15,010

BACWA EXECUTIVE BOARD MEETING
Thursday, October 25, 2012, 9:00 a.m. – 12:00 p.m.

HANDOUTS

Handout Packet is available on the BACWA website (www.BACWA.org).

Executive Board Meeting Agenda

Thursday, October 25, 2012, 9:00 a.m. – 12:00 p.m.
EBMUD Lab Library, 2020 Wake Ave., Oakland, CA

ROLL CALL AND INTRODUCTIONS (9:00 a.m. – 9:05 a.m.)

PUBLIC COMMENT (9:05 a.m. – 9:10 a.m.)

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER (9:10 a.m. – 9:15 a.m.)

CONSENT CALENDAR (9:15 a.m. – 9:20 a.m.)

1. September 27, 2012 BACWA Executive Board Meeting Minutes
2. October 5, 2012 BACWA Executive Board Special Meeting Minutes
3. August 2012 Treasurer's Report

PRESENTATIONS

4. Governance Development Facilitation Synthesis – *Kayla Kirsch, Leapfrog Consulting* (9:20 a.m. – 9:50 a.m.)
5. Nutrient Permit Framework Alternatives – *Tom Grovhoug, LWA* (9:50 a.m. – 10:20 a.m.)
6. BACWA Opportunities – *Gary Darling, Delta Diablo Sanitation District* (10:20 a.m. – 10:50 a.m.)

OTHER BUSINESS (10:50 a.m. – 12:00 p.m.)

7. Authorization: Approve Fiscal Year 2011-12 Financial Reports – *Scott Klein (BACWA Treasurer) and Gary Tominaga (EBMUD, Accounting)*
8. Discussion: CEC State-Wide Monitoring-*Lorien*
9. Discussion: RMP Steering Committee *(Karin North)*
10. Discussion: New Appointments to San Francisco Regional Water Quality Control Board
11. Discussion: November and December BACWA Board Meeting Schedule for 2012 and 2013
12. Discussion: Baywork Program Summary
13. Discussion: TAG Meeting, Orange County November 8, 2012
14. Discussion: BACWA Annual Member Meeting, January 24th, 2013 at California Endowment Conference Center, 1111 Broadway, Oakland
15. Pardee Draft Agenda

REPORTS

(If time permits, otherwise the following items will be deferred for discussion at the Pardee Technical Seminar)

16. Committee Reports - Q and A
17. Executive Board Reports

18. Executive Director Report
19. Regulatory Program Manager Report
20. Chair & Executive Director Authorized Actions
    a. Executive Director authorization of agreement with Zentraal for Prop 84 Tracking/Reporting Software development, not to exceed $3,600 in FY 2012-13; File 12,819.

NEXT MEETING

The next meeting of the Board is tentatively scheduled for Thursday, November 29, 2012 at the EBMUD Treatment Plant Lab Library.

Note: Pardee Techinical Seminar is scheduled for November 5 – 7, 2012.

ADJOURNMENT (12:00 p.m.)

Executive Board Meeting Minutes

Thursday, September 27, 2012, 9:00 a.m. – 12:00 p.m.
EBMUD Treatment Plant Lab Library
2020 Wake Avenue, Oakland, CA

ROLL CALL AND INTRODUCTIONS
Executive Board Representatives: Ben Horenstein, Chair (East Bay Municipal Utility District); Laura Pagano, Vice Chair (San Francisco Public Utilities Commission); Ann Farrell (Central Contra Costa Sanitary District); Mike Connor (East Bay Dischargers Authority); Jim Ervin (City of San Jose).

Other Attendees: Nohemy Revilla (San Francisco Public Utilities Commission); Amanda Roa (Delta Diablo Sanitation District); Bhavani Yerrapotu (Sunnyvale) Tom Hall (Sunnyvale/EOA); Monica Oakley (RMC); Denise Connors (Larry Walker Associates); Piers Clark (Isle Technologies); Lorien Fono (Patricia McGovern Engineers); Jim Kelly (BACWA); Alexandra Gunnell (BACWA).

PUBLIC COMMENT
There were no public comments.

CONSENT CALENDAR
Agenda items 3 and 4 were pulled from the consent calendar for discussion.

Agenda items 1 – 2 *were approved in a motion made by Ben Horenstein and seconded by Laura Pagano. The motion carried unanimously.*

1. August 23, 2012 BACWA Executive Board Meeting minutes
2. July 2012 Treasurer's Report

It was noted that the August 23rd minutes contained reference to scheduling another Orinda Nutrients Workshop in October. The Executive Director (ED) responded that no date has been set at this time but proposed a Joint Meeting of the San Francisco Regional Water Quality Control Board (RWQCB) and BACWA Executive Board (Board) on October 10th. The ED or Assistant Executive Director (AED) will send confirmation e-mail to RWQCB staff and Board members.

Agenda item 3, Amendment 1 to Jim Kelly agreement for Interim Executive Director services to extend termination date to December 31, 2012*, was approved in a motion made by Mike Connor and seconded by Laura Pagano with the stipulation that the termination date be removed and the contract continue on a month-to-month basis. The motion carried unanimously.*

The Board requested to receive an update from the recruiter regarding responses received for the Executive Director position and will consider extending the filing date.

Agenda item 4, a contract with Avila for Prop 84 Grant Administration services, not to exceed $50,000 *was approved in a motion made by Mike Connor and seconded by Laura Pagano. The motion carried unanimously.*

It was noted that invoices for grant reimbursement are prepared by the Prop 84 Project Managers, Brian Campbell (EBMUD) and Paul Gilbert-Snyder (EBMUD), reviewed by the ED, and then

submitted to the California Department of Water Resources. Ben Horenstein will have Brian Campbell contact Ann Farrell to answer any additional questions that she may have.

REPORTS

For **agenda item 5**, **Committee Reports** included in the meeting handout packet were reviewed.

The AIR committee report, included in the handout packet, was reviewed by Committee Co-Chair, Nohemy Revilla. The ED suggested that the Board discuss the committee's financial structure at the Pardee Technical Seminar. In response to Board inquiry about the impact of new U.S. EPA requirements for particulate matter less than 2.5micrometers ($PM_{2.5}$), Nohemy noted that only those agencies with Title V permits would be affected. An AIR committee representative will attend the November 7th Bay Area Air Quality Management District (BAAQMD) Board meeting and report back to the BACWA Board on this issue. Included in the committee report are talking points for the ED to present to the BAAQMD Director to express specific concerns of AIR members and help improve service from the District. The Board suggested that the ED schedule regular meetings with the BAAQMD Director. Any feedback on the talking points should be directed to the ED. Laura Pagano noted that San Francisco has particular interest in the committee's efforts pertaining to AB32 implementation and Mike Connor mentioned the importance of the committee in tracking new climate change/greenhouse gas emission regulations.

The BAPPG report was included in the handout packet and reviewed by the ED. The ED noted that the committee worked to submit several pesticide comment letters to the EPA. The dichlobenil letter is included as an attachment to the Collection Systems committee report. Ann Farrell praised the committee's successful P2 week campaign, which included various social media outreach efforts and interviews with Melody LaBella.

Monica Oakley provided an update on Collection Systems committee activities and responded to questions about the committee report, included in the handout packet. She also distributed an *Update on SSS WDR MRP Activities* and reviewed it. It was suggested that the proposed changes may be the result of a State Water Resources Control Board (SWRCB) effort to make enforcement easier. A meeting with SWRCB staff to discuss concerns about the proposed revisions is scheduled for October 4th. Monica Oakley will attend on behalf of CASA/Tri-TAC along with and Bobbi Larson. Laura Pagano will attend as a BACWA representative. Laura will also meet with the State Board staff again on October 5th on behalf of SFPUC to convey concerns about the impact of the proposed revisions on combined sewer systems.

Permits Committee Chair, Jim Ervin reviewed his report which was included in the handout packet. He explained that Lila Tang attended the September 11th Permits committee meeting and informed attendees they should work with Robert Schlipf to address residual chlorine meter concerns. Jim Ervin confirmed that updates regarding Nutrient 13267 reporting are being relayed to both the Lab and Permits committee members. The Regulatory Program Manager responded to Board inquiries regarding the Sausalito-Marin City Sanitary District permit, explaining that BACWA will not submit comments, and that she would provide further details later in the meeting when the Regulatory Program Manager report is discussed.

The ED noted that a report from the Recycled Water committee is available in the handout packet.

BACWA Executive Board members were invited to share any items of interest under **agenda item 6**, **Executive Board Reports.**

Laura Pagano, of SFPUC, informed the Board that Bayworks is interested in providing BACWA with an update on their program. She explained that they are a collaborative of water and wastewater

agencies that supports workforce training. It was noted that some BACWA members already receive updates through their own agencies. Ben Horenstein requested that Bayworks submit a one-page summary for inclusion in the October Board meeting handout packet and the Board could then determine if they need more information. It was also mentioned that SFPUC may be facing enforcement action on a possible air permit violation due to a ruptured membrane in their Southeast plant digester storage. Of additional concern was an incident at the Oceanside plant where an electric shortage caused monitors to malfunction and resulted in venting.

Ben Horenstein reported that EBMUD is considering working with Oakland's garbage collection services as part of their Waste to Energy program. Currently they are investigating accepting commercial source separated organic waste (from restaurants) and material from multi-residence green bins.

Ann Farrell, of CCCSD, explained that repairs to their cogeneration system have been completed and the unit has been restarted. Investigations revealed that the explosion was due to maintenance error. The insurance company is holding the maintenance contractor responsible and is covering both the increase in energy costs incurred while the system was down and the cost of repairs. Future maintenance will be performed by the original equipment manufacturer. Ann also noted that they have developed a living lab where they are discharging into Walnut Creek and growing algae. Bhupinder Dhaliwal is conducting the studies and has provided tours for David Senn and Dick Dugdale. Mike Connor requests a tour as well. Ann updated the Board that CCCSD is continuing to move forward with Swe Teh to develop a study plan.

San Jose Board representative Jim Ervin noted that they had a failure on their digester gas holder as well. Their second gas storage unit will be on line by end of this week and then they will be flaring intermittently. It will be three to four months before their larger unit will be back in operation.

Mike Connor of EBDA reported that he had a meeting with the San Francisco Estuary Partnership regarding the use of effluent and nutrients from wastewater for marsh restoration. This could tie into IRWMP, Coastal Conservancy, ReNUWit, and other climate change projects. He explained that the goal is to grow wetlands faster than sea level rise and that this could provide a wet weather storage option rather than building tanks. He clarified that ReNUWit uses a ten acres per million gallon rule.

For **agenda item 6**, the **Executive Director's Report** was included in the meeting handout packet and reviewed by the Executive Director. Meeting attendees were given the opportunity to discuss the contents of the report. The ED also highlighted the following issues and activities:

- The State Water Resources Control Board Bay-Delta Plan Workshop was attended by the ED and Mike Connor. Attached to the ED report are notes from the workshop and an article from Phil Isenberg that predicted many of the positions that were seen at this event.
- Also included in the handout packet is a report prepared by Dick Dugdale on the 2010 SWAMP study. It has been accepted for peer review and journal publication. The ED has asked David Senn to include it in his synthesis report.
- David Senn is expected to complete an administrative draft of the phytoplankton and copepod synthesis report. The ED explained that there will be a release of the administrative draft, then a draft version, and the report is expected to be finalized by the end of the year. The Board requested that the administrative draft be circulated for initial review by the funding partners (RWQCB staff and BACWA Board members).
- Mike Connor and the ED also attended the Nutrients Summit meeting. Tom Grovhoug's Tri-TAC issue paper has been included as an attachment to the ED report.
- Stan Dean has not received any new information and there are no recent activities to report

pertaining to the Sacramento Regional discharge permit at this point.

- The ED and Lorien Fono participated in a conference call on September 25th regarding the draft Toxicity Policy during which phasing in the TST was discussed. Tam Doduc of the SWRCB requested that POTWs coordinate efforts with agriculture and stormwater agencies and encouraged regulated parties to work with other SWRCB members. A follow up conversation is planned for next week. The ED requests that Jim Ervin attend a meetingwith Steve Moore and Charlie Hoppin on October 9th , though that may necessitate rescheduling the Permits Committee meeting. It was noted that the date also conflicts with the RMP Annual Meeting. The policy is scheduled for SWRCB review on November 6th and BACWA would need to have package put together by then.
- WEF is requesting a representative from BACWA to serve on the editorial Board for the Laypersons Guide to Wastewater project. Interested parties should contact the ED.
- Flow based pricing for wastewater is being promoted by the Natural Resources Defense Council (NRDC). Bert Michalczyk and Dave Williams have been representing Bay Area POTWs in conversations surrounding this issue. The Board inquires about whether the SWRCB has the authority to weigh in on this matter and notes that this may be a Prop 218 issue.

The **Regulatory Program Manager** (RPM) **Report** for **agenda item 7** was included in the handout packet**.** The ED has requested that the RPM, Lorien Fono, review tentative orders for BACWA members. Lorien reviewed Sausalito-Marin City Sanitary District's permit renewal and intends to discuss the matter with RWQCB Staff at the next Joint meeting. The RPM noted that she attended the first Bay-Delta Plan Workshop and plans to attend the second one next week. Mike Connor is also planning to attend, so the ED will follow up with Lorien to confirm that her attendance is necessary. CCCSD remarked that they will also have representatives there.

The following **Chair & Executive Director Authorized Actions** (**agenda item 8**) were taken since the last Executive Board meeting and supporting information was included in the meeting handout packet.

a) Chair authorization of agreement with O'Rorke for BAPPG Pharmaceutical and P2 Week Outreach support, not to exceed $6,499 in FY 2012-13; File 12,789.
b) Executive Director authorization of agreement with Prodigy Press for BAPPG Pharmaceutical Outreach support, not to exceed $2,500 in FY 2012-13; File 12,802.
c) Executive Director authorization of agreement with Norcal Printing for BAPPG Copper Outreach support, not to exceed $4,850 in FY 2012-13; File 12,786.
d) Executive Director authorization of agreement with Jen Jackson for BAPPG Baywise.org and Steering Committee support, not to exceed $4,999 in FY 2012-13; File 12,811.

OTHER BUSINESS

For **agenda item 10**, **Designation of BACWA Representatives for Aquatic Science Center Board**, a suggestion was made to appoint Dave Williams and Laura Pagano with Kirsten Struve to serve as alternate and possibly explore other opportunities for her to represent BACWA on SFEI/RMP subcommittees and workgroups. This item will be discussed further at the October 25th BACWA Board meeting.

Under **agenda item 11**, the Board agreed to **continue funding of existing contract with SFEI for Nutrient Strategy Development, not to exceed $175,000 from FY 2012-13 BACWA/CBC budget** of

which $100,000 would be used to fund the modeling study once the scope has been finalized. *The motion was made by Mike Connor, seconded by Laura Pagano, and approved unanimously.*

For **agenda item 12, Nutrients**, the ED reported that he is working with Kayla Kirsch of Leapfrog Consulting to finalize the scope for **Governance Development Facilitation** and schedule Board member interviews. He expects that materials will be ready for discussion at Pardee. It was suggested that BACWA should provide the RWQCB staff with information about governance structures that are being developed in other regions. The Board expressed concern about the RWQCB co-authoring Dugdale's 2010 SWAMP paper (attached to the ED Report) and inquired whether there is an opportunity for BACWA to comment on this publication.

The ED noted that the most recent **SFEI Project Status** report and invoice have been included in the handout packet.

Also included in the handout packet, a **Draft Nutrient Watershed Permit Concept Paper** was reviewed in a discussion led by Ben Horenstein. He suggested that a nutrient permit or 13267 letter specifying various requirements could provide protection and an opportunity to codify the work that is already being done by the POTW community. Also, once requirements are in place, it will be easier to determine which studies are necessary. Mike Connor and Ben Horenstein have had initial discussions with Dave Sedlak to see where ReNUWIt efforts may fit in with this concept. Mike Connor notes that while this approach may allow BACWA to seize the initiative, they may not be able to foresee the outcome of these actions. Ben Horenstein suggests that this may be a way for the region to present a unified front. The ED notes that member agencies have permit renewals coming up in 2014. Ben suggests that the Board could continue to explore this idea taking one of the following approaches: 1) proceed with drafting a request for proposal; 2) execute a small contract; or 3) integrate this into the work that Leapfrog consulting is providing. Some Board members suggested moving quickly since individual agencies are already moving forward with their permit renewal efforts. Amanda Roa says that she would recommend the approach to Gary Darling. Tom Hall noted that he would prefer a 13267 letter rather than a permit and the ED suggested a 13267 letter would ensure all dischargers would participate in a study effort. Ben Horenstein remarked that it is uncertain how a 13267 letter might affect subsequent permits, but a watershed permit could be more effective. Laura Pagano suggested that BACWA acquire assistance to explore the concept and develop materials to continue discussions at Pardee. It was noted that this might be done under BACWA's existing contract with HDR. Jim Ervin expressed concern about defining a direction before the real problem is identified, inquiring whether nutrients could be traded, and suggesting that impairment in one location may not mean that it occurs in another location. Also, he cautioned that BACWA may not get much from the RWQCB in return. Ben suggested BACWA could approach the RWQCB with what the POTWs would already be planning to do, but that this would give permittees an umbrella of protection and documentation for their planned efforts. Mike Connor remarked that currently everyone has to work individually on a permit by permit basis, and while segments of the Bay may have some important differences, ultimately the issue is how much nitrogen all the POTWs are discharging into the Bay. Jim Ervin noted that he supports BACWA facilitating agencies coming together to discuss what they are doing individually, but that this concept has risk of inviting regulation. Tom Hall says that BACWA may want to look at what they can do to assist members in upcoming permit renewals. The Board agreed to meet via conference call in the next few weeks consider approval of a $20,000 - $30,000 scope for consultant assistance to explore the concept and prepare discussion materials for Pardee.

