.

Operation and water quality monitoring of the wetland is part of this scope. The set of water quality parameters to monitor, and the monitoring frequency, will be agreed upon in consultation with the District; parameters will primarily include CECs and other ancillary parameters such as organic contaminants, nutrients, metals, and chronic and/or acute toxicity. The testing may include the effect of system parameters (e.g., installation of bio-barriers to enhance nutrient removal) and seasonal variations.

Consultant is responsible for sample analysis (including representative CECs general water quality parameters, dissolved organic carbon (DOC), major anions, and trace organics). The cost of water quality analyses not currently supported by Berkeley and Stanford laboratories will be the responsibility of the District.

Deliverables:

1. AOP and Wetland pilot study test plan, including sampling plan, water quality parameters to monitor, the monitoring frequency, and methods.

2. Technical memorandum on pilot system design.

3. Design, detailed drawings, and installation plans for pilot (AOP) and engineered wetland system.

4. Installation of temporary pilot-scale AOP unit.

5. Installation of temporary above ground pilot-scale engineered wetland system.

4.1.5 Data integration, Analysis, and Reporting

The Consultant team will analyze the results for the experimental work undertaken and make recommendations. A technical memorandum will be developed on impacts to Bay water quality including potential changes to CECs loadings and mass balances with respect to regional CEC action plans, and evaluation of permit issues. The technical memorandum will also describe opportunities and constraints for local discharge of treated brackish water into Bayland marshes; provide concepts of how the discharges may be incorporated into the marshes; envision scenarios for regional fresh water balance; and assess the co-benefits of such discharges including meeting Bayland restoration goals and enhancing local restoration actions.

A stakeholder workshop will allow report on the finding and allow discussion of the regional issues related to the discharges. The workshop will be coordinated by SFEI with District support. The workshop discussion will be reported as a section of the technical memorandum and will help define future activities.

Deliverables:

1. Technical memorandum summarizing the experimental work, the results of the combination of AOP and engineered wetland treatment, and recommendations (Draft and Final).

2. Stakeholder workshop (materials, agenda, and facilitation)

3. technical memorandum summarizing workshop outcomes

- **Task 4.2 – Develop Alternatives-Site 1 (Gilroy)**
- **Task 4.3 – Develop Alternatives-Site 2 (South San José)**
- **Task 4.4 – Develop Alternatives-Site 3 (SVAWPC Expansion)**
- **Task 4.5 – Develop Alternatives-Site 4 (Palo Alto)**
- **Task 4.6 – Develop Alternatives-Site 5 (Sunnyvale)**

The scope activities shown below are common for all Tasks 4.2 to 4.6.

4.7 Develop Alternatives

The objective of these tasks is to develop planning definition for option analyses for each AWPF. The shortlisted alternatives will be developed further to allow for capital and operating estimates and provide greater visibility of the design concept. Consultant believes that this will provide a sufficient level of detail to enable the District's project team to sign off on the concept and carry it over into the next phase. The following key activities will be included in this phase:

- Feasibility stage approvals
- Feasibility stage Process Flow Diagrams
- Feasibility stage environmental impact
- Feasibility stage design
- Feasibility stage capital and operating cost estimates

The outcome of this activity will allow the team to further refine the shortlist to a single preferred ROC management plan or strategy for each AWPF following the MCAs.

Deliverable:

Input into Staff-Recommended Alternative Report.

4.8 Feasible Alternative Matrix

Prior to the external MCA workshop, Consultant will score and rank the alternatives internally amongst Consultant technical leads based on the endorsed feasible alternatives MCA framework. The outcome of the workshop would provide a relative score for each alternative and forms the basis of discussion in the Feasible Alternatives Presentation and MCA Workshop

Deliverable:

Feasible Alternative Matrix (Draft and Final)

4.9 Assessment Methodology

Consultant will develop and confirm a prioritized list of criteria along with scoring and weightings approach to provide a basis for evaluating the merits of each alternative and allow methodical comparison. Consultant will also provide a guidance document to help ensure a consistent thought process in applying the MCA criteria and score.

Consultant will seek endorsement for the MCA framework from the District prior to the next task.

4.10 Feasible Alternatives Presentation and MCA Workshop

The objective of this activity is to select one ROC management plan for each AWPF to be further developed in Task 5. Consultant will organize and deliver a presentation on the feasible alternatives during the workshop. The presentation's content will be agreed with the District's project team, and we anticipate that it will include a detailed overview of the shortlisted alternatives for each AWPF including a justification of how the alternatives were shortlisted. It is

assumed that facilitation of workshop will be by the District. The budget estimate includes up to a total of 1,486 hours for Tasks 4.2 to 4.6.

Deliverables:

1. Agenda, briefing package, and presentation materials
2. Minutes and outcome of the workshop

4.11 List of Assumptions

1. Facilitation of workshops will be by the District, with the attendance of key stakeholders required

2. The shortlisted number of alternatives for the AWPFs are as follows:

- Site 1 (Gilroy)- up to 2 options
- Site 2 (South San José)- up to 2 options
- Site 3 (SVAWPC Expansion)- up to 3 options
- Site 4 (Palo Alto)- up to 3 options
- Site 5 (Sunnyvale)- up to 3 options

3. For AWPFs at SVAWPC, Palo Alto, and Sunnyvale, an engineered wetland option, with or without ROC pretreatment by advanced oxidation (AOP) will be included. The definition of this option will be based on the results of the pilot testing in Task 4.1.

4. District will provide infrastructure for the AOP/Wetland demonstration testing, including power, sanitary facilities, ROC from the Advanced Water Purification Center, secure space, and discharge for the pilot engineered treatment wetland effluent. District will secure the site by fencing or other appropriate means.

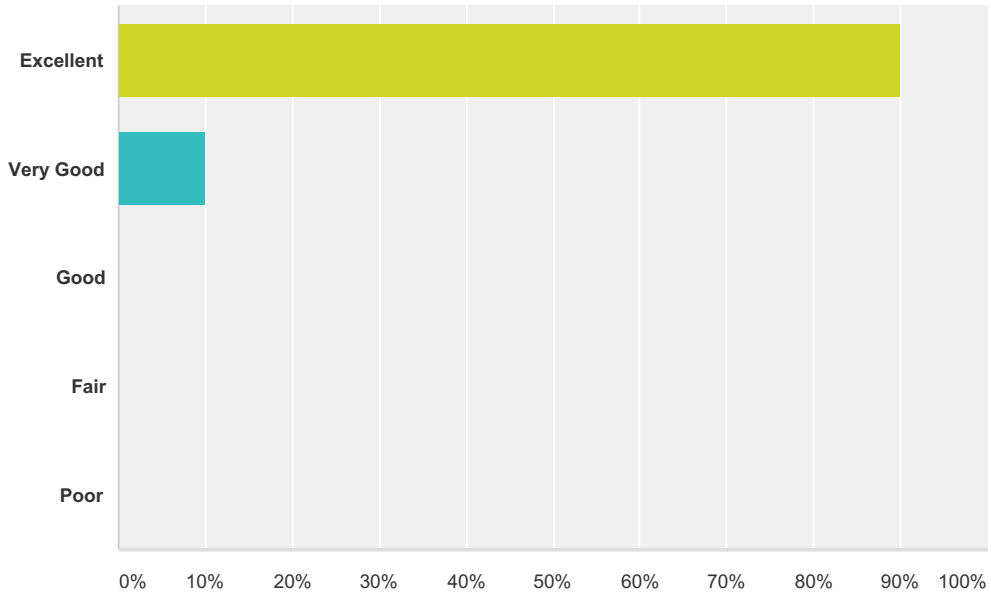
5. Consultant will rent the AOP equipment ($50,000). The rental contract shall include technical support and maintenance. Consultant will install the Engineered Wetland ($100,000) and procure all materials needed. The provisional sum for the Engineered Wetland includes installation, materials, and associated equipment, installation plan, design drawings (up to 2 sheets), and tabulated specification sheets. Operation and water quality monitoring of the wetland is the responsibility of the Consultant. The set of water quality parameters to monitor, and the monitoring frequency, will be agreed upon in consultation with the District; parameters will primarily include CECs and other ancillary parameters such as organic contaminants, nutrients, metals, and toxicity. The testing may include the effect of system parameters (e.g., installation of bio-barriers to enhance nutrient removal) and seasonal variations.

6. The laboratories of the Berkeley and Stanford will be used for sample analysis (including representative CECs general water quality parameters, dissolved organic carbon (DOC), major anions, and trace organics). The cost of water quality analyses not currently supported by these laboratories will be the responsibility of the District.

7. The District will obtain all necessary permits or approvals for wetland installation, and will coordinate field activities with other agencies interested in the study.

Q1 Overall how would you rate the Pardee Seminar?