For **agenda item 13,** the ED distributed **Mercury and PCB's Risk Reduction** Board Action Request (BAR) form. This topic will be added to the upcoming Joint meeting for discussion with the RWQCB staff. Comments due October 29th. Ben Horenstein will circulate the EBMUD study to the Board members.

Agenda item 14, a discussion of **CEC State-Wide Monitoring,** was postponed for the October 25th meeting. The Board noted that they support the agencies working together to develop a plan.

For **agenda item 15**, the **BACWA 2013 Calendar** was included in the handout packet. SFPUC is willing to host an upcoming meeting at their new downtown location. EBDA and CCCSD are unable to attend meetings on the third Thursday of the month and request that those meetings be rescheduled.

Piers Clark presented under **agenda item 17**, on **Isle Technologies' TAG Program**. He reviewed key technologies that they have brought forth which have been beneficial to the POTW community. The Board requested that Piers provide more information about the electrical current technology that they were able to help implement. It was noted that WERF's program is not looking at market ready technology. Those interested in attending the upcoming TAG meeting should contact the ED.

The meeting concluded with **agenda item 16**, where the Board took a moment to reflect on the memorial service held in honor of **Arleen Navarret**, her contributions to BACWA, positive impact clean water community, and the many lives she touched through her personal and professional life.

The next regular BACWA Board meeting is tentatively scheduled for, October 25, 2012 at the EBMUD Treatment Plant Lab Library from 9 a.m. – 12 p.m.

The meeting adjourned at 12:00 p.m.

Executive Board Special Meeting Agenda

Friday, October 5, 2012, 4:00 p.m. – 5:00 p.m.
TELECONFERENCE
Conference Dial-in Number: (605) 475-4001
Participant Access Code: 207130#

ROLL CALL AND INTRODUCTIONS
Executive Board Representatives: Ben Horenstein, Chair (East Bay Municipal Utility District); Laura Pagano, Vice Chair (San Francisco Public Utilities Commission); Ann Farrell (Central Contra Costa Sanitary District); Mike Connor (East Bay Dischargers Authority); Jim Ervin (City of San Jose).

Other Attendees: Dave Williams (EBMUD); Lorien Fono (Patricia McGovern Engineers); Jim Kelly (BACWA); Alexandra Gunnell (BACWA).

PUBLIC COMMENT
None.

OTHER BUSINESS

1. Approve contract with Larry Walker Associates for evaluation of Nutrient Watershed Permit Concept, not to exceed $20,000; File 12,725.

The Board reviewed authorization request form and scope of work and discussed the following:

Specifics of this concept still need to be developed and it is premature to determine whether the result would be a watershed permit or some other alternative. Integrating nutrients into the existing Watershed Permit for mercury and PCBs is a possibility or this could become a separate permit, but a primary difference is that nutrients could be an "opt-in" permit, whereby individual agencies to could choose not to be included.

BACWA may need to schedule a workshop to inform members about this concept, as well as provide an update on nutrients issue.

Tom Grovhoug was selected because of his unique skill set that includes an understanding of statewide perspective, technical expertise, insight into various strategies, experience supporting CASA nutrient efforts, and ability to work within the narrow time constraints set for this project. His role would be to explore the concept and present his findings to the BACWA Board prior to the Pardee Technical Seminar. LWA will be working with Dave Clark of HDR. Then the Board would determine how and when to move forward with RWQCB.

The ED will include Board members in correspondence with LWA so that they provide input as the work progresses.

Mike Connor made a motion to approve the contract. Laura Pagano seconded, and the motion passed unanimously.

REPORTS

2. Executive Director Report
   - SFEI has enough funds to finish the work outlined in the scope of their agreement with BACWA for Nutrients Strategy Development, File 12,680, but the funds are not allocated to the right tasks. David Senn has requested authorization shift funds from one task to another, with no change the total amount of the contract. If the Board concurs, the Executive Director will confirm this approach with an email and Letter to SFEI. This is essentially a no cost change order to enable accomplishing the original scope. No objection was voiced.

3. Executive Director Authorizations
   - Approval of request from Rosie Jencks to utilize Arleen Navarret Award conference reimbursement to attend the 2012 Urban Watershed Sustainability Leadership Conference, not to exceed $1,000.

The meeting adjourned at 5:00 p.m.

Teleconference Locations:

San Francisco Public Utilities Commission
525 Golden Gate Ave
San Francisco, CA 94102

East Bay Municipal Utility District
375 11th Street, 7th Floor
Oakland, CA 84607

Central Contra Costa Sanitary District
5019 Imhoff Place
Martinez, CA 94553

East Bay Discharger's Association
2651 Grant Avenue
San Lorenzo, CA 94580

San Jose/Santa Clara Water Pollution Control Plant
700 Los Esteros Road
San Jose, CA 95134

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

October 16, 2012

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: D. Scott Klein, Controller, East Bay Municipal Utility District
SUBJECT: Two 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 **August 1, 2012 through August 31, 2012** (two months of Fiscal Year 2012-2013). This report covers expenditures, cash receipts, and cash transfers for the following BACWA funds:

- Bay Area Clean Water Agencies (BACWA),
- BACWA Training Fund (Trng Fnd),
- Air Issues and Regulation Group (AIR),
- Bay Area Pollution Prevention Group (BAPPG),
- BACWA Legal Reserve Fund (Legal Rsrv),
- Water Quality Attainment Strategy (WQA CBC),
- BACWA Operating Reserve Fund (BACWAOpRes),
- Regional Water Recycling (RWR),
- BACWA Reserve (Reserve),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84),
- WQA Emergency Reserve Fund (WQA Emerg),
- WQA Tech Action Fund (TechAction),
- CBC Operating Reserve Fund (CBC OpRsrv), and
- Prop50 Bay Area Integrated Regional Water Mgmt (PRP50)

Fund Balances as of month end 8/31/12

DESCRIPTION	BEGINNING FUND BALANCE 7/1/12	TOTAL RECEIPTS	TOTAL DISBURSEMENTS	ENDING FUND BALANCE 8/31/12	OUTSTANDING ENCUMBRANCES	UNOBLIGATED FUND BALANCE 8/31/12
BACWA	597,182	257,651	18,356	836,477	392,474	444,004
TRNG FND	247,407	223	-	247,630	-	247,630
AIR	3,372	28,810	-	32,182	79,556	(47,374)
BAPPG	41,498	12,756	700	53,554	9,838	43,716
LEGAL RSRV	302,900	273	-	303,173	-	303,173
WQA CBC	214,406	182,798	14,654	382,550	138,840	243,710
BACWAOPRES	152,408	137	-	152,545	-	152,545
RWR	16,676	15	-	16,691	-	16,691
RESERVE	120,000	-	-	120,000	-	120,000
WOT	67,662	106,559	-	174,221	-	174,221
PRP84	39,116	20,022	67	59,071	8,657	50,414
WQA EMERG	403,866	364	-	404,230	-	404,230
TECHACTION	252,416	228	-	252,644	-	252,644
CBC OPRSRV	163,566	147	-	163,713	-	163,713
PRP50	167,638	156	2,010	165,784	38,229	127,555
	2,790,112	610,141	35,787	3,364,465	667,593	2,696,873

BACWA Revenue Report for August 2012

DEPARTMENT	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
			DIRECT	INVOICED	JVS	DIRECT	INVOICED	JVS	ACTUAL	
Bay Area Clean Water Agencies	BDO Member Contributions	420,000	-	180,000	-	-	180,000	-	180,000	240,000
Bay Area Clean Water Agencies	BDO Fund Transfers	10,277	-	-	1,942	-	-	1,942	1,942	8,335
Bay Area Clean Water Agencies	BDO Interest Income	5,000	-	-	-	-	-	709	709	4,291
Bay Area Clean Water Agencies	BDO Assoc.&Affiliate Contr	159,000	-	75,000	-	-	75,000	-	75,000	84,000
BACWA TOTAL		**594,277**	**-**	**255,000**	**1,942**	**-**	**255,000**	**2,651**	**257,651**	**336,626**
BACWA Training Fund	BDO Interest Income	-	-	-	-	-	-	223	223	(223)
TRNG FND TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**223**	**223**	**(223)**
AIR-Air Issues&Regulation Grp	BDO Member Contributions	78,354	-	28,800	-	-	28,800	-	28,800	49,554
AIR-Air Issues&Regulation Grp	BDO Interest Income	-	-	-	-	-	-	10	10	(10)
AIR TOTAL		**78,354**	**-**	**28,800**	**-**	**-**	**28,800**	**10**	**28,810**	**49,544**
BAPPG-BayAreaPollutnPreventGrp	BDO Member Contributions	79,505	-	12,714	-	-	12,714	-	12,714	66,791
BAPPG-BayAreaPollutnPreventGrp	BDO Interest Income	3,079	-	-	-	-	-	42	42	3,037
BAPPG TOTAL		**82,584**	**-**	**12,714**	**-**	**-**	**12,714**	**42**	**12,756**	**69,828**
BACWA Legal Reserve Fnd	BDO Interest Income	-	-	-	-	-	-	273	273	(273)
LEGAL RSRV TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**273**	**273**	**(273)**
WQA-WtrQualityAttainmntStratgy	BDO Member Contributions	450,000	-	182,555	-	-	182,555	-	182,555	267,445
WQA-WtrQualityAttainmntStratgy	BDO Other Receipts	-	-	-	-	-	-	-	-	-
WQA-WtrQualityAttainmntStratgy	BDO Interest Income	1,600	-	-	-	-	-	243	243	1,357
WQA CBC TOTAL		**451,600**	**-**	**182,555**	**-**	**-**	**182,555**	**243**	**182,798**	**268,802**
BACWA OperatingRsrve Fnd	BDO Interest Income	-	-	-	-	-	-	137	137	(137)
BACWAOPRES TOTAL		**-**	**-**	**-**	**-**	**-**	**-**	**137**	**137**	**(137)**

BACWA Revenue Report for August 2012

DEPARTMENT	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
			DIRECT	INVOICED	JVS	DIRECT	INVOICED	JVS	ACTUAL	
Regional Water Recycling	BDO Interest Income	-	-	-	-	-	-	15	15	(15)
RWR TOTAL		-	-	-	-	-	-	**15**	**15**	**(15)**
WOT - Wtr/Wwtr Operat Training	BDO Member Contributions	150,000	-	106,500	-	-	106,500	-	106,500	43,500
WOT - Wtr/Wwtr Operat Training	BDO Interest Income	-	-	-	-	-	-	59	59	(59)
WOT TOTAL		**150,000**	-	**106,500**	-	-	**106,500**	**59**	**106,559**	**43,441**
Prop84BayAreaIntegRegnlWtrMgmt	BDO Interest Income	-	-	-	-	-	-	22	22	(22)
Prop84BayAreaIntegRegnlWtrMgmt	Sears Point Wtlnd & Wtrshd Res	-	-	6,667	-	-	6,667	-	6,667	(6,667)
Prop84BayAreaIntegRegnlWtrMgmt	Bair Island Restoration	-	-	6,667	-	-	6,667	-	6,667	(6,667)
Prop84BayAreaIntegRegnlWtrMgmt	South Bay Salt Pond Habitat Re	-	-	6,667	-	-	6,667	-	6,667	(6,667)
PRP84 TOTAL		-	-	**20,000**	-	-	**20,000**	**22**	**20,022**	**(20,022)**
WQA Emergency Resrve Fnd	BDO Interest Income	-	-	-	-	-	-	364	364	(364)
WQA EMERG TOTAL		-	-	-	-	-	-	**364**	**364**	**(364)**
WQA Tech Action Fund	BDO Interest Income	-	-	-	-	-	-	228	228	(228)
TECHACTION TOTAL		-	-	-	-	-	-	**228**	**228**	**(228)**
CBC Operating Resrve Fnd	BDO Interest Income	-	-	-	-	-	-	147	147	(147)
CBC OPRSRV TOTAL		-	-	-	-	-	-	**147**	**147**	**(147)**
Prop50BayAreaIntegRegnlWtrMgmt	BDO Interest Income	-	-	-	-	-	-	156	156	(156)
PRP50 TOTAL		-	-	-	-	-	-	**156**	**156**	**(156)**

BACWA Expense Report for August 2012

DEPARTMENT	EXPENSE TYPE	AMENDED BUDGET	CURRENT PERIOD				YEAR TO DATE				OBLIGATED	UNOBLIGATED
			ENC	PV	DA	JV	ENC	PV	DA	JV		
Bay Area Clean Water Agencies	BC-Collections System	25,000	25,000	-	-	-	25,000	-	-	-	25,000	-
Bay Area Clean Water Agencies	BC-Permit Committee	-	-	-	-	-	-	-	-	-	-	-
Bay Area Clean Water Agencies	BC-Water Recycling Committee	13,359	9,910	-	-	-	13,269	-	-	-	13,269	90
Bay Area Clean Water Agencies	BC-Biosolids Committee	6,515	(560)	560	-	-	955	560	-	-	1,515	5,000
Bay Area Clean Water Agencies	BC-InfoShare Groups	25,000	25,000	-	-	-	25,000	-	-	-	25,000	-
Bay Area Clean Water Agencies	BC-Laboratory Committee	7,000	-	-	-	-	-	-	-	-	-	7,000
Bay Area Clean Water Agencies	BC-Miscellaneous Committee Sup	140,000	128,314	11,686	-	-	132,616	12,035	-	(349)	144,302	(4,302)
Bay Area Clean Water Agencies	LS-Regulatory Support	2,000	1,898	102	-	-	1,898	102	-	-	2,000	-
Bay Area Clean Water Agencies	LS-Executive Board Support	2,000	2,000	-	-	-	2,000	-	-	-	2,000	-
Bay Area Clean Water Agencies	CAS-CWAA	1,000	-	-	-	-	-	-	-	-	-	1,000
Bay Area Clean Water Agencies	CAS-PSSEP	20,000	-	-	-	-	-	-	-	-	-	20,000
Bay Area Clean Water Agencies	CAS-CPSC	5,000	-	-	-	-	-	-	-	-	-	5,000
Bay Area Clean Water Agencies	CAS-PSI	500	-	-	-	-	-	-	-	-	-	500
Bay Area Clean Water Agencies	CAR-BACWA Annual Report	15,000	15,000	-	-	-	15,433	-	-	-	15,433	(433)
Bay Area Clean Water Agencies	CAR-BACWA Website Development/	10,720	10,505	495	600	-	12,014	495	600	(2,285)	10,824	(104)
Bay Area Clean Water Agencies	AS-BACWA Admin Expense	3,000	-	-	-	-	-	-	-	-	-	3,000
Bay Area Clean Water Agencies	CAR-Other Communications	5,000	2,000	-	-	-	2,000	-	-	-	2,000	3,000
Bay Area Clean Water Agencies	SP-BAPPG Contribution	50,000	-	-	-	-	-	-	-	-	-	50,000
Bay Area Clean Water Agencies	GBS-Contingency	30,000	24,000	1,000	-	-	24,000	1,000	4,478	(4,478)	25,000	5,000
Bay Area Clean Water Agencies	GBS- Meeting Support	13,000	932	68	347	-	932	68	347	-	1,347	11,653
Bay Area Clean Water Agencies	AS-Executive Director	160,000	-	-	-	-	34,939	-	-	-	34,939	125,061
Bay Area Clean Water Agencies	AS-Assistant Executive Directo	70,000	62,418	5,782	-	-	62,418	5,782	-	-	68,200	1,800
Bay Area Clean Water Agencies	AS-EBMUD Administrative Servic	40,000	40,000	-	-	-	40,000	-	-	-	40,000	-
Bay Area Clean Water Agencies	AS-Insurance	4,000	-	-	-	-	-	-	-	-	-	4,000
Bay Area Clean Water Agencies	BDO-CAS-Stanford ERC	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		**658,094**	**346,417**	**19,694**	**947**	**-**	**392,474**	**20,043**	**5,426**	**(7,112)**	**410,830**	**247,264**
AIR-Air Issues&Regulation Grp	Administrative Support	3,977	-	-	-	-	-	-	-	-	-	3,977
AIR-Air Issues&Regulation Grp	BDO Contract Expenses	79,556	79,556	-	-	-	79,556	-	-	-	79,556	-
AIR TOTAL		**83,533**	**79,556**	**-**	**-**	**-**	**79,556**	**-**	**-**	**-**	**79,556**	**3,977**
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Fog	14,000	-	-	-	-	-	-	-	-	-	14,000
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Mercury	-	-	-	-	-	-	-	-	-	-	-
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Pesticides	10,000	-	-	-	-	-	-	-	-	-	10,000
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Copper	5,000	-	-	-	-	-	-	-	-	-	5,000
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Pharmaceutical	7,499	6,499	-	-	-	6,499	-	-	-	6,499	1,000
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-General P2	-	-	-	-	-	-	-	-	-	-	-
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Emerging Issues	8,000	-	-	-	-	-	-	-	-	-	8,000
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Other	16,539	(700)	700	-	-	3,339	700	-	-	4,039	12,500
BAPPG-BayAreaPollutnPreventGrp	Administrative Support	3,800	-	-	-	-	-	-	-	-	-	3,800
BAPPG-BayAreaPollutnPreventGrp	BAPPG-CE-Multi-Pollutant	19,000	-	-	-	-	-	-	-	-	-	19,000
BAPPG TOTAL		**83,838**	**5,799**	**700**	**-**	**-**	**9,838**	**700**	**-**	**-**	**10,538**	**73,300**

BACWA Expense Report for August 2012

DEPARTMENT	EXPENSE TYPE	AMENDED BUDGET	CURRENT PERIOD				YEAR TO DATE				OBLIGATED	UNOBLIGATED
			ENC	PV	DA	JV	ENC	PV	DA	JV		
WQA-WtrQualityAttainmntStratgy	WQA-CE-Technical Support	525,838	346	14,654	-	-	96,285	19,297	-	(4,644)	110,938	414,900
WQA-WtrQualityAttainmntStratgy	WQA-CE-Collaborations & Sponso	65,000	-	-	-	-	-	-	-	-	-	65,000
WQA-WtrQualityAttainmntStratgy	WQA-CE-Commun. & Reporting	26,000	6,000	-	-	-	6,000	-	-	-	6,000	20,000
WQA-WtrQualityAttainmntStratgy	WQA-CE-Other	45,000	35,000	-	-	-	36,555	-	-	-	36,555	8,445
WQA CBC TOTAL		**661,838**	**41,346**	**14,654**	**-**	**-**	**138,840**	**19,297**	**-**	**(4,644)**	**153,493**	**508,345**
WOT - Wtr/Wwtr Operat Training	Administrative Support	2,500	-	-	-	-	-	-	-	-	-	2,500
WOT - Wtr/Wwtr Operat Training	BDO Contract Expenses	158,000	-	-	-	-	-	-	-	-	-	158,000
WOT TOTAL		**160,500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**160,500**
Prop84BayAreaIntegRegnlWtrMgmt	Administrative Support	-	933	67	-	-	8,657	67	-	-	8,724	(8,724)
PRP84 TOTAL		**-**	**933**	**67**	**-**	**-**	**8,657**	**67**	**-**	**-**	**8,724**	**(8,724)**
Prop50BayAreaIntegRegnlWtrMgmt	Administrative Support	-	932	68	-	1,942	932	68	-	1,942	2,942	(2,942)
Prop50BayAreaIntegRegnlWtrMgmt	BDO Contract Expenses	-	-	-	-	-	37,297	1,608	-	(1,608)	37,297	(37,297)
PRP50 TOTAL		**-**	**932**	**68**	**-**	**1,942**	**38,229**	**1,676**	**-**	**334**	**40,239**	**(40,239)**

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 4

FILE NO.: N/A

MEETING DATE: October 25, 2012

TITLE: Nutrients Strategy Governance Development

☒ **MOTION**_____ ☐ **RESOLUTION**_____

RECOMMENDED ACTION

Provide input and direction to Kayla Kirsch, of Leapfrog Consulting, on next steps in facilitation process.

SUMMARY

Kayla Kirsch, an organizational development consultant with Leapfrog Consulting, was contracted to interview Board Members (on October 11 and 12) as part of BACWA's initiative to explore a governance structure for ongoing nutrient management and oversight. Ms. Kirsch will summarize the feedback she received from Board Members and share these findings at the Board meeting on October 25. (A written summary will be forwarded to the Board on Tuesday, October 23). Following the Board meeting, input and direction is requested on Ms. Kirsch's summary, and what if any followup should be conducted prior and during the Pardee Technical Seminar.

FISCAL IMPACT

N/A

ALTERNATIVES

N/A

***Attachments*:**

1. Leapfrog Consulting Scope of Work

BACWA EXECUTIVE BOARD ACTION REQUEST

AGENDA NO.: 5

FILE NO.: N/A

MEETING DATE: October 25, 2012

TITLE: Nutrient Watershed Permit Concept Evaluation

☒ **MOTION**_____ ☐ **RESOLUTION**_____

RECOMMENDED ACTION

Provide feedback and direction to LWA/HDR for Nutrient Watershed Permit Concept Evaluation.

SUMMARY

As approved at the BACWA Board Special Meeting on October 5, 2012, a contract was executed with Larry Walker Associates (LWA) and approval was granted to utilize the existing HDR agreement to provide an evaluation of a Nutrient Watershed Permit Concept and other alternative regulatory approaches to deal with the issue of long term nutrient management and regulatory compliance in the San Francisco Bay region. LWA and HDR were asked by BACWA to evaluate the watershed permit concept and alternatives in Task 1 and develop a framework for the recommended approach in Task 2. The results of Task 1 were sent to the BACWA Executive Board for review via email on October 16th. Responses indicated that it would be appropriate to receive feedback on Task 1 at the October 25 Board meeting, and that subsequent work should be done to respond to that feedback before the Pardee Technical Seminar. The Task 1 DRAFT Memo and supporting attachments (e-mailed on 10/18) are included with this BAR. Board feedback and direction is requested at the October 25th Board Meeting.

FISCAL IMPACT

N/A

ALTERNATIVES

N/A

***Attachments*:**

1. Nutrient Watershed Permit Concept (Task 1 Memo, Final Draft 10-22-12)
2. Attachment A – Prelim Assessment of Regulatory Options
3. Attachment B – Narrative Objective Implementation Flow Diagrams

Evaluation of BACWA Nutrient Watershed Permit Concept [Draft]

Prepared by:

Tom Grovhoug and Denise Conners (Larry Walker Associates)
David Clark (HDR, Inc.)

Introduction

The purpose of this memorandum is to provide an evaluation of a Nutrient Watershed Permit Concept and other alternative regulatory approaches to deal with the issue of long term nutrient management and regulatory compliance in the San Francisco Bay region. BACWA is seeking a nutrient management/regulatory approach that will efficiently address current and future water quality problems and will produce effective solutions and tangible improvements. As it has for years, BACWA supports reasonable protection of beneficial uses of the Bay and will continue to be a partner in collaborative problem solving with other key stakeholders in the region.

Larry Walker Associates (LWA) and HDR, Inc. were asked by BACWA to evaluate the watershed permit concept and alternatives (Task 1) and develop a framework for the recommended approach (Task 2). The following paragraphs detail the results of Task 1 and are presented to the BACWA Executive Board for their review and concurrence. This evaluation includes the identification of alternative regulatory vehicles and overarching frameworks, identification of evaluation criteria, an assessment of the alternatives using these evaluation criteria, and a determination of best apparent alternatives. Task 2 activities will be conducted upon direction received by the BACWA Executive Board.

Goals and Objectives

As a first step in this evaluation, it is important to describe goals and objectives for the various approaches being considered. The following goals and objectives have been identified:

(1) To assist in the development of an effective and efficient long term nutrient management strategy and implementation plan for the San Francisco Bay Region by:
- Defining attainable goals for nutrient management
- Avoiding inappropriate regulatory outcomes (e.g., outcomes that are costly without producing net benefit)
- Developing information and management tools that will lead to effective nutrient management
- Prioritizing near-term and long-term actions

(2) To provide regulatory certainty to BACWA members over an extended planning and implementation period.

Background

In the fall of 2011, HDR produced three memorandums for BACWA to describe the utility of water quality modeling,[1] the impacts on POTWs during the transition to nutrient removal treatment,[2] and the current regulatory environment regarding nutrients.[3] The third memo provided key information regarding the impact of different regulatory outcomes on BACWA members.

Drawing from the HDR memorandums and recent information provided by the San Francisco Bay Regional Water Quality Control (Regional Water Board), the following are recent and ongoing activities that form the backdrop for nutrient management issues in the San Francisco Bay area:

- The State Water Resources Control Board (SWRCB) and the Regional Water Board are engaged in the Nutrient Numeric Endpoint (NNE) process for inland freshwaters, coastal estuaries, and the San Francisco Bay. The NNE process was started in 2006 and is intended to address nutrient over-enrichment in state waters, a leading cause of water body impairment.
- The Regional Water Board wrote a January 24, 2012 letter[4] to BACWA indicating support for Nutrient Strategy Development and Implementation. The letter noted that nutrient studies are to include: coordination of nutrient strategy development and implementation, development of numeric biogeochemical models to evaluate biological response under future nutrient loading scenarios, and Suisun Bay studies to investigate potential relationship between ammonia, nutrients and the decline of pelagic fish in Suisun Bay.
- In February, 2012, the Regional Water Board adopted an NPDES permit for the Central Contra Costa Sanitary District (CCCSD) discharge to Suisun Bay.[5] The permit included requirements to contribute to studies of potential ammonia impacts in Suisun Bay. Studies are ongoing.
- The Regional Water Board issued a California Water Code (CWC) "13267 letter "dated March 2, 2012 requiring POTW monitoring of influent and effluent for various nutrient-related parameters. The Regional Water Board has indicated that data collected through this program will be used to assess nutrient loads, evaluate load reduction scenarios, develop receiving water quality models, and determine need for additional treatment. Data may also be used to support TMDL development or other regulatory management plans.[6]

[1] HDR, Inc.,"The Utility of Water Quality Modeling for San Francisco Bay," September 16, 2011.
[2] HDR, Inc.,"The Impact on POTWs Transitioning from Secondary to Nutrient Removal Treatment," September 16, 2011.
[3] HDR, Inc., "Nutrient Regulatory Considerations," December 2011.
[4] San Francisco Bay Regional Water Quality Control Board, "Water Board Support for Nutrient Strategy Development and Implementation," letter to BACWA, January 24, 2012.
[5] Order No. R2-2012-0006.
[6] San Francisco Bay Regional Water Quality Control Board, "Response to Written Comments on Tentative Order Issued for South Bayside Systems Authority," August 2012. The language was also included in the NPDES permit issued to South Bayside System Authority and the Tentative Orders for Sausalito-Marin City Sanitary District, and the Sewerage Agency of Southern Marin.

The Regional Water Board issued a Draft San Francisco Bay Nutrient Strategy to the NNE Stakeholder Advisory Group in March 2012.[7] As part of the nutrient strategy, the Regional Water Board is working on a Nutrient Assessment Framework, which "will allow translation of narrative objective into numeric criteria, which in turn will allow us to calculate WQBELs for nutrients."[8]
A November 19, 2012 meeting of the NNE stakeholder group has been scheduled. At that time, draft assessment criteria will be released for comment.Identification of Alternatives

The alternatives identified for long term nutrient management in the San Francisco Bay were selected from existing programs and approaches used in California and other areas of the U.S. The alternatives were grouped into two categories: Regulatory Approach and Overarching Framework. A Regulatory Approach is needed to implement existing state and federal regulation and work within established regulatory programs. An Overarching Framework is needed to define relationships, establish timelines and legal frameworks, and maintain a course of direction. The best apparent alternative(s) may be a combination of actions selected from each category. The alternatives are defined in this section and discussed in more detail in the subsequent "Evaluation of Alternatives."

Regulatory Approach

The following regulatory alternatives have been identified for BACWA review and consideration. A preliminary assessment of the pros/cons associated with each of regulatory alternatives is presented in **Attachment A**.

Individual NPDES Permits (No New Action Alternative) – This alternative would maintain the current regulatory approach, seek to influence the ongoing NNE process and San Francisco Bay Nutrient Strategy, and react to future Regional Water Board and USEPA regulatory initiatives on nutrients on a permit-by-permit basis. Adoption of new nutrient water quality objectives developed in the NNE process would require a Basin Plan amendment.

Nutrient NPDES Watershed Permit – This alternative would utilize the NPDES permit structure to regulate nutrients on a watershed basis. The watershed permit would include specific commitments by regulated entities to perform particular tasks on a prescribed schedule. A Basin Plan Amendment may be needed to establish certainty for the structure and time table for actions within the permit.

TMDL-Like Action (Without Designated Bay Impairment) –This alternative would formulate a nutrient management plan that meets the intent of a TMDL in advance of the mandate to perform a TMDL. This action would likely require adoption of a Basin Plan Amendment to memorialize the plan. The TMDL-Like Action can be led by regulatory agencies and/or stakeholders.

Regional Water Board CWC 13267 Order – This alternative would involve action taken by the Regional Water Board to compel San Francisco Bay dischargers to gather specific information pertaining to nutrients and produce technical reports. The information obtained may be used to support development of a nutrient management plan and associated regulatory program.

[7] San Francisco Bay Regional Water Quality Control Board, "Nutrient Management Strategy for San Francisco Bay, Draft Version," March 2012.
[8] San Francisco Bay Regional Water Quality Control Board, "Response to Written Comments on Tentative Order Issued for South Bayside Systems Authority," August 2012.

Narrative Objective Implementation (Nutrient Management Strategy) – This alternative would establish a process to build information and tools to assess alternative management scenarios ahead of the adoption of numeric nutrient objectives for San Francisco Bay. This alternative would likely require adoption of a Basin Plan Amendment to describe and formalize the new actions and process for implementing the existing biostimulatory narrative water quality objective. **Water Quality Standards Variance** – This alternative would entail gaining approval for a limited term water quality standards variance in accordance with guidance established by the USEPA. Since the existing Basin Plan does not contain authority to grant a water quality objectives variance, a Basin Plan amendment would be required.**Nutrient Offsets/Trading** – This alternative would establish a framework and mechanisms for nutrient offsets and/or trading in San Francisco Bay that would provide tools for nutrient management. The tools developed under this framework may be used to implement a regulatory program. A Basin Plan amendment would be required to formalize the various aspects of an offsets/trading program for nutrients.

Overarching Framework

The following overarching frameworks to define shared responsibilities, memorialize goals/objectives, protect Permittees from enforcement (when implementing required activities), and help avoid diversion of resources and efforts by mid-stream challenges have been identified for BACWA review and consideration. A preliminary assessment of the pros/cons associated with each of overarching frameworks is presented in **Attachment A**.

Time Schedule Order (TSO)/Cease and Desist Order (CDO) – This alternative would include the negotiation and adoption of an administrative order under the CWC Section 13301 for CDOs and Section 13300 for TSOs to establish a long term (5-year) agreement by BACWA members to take certain actions in return for specific regulatory commitments from State agencies. This alternative would be atypical since such orders are normally issued in response to existing or immediate compliance issues. Compliance schedules within CDOs and TSOs are limited to 5 years from the date waste discharge requirements must be reviewed.

Memorandum of Agreement (MOA)/Memorandum of Understanding (MOU) – This alternative would establish the framework for an agreement between BACWA, regulatory agencies, and potentially other parties (i.e., agricultural organizations, storm water agencies, ports, etc.) to manage nutrients in the San Francisco Bay over a long term period. The agreement would establish principles and provisions to guide nutrient management actions and could be used to initiate a process that would subsequently be formalized under one of the other overarching framework options.

Basin Plan Amendment – This alternative would formalize a nutrient management plan and process elements into the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). This approach would require approval of the Regional and State Board Water Boards, as well as the USEPA.

USEPA Order for Compliance – This alternative would involve working with the USEPA to develop a compliance order to establish a framework and schedule for actions by BACWA and other parties. The compliance order would stand until revoked by the USEPA, so a compliance period longer than 5 years may be possible. As in the TSO/CDO example, such an order is typically issued in response to a violation of Clean Water Act requirements, which would not be the case in this circumstance. The compliance schedule contained in the Order would be negotiated by the parties and would be have definitive, enforceable deadlines.

Federal Consent Decree – This is a formal agreement**,** enforceable by the federal court, for the performance of specified actions. As for the TSO/CDO and USEPA Compliance Order examples, this alternative is typically crafted in response to a failure to meet Clean Water Act requirements and is not typically used for the purpose as described in this case for proactive management of nutrients in San Francisco Bay. The compliance schedule contained in the consent decree would be negotiated by the parties and would be have definitive, enforceable deadlines.