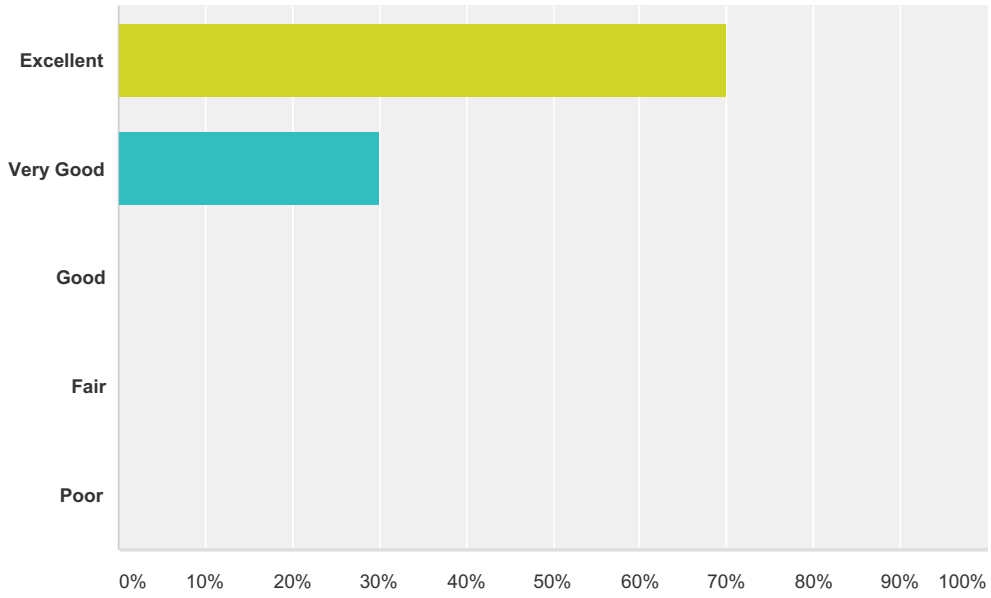
Answered: 10 Skipped: 0



Answer Choices	Responses	
Excellent	**90.00%**	9
Very Good	**10.00%**	1
Good	**0.00%**	0
Fair	**0.00%**	0
Poor	**0.00%**	0
Total		**10**

Q2 Overall, how would you rate the Pardee Venue?

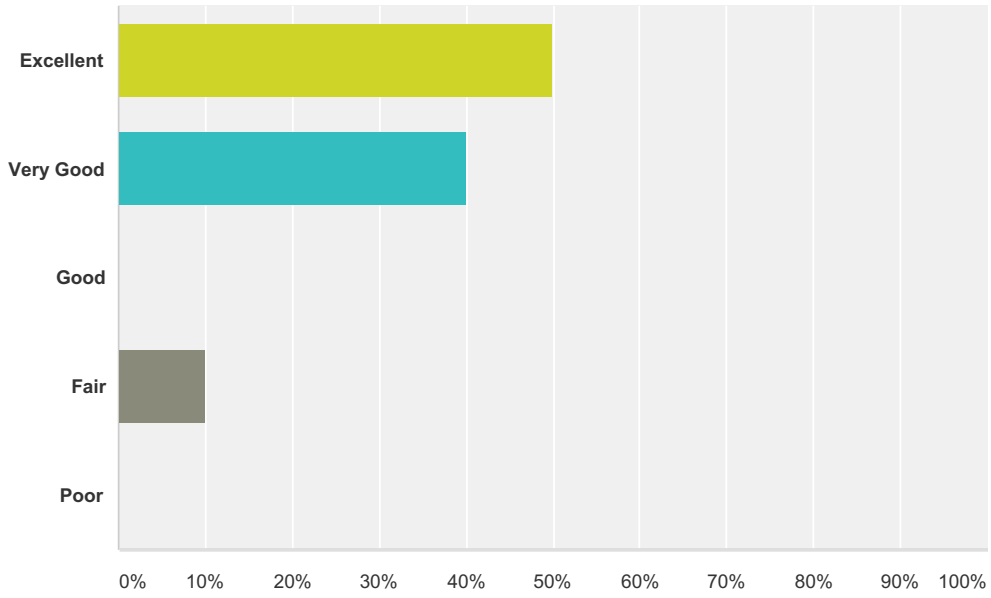
Answered: 10 Skipped: 0



Answer Choices	Responses	
Excellent	**70.00%**	7
Very Good	**30.00%**	3
Good	**0.00%**	0
Fair	**0.00%**	0
Poor	**0.00%**	0
Total		**10**

Q3 How would you rate the caterer?

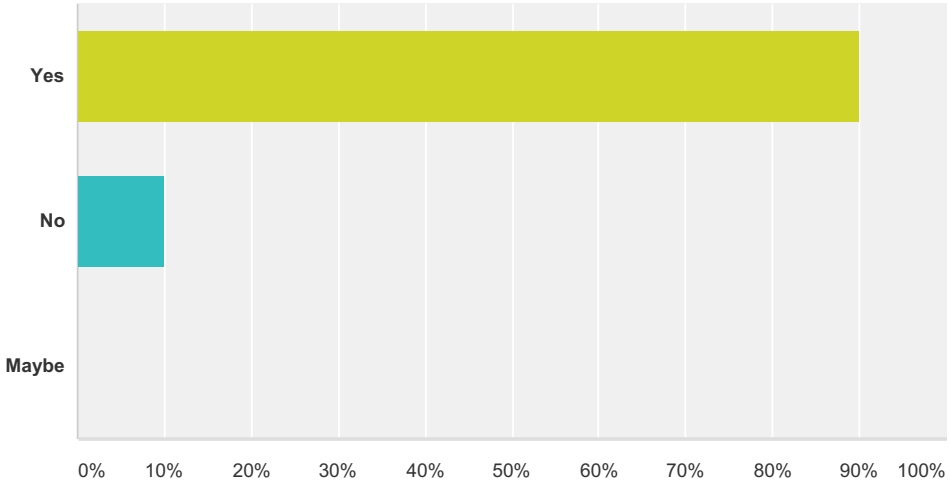
Answered: 10 Skipped: 0



Answer Choices	Responses	
Excellent	**50.00%**	5
Very Good	**40.00%**	4
Good	**0.00%**	0
Fair	**10.00%**	1
Poor	**0.00%**	0
Total		**10**

Q4 Do you plan on attending next year?

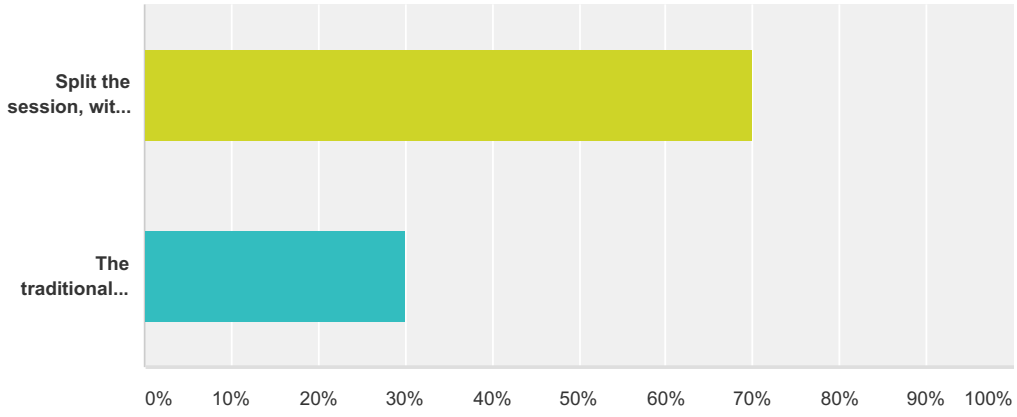
Answered: 10 Skipped: 0



Answer Choices	Responses	
Yes	**90.00%**	9
No	**10.00%**	1
Maybe	**0.00%**	0
Total		**10**

Q5 This year we had a one day Pre-Pardee meeting in the Bay Area and only spent two days at Pardee. Do you prefer this approach or the traditional approach of three days at Pardee?

Answered: 10 Skipped: 0



Answer Choices	Responses	
Split the session, with one day in the Bay Area	70.00%	7
The traditional three days at Pardee	30.00%	3
Total		10

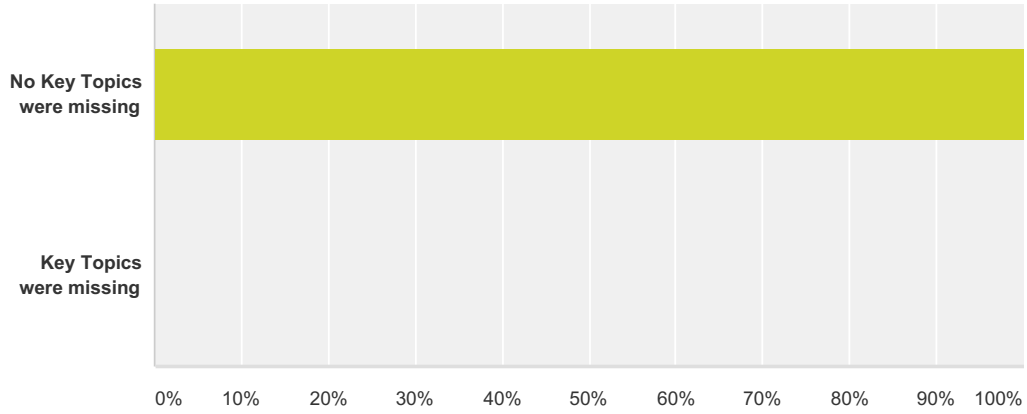
Q6 Do you have additional comments regarding the length of the event?

Answered: 2 Skipped: 8

#	Responses	Date
1	Start the first day a little later- 8:30 am start is extremely early.	10/19/2016 3:36 PM
2	I'd recommend ending by 2pm on Friday due to traffic as some attendees have longer commutes than others (perhaps that means starting 30 minutes earlier in the morning or a working breakfast).	10/19/2016 11:31 AM

Q7 Key Topics

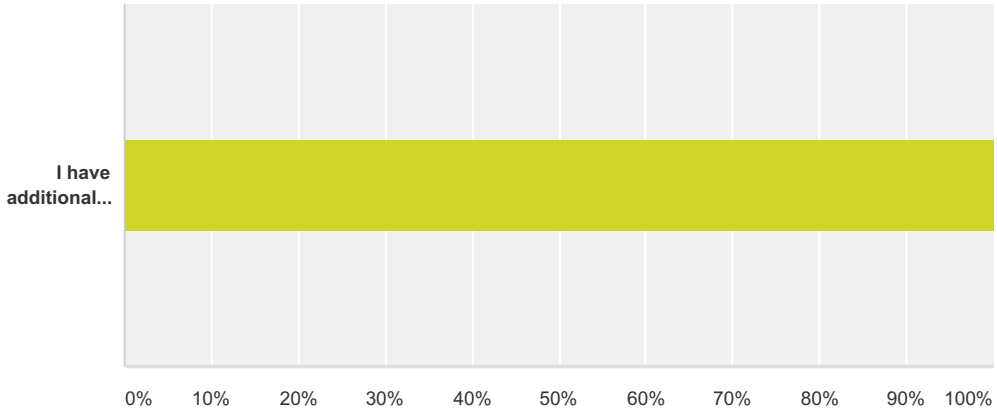
Answered: 10 Skipped: 0



Answer Choices	Responses	
No Key Topics were missing	**100.00%**	10
Key Topics were missing	**0.00%**	0
Total		**10**

Q8 Other Comments

Answered: 3 Skipped: 7



Answer Choices	Responses	
I have additional comments	100.00%	3
Total		3

Q8 Other Comments

Great job in preparation of materials and process to get to decision-making, yet also flexible as discussions progressed

It would be nice if we gave everyone an opportunity to discuss future projects at their plant or anything new that is going on. I enjoy hearing from the different wastewater treatment plants.

More efficient with the two-day program at Pardee!
1. Get the presentation material to attendees ahead so we can study and be ready to discuss
2. Develop more team building activities

BAY AREA CLEAN WATER AGENCIES
Draft ANNUAL MEETING PROGRAM
JANUARY 27, 2017

TIME	SUBJECT	DESCRIPTION	SPEAKER
8:30 am - 9:00 am	**Coffee and Refreshments**		
9:00 am - 9:15 am	**Welcome**	Introduction and Year in Review	**Laura Pagano, Chair**
9:15 am - 10:00 am	**EPA/SWRCB/RWQCB/ Priorities**	**Moderator** EPA Region IX, Manager, NPDES Permits Office SWRCB Board Member RWQCB Executive Officer	**Jim Ervin** David Smith Steve Moore Bruce Wolfe
10:00 am - 10:15 am	**Nutrients - Overview**	Progress on 1st WS Permit/Governance Update	**Ben Horenstein**
10:15 am - 10:30 am	**Break**		
10:30 am - 11:45 am	**Nutrients - Regulatory Update (cont'd)**	**Moderator** Optimization/Upgrade Studies Annual Reporting Q & A Next Steps	**Ben Horenstein** JB Neethling, HDR JB Neethling, HDR JB Neethling, HDR JB Neethling, HDR
11:45 am - noon	**BACWA Leadership Recognition**	Committee Recognition (scrolling screen with Committee Accomplishments)	**Laura Pagano, Chair**
Noon - 12:35 pm	**Lunch**		
12:35 pm - 12:45 pm	**BACWA Business Meeting**	Financial/Organizational Outlook	**David Williams**
12:45 pm - 1:30 pm	**Nutrients - Technical Update**	**Moderator** SFEI Study Findings & Science Plan	**Lori Schectel** David Senn, SFEI
1:30 pm - 1:45 pm	**Nutrient - Regulatory**	Preview of the 2nd Watershed Permit	**David Williams**

1:45 pm - 2:45 pm	**BACWA Hot Topics**	**Moderator**	**Mike Connor**
	(pick 6 topics for high level overview)	New Enforcement Policy	Lorien Fono
		CEC Participation	Karin North
		Recycling	Rhodora Biagtan
		Selenium	Eric Dunlavey
		Media Interaction on Spills	San Jose
		TNI Lab Standards	Nirmela Arsem
		Microplastics	Phil Trowbridge
		Reduction in CTR Monitoring	Lorien Fono
		Toxicity	Jim Ervin
		AIR Issues/CWCCG	Sarah Deslauriers
		Enhancing Service to the Membership	Laura Pagano
2:45 pm - 2:50 pm	**Annual Meeting Wrap-Up**		**Laura Pagano, Chair**

FY 2018 Proposed Budget Planning/Adoption Timeline

January 13, 2017
Deadline for Special Programs and Committees to submit FY 2018 draft budgets and workplans / financial requests and proposals to ED.

February 2017 (to be scheduled during the week of 2/6 - 10)
Finance Committee Meeting
ED meets with Finance Committee to present rough draft BACWA/CBC and Special Program (WOT) budgets and workplans, obtains feedback, and revises draft as necessary in preparation for the February 17, 2017 Board meeting.

February 17, 2017
Executive Board Meeting
As part of the regularly scheduled monthly Board meeting the ED will lead a discussion to present draft BACWA/CBC and Special Program (WOT) budgets and workplans and obtain input to address any questions/concerns raised by the Finance Committee. Feedback from Board, with input from BACWA members/meeting attendees (including Committee Chairs) will be used for further revisions in preparation for the March Orinda meeting.

March 2017 (to be scheduled during the week of 3/6-10) **TENTATIVE**
Orinda BACWA Board Workshop (half day BACWA Board only and half day with Water Board)
As part of the BACWA Board only portion of the meeting, the ED will obtain feedback from BACWA Board on the revised draft BACWA/CBC and Special Program (WOT) budgets and workplans and make revisions as necessary in preparation for the March BACWA Board meeting.

March 17, 2017
BACWA Board meeting
As part of the regularly scheduled monthly Board meeting, the ED will request final feedback from Board on the revised draft BACWA/CBC and Special Program (WOT) budgets and workplans. Any necessary final revisions will be made by the ED in preparation for approval at the April BACWA Board meeting.

April 21, 2017
BACWA Board meeting
The ED will include on the regular BACWA Board meeting agenda, a request that the Board approve the Final FY 2018 BACWA/CBC and Special Program (WOT) budgets and workplans.

2017 BACWA EXECUTIVE BOARD
REGULAR MONTHLY MEETING SCHEDULE

DATE	TIME	LOCATION
January 27, 2016 *(Annual Member Meeting – no regular Board meeting in January)*	8:30 – 3:30	Metropolitan Golf Course Oakland, CA
February 17, 2017	9:00 – 12:30	SFPUC, Hetch Hetchy Room
March 17, 2017	9:00 – 12:30	EBMUD Lab Library
April 21, 2017	9:00 – 12:30	SFPUC, Hetch Hetchy Room
May 19, 2017	9:00 – 12:30	EBMUD Lab Library
June 16, 2017	9:00 – 12:30	SFPUC, Hetch Hetchy Room
July 21, 2017	9:00 – 12:30	EBMUD Lab Library
August 18, 2017	9:00 – 12:30	SFPUC, Hetch Hetchy Room
September 15, 2017 *(Pre-Pardee Tech Seminar)*	8:30 – 8:45 9:00 – 4:30	EBMUD Lab Library
October 12-13, 2017 *(Pardee Tech Seminar)*	TBD	EBMUD Pardee Facility
November 17, 2017	9:00 – 12:30	SFPUC, Hetch Hetchy Room
December 15, 2017 *(Holiday Lunch)*	9:00 – 2:00	EBMUD Lab Library

Special Board Meetings to be scheduled in 2017:

Joint BACWA/San Francisco Bay Regional Water Board meetings will be scheduled for March, May, July, October (Pardee), and December

AIR Committee – Report to BACWA Board

AIR Committee Meeting on: 9/21/16
Executive Board Meeting Date: 11/18/16
Committee Co-Chairs: Nohemy Revilla and Randy Schmidt

Committee Request for Board Action: None

Sarah Deslauriers and Courtney Mizutani provided the regulatory update presentation. Key topics from the meeting and since are below:

Regulatory Updates

- **Portable IC Engines ATCM** - The committee discussed proposed changes to the Portable IC Engines ATCM. A question was raised about the schedule for enforcing standards on stationary sources. The ATCM schedule and standards for stationary sources remain unchanged. Here is the link to the stationary source ATCM website.
- **Regulation 2, Rule 5 (New Source Review of Toxic Air Contaminants Amendments)** – BAAQMD published the draft regulation in late October and comments are due **November 28**. The draft will be considered during the Public Hearing scheduled for December 7. The proposed rule revisions would: (1) implement the California Office of Environmental Health Hazard Assessment (OEHHA)'s February 2015 Guidance Manual for Preparation of Health Risk Assessments and the California Air Resources Board/California Air Pollution Control Officer Association (CARB/CAPCOA)'s July 2015 Risk Management Guidance for Stationary Sources of Air Toxics; (2) incorporate new and revised toxic air contaminant emission rate trigger levels for health risk assessment requirements; (3) revise TAC emission calculation procedures for older modified sources and add net project health risk limits for projects including these older modified sources; (4) extend the related application period from two years to three years; (5) add exemptions from health risk assessment for sources with no increases in toxicity weighted emissions and for engines smaller than 50 brake-horsepower; and (6) update regulatory language for consistency with State guidelines. The current risk management thresholds will remain the same. However, the overall effect of the proposed rule revisions is that cancer risk will increase for many projects even though emissions remain the same.
- BAAQMD is inviting input on **Regulation 11, Rule 18 (i.e., Rule 11-18) - Reduction of Risk from Air Toxic Emissions at Existing Facilities**. BAAQMD is proposing to conduct health risk assessments for *all* facilities with a cancer risk >10 in a million, and require risk reduction/installation of TBARCT (Toxic Best Available Retrofit Control Technology) for significant sources of toxic air contaminants. The Staff Draft Report specifically calls out wastewater treatment plants on pages 29-30 – identifying fugitive and stack emissions of Diesel PM, hydrogen sulfide, mercury, and cadmium as pollutants of concern. It also defines the Significant Risk Threshold, which sets the cancer and non-cancer risk action levels for individual sources of toxic emissions as follows:
  - Cancer: 1.0 in a million
  - Chronic hazard index: 0.2
  - Acute hazard index: 0.2