Evaluation Criteria

The following criteria were used to evaluate and rank the regulatory approach and overarching framework alternatives. Two tiers are provided to capture the relative importance of the different criteria. Alternatives that best satisfy Tier 1 criteria were ranked higher than Tier 2 criteria.

Tier 1

- May modify the schedule for adoption of numeric nutrient objectives and Water Quality Based Effluent Limitations (WQBELs) in discharge permits in the nutrient management process
- Certainty regarding State and federal regulatory agency approval based on past precedents
- Long term certainty (> 5 years) in regulatory requirements
- Legal protection (from lawsuits, penalties, etc.)
- Facilitates costs commensurate with benefits
- Yields reasonable compliance risk during participation in the larger planning process

Tier 2

- Flexibility
- Predictable outcomes for facilities planning
- National or California precedent
- Implementation timeframe (< 5 years)

Evaluation of Alternatives

The regulatory approach and overarching framework alternatives were evaluated in terms of the identified criteria. The results are discussed in the following paragraphs and the ranking of alternatives is presented in **Table 1** (Regulatory Approach Alternatives), and **Table 2** (Overarching Regulatory Framework Alternatives). The tables are included at the end of this memorandum.

Regulatory Approach Alternatives

Individual NPDES Permits (No New Action Alternative)

The Regional Water Board is currently developing a nutrient regulatory program for the San Francisco Bay on a permit-by-permit basis using existing Basin Plan requirements and best professional judgment while developing the NNE program. When the NNE program is adopted, its standards and requirements will be formalized in a Basin Plan amendment and will impact NPDES permit conditions, either on a permit by permit basis or as part

of a watershed permit. BACWA is engaged in this process by participating in special monitoring programs, funding investigative studies, and commenting on draft documents produced by the Regional Water Board. This regulatory alternative is included in the evaluation as the baseline for comparison with proposed alternate approaches.

This alternative currently meets the regulatory agency acceptance criterion since it represents "business as usual," but may evolve in a fragmented way that does not include comprehensive considerations related to watershed nutrient management for the Bay. Under this alternative, there will be opportunity to have some effect on the timing and content of numeric nutrient objectives, depending on the success of BACWA's participation in the NNE process and the San Francisco Bay Nutrient Strategy. This alternative will not provide long term certainty or legal protection. Cost outcomes are unclear, but may be substantial, depending on the numeric objectives that are set and the permitting and/or TMDL approach taken in reaction to the objectives. If today's permitting approaches were employed in reaction to very low numeric objectives for the Bay (as described in Table 1 of the HDR memorandum entitled "Nutrient Regulatory Considerations"), the costs would be exorbitant. The risk of this approach is that if the regulatory process follows a common trajectory, the opportunity to influence the process to shape more reasonable permitting structures and limits would be missed.

This alternative has limited flexibility, as BACWA members are aware, given the past precedents established in the NPDES permitting process and the influence of the USEPA on NPDES permit issues. Outcomes from the standard permitting process are in large part predictable, subject to various nuances of permit negotiation and opportunities/uncertainties regarding application of regulatory off ramps such as use attainability, variances, etc. The implementation time frame will depend on the NNE effort and whether that effort will be affected by the San Francisco Bay Nutrient Strategy.

Nutrient Watershed Permit

This alternative may meet with regulatory agency approval, depending on the details of the permit requirements and provisions. An advantage of a watershed based permitting process is that dischargers would not all be required to comply with identical effluent limits - flexibility could be provided to allow variable discharges that in combination satisfy nutrient management objectives for different Bay segments. In this way, parties could collaborate to adapt nutrient management efforts in a manner that best suits existing treatment infrastructure, cost-effective nutrient reduction improvements, and strategic combinations of nutrient reduction measures. Such an approach might also be structured to be adapted to changes in future expectations for nutrient objectives or the eventual development of NNEs. For example, a near-term "no net increase" nutrient management baseline objective that is structured under a watershed permit might be revised in the future to adapt to final numeric nutrient endpoints under a defined end process.

Key negotiation points with the Regional Water Board will include whether the watershed permit can have an opt-in/opt-out provision. From the Regional Water Board perspective, a watershed permit that does not include all of the BACWA members may not be acceptable. The Regional Water Board required that industrial permittees be included in both the mercury and PCB watershed permits for San Francisco Bay. A similar situation has been seen elsewhere in the case of the State of Virginia nutrient general permit. That permit does not allow for parties to opt-out. A counter example has been found in the case of the State of New Hampshire,

where a regional organization of municipalities called the Southeast Watershed Alliance (SWA) was formed by the state legislature in 2009 to address excess levels of nutrients in the Great Bay estuary. Under New Hampshire bill RSA 485-E, 42 communities within the coastal watershed may either opt-in or opt-out of participation in the SWA. (More information on the opt-in/opt-out examples is presented in **Attachment A**.)

Another key point of negotiation will be whether long term elements can be negotiated that will provide an acceptable level of certainty to BACWA regarding future regulatory actions. An advantage in the negotiation of the terms of the watershed permit is that it is being done proactively, with the intent of preventing a future problem as opposed to being necessary to correct an existing problem.

Yet another important consideration will be whether the watershed permit provisions will have the necessary connection to the NNE process. If such a connection is not established, the NNE process could theoretically move forward, numeric nutrient objectives could be adopted in the near term, and the watershed permit would become a vehicle to impose effluent limits on those entities covered by the permit. This would essentially be the same outcome as would materialize under the No New Action Alternative.

The watershed permit framework could provide legal protection and could reduce future risks to BACWA member agencies, again depending on the details of the permit provisions. The issue of cost acceptability would be an element during negotiations over the content of the watershed permit. An important issue is whether the watershed permit could provide long term certainty/security to BACWA, since NPDES permits are reissued, and are subject to revision, every five years. NPDES permits are also subject to reopeners which could allow changes even more often than the five year reissuance period. A consideration for this alternative is whether one of the overarching framework alternatives would need to be implemented in concert with the watershed permit to address the issue of long term certainty.

Experiences in numeric nutrient rulemaking in other states, such as Colorado and Montana, have shown that the USEPA is focused on compliance with numeric nutrient standards and satisfaction with those standards through permitting. State developments of more flexible permitting requirements that cannot be directly reconciled with the in-waterbody numeric nutrient endpoints have been challenged by EPA. This highlights the importance of the timing of adoption of numeric nutrient objectives as an evaluation criterion for all alternatives, given the regulatory rigidity to be anticipated after adoption of numeric nutrient objectives.

The alternative has similar flexibility to the first option, albeit potentially greater given the more unique nature of watershed permitting and the proactive nature of the watershed permit. In the final analysis, the watershed permit will be constrained by USEPA NPDES permitting regulations. Depending on the content and structure of the watershed permit, some outcomes in terms of future timing of regulatory activities could be more predictable than under the first option. The San Francisco Bay area has successfully employed a watershed permit – for mercury and PCBs. A nutrient watershed permit would embody some differences from the existing example, since it would not address bioaccumulative pollutants, the effects of nutrients are more spatially diverse, and the permit would not be implementing an approved TMDL. On the other hand, the use of a watershed permit to address common scientific and policy issues, study needs, management strategies and tool development would be similar.

Depending upon the formulation, a nutrient watershed permit may or may not address nonpoint source loadings from diverse land uses, storm water, the Sacramento/San Joaquin Delta, and other upstream sources of nutrients. Including nonpoint sources of nutrients in watershed management efforts is essential to attaining overall water quality goals that are unlikely to be met by point source controls alone.

The time frame for implementing a nutrient watershed permit is likely 1 to 2 years, if the Regional Water Board decides a Basin Plan Amendment isn't needed to memorialize the approach.

TMDL-Like Action

Since the San Francisco Bay is not currently included on the 303(d) list for nutrient impairment, the use of a traditional TMDL is not an option at this time. However, the alternative to develop and implement a nutrient management plan that follows the basic structure of a TMDL and could potentially be approved as an equivalent to a TMDL is feasible. For example, a TMDL could be based on a "no net increase" from current loading conditions to establish a target condition with wasteload allocations for point sources and load allocations for nonpoint sources used to define what is required with time.

TMDLs have been undertaken in a variety of forms that range from those developed entirely by regulatory agencies to those developed in a collaborative way by stakeholders. The level of involvement in the development process can be important in providing flexibility for compliance with the resulting wasteload allocations and in setting the stage for feasible compliance through implementation planning. A stakeholder led process could provide more certainty in the outcome and develop at a faster pace than a regulatory agency led process. TMDLs adopted for the Calleguas Creek Watershed in California were developed through a stakeholder process that included regulated entities and the regulatory agencies. The approval process and implementation plan was non-controversial because all activities were completed with stakeholder buy-in.

This alternative has some precedence of acceptance by state and federal regulatory agencies, depending on the nature of the management plan and the restrictions placed on future regulatory actions. It is not clear if this alternative would impact the ongoing NNE process or the timetable for adoption of numeric nutrient objectives, although it possibly could. Since numeric objectives (or triggers) and associated wasteload allocations are a part of the normal TMDL framework, this alternative could inadvertently encourage early action to adopt numeric nutrient concentrations. Given the lack of precedent for such an approach in California , it is uncertain whether this alternative would offer the regulatory flexibility or long term certainty desired by BACWA. For the reasons stated above, this alternative would likely have similar or greater risk than the watershed permit alternative. This approach would likely require a Basin Plan Amendment to define and sanction the negotiated process and provisions. Outcomes from this approach are relatively uncertain.

An advantage to a TMDL approach is that it can, and should, result in a comprehensive nutrient loading analysis for the San Francisco Bay. This should frame all loadings, including nonpoint source contributions, in context with the overall management effort and responsibility for management efforts. Since wastewater point source dischargers tend to be over-regulated in most regulatory processes by virtue of being NPDES permittees, this is an opportunity to frame broader management considerations to include all loadings, formulate management efforts that include nonpoint source reductions, and develop an implementation plan that incorporates

adaptive management features that phase in reduction efforts and allow for adjustments with time as new information becomes available.

Another potential consideration in a TMDL approach is to address the San Francisco Bay's natural condition (i.e., absent anthropogenic loadings). This may result in differing considerations in the open waters of the Bay where nutrients may not be a current issue (due to light limitation, invasive species, etc.) or may contrast with some of the sloughs and backwater salt ponds, where eutrophication may be an issue.

There is limited national precedent for this approach and a review of these examples indicates there may be uncertainties that limit the potential benefits to BACWA. Examples include a nutrient reduction program in the Clark Fork River and the Chesapeake Bay agreement (see **Attachment A** for more information).

The time frame for implementing this alternative and securing formal agreement through the Basin Plan Amendment process is likely 4 to 5 years. Initial agreements could be initiated through use of less formal agreements (e.g. MOA/MOU).

Regional Water Board CWC 13267 Order

Under Section 13267 of the California Water Code, the Regional or State Water Boards can order regulated entities to gather specific information and "furnish technical or monitoring program reports." The Regional Water Board has used this approach in the past to require POTWs in the San Francisco Bay area to establish the Regional Monitoring Program and to collect various influent/effluent data sets, including priority pollutants, methylmercury and, most recently, nutrients.

The 13267 Order approach can be used to compel regulated agencies to work together, fund monitoring programs, and produce technical reports of findings. The information gathering power of this alternative is pronounced, and could be used to spur participation in the joint fact finding for nutrients in SF Bay by a broad array of permitted entities. However, this approach by itself does not provide a process to implement regulatory actions. It would have no direct effect on the NNE process or the San Francisco Bay Nutrient Strategy, or on the adoption of numeric nutrient objectives. Beyond information gathering, it also would do little to provide long term certainty in the context of an overall nutrient management plan. This alternative would not provide legal protection to NPDES permittees, and would not significantly decrease risks associated with future NPDES requirements to address very low nutrient water quality objectives.

The time frame for initial implementation of this approach is relatively short, typically on the order of months, once the information to be collected has been determined. The effect of Section 13267 letters can extend over long periods, as evidenced by the use of this approach in initiating the SF Bay Regional Monitoring Program, which continues today 20 years after its inception.

Narrative Objective Implementation (Nutrient Management Strategy)

This alternative would involve the adoption of a Basin Plan Amendment to describe actions and a process for implementing the existing biostimulatory narrative water quality objective. Those actions and processes would be in many ways similar to the approach currently being developed and advocated by the California Association

of Sanitation Agencies (CASA) for nutrient management statewide in the inland waters of California. The CASA approach is outlined in diagrams presented in **Attachment B**.

The CASA proposal is constructed to directly address the issue of the timing and adoption of nutrient numeric objectives. The approach is consistent with BACWA's comments on the San Francisco Bay Nutrient Strategy and consists of joint fact finding, model development, and examination of the environmental outcomes associated with various management scenarios ahead of the establishment of numeric nutrient objectives or NPDES permit requirements. The approach is also consistent with CWC requirements for establishment of water quality objectives. A question exists whether this alternative will be approved by the state and USEPA , since discussions with those parties on the CASA proposal have yet to occur. If implemented in the San Francisco Bay Region, a question also exists on whether this process would need to be adopted as a Basin Plan Amendment to formalize the process and provide long term certainty. If adopted as proposed by CASA for statewide inland waters, the alternative would provide legal protection by not adopting nutrient objectives and effluent limits until the necessary information has been gathered. The costs and risks associated with this approach are small in comparison to the ultimate costs for extreme nutrient treatment (i.e., wastewater treatment to extremely low nutrient levels). As stated above, the key to this alternative resides in the acceptance and approval of the approach by the regulatory agencies, and may be aided by the fact that nutrient management in the Bay is being undertaken to avoid future problems.

The implementation strategy and financial commitments by regulated agencies for tool development would be developed through negotiations with the Regional Water Board. The outcomes from this approach will likely be some level of additional nutrient removal facilities for San Francisco Bay area POTWs. However, the approach provides information to inform management decisions in terms of the costs and benefits of different management scenarios to (hopefully) prevent NPDES permit requirements that do not yield commensurate water quality improvements.

The alternative is science-based and flexible for adaptive management principles. The implementation time frame for this approach is likely ten years or more, given the complexity of the San Francisco Bay ecosystem and the need for information and tool development. The fact that numeric nutrient objectives do not currently exist and that nutrient enrichment problems have not manifested themselves to a major degree in the San Francisco Bay area may provide greater opportunity for consideration of this approach. This approach was utilized in the Central Valley by the Regional Water Board and interested stakeholders to determine the necessity and nature of water quality objectives needed to protect drinking water interests. That process included a detailed ambient condition and source assessment, use of modeling tools to evaluate outcomes from different management scenarios, and the analysis of benefits to drinking water agencies of those outcomes. The work was used to determine that a new water quality objective for total organic carbon was not needed in the Sacramento-San Joaquin Delta. Nutrient management plans were implemented in the Great Lakes area to improve water quality and delay TMDL implementation (see **Attachment A** for more information).

Water Quality Standards Variance

This alternative would involve use of federal regulatory authority and guidance for granting water quality standards variances to structure a plan for nutrient management. In the typical situation, a variance would be granted to allow a temporary postponement of application of requirements derived from an existing water quality objective. A question exists regarding the applicability of a variance approach in San Francisco Bay at this time prior to establishment of numeric nutrient objectives.

The advantage of a water quality variance process for dischargers is that it provides protection from potential compliance requirements with very low numeric nutrient endpoints by defining a technically feasible and affordable level of treatment by establishing technology based effluent limits. This is potential regulatory solution to unattainable water quality based effluent limits.

The granting of a variance requires a demonstration of one of the six factors described in 40 CFR 131.10(g), the factors to be used to justify de-designation of a use. The viability of this alternative would depend on a successful showing and approval by the State and USEPA. By nature, variances are short term, to be reviewed every three to five years with a maximum duration of 20 years. Variances also anticipate eventual compliance with objectives and associated water quality based effluent limits. Variances provide legal protection from enforcement and lawsuits. The primary risks are the uncertainty of variance continuation and the requirements that may be placed on Permittees to continue the variance.

A variance approach is being used in conjunction with the numeric nutrient standards rulemaking process in Montana (see **Attachment A** for more information). A Basin Plan amendment is being developed in the Central Valley to establish the general authority for a water quality standards variance and to define a specific variance program for salinity objectives. This Basin Plan amendment is scheduled for adoption in 2013.

The time frame for implementation of a variance approach is five years or more. A Basin Plan Amendment is needed to provide authority to grant a variance and the 40 CFR 131.10(g) showing must be demonstrated and approved.