  There is an opportunity to provide input on the definition of TBARCT, and possibly on the implementation time frame - given the long time frame that POTWs need to plan and budget capital projects. Comments can be submitted until December 2, and the AIR committee is considering weighing in. See http://www.baaqmd.gov/rules-and-compliance/rule-development/rules-under-development/regulation-11-rule-18

Issue Updates

- **Developing BMPs for Digester Gas Venting -** The committee discussed whether we need to educate BAAQMD staff about the need for an accommodation for venting digester gas during maintenance (e.g., the use of a flare being exempt during maintenance in lieu of venting). Sarah is reaching out to BAAQMD to discuss the potential of the BACWA AIR Committee to inform BAAQMD staff on Best Management Practices for Digester Gas Venting. If BAAQMD is open to this process, Sarah and Courtney will develop an estimate of effort to present to the AIR Committee for approval as a special assignment.
- **Injecting Biogas into PG&E Pipelines -** Several agencies are considering projects that may include pipeline injection of biogas. The committee has therefore decided to revisit the possibility of discussions between BACWA, BAAQMD, and PG&E regarding pipeline injection of biomethane to explore its feasibility. BACWA RPM is reaching out to these member agencies to coordinate a meeting. Please contact Lorien Fono if you have an interest in participating.

Committee Business:

- Since the meeting, the committee has launched a Google Group email list for use.
- Tentative dates for future meetings this fiscal year: November 30, March 15th, and June 21st

Next Meeting: The next meeting will be November 30 at the San Jose/Santa Clara RWF

BAPPG Committee Report to BACWA Board

Meeting Date: October 5, 2016
Prepared By: Lorien Fono, BACWA RPM
BAPPG Chair: Robert Wilson

20 attendees representing 12 member agencies.
Committee Notes are available online.
Committee Updates from BAPPG's General Committee Meeting on October 5, 2016:

Steering Committee Update – Education

Next Generation Science Standards for California schools call for visits to WWTPs in fifth grade. Some agencies give grants for transportations, and the BACWA community can share information about how to implement these grants.

Outreach Update

With the assistance of O'Rorke, BAPPG placed ads on Facebook and with Division D. Division D is an ad placement company and when you place a buy through them the ad is place in multiple online locations. Here are the results of the ad placement:

	Impressions	Clicks	Click Through Rate
Division D	578,477	1,163	0.20 %
Facebook	308,275	490	0.16 %

The average click through rate for an ad is 0.06 % so these numbers were well above average. Google analytics indicated that during P2 week, Baywise had 1,412 total visits from 1,270 unique users. This demonstrates the value of leveraging agencies' resources to get collective value from these campaigns. There was a question about whether collection systems have noticed a reduction in wipes flushing concurrent with these campaigns

Flea Control Presentation

The meeting featured a **presentation** by Stephanie Hughes on the problems with current flea control chemicals in terms of both toxicity and effectiveness, and some non-chemical alternatives. She also provided a **spreadsheet** showing the effectiveness of different flea control alternatives to combat fleas at different life cycle stages. Topical flea treatments are flawed in that they only reach an estimated 5% of the flea population in the home. Outreach messages should focus on mechanical controls and discourage topical treatments for pets. DPR is evaluating human exposure data for fipronil, and is considering significant mitigation measures. They will post their findings by December 2016.

Date of Next BAPPG Meeting

BAPPG General Meeting
December 7, 2016: 10:00am-12:00pm
1515 Clay Street, Second Floor, Room 11
Oakland, CA

Biosolids Committee – Report to BACWA Board

Biosolids Committee meeting on: October 20, 2016
Executive Board Meeting Date: November 18, 2016
Committee Chair: Alicia Chakrabarti and Adrian Santiago

Committee Request for Board Action: None.

Agenda Item : Welcome and Introductions

- Adrian Santiago of SFPUC is the new co-chair of the committee.

Agenda Item : Lystek Facility Tour

- The Lystek technology can produce three products:
  - Lystegro is a nutrient rich fertilizer registered with the U.S.EPA.
  - Lystemize is a digester feedstock.
  - Lystecarb is a secondary treatment feedstock.
- The Fairfield facility processed 2,000 wet tons in its first two months. The current operating capacity is 5,000 wet tons per month, and the total buildout capacity is 12,500 wet tons per month.
- Lystek can subcontract hauling.
- The existing facilities in Canada sell all of their end product within a 70 kilometer radius.
- Group toured the facility.

Agenda Item : Ian Wren

- Ian Wren introduced himself and his role with BACWA.
- He is visiting all of the committees to discuss nutrient management issues.
- Group discussed ways in which biosolids and nutrient topics intersect.

Agenda Item : BACWA Biosolids Survey

- Lorien reported on the BACWA Biosolids Survey results.
- 21 agencies responded, which corresponds to nearly 90% of the wastewater flow for the BACWA region.
- A notable difference from the southern California survey results is that fewer agencies in this region are marketing their biosolids.

Next BACWA Biosolids Committee Meeting: January 2017, date and location to be determined

Attendees:

Name/Title	Agency
Greg Baatrup	Fairfield Suisun Sewer District
Jim Dunbar	Lystek
Lorien Fono	BACWA
Sara Hammes	Synagro
Ward Janssens	Lystek
Peter Kistenmacher	Anaergia
Matthew Krupp	City of Palo Alto

Name/Title	Agency
Kurt Meyer	Lystek
Caitlyn Morrell	SFPUC
Rebecca Overacre	EBMUD
David Riley	Lystek
Adrian Santiago	SFPUC
Talyon Sortor	Fairfield Suisun Sewer District
Chelsea Thompson	City of Petaluma

Collection Systems Committee Report to BACWA Board

Collection Systems Committee Meeting on: 9/8/16 and 11/10/16
Executive Board Meeting Date: 11/18/16
Committee Chairs: Justin Waples and Erin Smith

Committee Request for Board Action: **None**

26 attendees, representing 14 member agencies on 9/8

18 attendees, representing 10 member agencies on 11/16

Presentation on I/I diagnostic tools – September 8

V&A Consulting Engineers provided a presentation on flow monitoring for I/I detection. They showed how hydraulic peak shapes can be used forensically to identify whether flows are due to inflow (quick intrusion to the sewer) on infiltration (slower intrusion). The hydrographs of different I/I components can be used to model the causes and predicted responses of I/I, leading to rehabilitation recommendations.

Presentation on EBMUD's I/I Reduction Efforts - November 10

Christopher Dinsmore of EBMUD gave a presentation updating members the efforts by EBMUD and its satellite agencies to reduce I/I per the consent decree with EPA. The final compliance deadline to eliminate discharges from the last wet weather facility is 2035. EBMUD and its satellite communities are implementing a comprehensive Regional asset management program to reduce I/I into the sewer system, and they have developed Regional Standard to accomplish this. As part of this work, they are also doing a comprehensive study of what type of testing and inspections technologies and strategies work best under which circumstances. Christopher will return in about a year to give an update on any measured I/I reductions resulting from these efforts.

Future meetings

The committee conducted a survey of potential future meeting topics, which were ranked as follows:

Topic	Score
Key Performance Indicators - What are they and how do they relate to the SSMP and overall agency performance effectiveness?	55
Force Mains - Management programs and assessment technologies	46
Optimizing Field Operations 2 -Technology, hardware, truck routing, doing more with less	44
Lessons Learned- Case studies of what to do or not to do on various topics	44
Optimizing Field Operations 1 - Determining adequate staffing levels	43
Odor and corrosion - Assessment and reduction technologies	43
Large diameter pipes - Management programs and assessment technologies	41
Fats, Oils, Grease, and non-dispersibles - Program approaches, enforcement activities, case studies	40
Optimizing Interdepartmental Communication - Optimizing communication processes between Operations and Admin/Engineering departments. Internal customer service improvement opportunities	39
Media relations - How to respond to the press after a spill	39
Pump Stations and SCADA - What are agencies doing and how can we learn from each other?	38
Earthquake preparedness - Agencies approaches	38
Risk exposure - Determining risk when services are provided without adequate documentation and oversight	37
Industry Leader Speaker - Industry key speaker or leader from outside the industry on various topics	37
Communication outreach - Putting your best foot forward; reaching out to the next generation	37
Vehicle and equipment maintenance - Getting the most from your investment	36
Climate change planning - Agencies approaches	34
Capacity planning - Approaches for ensuring sufficient hydraulic capacity, now and in the future	33
Hydraulic models - Why invest when it's expensive and complicated?	28

Additional potential topics:

- Computerized Maintenance Management Systems: Successes and Challenges
- Enforcement updates by SWRCB, RWQCB or settlement agreements across the State

The committee will also be conducting a survey to see if the membership would like to change the day or time of the meetings, since there have been complaints that traffic is too heavy in the afternoons, leading some members to miss meetings. The Committee will also transition to Google Groups as an information sharing and email distribution tool.