Nutrient Offsets/Trading

This alternative has precedence for being acceptable to regulatory agencies; however the precedent for such an approach in California is mixed, and would be complicated by the absence of a TMDL or similar framework to establish a basis for implementing this alternative. There are prominent national examples (e.g., North Carolina, Long Island Sound, Greater Miami River in Ohio, Pennsylvania, Chesapeake Bay, etc.) where nutrient trading programs have been developed and implemented as a tool in the nutrient management toolbox. There are also more limited water quality off-sets that have been successful in meeting nutrient management objectives without the burden of developing the policy and administering a comprehensive pollutant trading program. Controversy exists over various aspects of the offset/trading concept, including concerns regarding the magnitude, timing and duration of credits given, the potential for creation of localized “hot spots”, and a general concern that parties are being allowed to get “off the hook”.

This alternative is best considered as a tool for nutrient management in the San Francisco Bay, not a regulatory program. A Basin Plan Amendment would likely be required to implement this alternative and associated provisions would be adopted on a permit-by-permit basis. This alternative would not have a direct effect on the NNE process or the establishment of numeric nutrient objectives. As for TMDLs, this alternative typically relies on the establishment of objectives to set the baseline for offsets or trading. This alternative may provide long term certainty once a trading policy is established and the complicated details of trading ratios, units of trade, reasonable assurance for the regulatory agencies, and other program aspects are determined. In theory, offset and trading programs offer the ability to perform load reductions in a cost effective manner, creating the opportunity for lower costs of implementation.

USEPA policies regarding nonpoint source load allocations may dilute the potential benefits of water quality trading following the adoption of a TMDL. To be available to trade, nonpoint source load reductions must exceed the load allocation called for in the TMDL. In some cases, there may be little realistic potential for additional reduction in nonpoint sources beyond what is required in the TMDL. Therefore, cost effective nonpoint source load reductions that qualify as offsets for point source loadings may not be available (as occurred in the Spokane River Watershed). In other circumstances, in the absence of a TMDL, all nonpoint source reductions might qualify to offset point source loads (as occurred in the Boise City and Lower Boise River Watershed).

The time frame for implementation of an offset/trading program for nutrients is likely 10 years or more if the development of a comprehensive trading policy is required. Individual off-sets might be developed and implemented more rapidly without the need for development of a comprehensive trading policy.

Overarching Regulatory Framework Alternatives

TSO/CDO

This alternative would need to be adapted from its typical application for use with a watershed permit and possibly other regulatory alternatives. A TSO is likely preferable, in that it does not imply ongoing violations of requirements. This alternative is a state order and does not necessarily provide regulatory or legal security at the federal level. Since TSOs and CDOs are state actions, this alternative would document concurrence at the state level to reduce some legal compliance risks and inform the structure of discharge permits. By provisions of the California Water Code the term for compliance under these orders is limited to 5 years.

MOA/MOU

This alternative has been used previously in the San Francisco Bay area to establish and implement the Clean Estuary Partnership. The MOA/MOU alternative is a tool that is used to document principles and rules of engagement; it cannot be used to compel or ensure a specific regulatory action. In addition, it is limited in its ability to gain commitments from regulatory agencies, since those agencies often reserve the right to modify their judgments and requirements. A challenge will be to gain regulatory and legal security through this alternative prior to the evolution of NNEs for the Bay, because the regulatory agencies may be inclined to reserve judgment on acceptable levels of nutrient management and potentially seek assurances of adequacy through overly conservative nutrient controls to prevent degradation.

Basin Plan Amendment

This alternative is the most conventional way to formalize policy decisions for management of San Francisco Bay water quality and to establish the framework for regulatory programs. This alternative provides long term certainty and legal protection, but is relatively inflexible, given the time and effort required to make such amendments to the Basin Plan. Although a significant investment may be required to make Basin Plan Amendments, or modify them in the future, this alternative may provide more flexibility to adapt to the evolving science related to San Francisco Bay water quality than a TSO/CDO or a USEPA Order of Compliance.

Since Basin Plan Amendments addressing water quality objectives require both SWRCB and USEPA approval, this alternative, once approved, minimizes legal risk associated with policies of the SWRCB and USEPA

USEPA Order for Compliance

This alternative is similar to the TSO/CDO alternative, except that the order is issued by USEPA. These orders are typically used in response to violations under the Clean Water Act and therefore may not be an acceptable alternative to regulatory agencies or BACWA. If used, the alternative would have the concurrence of the USEPA. The lack of flexibility associated with this alternative may be especially important to consider as the science on San Francisco Bay continues to evolve and may change the understanding of water quality drivers in ways not envisioned at the time drafting the consent order. Such orders are typically aimed in the direction of compliance with specific objectives and permit requirements and are legally focused on milestones towards compliance, as opposed to evolving science. This alternative could accelerate pressure to establish these typical USEPA drivers, counter to the purpose expressed in the goals and objectives which are to provide time and flexibility for nutrient management.

Federal Consent Decree

This alternative is similar in nature to the EPA Order for Compliance alternative described above and would present a number of similar challenges. The primary advantage of this approach would be legal coverage under the Clean Water Act for the program at both the state and federal levels. Lack of flexibility and questions regarding the suitability of this approach for the intended purpose of long range nutrient management are primary concerns with this alternative.

Best Apparent Alternative(s) Compared to Current Approach

Based on the above evaluation, and the summary/rankings presented in **Tables 1 and 2**, the following regulatory approach and overarching framework options emerge as the best apparent alternatives to the current permit-by-permit approach to nutrient management in the San Francisco Bay area.

Regulatory Approach

- Individual NPDES Permits (No New Action Alternative)
- Nutrient Watershed Permit
- Narrative Objective Implementation

Overarching Framework

- Basin Plan Amendment
- MOA/MOU

These alternatives each have advantages and disadvantages, as described in the preliminary assessment that was conducted for this memorandum (presented in **Attachment A**).

The Nutrient Watershed Permit alternative meets most of the evaluation criteria that have been identified for this analysis. An exception is that this alternative does not have a direct mechanism to address the timing of numeric nutrient objectives adoption (an important criterion). This alternative may require a Basin Plan Amendment as a means to ensure long term certainty as to the approach to be addressed under the permit, but can be initiated ahead of that time to begin tangible actions in the implementation of a nutrient strategy. A MOA/MOU may be desired during the initial phase of activities to memorialize agreements and maintain the desired path while the Basin Plan Amendment is developed. The MOA/MOU participants would include BACWA, the Regional Water Board and possibly the SWRCB and USEPA.

The Narrative Objective Implementation alternative addresses the numeric nutrient objective issue directly, but has less precedence with regulatory agencies and may take longer to implement; it will almost certainly require a Basin Plan Amendment to formalize the narrative objective implementation process. As with the Nutrient Watershed Permit alternative, a MOA/MOU may be desired during the initial phase of activities to ensure direction while a Basin Plan Amendment is developed.

With regards to other alternatives considered, several, including the use of CWC Section 13267, water quality standards variance, and nutrient offsets/trading could be considered as elements of an overall regulatory "toolbox" that could be considered under one of the two best apparent alternatives.

Table 1. Evaluation of Regulatory Alternatives

Regulatory Alternatives	Tier 1 Criteria						Tier 2 Criteria				Ranking
	May Modify Schedule for Adoption of WQOs/ WQBELs	Certainty of Regulatory Agency Approval	Long Term Certainty (> 5 yrs)	Legal Protec-tion	Facilitates Costs Commen-surate with Benefits	Yields Reasonable Compliance Risk	Flexibility	Predic-table Outcomes	Precedents Exist	Implemen-tation Timeframe (< 5 yrs)	
Individual NPDES Permits (No Action)		☑		unclear		unclear		✓	✓	✓	3.5
Nutrient Watershed Permit		☑	☑	☑	☑	☑	✓	✓	✓	unclear	6.5
TMDL-Like Action (Regulatory Agency Led)		☑	☑	unclear	☑	unclear		✓	✓		4
TMDL-Like Action (Stakeholder Led)		☑	☑	unclear	☑	unclear		✓	✓		4
CWC 13267 Order		☑			☑		✓		✓	✓	3.5
Narrative Objective (Nutrient Management Strategy)	☑	unclear	☑	☑	☑	☑	✓	✓			6
Water Quality Standards Variance		unclear		☑	☑	☑		✓	✓		4
Nutrient Offsets/Trading		unclear			☑			✓	✓		2

☑= 1 point assigned, ✓ = 0.5 point assigned

Table 2. Evaluation of Overarching Framework Alternatives

Overarching Framework	Tier 1 Criteria						Tier 2 Criteria				Ranking
	May Modify Schedule for Adoption of WQOs/ WQBELs	Certainty of Regulatory Agency Acceptance	Long Term Certainty (> 5 yrs)	Legal Protec-tion	Facilitates Costs Commen-surate with Benefits	Yields Reasonable Compliance Risk	Flexibility	Predic-table Outcomes	Precedents Exist	Implemen-tation Timeframe (< 5 yrs)	
TSO/CDO	unclear	unclear		☑		☑		✓		✓	3
MOA/MOU	☑	unclear	☑	unclear	☑		✓		✓	✓	4.5
Basin Plan Amendment	☑	☑	☑	☑	☑	☑	✓		✓		7
EPA Order for Compliance	unclear	unclear	☑	☑		☑		✓		✓	4
Federal Consent Decree	☑	unclear	☑	☑	☑	☑		✓		✓	6

☑= 1 point assigned, ✓ = 0.5 point assigned

Attachment A

Preliminary Assessment of Alternative Regulatory and Framework Options for San Francisco Bay Nutrient Management

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The following assessment of various alternative regulatory strategies summarizes the advantages and disadvantages of various approaches and highlights some key differences. This assessment provides a starting point for the consideration of regulatory alternatives.

Pro/Con Analysis of Regulatory Alternatives

Regulatory Alternative	Pro	Con	Examples
Individual NPDES permits (No New Action Alternative) – Permit by permit reaction to outcomes from SF Bay NNE process and other actions by Regional Board	• Avoids immediate risk and unknowns of a new approach • Delays resource expenditures • Allows current regulatory process (a known commodity) to take its own course • Allows BACWA to continue efforts to influence NNE process time table and outcomes • Acceptable to State and USEPA	• May result in undesirable outcomes in long run – high costs and low benefits • Does not create leverage with Regional Water Board or others • Future is uncertain and appears to be trending to unfavorable outcomes • Potential for unrealistic nutrient endpoints which cannot be met with available treatment technology • Nonpoint nutrient sources not addressed	• Current practice in Bay Area and California

Regulatory Alternative	Pro	Con	Examples
Nutrient NPDES Watershed Permit	• Provides proven regulatory vehicle for dealing with parameter-specific Bay-wide issue • Places emphasis on aggregated evaluation of nutrient management issues • Provides vehicle for cost sharing and pooled resources in performance of near term Bay-wide or region-wide studies/initiatives/tool development • Flexible to adaption as additional information is generated • Likely acceptable to State and USEPA	• Does not directly address the problem of early adoption of numeric nutrient objectives • Uncertainties associated with future changes to the watershed permit given 5-year renewal frequency • No commitment possible from State or USEPA without an additional overarching agreement • Nutrient issues not homogeneous - vary depending on Bay subregion • May not be universally desirable among POTWs – cedes local control over permitting decisions • Would require specific provisions to address existing Suisun Bay commitments • Some nonpoint nutrient sources might be addressed (stormwater)	• Bay Area Mercury and PCB watershed permit • Tualatin River, OR (Clean Water Services, CWS) • Las Vegas Wash Phosphorus (City of Las Vegas, Clark County, Henderson) • Virginia General Permit (Discharges of TN, TP to Chesapeake Bay Watershed) **Note (1)** • Great Bay Estuary, New Hampshire **Note (1)**
TMDL- Like Action (Regulatory Agency Led)	• Provides comprehensive watershed loading analysis • Would address significance of POTW and other nutrient loadings in watershed context • Includes nonpoint nutrient source management • Opportunity for adaptive management through TMDL implementation plan • Likely acceptable to SWRCB and USEPA • Would establish framework for offsets/trading	• Regulatory agency driven • Requires nutrient target(s) (could be No Net Increase) • Not currently required – no 303(d) listing for Bay • May create incentive to adopt numeric nutrient objectives • Lacks some of the same information needed to evaluate numeric nutrient objectives • Uncertain outcome –depends on outcome of wasteload allocations, other provisions • Requires Basin Plan Amendment and USEPA approval • Constrained by TMDL requirement to demonstrate compliance with objectives	• TMDLs for Mercury, PCBs • Chesapeake Bay Executive Order and TMDL **Note (2)** • Spokane River TMDL (strict effluent limits) • Puget Sound **Note (2)**

Regulatory Alternative	Pro	Con	Examples
TMDL-Like Action (Stakeholder Led)	• Stakeholder led • Provides comprehensive watershed loading analysis • Would address significance of POTW and other nutrient loadings in watershed context • Includes nonpoint nutrient source management • Opportunity for adaptive management through TMDL implementation plan • Likely acceptable to State and USEPA • Would establish framework for offsets/trading	• Requires nutrient target(s) (could be No Net Increase) • Not currently required – no 303(d) listing for Bay • May create incentive to adopt numeric nutrient objectives • Lacks some of the same information needed to evaluate numeric nutrient objectives • Uncertain outcome –depends on depends on outcome of wasteload allocations, other provisions • Requires Basin Plan Amendment and USEPA approval • Constrained by TMDL requirement to demonstrate compliance with objectives	• Clark Fork River Voluntary Nutrient Reduction Program (VNRP) • Calleguas Creek TMDLs
Regional Water Board CWC 13267 Order approach	• Would provide vehicle for widespread participation in information gathering • May assist in resolution of governance and funding issues • Can be implemented in near term	• Fragmented approach to complex watershed issue • Doesn't address numeric nutrient objectives/effluent limits issue • Is not a vehicle for management actions • Doesn't provide regulatory relief or commitments from SWRCB or USEPA regarding future actions • Nonpoint nutrient sources not addressed	• Mercury monitoring in San Francisco Bay area • Nutrient monitoring in San Francisco Bay area • Formation of RMP • Suisun Bay ammonia impact studies

Regulatory Alternative	Pro	Con	Examples
Nutrient Management Plan employing narrative nutrient objectives and detailed implementation plan	• Provides vehicle to directly address timing of adoption of numeric nutrient objectives and associated effluent limits • Provides process to create better information as basis for long term nutrient management • Consistent with nutrient management approach advocated by BACWA to date • Methodology is consistent with Sections 13241 and 13242 of California Water Code • May include management objectives for nonpoint nutrient sources • May be acceptable as a creative approach to prevent a future problem (rather than addressing an immediate impairment) • Acceptability to SWRCB and USEPA is unknown	• Likely would require a Basin Plan Amendment • Loss of control in Basin Planning process • Risk associated with approval by SWRCB and USEPA • Time required for Basin Plan Amendment and process implementation may be viewed as problematic • Requires modeling tools that don't presently exist	• Methodology applied in Central Valley Drinking Water Policy Basin Planning effort • Nutrient Management Plans for Great Lakes **Note (3)**

Regulatory Alternative	Pro	Con	Examples
Water Quality Standards Variance	• Directly addresses a key regulatory problem (need for final effluent limits) by providing a variance to the implementation of adopted objectives • Opportunity to address technical feasibility of compliance with NNEs and affordability • Opportunity to define feasible treatment technology based effluent limits should water quality based limits be infeasible • The need to periodically re-examine the basis for a variance may be seen as a positive by USEPA and others	• Experience with variances in California is limited • Must demonstrate need based on one of six 40CFR131.10(g) factors (the "Use Attainability analysis" factors) • Durability is a concern, since variances must be re-examined at set (e.g., 3 to 5 year) intervals – future outcomes unknown – requires demonstration of progress to attain objectives • 20 year maximum duration • Requires Basin Plan Amendment and USEPA approval • Might include some nonpoint nutrient sources considerations as a prerequisite to lowering treatment technology based effluent limits • May be better as a regulatory backstop in the event numeric nutrient objectives are adopted and compliance is infeasible	• Central Valley Salinity Variance (in progress) **Note (4)** • Montana variance approach for nutrients (based on affordability, limits of technology) **Note (4)** • Mercury variances in Great Lakes

Regulatory Alternative	Pro	Con	Examples
Nutrient offsets/trading policy	• Offset concept is "cautiously" supported by Regional Water Board, SWRCB, USEPA, regulated community • Nutrient reduction projects are available as offset projects • Offset program may create incentives for early projects that reduce nutrient levels • Early projects can provide knowledge and opportunities to inform larger planning and implementation effort • Includes consideration of nonpoint nutrient sources management	• Lack of trading partners/offset options • Requires comprehensive watershed loading analysis • In the absence of a TMDL to establish an allocation framework, it is difficult to set the baseline for offsets or trading • Once TMDL load allocations are set for nonpoint sources, EPA policy on trading may limit the availability loads for trading • Long time period required for development and approval • Policy undertaking and potentially large administrative effort to establish trading program • Conservative regulatory attitudes influence reasonable assurance • Complexity of offset program features – amount of credit, certainty of credit, duration of credit, etc. can hinder program development • Requires a Basin Plan Amendment and USEPA approval	• Region 8 Salinity and Nitrogen Offset Policy • Nutrient trading programs in North Carolina, New York, Ohio, Pennsylvania • Individual nutrient offsets

The following alternatives merit consideration to address the need for an overarching regulatory framework. The framework will establish relationships and maintain a selected directional course over a desired timeline:

Pro/Con Analysis of Overarching Regulatory Framework Options

Regulatory Framework	Pro	Con	Examples
Time Schedule Order	• Can dovetail with a watershed permitting approach • Provides State framework for regulatory agreement, time schedules • More flexible than federal consent decree • SWRCB and USEPA acceptability unknown	• Requires commitment to a specified schedule • May not provide federal regulatory relief • Would need to address uncertainty associated with final NNE's • May not include nonpoint nutrient sources • Limited to 5-year compliance schedule	• Many California examples (albeit not for this purpose or scope of activity)
Cease and Desist Order	• Can dovetail with a watershed permitting approach • Provides State framework for regulatory agreement, time schedules • More flexible than federal consent decree • SWRCB and USEPA acceptability unknown	• Implies POTW linkage to water quality problems • Requires commitment to a specified schedule • May not provide federal regulatory relief • Limited to 5-year compliance schedule • May not include nonpoint nutrient sources • Would need to address uncertainty associated with final NNE's	• Many California examples (albeit not for this purpose or scope of activity)
MOU/MOA	• Provides vehicle for long term agreement, statement of principles • Allows opt-in/opt-out • Acceptability to SWRCB and USEPA unknown	• Cannot provide certainty regarding future regulatory relief • May, or may not, include Nonpoint nutrient sources • Would need to address uncertainty associated with final NNE's	• Clean Estuary Partnership • Clark Fork River Voluntary Nutrient Reduction Program (VNRP)

Regulatory Framework	Pro	Con	Examples
Basin Plan Amendment	• Provides acceptable State framework for regulatory implementation • Long term certainty and legal protection • Does not assume POTW noncompliance at outset • More flexible than compliance orders • Can address all nutrient sources in watershed	• Significant investment of time and resources needed to support the Basin Plan Amendment process • Difficult to modify once adopted • Public process with numerous opportunities for public review • Requires commitment to specified time schedules	• Conventional method of formalizing water quality policy decisions in California
EPA Order for Compliance	• Can dovetail with a watershed permitting approach • Provides federal framework for regulatory agreement, time schedules • More flexible than federal consent decree • Not limited to 5-year compliance schedule, in effect until revoked • SWRCB and USEPA acceptability unknown	• Implies POTW linkage to water quality problems • Requires commitment to a specified schedule • May not include nonpoint nutrient sources • Would need to address uncertainty associated with final NNE's	• EPA Orders of Compliance issued to Marin County WWTPs and satellite collection system agencies to minimize SSOs and WWTP overflows
Federal Consent Decree	• Comprehensive definition of compliance requirements including interim limits, time schedule, interim milestones, etc • Would address both state and federal issues • Provides framework for long term regulatory certainty • Likely acceptable to USEPA.	• Not currently applicable – no impairment, no compliance issues • Requires commitment to legally enforceable schedule to take specified actions • Loss of control • Third parties may be a driver • Creates adverse perceptions and public relations issues • May not include nonpoint nutrient sources	• Many national examples • Most are focused on wet weather compliance (avoiding CSOs and SSOs)

Notes:

(1) Nutrient Watershed Permit: Opt-in/Opt-out Provisions

In Virginia, the General VPDES Permit covers all municipal and industrial WWTPs in the Chesapeake Bay watershed that were assigned a wasteload allocation (roughly, the rules are 100,000 gpd or more in tidal waters and 500,000 gpd or more in non-tidal waters and all new facilities of 40,000 gpd or more). Everyone to whom the General Permit applies was required to register for coverage under that General Permit – no "opt-out" option was provided. Note the General Permit covers only TN and TP – other constituents are still under individual permits.

The Great Bay Estuary in New Hampshire has a watershed alliance formed under state legislation with an "opt-in or opt-out" provision for participation:

> To protect water quality in coastal waters of New Hampshire, including the Atlantic coast and Great Bay estuary, a regional organization of municipalities called the Southeast Watershed Alliance (SWA) was formed by the state legislature in 2009. Under New Hampshire bill RSA 485-E, 42 communities within the coastal watershed were eligible to join the SWA. RSA 485-E states that "*Excess levels of nutrients are of particular concern, have become a significant problem in the Great Bay estuary, and are likely to result in more stringent water quality requirements that could affect activities occurring in municipalities throughout the coastal watershed. In order to improve and protect water quality and meet state and federal regulations, it is necessary for municipalities to reduce nutrient pollution loads from wastewater treatment facilities, stormwater runoff, septic systems and septage, and land use practices. It is essential that the state, and municipalities located within the state's coastal watershed, work in a coordinated way to address these problems and protect the health and sustainability of New Hampshire's coastal resources*."
>
> The Southeast Watershed Alliance (SWA) may conduct planning and implementation activities for the purpose of improving and protecting water quality and to more effectively address on a watershed basis the challenges of meeting state and federal regulations, including waste load limits and allocations. RSA 485-E provides for municipalities to opt-in or opt-out of participation in the SWA: "*Any Alliance municipality may elect to participate or subsequently to withdraw from participation in the Alliance by vote of its governing body.*"

The New Hampshire legislation forming the SWA is attached for reference and a link to the SWA webpage is as follows:
http://southeastwatershedalliance.org/

(2) TMDL-Like Approach

There is limited national precedent for this alternative. Review of examples indicates there may be uncertainty in results that limit the potential benefits to BACWA. On the Chesapeake Bay, a TMDL process was avoided for many years. Over that time, wastewater dischargers implemented advanced nutrient removal treatment technology and made large reductions in point source loadings. Nevertheless, water quality objectives were not achieved and an Executive Order from the President resulted in the development of a TMDL by EPA. Significant findings in the development of the TMDL include that nonpoint source loadings from stormwater and agriculture had increased over time. The TMDL established challenging targets for watershed implementation plans by 2017 with consequences for the states if implementation activities are not achieved.

The following chronology from the 2010 Chesapeake Bay TMDL highlights the management efforts prior to the Executive Order:

- 1983 – Chesapeake Bay Agreement.
- 1987 – Chesapeake Bay Agreement. Committed to reduce controllable nitrogen and phosphorus by 40 percent by 2000.
- CWA Section 117 – formed and funded the Chesapeake Bay Program in EPA Region 3.
- 1991 Reevaluation. Reevaluate progress made since 1987 toward 40% reduction. New concepts including tributary strategies (WIPs), limit of technology (everything by everyone everywhere), air deposition, and geographic based allocations.
- 1992 Amendments to CBA.
- 1997 reevaluation of progress toward goal set in 1987 CBA. Progress had been made but it needed to accelerate to meet 2000 goals.
- 1999 Integration of Cooperative and Statutory Programs. Laid groundwork for water quality goals and commitments in 2000 Agreement.
- Chesapeake 2000 Agreement. Set goal of correcting nutrient and sediment related problems in the Bay by 2010.
- 2000 6-Jurisdiction MOU.

- 2003 Nutrient and Sediment Cap Load Allocation. Established cap loads based on Bay water quality model projections.
- 2004-2006. Tributary Strategies.
- 2004-2005. Jurisdiction adoption of Chesapeake Bay WQS
- 2007 Reevaluation. Study found that sufficient progress had not been made.

The Chesapeake Bay Foundation filed suit against the EPA, and in an out-of-court settlement the EPA agreed to prepare a TMDL. The Chesapeake Bay Protection and Restoration Executive Order was issued on May 12, 2009.

On Puget Sound, water quality in individual embayments have resulted in nutrient removal requirements (Olympia, WA), but broader watershed studies of the estuary and water quality modeling have been underway for many years. The Washington Department of Ecology has not reached a conclusion on whether or not a TMDL will be developed for Puget Sound, but the Department has published a loading study that documents the nitrogen discharges from point sources (King County, Tacoma, Bremerton, Pierce County, Kitsap County, etc) and undertaken a nutrient treatment technology study for municipal wastewater facilities.

(3) Narrative Objective Implementation (Nutrient Management Plans)

The Great Lakes have Comprehensive Nutrient Management Plans (CNMPs) and Permit Nutrient Plans (PNP) under USEPA NPDES permit requirements, along with individual states having additional nutrient management programs. In the 1970s, modeling studies set a TP limit of 1 mg/L in the effluent from major wastewater treatment plants discharging more than 1 million gallons per day (MGD) to alleviate the problems associated with excessive algal growth. The limit was set in the Great Lakes Water Quality Agreement (GLWQA), a bi-national effort to reduce phosphorus loads and the degradation of the Great Lakes. In 1973, Michigan revised state Water Quality Standards to include requirements that phosphorus be controlled from point source discharges using best practicable waste treatment technology with the goal of achieving a monthly average effluent concentration of 1 mg/L. By 1986, the 1 mg/L goal became an effluent standard in Michigan's Water Quality Standards and a requirement in NPDES permits for municipal WWTPs and many industrial discharges. Throughout the 1990s to the present, phosphorus limitations below the 1 mg/L effluent standard for point sources have been routinely included in NPDES permits using the narrative rule in Part 4, Water Quality Standards.

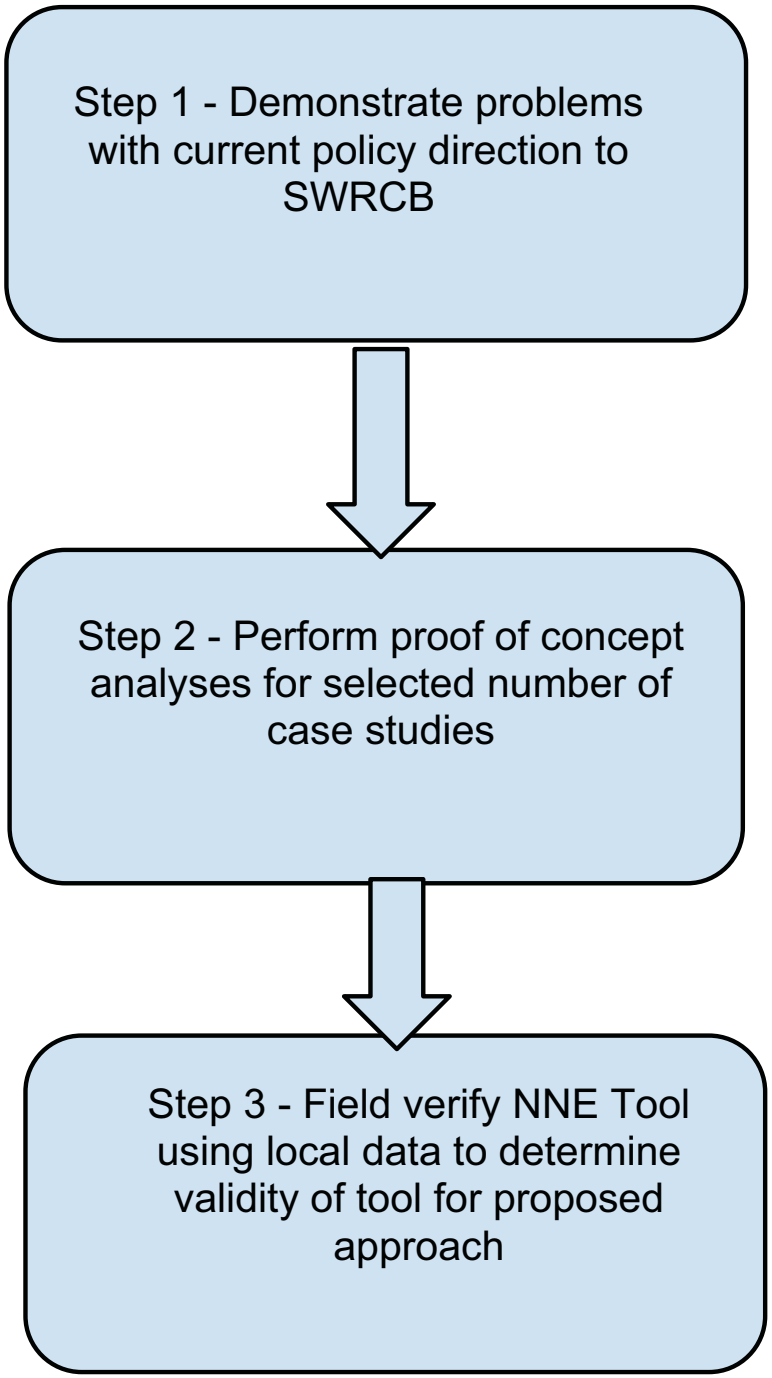
This process and improvements in water quality, along with the bi-national challenge, seem to have delayed TMDLs on the Great Lakes. However, a September 2012 report suggests water quality trends show increasing impacts from phosphorus loadings may require new management efforts. Some key actions may continue to postpone TMDLs, although some states such as New York are developing TMDLs for specific bays and implementing other actions such as an active regional phosphorus reduction task force, targeting of non-point sources, and pursuit of funding in the 2012 Farm Bill and HR 2484 (the Harmful Algal Blooms and Hypoxia Research and Control Act of 2011).