Next Collection System Committee Meeting

Our next committee meeting will be held on January 12 at the Boy Scouts Council in San Leandro.

InfoShare Asset Management– Report to BACWA Board

InfoShare Asset Management Committee meeting on: 08/31/2016
Executive Board Meeting Date: 9/16/2016
Committee Chair: Dana Lawson, CCCSD

Committee Request for Board Action: None

Attendees: Dana Lawson, PJ Turnham (CCCSD); Dan Jones (CCWD); Felicia James (Carollo Engineers); Aaron Johnson (DSRSD); David Stoops, Mike Conner (EBDA); Dillon Cowan (EBMUD); Meg Herston, Jordan Damerel (FSSD); Jimmy Dang (Oro Loma); Saeed Shams (San Jose)

Introductions

- See above

Announcements

- EPA sent draft permit language to the Regional Board in March. Regional Board (Lila Tang) forwarded to previously solicited volunteers for comment in late June [Dana Lawson (CCCSD) Maura Bonnarens (EBMUD), Pam Jeane (SCWA) and Greg Norby (RVSD)]. Since Lila has since retired, comments were sent to Bill Johnson. No information about expected time-frame for implementation, review period, etc.
    - Main points: inventory required for assets valued over $5k with specific attributes (name, identifier, location, current condition, purchase/install date, purchase/replacement cost, COF, LOF), automatic work order management, prioritize R&R, create AMP including R&R plan, maintenance plan, system map, funding plan, 30-year projection. Less required for smaller agencies. Note: "Small" systems are systems with fewer than 1,000 connections or 3,300 individuals
    - Concerns regarding time schedule, unclear on level of accuracy needed to comply, practicality of a "single-database", inclusion of collection system requirements when this would most likely be applied to an NPDES permit for treatment plants…

Presentation

- Estimating long-term capital budgets, David Stoops (EBDA)
    - Shared an Excel spreadsheet with macros developed by consultant that is used to develop EBDA's budget.
    - Worked with GHD to develop the rehab plan.
    - Uses asset data from CMMS.
    - Tables included asset inventory, hierarchy, classes; and scenarios for renewal and funding.
    - Spreadsheet has been a valuable tool to communicate with EBDA's commission.
    - Graphs included valuation profile, install profile, condition profile, risk matrix, renewal.
    - Assets defined as having a value of $3k+.
    - Contingency bucket for run-to-fail assets approximately $60k/yr
    - Hierarchy built from parent-child asset relationships which is useful in rehab & renewal planning
    - Use CPI to annually adjust replacement costs to keep them in current dollars
    - Predicts rehab # or replacement, projects costs by year to develop budget

Discussion

- Cost estimating – group discussed development of reference tables for replacement cost of vertical and linear assets. Jimmy will check with PUG (Pipe Users Group) about any plans to develop tables for pipelines. Also interest in developing tables for treatment process piping and recycled water piping. For now, group agreed to develop reference tables for vertical assets that would probably include replacement cost by unit/size, expected service life range, rehab cycle in years and number of rehabs possible by asset class/type.
    - Action Item: Everyone to bring whatever data their agency has to share at next meeting.
- CCWD starting Asset Management Implementation Plan; competed a gap analysis last year
- Delta Diablo will be starting a facility condition assessment

Suggestions for Future Agenda Items

- From 2/4 meeting:
  - Comprehensive schedule for condition assessment of all asset classes
  - Replacement versus asset cost estimating
  - Modifying planned maintenance schedules based on condition assessments, optimizing maintenance (may be more appropriate for maintenance infoshare group)
- From 5/25 meeting:
  - Lani attended a project management/asset handover presentation by Sac Regional at CWEA that may also be of interest to this group at a future meeting
- From this meeting:
  - Group will use the discussion portion of the next meeting in November as a "working meeting" for this.
  - Please e-mail dlawson@centralsan.org if your agency can host and/or provide a presentation; default is to host at CCCSD if no other agencies are able to volunteer in November.

Next BACWA Asset Management Infoshare Committee Meeting: November TBD, at Location TBD.

Laboratory Committee – Report to BACWA Board

Laboratory committee meeting on: 09 November 2016
Executive Board Meeting Date: November 2016
Committee Chair : Nirmela Arsem

Committee Request for Board Action: None

Informational items :

- Microplastic monitoring and science and strategy document for San Francisco Bay: Comment letter based on the lab committee members' input was submitted to SFEI, letter dated October 24. Karen North has volunteered to work with SFEI on this aspect.
- Comment letter on ELAP's proposed adoption of TNI 2016 standard was submitted on October 20. Since several other groups in support of ELTAC were analyzing the standard line by line, this comment letter covered larger, conceptual aspects of interest to BACWA members.
- ELAP convened the Expert Review Panel (ERP) meeting on October 31, at Southern California Coastal Water Research Project (SCCWRP) offices. ELAP provided updates and ERP chair, Andy Eaton presented the feedback from ELTAC and Regulatory Agency Partners. All information is available at SCCWRP's website.

Regulatory Developments:

- Mindy Boele (Vacaville) and Mark Koekemoer (Napa) provided updates on Environmental Laboratory Technical Advisory Committee (ELTAC) meetings through email to share at the lab committee meeting
- ELTAC and ELAP held a meeting on November 2. Three subcommittees presented their list of requests for modification. Generally the changes pertained to Quality Management System (QMS) requirements rather than the method implementation itself. Only 38 of the items were considered during the meeting due to time limitations. ELAP chief, Christine Sotelo, will take these recommendations to Regulatory Agency Partners.
- Next ELTAC meeting is scheduled for January 4, 2017.
- Ali (Benicia) reported that she compared the TNI microbiology standards line by line and found very little difference from Standard Methods requirement.

Agency Reports:

- EBMUD laboratory is scheduled to be audited December 13-15.
- EBMUD is recruiting for Microbiologist I/II; recruitment officially will be open from November 14 to December 2.
- Chris Francis (Napa) reported that their LIMS (Promium Element) is working very well for them. Samantha (City of Palo Alto) reported that they have the same LIMS and that it is working well for them as well.
- Guy (USD) reported the purchase and successful installation of a Thermo ICP. He reported that service was good, installation was easy and the instrument is already in productions.

Open Forum:

- MDL related discussions:
    - The lack of clarity in ELAP requirements for MDL studies was discussed. Since Method Update Rule, expected to be published in 2015, did not take place, there is still considerable gray areas. MDL verification versus MDL studies was discussed. There was further discussion about procedure for dropping outliers when performance based MDLs are developed.

New Business:

- Recommendation for training in 2017 to prepare for TNI standard implementation
  - Corrective action
  - Internal audits
  - Training records
  - Document control policy
  - MDLs
- While it is recognized that TNI 2016 is not yet approved and that ELAP has not finalized TNI or TNI-light, these topics were selected as possible basic quality system related requirement that will be beneficial to understand.

Upcoming meetings, conferences, etc.:

- 9th Biennial Bay-Delta Science Conference, November 15-17, 2016, Sacramento Convention Center, Sacramento
- BACWA Annual Members' Meeting, January 27, 2017, Metropolitan Golf Course 10051 Doolittle Drive, Oakland
- Pittcon 2017, March 5-9, McCormick Place, Chicago (call for papers close November 30, 2016)
- CWEA annual conference, April 25-28, Palm Springs, California
- CWEA Lab Committee: ELAP regulations training, November 29, at Central San. Bill Ray will conduct the training.

Next BACWA Laboratory Committee Meeting: TBD

Permits Committee – Report to BACWA Board

Permits Committee Meetings on: 9/13/16, 10/11/16, 11/8/16
Executive Board Meeting Date: 11/18/16
Committee Chair: Eric Dunlavey

Committee Request for Board Action: None

21 attendees, representing 15 member agencies on 9/13
9 attendees, representing 7 member agencies on 10/11
23 attendees, representing 18 member agencies on 11/8

Regional Water Board Report-out (September)
Bill Johnson is replacing Lila Tang as NPDES Division Chief. With Marcia Liao's retirement, there are now two vacancies to fill in the division.

Selenium
On July 15, the EPA published its proposed selenium criteria in the **Federal Register**. The rule proposes to reduce the selenium water quality criteria for the waters of San Francisco Bay and Delta from 5 ppb to 0.2 ppb, and also proposes fish and clam tissue criteria. Most San Francisco Bay Area POTWs would not be able to meet this water concentration without dilution credit. The Lower South Bay dischargers (San Jose, Palo Alto, and Sunnyvale) developed a **Lower South Bay Selenium Fact Sheet** that shows how measured selenium concentrations in the water column, POTW effluent, as well as fish and clam tissue, compare to the proposed criteria. Selenium discharges from North Bay POTWs are governed by the 2015 **North Bay Selenium TMDL**, which was approved by the EPA in August 2016, but POTWs in the South Bay could be impacted in the future by the new criteria. BACWA worked with members of the Permits Committee and submitted a **comment letter** to EPA recommending that fish tissue criteria supersede the water column criterion where fish tissue data are available, and that Regional Regulators have the discretion to use fish tissue data to determine reasonable potential in dischargers' permits. The Lower South Bay Dischargers and the Water Board submitted letters that made the same recommendations. The Water Board also recommended that the fish tissue criteria be implemented as a mean rather than a single sample-exceedence. BayKeeper submitted a comment letter recommending the strict enforcement of the water column criterion, as well as requesting that the criteria override the North Bay Selenium TMDL. All comment letters are now posted in the Federal Docket. It is unknown when the EPA intends to respond to these comments.