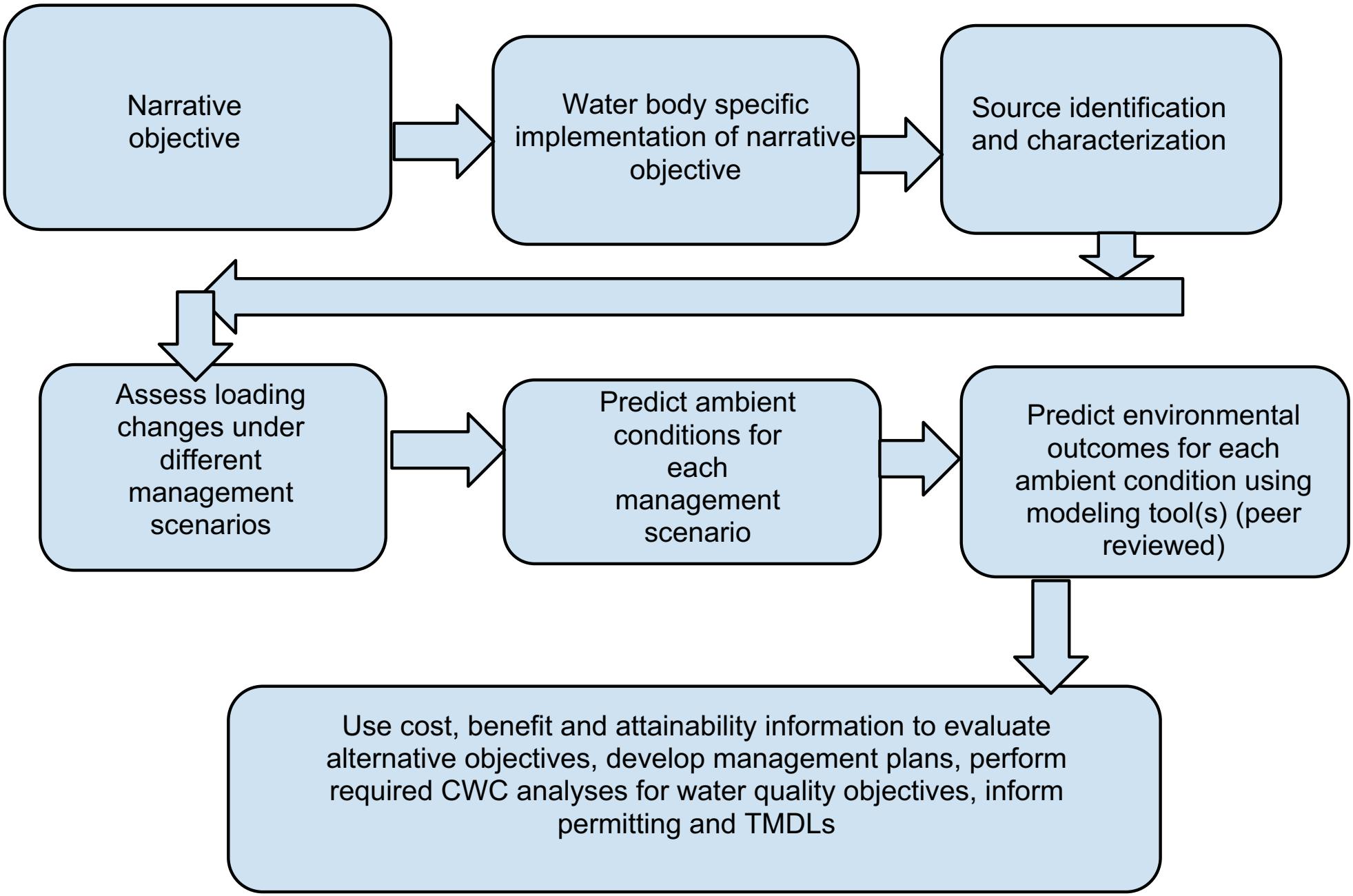
(4) Water Quality Standards Variance

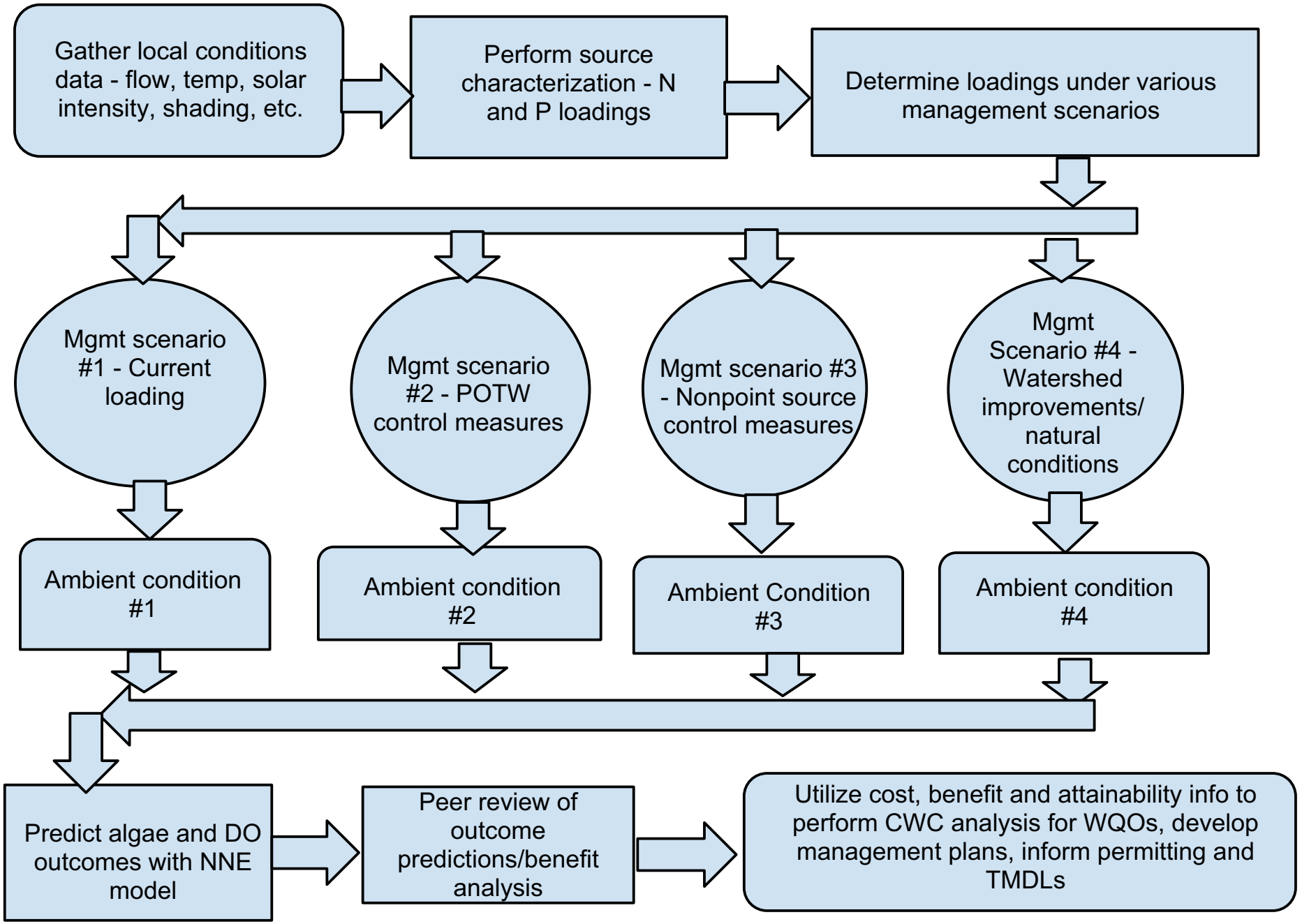
A variance approach is being used in conjunction with numeric nutrient standards rulemaking process in the state of Montana, as described in the HDR memo to BACWA (December 2011). The Montana approach used two legislative actions to establish a water quality variance process that provides relief from compliance with numeric nutrient standards based on affordability and limits of treatment technology. Treatment technology based effluent limits have been defined in Montana for discharge permitting purposes (TN 10 mg/L and TP 1 mg/L) to establish a cost effective and technically feasible level of nutrient removal. Since the USEPA considers a variance to be a state water quality standards rulemaking process, the variance is to be reviewed on a triennial basis. Other states have also defined technology based effluent limits to define technically feasible and economical levels of treatment, such as Wisconsin (TP 1 mg/L) and Colorado (TP 1 mg/L and TIN 15 mg/L).

The Central Valley Regional Water Board is implementing a "Variance Policy and Interim Salinity Program." The following information is excerpted from the Staff Report (June 2011) found at http://www.swrcb.ca.gov/rwqcb5//water_issues/basin_plans/variances/variance_scoping_info.pdf

> *The Central Valley Regional Water Quality Control Board (Central Valley Water Board) and State Water Board, working with a stakeholder coalition, are developing a comprehensive salinity and nutrient management plan for the Central Valley. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a strategic initiative to address problems with salinity and nitrates in the surface waters and ground waters of the Central Valley. The long-term plan developed under CV-SALTS will identify and implement future management measures aimed at the regulation of major sources of salt, and could include revision of certain beneficial use designations and/or current salinity standards. In addition, the State Water Board is currently reviewing the southern Delta salinity objectives included in the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) and will consider various options, including revision of the southern Delta salinity objectives. In the meantime, a serious issue exists regarding the adoption of final water quality based effluent limits for salts in a number of NPDES permits and effluent limitations in WDRs in the Central Valley. These effluent limits, which are being derived without the benefit of knowing the ultimate CV-SALTS or Bay-Delta standards determinations, may end up being inconsistent with those future outcomes, thereby placing numerous communities in a difficult compliance position…*
>
> *The possible solutions to this problem are different depending on whether the impacted discharge is to surface waters, subject to an NPDES permit, or to land, subject to WDRs. For dischargers subject to NPDES permits, the concept of utilizing a water quality standards variance to promote productive actions in the management of salts and to avoid unreasonable permit compliance problems in the Central Valley has been identified…*


Step 1 - Demonstrate problems with current policy direction to SWRCB
Step 2 - Perform proof of concept analyses for selected number of case studies
Step 3 - Field verify NNE Tool using local data to determine validity of tool for proposed approach


Narrative objective
Water body specific implementation of narrative objective
Source identification and characterization
Assess loading changes under different management scenarios
Predict ambient conditions for each management scenario
Predict environmental outcomes for each ambient condition using modeling tool(s) (peer reviewed)
Use cost, benefit and attainability information to evaluate alternative objectives, develop management plans, perform required CWC analyses for water quality objectives, inform permitting and TMDLs


Gather local conditions data - flow, temp, solar intensity, shading, etc.
Perform source characterization - N and P loadings
Determine loadings under various management scenarios
Mgmt scenario #1 - Current loading
Mgmt scenario #2 - POTW control measures
Mgmt scenario #3 - Nonpoint source control measures
Mgmt Scenario #4 - Watershed improvements/ natural conditions
Ambient condition #1
Ambient condition #2
Ambient Condition #3
Ambient condition #4
Predict algae and DO outcomes with NNE model
Peer review of outcome predictions/benefit analysis
Utilize cost, benefit and attainability info to perform CWC analysis for WQOs, develop management plans, inform permitting and TMDLs

Enewschannels – October 16, 2012 - Calif. Governor Brown Announces Appointments for October 16, 2012
http://enewschannels.com/2012/10/16/enc15469_180719.php

SACRAMENTO, Calif. /California Newswire/ — Governor Edmund G. Brown Jr. today announced the following appointments: First, Margaret Abe-Koga, 42, of Mountain View, has been appointed to the San Francisco Regional Water Quality Control Board. Abe-Koga has served as a councilmember for the city of Mountain View since 2007. She has been corporate and foundation relations manager for Asian Americans for Community Involvement in San Jose since 2012 and was a self-employed consultant from 2005 until 2012.

Abe-Koga was co-owner of Bodies on Bikes LLC from 2000 to 2002, associate director for the Asian Pacific American Leadership Institute at De Anza College from 1999 to 2001, and staff assistant to Congresswoman Anna Eshoo from 1993 to 1999. She was vice chair and later chair of the Santa Clara Valley Transportation Authority and a member of the Housing Trust of Santa Clara County. This position requires Senate confirmation and members receive $100 per diem. Abe-Koga is a Democrat.

William Kissinger, 51, of Mill Valley, has been appointed to the San Francisco Regional Water Quality Control Board. Kissinger has been a partner at Bingham McCutchen since 2003 and was an associate and then a partner at the legacy McCutchen Doyle Brown and Enersen firm from 1989 to 1997. He was senior deputy legal affairs secretary at the Office of Governor Gray Davis from 2001 to 2003. Kissinger served as senior advisor for international economic policy for the National Economic Council at the White House from 2000 to 2001 and was special assistant to the Legal Adviser at the U.S. Department of State from 1997 to 2000. He was staff attorney for the U.S. 9th Circuit Court of Appeals from 1987 to 1988. Kissinger earned a Juris Doctorate degree from the University of California, Berkeley School of Law. This position requires Senate confirmation and members receive $100 per diem. Kissinger is a Democrat.

2013 BACWA EXECUTIVE BOARD
REGULAR MONTHLY MEETING SCHEDULE

DATE	TIME	LOCATION
January 24, 2013 *(Annual Member Meeting – no regular Board meeting in January)*	8:30 – 2:00	Laurel Room / Calendow Conference Center 1111 Broadway, 7th Floor Oakland, CA
February 28, 2013	9:00 – 12:00	EBMUD Lab Library
March 28, 2013	9:00 – 12:00	EBMUD Lab Library
*April 25, 2013	9:00 – 12:00	EBMUD Lab Library
May 23, 2013	9:00 – 12:00	EBMUD Lab Library
June 27, 2013	9:00 – 12:00	EBMUD Lab Library
July 25, 2013	9:00 – 12:00	EBMUD Lab Library
August 22, 2013	9:00 – 12:00	EBMUD Lab Library
September 26, 2013	9:00 – 12:00	EBMUD Lab Library
October 23 – 25, 2013 *(Pardee Tech Seminar)*	TBD	EBMUD Pardee Facility
Friday, November 22, 2013	9:00 – 12:00	EBMUD Lab Library
Friday, December 20, 2013 *(Holiday Lunch)*	9:00 – 2:00	EBMUD Lab Library

*May need to reschedule due to conflict with CASA Spring Conference.

Reminder of remaining scheduled meetings for 2012:
November 5-7, Pardee Technical Seminar
Thursday, November 29th, 9am-12pm
Thursday, January 3rd, 9am-2pm (holiday lunch)

Revised: October 22, 2012

BAYWORK

BAYWORK is a consortium of Bay Area water and wastewater utilities working to ensure that we will have sufficient staff, and sufficiently prepared staff, to maintain operational reliability. BAYWORK efforts are focused on job categories that BAYWORK members have defined as mission-critical: water treatment operators, water distribution operators, wastewater distribution operators, electricians, electronic maintenance technicians, machinists, and engineers.

Our strategies, and examples of programs we have implemented in relation to those strategies, are summarized below:

Strategy 1 Candidate Development and Outreach

Creation of BAYWORK website (www.baywork.org) with information on mission-critical job categories and a Training Opportunity Map
Creation and distribution of posters, brochures, videos, and profiles related to mission-critical job categories

Strategy 2 Staff Preparedness

Workshops relating to use of technology to improve documentation, staff training, and knowledge management efforts
Creation of a Video SOP on how to create video SOPs
Site visits to star utilities in the US and Canada as a basis for developing and implementing new models for documentation, staff training, and knowledge management

Strategy 3 Optimizing Work Processes to make best use of staffing available

Workshop on workplace innovations (such as increased use of technology)
Establishing on-line forums for discussions on advanced use of technologies such as GIS and SCADA

Strategy 4 Collaboration

BAYWORK signatories include 14 water/wastewater utilities as well as the Bay Area Community College Consortium. We try to maintain communication with other regional entities such as BACWA so that we can avoid duplication of effort, and support the efforts of stakeholders with shared goals.

BAPPG Committee Report to BACWA Board

Meeting Date: October 25, 2012
Prepared By: Catherine L. Allin, City of Millbrae
BAPPG Committee Chair

Committee Request for Board Action

- Acknowledge recipients of the RWQCBs Dr. Teng-Chung Wu P2 Award; Alameda County for their safe Drug Disposal Ordinance and Thomas Barron for his lifetime achievements.
- Acknowledge California Product Stewardship Council letter listing accomplishments made possible by contributions from BAC WA and other partners (attachment).

Successes

- *BAPPG Pollution Prevention Week Final Report—No Drugs Down the Drain Campaign*

  Summary
  O'Rorke developed copy for ads to run on Facebook and a press release for this campaign. O'Rorke also pitched the story to the media in the week leading up to Pollution Prevention Week and into late September.
  Facebook Statistics
  1,201,035 impressions, 3,119 clicks, .018% CTR, $3,600 spent
  This campaign ended on September 30.
  Media Coverage
  9/18/12 Oakland Tribune & San Jose Mercury News
  http://www.mercurynews.com/breaking-news/ci_21573819/no-drugs-down-drain-campaign-launched-keep-drugs
  Also ran in other east bay papers as part of overall coverage by Bay Area News Group
  9/18/12 Marin IJ
  http://www.marinij.com/ci_21573819/no-drugs-down-drain-campaign-launched-keep-drugs
  9/19/12 Brown & Caldwell Newsletter
  9/20/12 KEAR Jonathan Rickert phone interview (2 segments—9/20 and 9/21)
  9/21/12 KBAY Sam Van Zandt phone interview
  9/25/12 KBLX/KOIT (Today's World) In-person interview at noon with Efren Sifuentes (aired in October)
  9/24/12 KCBS aired PSA copy

- *Statewide Hospice Conference*
  BAPPG was an exhibitor. Staff talked with at least 50 hospice nurses and educated them about No Drugs Down the Drain and to avoid flushable wipes. Staff passed out the generic No Drugs Down the Drain handout that directs people to baywise.org (see attached), which enables nurses from all over the state to find the closest disposal location. Many of them took stacks of the tear-off sheet to share with their staff and patients families.

  For the most part, nurses want to do the right thing and typically do not flush drugs down the drain. Approximately 10 hospice nurses are interested in receiving a presentation about pharmaceuticals in the environment. We need to continue educating this group with the right information. Currently they show up to a patient's home with kitty litter to dispose of medications.

  The following people staffed the booth:

  - Karin North with the City of Palo Alto
  - Alina Constantinescu with Larry Walker and Associates
  - Paul Prange with the City of San Jose
  - Stephanie Hughes

- *Comment letters*

  Melody LaBella and Karin North helped spearhead comment letters for BACWA on Green Chemistry Regulations and on the EPA Endangered Species Act.

Discussions and Action Items

BAPPG Steering Meeting on October 3, 2012

Requested members submit P2 outreach materials for September Info Share.

BAPPG Pollutant Prioritization General Committee Meeting on October 3, 2012

- Requested members submit P2 outreach materials for September Info Share.

Next BAPPG Meeting

December 7 2012, 10am – 12 pm
Elihu Harris State Building
1515 Clay Street, 2nd Floor, Room 12
Oakland, CA

Collection Systems Committee Report to BACWA Board

October 16, 2012
From: Dan Stevenson, Committee Chair
Prepared By: Monica Oakley

Committee Request for Board Action: None

Highlights of New Items Discussed and Action Items

Changes to SSS WDR Monitoring and Reporting Program Update

BACWA worked with the California Association of Sanitation Agencies (CASA) to provide detailed comments to State Water Board staff on proposed revisions to the Monitoring and Reporting Program (MRP) of the Sanitary Sewer System (SSS) Waste Discharge Requirements (WDR). The comments included a 2-page cover letter with summary bullet points as well as a 36-page detailed mark-up of proposed revisions. The comment document was submitted on the due date, which was Tuesday, October 2.

Separately, a 2-page document summarizing the detailed comments was prepared for senior State Water Board staff for use at a meeting on October 4 that BACWA, CASA, and Tri-TAC representatives attended. Discussions with senior State Water Board staff at this meeting were encouraging. It was agreed that the original (6-page) MRP would be used instead as a starting point for a "surgical" markup, based on the original Data Review Committee recommendations. To facilitate this process, CASA submitted a proposed mark-up on the original MRP to senior State Water Board staff on October 11.