Toxicity
- The State Water Board has circulated a new draft of its Toxicity Plan to Regional Water Board staff, who have provided comments. They have reportedly tried to address the comments of all different stakeholder groups. State Water Board staff have reported that they will conduct focused stakeholder meetings by the end of this year, with a draft out for public comment in early 2017. They will aim for a June 2017 adoption. Regional Water Board staff have stated that they will drop acute toxicity testing for agencies with no reasonable potential, and implement true dilution as the instream waste concentration.
- The Southern California Coastal Water Research Project (SCCWRP), has conducted research that suggests that there are problems with reproducibility in some of the chronic toxicity methods, particularly with the *Ceriodaphnia dubia* test species. These problems will have serious consequences for POTWs since the Toxicity Plan will likely include enforceable limits. As such, the Summit Partners, composed of CASA, CWEA, BACWA, SCAP, and CVCWA, have contacted SCCWRP and the Stormwater Monitoring Coalition (SMC) with a **proposal** to further evaluate accuracy, and approaches to mitigate and correct inaccuracies, related to the *Ceriodaphnia dubia* reproduction test. For more information on the original study, see SCCWRP's abstract on their poster for the SETAC conference.

ELAP Update
- On September 1, 2016, the Environmental Laboratory Accreditation Program (ELAP) informed the Environmental Laboratory Technical Advisory Committee (ELTAC) that ELAP will recommend to the State Water Board the adoption of the 2016 NELAC Institute Standard (TNI 2016). This standard would be used to certify all wastewater labs in California to analyze their regulatory required samples. Adopting TNI standards will pose a formidable challenge since there are more than 1000 individual requirements. Initial costs likely include the need to hire staff to handle TNI-related paperwork; hiring consultants to setup the TNI documentation framework; purchasing Laboratory Information Management System (LIMS) software; and purchasing documents and training material from TNI. Small municipal laboratories may close if they are unable to meet the new standards. Most laboratories in California have fewer than five full time personnel. BACWA, via the Laboratory Committee, submitted a **comment letter** that expresses these concerns. ELAP states that it will consider revisions to portions of the standard, and is expected to produce a proposal for public

comment in early 2017. The adoption of the new standards are expected in approximately one year, followed by a three-year phase-in period.

Nutrients

- *Optimization/Upgrade Studies* – HDR is continuing to release Facility Reports to the agencies included in Wave 3. Wave 4 will be released after the new year. HDR is also continuing to work on estimates about what treatment and costs would be required to implement no increase in net loading of nutrients in future watershed permit terms
- *Watershed Permit Negotiations* – At the Pardee Technical Seminar, Water Board staff stated that they intend to implement no net loading increase provisions, or load caps, in the next Watershed Permit, in the absence of a better proposal from the BACWA community. They stated that an alternative proposal would include the following elements: 1) Increase in funding for the science plan; 2) timing of the increase in funding (i.e., starting before the next permit takes effect); and 3) studies to follow onto the optimization/upgrade studies. The BACWA Nutrient Science Team will reconvene to discuss how BACWA might respond to this strategy. The Nutrient Science team is made up of representatives from large and small agencies from each subembayment, and is a vehicle to ensure that all BACWA member agencies have a voice in this process.
- *EPA Nutrient Survey* - US EPA letter regarding draft nutrient survey sent to NPDES permittees nationwide. EPA's Nutrient study webpage has more information, and webinars about the study are scheduled for Nov 2 and Nov 10. Comments on the proposed survey are due to EPA due November 18. BACWA will submit a comment letter outlining our Regional Nutrient Management Strategy. The letter will also caution that collecting a small amount of nutrient data from agencies will not give a good indication on their potential for reducing nutrient loads, since site-specific factors are most important for determining alternatives.
- *Group Nutrient Annual Report* – The Annual Report was submitted in compliance with the October 1 deadline. There was a discussion about what level of increase or decrease in nutrient loads is significant. The use of a nutrient data sheet separate from CIWQS was successful and will be repeated next year.

Hg/PCB Watershed Permit

- The Hg/PCB Watershed Permit will be open for renewal in 2017. There is interest in dropping monitoring frequency in exchange for increased support to the Alternative Monitoring Plan. The committee would also like to see the risk reduction requirements dropped. One member requested that the monitoring schedule be harmonized with the plant's NPDES permit monitoring schedule.
- The recipients of BACWA's Risk Reduction Grant gave a progress updated for the Regional Water Board on October 25.

Next BACWA Permits Committee Meeting: Tuesday, December 13, EBMUD.

Pretreatment Committee – Report to BACWA Board

Pretreatment Committee Meeting on: 8/30/2016
Executive Board Meeting Date: 11/18/16
Committee Chairs: Tim Potter, Kirsten Struve (resigning), Michael Dunning (incoming)

Committee Request for Board Action: None

8/30/16 Pretreatment Committee Meeting – 26 in-person attendees and 4 phone attendees representing 21 agencies

1. BACWA Updates
    - Training budget for next year included in committee budget was approved
    - Annual meeting save the date (1/27/17)
    - EPA planning to adopt final Federal Dental Amalgam Rule in December 2016
    - Committee Leadership: Due to Kirsten's departure, Michael Dunning is the new co-chair; unanimously supported by the committee
2. Committee Projects
    - Field pH for compliance monitoring letter to RWQCB – Lila Tang retired, Tim in communication with Regional Board staff and will finalize letter
    - Mobile surface cleaners – some contacts submitted, Kirsten to send current list out to the group. SFPUC announced workshop on November 9 on their mobile washer program.
    - TTO limit approach: San Jose and others work ongoing/updates
    - Resource template – work ongoing
    - Training: committee members still interested in dental training after rule is promulgated
    - Other training ideas: combined wastestream, local limits, sampling training (same as prior), sampler training (demo)
3. Debrief PCA/PCI
    - Discussion on prior audits included categorization issues (cleaning vs. etching), combined wastestream formulas (dilution vs. unregulated wastestream), TTO local limit, COC issues, flow vs. time proportional/grab vs. composite and refrigerated sampling for TTO, oil and grease test issues.
4. Debrief EEC training
    - Good overview, excellent Q&A
    - For potential future session, prefer focus on specific categories and case studies, timing again in May/June
    - CWEA P3S conference in Santa Rosa at the end of February 2017 will include basic training, wineries and breweries
    - Discussed EEC request to join the committee and decided that only consultants affiliated/running a pretreatment program should be on the member list

5. Issue discussion
    - Accepting electronic reports from IUs: Due to difficulty in meeting the CROMERR standard, agencies require wet signature hard copies when receiving reports from IUs. Common practice to accept pdf/fax copy of signed document to meet deadline as long as wet ink signature received to complete file.
    - Food digesters at food service facilities such as Costco: These digesters are more like food grinders and tend to include the strength of the wastewater – most agencies do not allow. Issues include: food grinder ban, franchise agreement for waste hauling, connection fees/Sewer Service Charges.
    - Restoration Companies: If working on sewer back up, most agencies allow return of material to sewer at site of clean up, however, these companies may be discharging other types of wastes. Some agencies gathering information, others disallow the discharge. Some enforcement action occurring. Discussed need for fairness across the industry.
    - Breweries: Livermore now has 4, sampling for BOD right now low flow, gathering data for last 2 years. Concerned about growth and then having a high volume, high strength waste. Connection fees – research into ordinances (City of Windsor – small vs. big). Breweries can have a pH issue, check during cleaning cycle (acid cleaning system). Santa Rosa brewery presentation on connection fee.
    - ELAP: new proposals may impact field testing and lab procedures
6. Next meeting: January 10, 2017 at EBMUD; will invite Amelia Whitson and Michael Chee

Future Meeting Topics

January meeting – invite regulators and discuss

- TTO: Flow vs. time proportional, grab vs. composite, refrigerated samplers – how to document decisions
- Cleaning vs. etching categorization issues
- Combined wastestream formulas
- Update on dental rule
- Inspection priorities
- Enforcement priorities

Other future topics:

- Resource Template
- Updates on pH letter
- PCI/PCA debrief
- Mobile washer: regional BMPs – check in
- Oil water separators in parking garages

Recycled Water Committee Meeting on: 9/7/16 and 11/2/16
Executive Board Meeting Date: 9/18/16
Committee Chair: Rhodora Biagtan

Committee Request for Board Action: None

Detailed notes from meetings are posted online.
25 attendees (including 13 on phone) representing 10 member agencies at 9/7 meeting
26 attendees (including 9 on phone) representing 11 member agencies at 11/2 meeting

Status of State Revolving Fund (SRF) Program

Christopher Stevens of the State Water Board attended the meeting to give a status update on the SRF program. He reported that an update to the intended use plan was posted in September. The SRF is not out of money, but there is a lot of demand for funding. Prior to this year there were very large cash balances in the program, so 4-5 years ago, they made some policy and administrative changes to draw down those balances. They also went from 20- to 30-year loans. The Board approved 1% financing for recycled water projects, and $1M in grant funding has also been distributed to these projects. Approximately $88M of grant funds, and $250M in loan funds remain - they will start committing to projects soon.

There is vastly increased demand for funding than in previous years - $6B in demand for all clean water SRF funds from agencies that have started applications. There is $3B in demand from completed applications. The Water Board's priorities for funding are DBAs, recycled water, and green projects. They can commit $50M to green projects, some of which are also recycled water projects. They want to disburse grant funds, then loan funds. Green projects can also get "principle forgiveness" which is another kind of grant.

At the November 15, 2016 State Water Board meeting, their staff will be providing the Clean Water SRF Annual Report for the past fiscal year: http://www.waterboards.ca.gov/board_info/agendas/2016/nov/111516_4.pdf. This report gives a summary of how funding has been disbursed.

Transition from 96-011 to State Recycled Water General Order

A subcommittee made up of Recycled Water Committee members will develop recommendations on the transition to the State Recycled Water General Order. BACWA will deliver these recommendations to the Regional Water Board. Agencies will need to submit only the missing parts from the new engineering report requirements rather than redoing the reports in their entirety. Delta Diablo will soon apply for coverage under the new General Order, and would like input from others to not set precedents that are difficult for other agencies to meet, so they are spearheading this effort. The aim is to have a series of recommendations developed by the end of the year.

State Recycled Water Policy Reopener

When the General Order was adopted in June 2016, the State Water Board said they want to reopen the Recycled Water Policy. WateReuse has kicked off a working group to address the issue. Cheryl Muñoz has been representing BACWA in the WateReuse effort. WateReuse has asked the community for major issues to bring to State Water Board staff as they kick off the process.

- SNMPs - Consequences for failing to prepare one, offramps for agencies to not prepare a SNMP if it doesn't make sense
- Goals – Recycled Water and Stormwater Goals
- Role of DDW
- Inclusion of potable reuse
- Promotion of agricultural reuse and consideration of agronomic rates
- Priority pollutant monitoring

State Water Board staff plans to bring forth a resolution before the Board before the end of the year. It is unclear what level of detail about proposed changes will be included in the resolution.

Draft Report on the Feasibility of Developing Criteria for Direct Potable Reuse
DWR is required by statute to provide a final document on the feasibility of developing potable reuse criteria to the California Legislature by December 31, 2016. WateReuse submitted comments on the Draft Direct Potable Reuse Report, with input from CASA on impacts to POTWs. BACWA provided input on this letter regarding the limits on source control for many pollutants, as well as that process optimization for creating recycled water feed water should be evaluated on a plant-by-plant basis.

Building Standards for Recycled Water Systems (AB 2282)
The California Building Standards Commission (BSC) and the Department of Housing and Community Development (HCD), in consultation with the State Water Resources Control Board and other interested parties, convened stakeholder meetings this Summer 2016 to research and develop mandatory recycled water infrastructure building standards pursuant to AB 2282 (Gatto, Chapter 606, Statutes of 2014). A DSRSD staffperson is serving on the steering committee. When this process began, Building Standards Commission staff were not aware of the regulatory implications of the difference between greywater and recycled water. There have been several disconnects between what was in early drafts and how recycled water is implemented in actuality. For example, they had a misunderstanding about how irrigation distribution systems work – that there is only one line, not two parallel lines for potable and recycled water distribution. Title 22 allows human contact for tertiary treated water, which was not allowed in the original draft document. Annual inspections may be required for all recycled water facilities – current permits say "periodic" inspections. Annual cross-connection inspections may be required. The recycled water producers commented that there should be exemptions in requirements for dual plumbing in the service areas of agencies where recycled water is either built-out or where there are other uses for recycled water.

Next Meeting – Tentatively January 4, 2017 from 10:00 am to 12:00 pm, 2nd Floor Small Training Room at EBMUD Headquarters.

BACWA
BAY AREA
CLEAN WATER
AGENCIES

Executive Director's October 2016 Report

NUTRIENTS:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:
-Coordinated with the OP/Upgrade consulting team on technical and administrative issues.
- Attended and participated in conference calls as well as the 21st and 22nd Planning Subcommittee meeting of the NMS Steering Committee and provided BACWA in-kind services by serving as scribe. Following the meeting prepared detailed meeting minutes and summary of action items.
-Participated in an interview with ReNUWIt regarding the issue of nutrients in the Bay as part of their stakeholder outreach for preparation of a regional assessment and path forward.
-Prepared a series of discussion topics for BACWA consideration at the Pardee Technical Seminar to assist in achieving consensus on the path forward for watershed permitting.

BACWA BOARD MEETING AND CONFERENCES:

-Worked with staff in preparing for the Annual Pardee Technical Seminar including reviewing the agenda with the Board Chair.
-Prepared for and conducted the two-day Pardee Technical Seminar including arranging for outside speakers and preparing a presentation on options for the 2nd Watershed Permit.
-Continuing to track all action items to completion.
-Worked with the AED to finalize the scheduling of all meetings for calendar year 2017.

ASC/SFEI:

-As a member of the Executive Committee, coordinated with SFEI Executive Director on Board activities.
-Attended the Annual RMP meeting which included presentations on microplastics, nutrients, and other topics of interest to BACWA

CASA:

-Coordinated with the CASA ED on issues of mutual interests.

FINANCE:

-Reviewed the monthly BACWA financial reports with the AED.
-Continued coordinating with the AED in tracking the revenues coming in from the BACWA FY 17 member invoices.
-Worked with the AED and EBMUD to distribute all the Associate/Affiliate invoices for FY 17.

CLEAN WATER SUMMIT PARTNERS:

Attended the October meeting and engaged in discussion on ELAP, Toxicity, and the new Enforcement Policy.

WOT:

-Coordinated with the BACCWE leadership on ensuring that proper contractual arrangements and approval authorizations are in place in conjunction with their college training programs and administrative assistance agreements on the program so that no issues arise as part of the BACWA annual audit.

ADMINISTRATION:

-Held the monthly BACWA staff meeting to coordinate and prioritize activities.
-Signed off on invoices, reviewed correspondence, prepared for upcoming Board meeting, responded to inquiries on BACWA efforts, oversaw updating of web page and provided general direction to BACWA staff.
-Worked with the RPM in the preparation of the monthly BACWA bulletin.
-Coordinated with the AED to plan activities and review duties, schedules, and priorities.
-Developed and responded to numerous emails and phone calls as part of the conduct of BACWA business on a day-to-day basis.

MISCELLANEOUS MEETINGS/CALLS:

-EBMUD's program manager on Prop 50 and Prop 84 and transition of program administration to ABAG
-BACWA Chair and Committee Chairs on items that arose during the month
-Water Board staff on coordinating the nutrient activities
-other misc calls and inquiries regarding BACWA activities
-participated in coordination calls with the HDR project manager
-responded to Board member's requests for information

BACWA ACTION ITEMS

Number	Subject	Task	Deadline	Status
	Action Items from August 19, 2016 BACWA Executive Board Meeting			
2016.8-16	IRWMP Proposal	Check with Steve Richie re viability of a proposal (ED)	9/9/2016	completed
2016.8-15	EPA Meeting re selenium	schedule a conference call with interested members prior to the meeting to discuss selenium strategy (RPM)	8/23/2016	completed
2016.8-14	When to contact media	Add to Annual Meeting Agenda (ED/AED)	9/6/2016	completed
2016.8-13	SWRCB Enforcement Policy	BACWA Comment Letter (RPM)	9/6/2016	completed
2016.8-12	Technical Document Review	Replace AF terminology (ED)	9/8/2016	completed
	Action Items Remaining from Previous BACWA Executive Board Meetings			
2016.7-7	Science Funding in next WRDA reauthorization	Identify agency contacts who might provide insight into lobbying for federal funding (ED)	8/31/2016	pending
2016.6-93	NMS Steering Committee	Work With David Senn and Jim Ervin to get studies inside the tent (ED)	8/31/2016	pending
2016.5-82	Biosolids Literature Review	Committee to consider alternatives and matching funds for further Board deliberation (Karri Ving)	9/30/2016	pending
2016.5-77	Opt/Upgrade Workshop	Schedule a 2nd Workshop for after Pardee (ED)	9/30/2016	pending
2016.3-65	Proposition 84	Develop agreement between BACWA & ABAG to transfer Prop 84 admin responsibilities (AED/Paul Gilbert-Snyder)	9/15/2016	pending
2016.3-61	Membership Policy	Develop policy for out of region agency membership (ED)	8/31/2016	pending

FY17: *10 of 16 Action Items completed.*
FY 16: *92 of 97 Action Items completed.*
FY 15: *90 of 90 Action Items completed.*
FY 14: *128 of 128 Action Items completed.*
FY 13: *67 of 67 Action Items completed.*

BACWA BOARD CALENDAR

December 2016 to November 2017

DATE	AGENDA
12/16/2016	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 12/9	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	**Other Business - POLICY/STRATEGIC**
HOLIDAY LUNCH	Discussion: HDR Quarterly Update on Optimization/ Upgrade studies
	Discussion: Draft Agenda Joint Meeting with WB
	Discussion: Biannual Update on CWCCG (SDeslauriers)
	Other Business - OPERATIONAL
	Discussion: Annual Meeting Planning
	Discussion: Update on BARR Taskforce
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports
12/22/2016	
Joint Meeting	**Other Business: Discussions**
Items due:	SNMP
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono	
1/?/2017	
Nutrient Optimization/Upgrade Workshop #2	
Pagano; Ervin; Connor; Horenstein; Schectel	Optimization/Upgrade Studies
Williams; Fono	Water Board
1/27/2017	
Annual Members Mtg	When to contact media
Pagano; Ervin; Connor; Horenstein; Schectel	RMP & NMS Update (Phil Trowbridge/David Senn)
Williams; Fono; Hull	
2/17/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 2/10/15	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**

Williams; Fono; Hull	Approval: Solano Comm College Agrmt - Spring 2016
	Other Business - POLICY/STRATEGIC
	Discussion: WB Joint Meeting Debrief
	Other Business - OPERATIONAL
	Discussion: FY2017 Budget Planning
	Discussion: Annual Meeting Debrief
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

3/17/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 3/10	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	**Other Business - POLICY/STRATEGIC**
	Discussion: HDR Quarterly Update on Optimization/ Upgrade studies
	Discussion: Draft Agenda Water Board Jt Mtg
	Presentation: CPSC Update (Heidi Sanborn)
	Other Business - OPERATIONAL
	Discussion: Second Draft of FY17 Budget
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

3/?/2017	
Joint Meeting	**Other Business: Discussions**
Items due:	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono	

4/21/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 4/14	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: FY18 Budget
	Other Business - POLICY/STRATEGIC
	Discussion: WB Joint Meeting Debrief
	Other Business - OPERATIONAL
	Discussion: Succession Planning FY18
	Reports
	Committee Reports (Committee Chairs)

	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

5/19/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 5/12	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: FY18 Amendments/Agreements
	Approval: Officers: Chair & Vice-Chair
	Approval: BACWA Reps to ASC/SFEI Governing Board
	Authorization: Legal Support Amendments
	Other Business - POLICY/STRATEGIC
	Discussion: Draft Agenda Water Board Jt Mtg
	Discussion: Pesticides Update (Kelly Moran)
	Other Business - OPERATIONAL
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

5/?/2017	
Joint Meeting	**Other Business: Discussions**
Items due:	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono	

6/16/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 6/?	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: FY18 Agreements
	Other Business - POLICY/STRATEGIC
	Discussion: HDR Quarterly Update on Optimization/ Upgrade studies
	Discussion: WB Joint Meeting Debrief
	Discussion: Biannual Update on CWCCG (SDeslauriers)
	Other Business - OPERATIONAL
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

6/?/2017	**Tentative**
BAAQMD Workshop	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono	

7/21/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 7/14	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: Annual Nutrient WS Payment
	Approval: FY18 Agreements
	Other Business - POLICY/STRATEGIC
	Discussion: Draft Agenda Pre-Pardee Technical Seminar
	Discussion: Risk Reduction Update
	Discussion: Draft Agenda Water Board Jt Mtg
	Other Business - OPERATIONAL
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

7/?/2017	
Joint Meeting	**Other Business: Discussions**
Items due:	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono	

8/18/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 8/11	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	
	Other Business - POLICY/STRATEGIC
	Discussion: Draft Agenda & Schedule Pre & Pardee Technical Seminar
	Discussion: WB Joint Meeting Debrief
	Discussion: RMP & NMS Update (Phil Trowbridge/David Senn)
	Discussion: Risk Reduction Update
	Other Business - OPERATIONAL
	Discussion: FY18 Arleen Navarret Award
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

9/15/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 9/8	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: Solano Comm College Agrmt - Fall 2017
	Other Business - POLICY/STRATEGIC
	Discussion: Draft Agenda Pardee Technical Seminar
	Discussion: Annual Meeting Planning
	Other Business - OPERATIONAL
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

9/15/2017	**Tentative**
Pre-Pardee Mtg	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono; Hull	

10/12-13/2017	
Pardee Technical Seminar	
Pagano; Ervin; Connor; Horenstein; Schectel	
Williams; Fono; Hull	

11/17/2017	**Consent**
Monthly Board Mtg	Previous Board Meeting Minutes (AED)
Items due: 11/10	Monthly Financial Report
Pagano; Ervin; Connor; Horenstein; Schectel	**Authorizations & Approvals**
Williams; Fono; Hull	Approval: Adoption of FY16 Annual Reports
	Approval: Finalize next Calendar Year meeting dates
	Other Business - POLICY/STRATEGIC
	Discussion: Pardee Debrief & Survey
	Other Business - OPERATIONAL
	Discussion: Annual Meeting Planning
	Reports
	Committee Reports (Committee Chairs)
	Board Reports (Executive Board)
	ED Report (ED)
	RPM Report (RPM)
	Other BACWA Representative Reports

CURRENTLY	* BACWA Membership Engagement Opportunities
UNSCHEDULED	* Tech Seminar/Workshop: CCCSD Cogen explosion need to schedule
& SIGNIFICANT	* SFPUC force main leak and repair, need to schedule

* Chlorine Residual Analyzer Investigation
* Suggestions for Monthly Meeting Guest Speakers/Presenters: i.e. Jim McGrath, State Water Board

Regulatory Program Manager's Report to the Board

October 2016

NUTRIENT SUPPORT: Discussed status of Recycled Water and CIP surveys with consultants to prepare for Pardee Technical Seminar.

BACWA BULLETIN: Drafted November BACWA Bulletin.

REGULATORY ISSUES MATRIX: Updated and posted the BACWA Regulatory Issues Summary.

EPA PROPOSED SELENIUM CRITERIA: Discussed comment strategy with BACWA members and Regional Water Board staff. Drafted BACWA comment letter on proposed EPA selenium criteria.

CECs: Participated in conference call with statewide agencies regarding draft State CECs Pilot Monitoring Plan. Attended RMP Annual Meeting. Collaborated with laboratory committee chair to develop BACWA comment email on draft RMP Microplastics Science Strategy.

HG/PCB WATERSHED PERMIT: Reviewed CBO invoices. Organized and attended Risk Reduction progress report to the Regional Water Board. Communicated with Regional Water Board staff about Watershed Permit Renewal.

COMMITTEE SUPPORT:
AIR – Discussed committee operations with support consultant. Started up committee Google Group.
BAPPG – Attended meeting, uploaded material to website.
Biosolids: Attended October meeting. Distributed biosolids survey and followed up with members to get responses. Developed presentation to summarize results.
Collection Systems – Collected responses to survey on future meeting topics.
Laboratory – Reviewed and communicated with members about BACWA comment letter on changes to ELAP.
Permits – Drafted agenda and attended meeting. Arranged for Ian Wren to attend meeting to discuss scenario planning.
Recycled Water – Drafted meeting notes. Arranged for attendance of Ian Wren at November meeting. Reviewed draft DPR Criteria document and participated in CASA conference call on POTW perspective.
Executive Board – Prepared and provided support for Pardee technical seminar. Developed presentation on regulatory topics. Developed summary notes Pardee technical seminar.
Staff Meeting – Met with BACWA staff to discuss BACWA administration and plan upcoming meetings.

MEETINGS ATTENDED: BAPPG (10/5), Staff meeting (10/5), CASA Conference Call on DPR Criteria (10/5), RMP Annual Meeting (10/7), Permits Committee (9/11), Pardee Technical Seminar (10/13-14), Biosolids Committee (10/20),Risk reduction progress report to Regional Water Board 10/25, CASA Conference Call on State CECs Pilot Monitoring Plan.

Clean Water Summit Partners
1225 L Street, Suite 595
Sacramento, CA 95814
p: 916.446.0388

Summit Partners:
- Bay Area Clean Water Agencies (BACWA)
- California Association of Sanitation Agencies (CASA)
- Central Valley Clean Water Association (CVCWA)
- California Water Environment Association (CWEA)
- Southern California Alliance of Publicly Owned Treatment Works (SCAP)

October 26, 2016

Stephen Weisberg, PhD
Director
Southern California Coastal Water Research Project
3535 Harbor Blvd., Suite 110
Costa Mesa, CA 92626
E-mail: stevew@sccwrp.org

Re: Proposed Collaboration on Toxicity Testing Laboratory Study

Dear Dr. Weisberg:

We are writing to you to indicate our interest in working with SCCWRP and other stakeholders to conduct additional research regarding toxicity tests. The Clean Water Summit Partners are the California state and regional wastewater associations committed to working together on issues of critical importance to our collective memberships. The Summit Partners recently met with staff of the Los Angeles County Sanitation Districts regarding the potential opportunity to partner with you and the Stormwater Monitoring Coalition (SMC) to further evaluate accuracy and approaches to mitigate and correct inaccuracies related to the *Ceriodaphnia dubia* reproduction test. As you know from your previous discussions with CASA, the wastewater community has been following the progress of the original SMC study very closely and we are very interested in partnering on a follow up study. Our associations are prepared to support the study through direct contributions of funding and in-kind laboratory participation by our members, as appropriate.

With the State Water Board moving forward on a statewide toxicity plan, and a number of permit holders already subject to enforceable numeric effluent limitations for toxicity, the timing of the follow up study is critical. While we realize that initiation and completion of any significant follow up study within the next few months is unrealistic, there are several things SCCWRP can do to assist while the follow up project is being designed and implemented. This includes finalizing the findings from the original SMC study so our members can use this information when discussing policy and permit conditions with the regulators. Additionally, we would need a finalized follow up study design submitted and approved by the funding parties before the end of the calendar year so that the effort will be considered by state and regional regulators as they propose permit provisions and enforcement responses.

If this proposal is of interest, we would be pleased to meet with you, your staff and the SMC to develop the study framework further. Please contact Bobbi Larson, blarson@casaweb.org or Adam Link, alink@casaweb.org with any questions or to arrange a meeting.

Sincerely,

David Williams
BACWA Executive Director

Roberta L. Larson
CASA Executive Director

Debbie Webster
CVCWA Executive Director

Elizabeth Allan
CWEA Executive Director

John Pastore
SCAP Executive Director

cc: Ken Schiff, Deputy Director, SCCWRP, kens@sccwrp.org
Arne Anselm, SMC Executive Committee Chair, arne.anselm@ventura.org