Tech-Topic: Emergency Response Equipment

The Tech Topic series continued at the October committee meeting with a panel discussion that comprised four agencies discussing their approach to emergency response equipment. The participants on the panel included Sergio Ramirez from West Bay Sanitary District, Jonathon Browning from the City of Livermore, Vince Falzon from the City of Burlingame, and Amardeep Sidhu from the East Bay Municipal Utility District.

Topics discussed included a description of the contents of equipment trailers and/or service trucks (including photos showing equipment stored on the vehicles), response times during business hours and after business hours, confined space preparedness, bypass pumping equipment, traffic control, among other issues. Also, general tips were shared, such as labeling the length of hoses, how to transfer operations to a rental system for a multi-day operation to free up agency equipment in case there is another need for the internal equipment in the near future, how to cooperate with nearby communities (sharing staff), the cost of equipment trailers, and training.

Next BACWA Collection Systems Committee Meeting

Our next meeting will be held on Thursday, November 1, 2012, from 1:30 – 3:00 PM at the Boy Scouts Facility in San Leandro. Plans are also underway to investigate an alternate location for the committee meetings in the future.

Director's Report to the Board

September 21, 2012-October 19, 2012
Prepared for the October 25, 2012 Executive Board Meeting

NUTRIENTS

13267 LETTER: This effort seems to be on track. It was discussed at the Joint RB2-BACWA meeting of October 10, 2012.

PERMITING STRATEGY: Finalized scope and reviewed two drafts of Task 1 memorandum. Requesting Board direction this meeting.

SUISUN BAY/SWAMP STUDY: The next SWAMP meeting is scheduled for **November 9, 2012 from 1:00 pm till 4:00 pm.**

NUTRIENT STRATEGY: Discussed status of SFEI effort and potential next steps with SFEI, RB2 staff, and others. This is expected to be discussed in detail at the Pardee retreat. **An NNE Stakeholder Advisory Group (SAG) Meeting is scheduled for November 19th.**

NUTRIENT SUMMIT: Reviewed issue paper. The concept is more fully described in LWA Task 1 memo that is the handout packet.

GOVERNACE: Finalize scope, developed interview questions with consultant, and developed "straw" governance structures. Consultant conducted interviews in early October; worked with consultant on next steps (on today's agenda).

FRESHWATER CYANOTOXIN WORKSHOP: Reminder: this conference will be held in Oakland **November 28th.** BACWA members are welcome to attend

REVIEW AND COMMENT ON SSS MRP PROPOSED REVISIONS: As a follow up to the BACWA funded review of the SSS MRP by RMC, CASA funded RMC preparing a redline-strikeout version of the proposed revisions and talking points. On October 2nd, CASA met with Jon Bishop and Tom Howard to discuss this matter. The meeting was very productive; Jon and Tom indicated they had not had an opportunity to review our comments in detail but we reviewed our talking points and they seemed sympathetic to our position that the changes to the existing MRP should be surgical. Development of proposed "surgical" changes was coordinated by Monica Oakley, and they were submitted on October 11, 2012.

RWQCB/BACWA MEETING: Scheduled, prepared agenda, and participated in meeting on October 10, 2012.

ANNUAL PARDEE TECHNICAL SEMINAR: Scheduled for November 5-7, 2012. Met with Tom Mumley to ensure RWQCBs concerns were on the agenda, and prepared draft agenda for Board input (on today's agenda).

REGULATORY PROGRAM MANAGER (RPM): See RPM report in the agenda packet.

SACRAMENTO REGIONAL NEW DRAFT NPDES PERMIT: There have been no SWRCB actions since the SWRCB Sacramento Hearing. Sac Regional is now expecting the State Board not to act before the court stay expires December 10th; if the SWRCB has not ruled by then, they will have to request another extension, and explain why they could not act.

DRAFT POLICY FOR TOXICITY ASSESSMENT AND CONTROL: See RPM's report for more information.

REGIONAL BOARD UPDATE: Met with Tom Mumley regarding the Pardee Technical Seminar, and followed up on an information request from Naomi Feger for Leapfrog's Scope of Work.

BIOSOLIDS FACT SHEET: A final draft of the Biosolids Fact Sheet was in the last meeting's handout packet; since no feedback has been received it will be finalized after this meeting, including whatever feedback is received. The final draft Fact sheet can be viewed at the following link http://bacwa.org/Portals/0/Committees/Biosolids/Library/BACWA_biosolids_082312.pdf

STATE BOARD PROPOSED REVISION TO OPERATOR TRAINING REQUIREMENTS: A revised version has been released and the comment period has ended.

TECHNOLOGY RESEARCH & DEVELOPMENT: The next Isle TAG meeting in California is tentatively scheduled in Orange County November 8th. At the September 27th Board Meeting, Isle invited BACWA representatives to attend the TAG meeting and to have access to the Isle website to learn more processes that have been presented.

REGIONAL MONITORING PROGRAM: There was a request to inform the Board of upcoming RMP meetings. Information is as follows,

- The Steering committee meets on October 29th; Karin North, one of the POTW representatives on the committee is expected to attend BACWA's meeting on the October 25th.
- The Technical Advisory Committee Meeting is scheduled to meet on December 4th from 1 to 3 pm.
- A Webinar entitled: "The RMP: A Collaborative Effort Providing Water Quality Regulators in the San Francisco Bay Area with Information they Need" will take place on November 8th, 11:30am – 12:30pm.
- There is a Risk Reduction Project Review and Next Steps meeting scheduled for October 30th at 1 pm.
- Rainer Hoenicke called me about approaching the California Water Quality Council to fund the ongoing risk reduction effort.

MISCELLANEOUS:

- Answered miscellaneous questions of from the public.
- Followed up on Laypersons Guide: BACWA can have one person on the editorial board; direction is requested from the Board.
- Center for Water Efficiency are also on the panel and strongly support Flow Based Pricing.
- Followed up on request to get information on sidestream treatment from ReNUIt. Forwarded information to Board and Alternates.
- Reviewed and signed 4 letters prepared by the BAPPG on pesticide regulation and re-registration.

- Called and emailed Jack Broadbent, BAAQMD Executive Officer; he was very receptive to the AIR committee's concerns about delays in permit renewal; he will work with his engineering manager, Jim Karras, and propose a process to address our concerns.
- Forwarded information regarding draft CASA issue paper on new State Lands Commission lease requirements for outfall inspections to Board.
- Discussed information-gathering effort being conducted by NACWA in support of a letter they will submit to the EPA supporting the current definition of secondary treatment. Chris Hornback of NACWA will forward the information NACWA has gathered on the cost of converting secondary plants to advanced secondary.

NEXT MONTH

FOLLOWUP ON SACRAMENTO REGIONAL PERMIT WORKSHOP: As needed.

SUISUN BAY ISSUES: Attend meetings and other as needed.

RWQCB/ BACWA JOINT MEETINGS: Set up RWQCB/BACWA Meeting Schedule for December?

BAPPG: Follow up on PCB annual reporting.

NPDES PERMIT PETITION DISMISSAL: Dismiss those that are not relevant.

ANNUAL TECHNICAL SEMMINAR: Work with BACWA Executive Board and RB2 to develop an agenda.

NEXT MEETING: Hold at SFPUC's new offices?

AIR COMMITTEE: Work with Air Committee Leadership to develop fee and funding alternatives, and follow up with Air Board regarding a number of issues.

Hg/PCB WATERSHED PERMIT REISSUANCE: Follow-up with RB2 on permit issues and risk reduction;

TECHNOLOGY RESEARCH & DEVELOPMENT: Follow up with Isle Utilities as needed.

RISK REDUCTION: Project review and next steps.

WATERSHED PERMIT REISSUANCE/PCB DATA: Studied stormwater permitees' PCB monitoring requirements to compare to POTWs. They are collectively required to collect a minimum of 16 samples per years. POTWs must collect 106 samples. Compared 2011 POTW mercury discharge to new limits in the mercury/PCB watershed TO. All discharger would have complied, and the only agencies that were close (i.e. >0.5 of the limit) were Central Marin (limit = 0.11kg, and 2011 load = 0.0726kg) and SASM (limit = 0.076kg, and 2011 load = 0.0501kg). Regional Water Board staff confirmed that only the group WLA is enforceable, not all the individual dischargers', therefore no compliance feasibility analysis is necessary. Request guidance on next steps regarding commenting on the mercury/PCB watershed permit.

DRAFT POLICY FOR TOXICITY ASSESSMENT AND CONTROL: Investigated different options for dropping acute toxicity from permits once Toxicity Policy is adopted. Participated in conference calls led by CASA to establish a proposal for phasing the toxicity policy to first adopt the TST, and then if it is a successful method, then establish numeric limits after a few years. Will continue to work with CASA and respond to next draft of the Policy, expected soon.

CECs: An LACSD representative testified at the Oct 16 State Board meeting on behalf of Tri-TAC that POTWs want to scope and manage CECs monitoring study that is recommended by CECs in Coastal/Marine/Freshwater Blue Ribbon Panel. Notes from the meeting are included in the attached email. POTWs are going to pay for the program, therefore should have a stake in how it's run. At Annual RPM meeting, during CECs discussion, it sounded like this effort in our region will be run through RPM, as suggested in the Panel Recommendations. CECs will be on the Pardee agenda.

BIOLOGICAL OBJECTIVES: Attended stakeholder/regulatory joint workshop. In Region 2, river dischargers will likely be impacted by policy, but not Bay dischargers because they are already covered by Sediment Quality Objectives. The Policy could also affect future beneficial reuse projects by mandating flows for habitat protection.

ANNUAL REGIONAL MONITORING PROGRAM MEETING – Attended meeting. Notes are attached.

MEETINGS ATTENDED: Annual RMP Meeting 10/9, Joint BACWA/RWQCB Meeting 10/10, State Biological Objectives Workshop 10/11.

NEXT MONTH

- Expecting new draft of Toxicity Policy, possibly without phasing incorporated. Work with CASA on next steps.
- If special study isn't included in mercury/PCB watershed permit, do we want to do it on our own anyway to investigate inter-laboratory differences?
- Coordinate comments on mercury/PCB TO
- Facilitate BACWA's participation in State Board Realignment effort, stakeholder workshop on 10/24

---------- Forwarded message ----------
From: **Green, Sharon** <SGreen@lacsd.org>
Date: Thu, Oct 18, 2012 at 7:23 PM
Subject: RE: OCTOBER 16, 2012 SWRCB BOARD MEETING AGENDA
To: Lorien Fono <lorienjf@gmail.com>
Cc: Roberta Larson <blarson@casaweb.org>, "Colston, Jim" <JCOLSTON@ocsd.com>, "cstacklin@ocsd.com" <cstacklin@ocsd.com>, "Heil, Ann" <AHeil@lacsd.org>, "Gully, Joe" <JGully@lacsd.org>, Debbie Webster <eofficer@cvcwa.org>, Lorien Fono <lfono@pmengineers.com>, John Pastore <jpastore@scap1.org>, "Lofton. Jason (SDA)" <loftonj@sacsewer.com>, "Kepke, Jacqueline" <jkepke@ebmud.com>, "Friess, Phil" <PFriess@lacsd.org>

Hi Lorien, here is an update from Phil Friess & Ann Heil on both items related to CECs. I received a separate more detailed overview of the Recycled Water Policy item, so if anyone wants a bit more detail on that, please let me know and I will share it with you.

Sharon

From Phil & Ann: There were two CEC items on the SWRCB Agenda yesterday: Item 8, an informational item on the Science Advisory Panel report on monitoring CECs in aquatic ecosystems, and Item 9, consideration of an amendment to the Recycled Water Policy to add CEC monitoring requirements for recycled water projects. Ann Heil has filled in some blanks for me in the discussion below.

On Item 8, I testified and complimented the Board on the good work of the Expert Panel and on the open, transparent process that allowed for stakeholder monitoring of and input into the process. I indicated CASA supported the conclusions and recommendations of the Expert Panel and strongly recommends implementation through voluntary funding arrangements with the regulated community. Various NGO representatives testified that the list of compounds to be monitored was not comprehensive enough and the approach to begin the monitoring effort with case studies was not aggressive enough. One Board Member, Tam Doduc, cautioned against moving forward too fast with a major CEC monitoring effort before it was demonstrated to be scientifically warranted, while another Board Member, Felicia Marcus, worried about not moving fast enough and wondered why regulation of problem CEC's couldn't immediately follow initial case study monitoring. Board Member Stephen Moore was extremely pleased with the process thus far, but expressed concern about the voluntary funding approach. Chief Deputy EO Jonathan Bishop indicated that based on his conversations with Bobbie Larson, he was fairly confident that the commitment for substantial volunteer funding was likely and he would work with her to confirm that in order to validate viability of implementation through volunteer funding. Mr. Bishop also indicated that he has tasked SWAMP to work with SFEI and SCCWRP to make the program happen, and that if voluntary efforts weren't sufficient the State Water Board could issue orders to fill the gaps. Board Chair Charlie Hoppin directed Mr. Bishop to talk to the Board members individually to get a consensus on how to move forward with this issue.

On Item 9, Martha Davis testified on behalf of CASA and indicated that due to the timing of the issuance of change sheets she had not had time to do a thorough review, but that she felt staff had responded in a very positive way to most of WateReuse's comments as best as she could determine based on her brief review. She felt additional time would be helpful, however, for the regulated community to

complete its review. However, in general, the regulated community was supportive of the level of monitoring requirements proposed, including surrogate monitoring rather than CEC monitoring for irrigation projects. A number of environmental community representatives complained either that their comments had not been responded to or that the CEC monitoring requirements as proposed for recycled water projects were completely inadequate. Staff indicated that all comments had been taken into account prior to drafting the change sheets, but that the Response to Comments documents had not yet been published. Board Member Fran Spivy-Weber indicated that she would like to see more discussion of off-ramps and on-ramps for monitoring. Board Member Moore stated that he was very supportive of the staff's approach and was ready to adopt the policy amendments as writing. Board Member Tam Doduc stated that she would prefer to see more frequent review of new data. Board Member Marcus indicated that she would prefer to see more compounds initially identified for monitoring and that she would like to see more frequent review of new data. Action on this Item was continued to a future meeting, primarily to allow the Response to Comments to be published. Further written comments will not be accepted, and the focus of any further oral comments should on the change sheets.

From: Lorien Fono [mailto:lorienjf@gmail.com]
Sent: Wednesday, October 17, 2012 12:20 PM
To: Green, Sharon
Cc: Roberta Larson; Colston, Jim; cstacklin@ocsd.com; Heil, Ann; Gully, Joe; Debbie Webster; Lorien Fono; John Pastore; Lofton. Jason (SDA); Kepke, Jacqueline

Subject: Re: OCTOBER 16, 2012 SWRCB BOARD MEETING AGENDA

Sharon, could you ask Phil to let us all know what happened at yesterday's meeting. (Briefly - the details can wait for Tri-TAC).

Thanks
Lorien

On Fri, Oct 5, 2012 at 1:33 PM, Green, Sharon <SGreen@lacsd.org> wrote:

I don't see a need for Tri-TAC to testify separately.

From: Roberta Larson [mailto:blarson@casaweb.org]
Sent: Friday, October 05, 2012 9:50 AM

To: Colston, Jim; cstacklin@ocsd.com; Heil, Ann; Gully, Joe; Debbie Webster; Lorien Fono; John Pastore
Cc: Green, Sharon; Lofton. Jason (SDA); Kepke, Jacqueline

Subject: Re: OCTOBER 16, 2012 SWRCB BOARD MEETING AGENDA

Good news! Phil Friess from LACSD has agreed to provide CASA/Tri-TAC testimony on the CEC ecosystem panel. He has a good grasp of the issue and we went over the gist of the comments, but I think we should also put together some brief talking points for him. Anyone want to volunteer for that task?

With regard to the Recycled Water Policy amendments, we are asking Martha Davis to present the joint CASA/ACWA/WRA comments (Dave Smith will not be at the meeting either) so I did not ask Phil to speak on that item. If Tri-TAC wants to have someone speak separately from Martha, I think that would be fine.

On 10/5/12 8:22 AM, "Roberta Larson" <blarson@casaweb.org> wrote:

Hi all,

Attached is the staff report for the CEC monitoring item. It is listed as an information item, but staff will be seeking direction from the Board so we should plan to have someone there to state the POTW community willingness to work with staff to undertake the monitoring on a voluntary/cooperative basis.

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Ensuring Clean Water for California

Regional Monitoring Program

Annual Meeting, 10/9/12

MORNING SESSION

Introduction – Tom Mumley, SFRWQCB

- Next year RMP meeting will be concurrent with the State of the Estuary meeting – late October 2013

Hydrodynamic models for the San Francisco Bay: an overview of what we can model, when models may be useful, and why hydrodynamic models often are necessary but not sufficient – Stephen Monismith, Stanford

- Presentation is overview of models that have been used for the Bay Delta, and the important factors that have been incorporated or overlooked
- Model results are driven by the numerics and computational power of the models – for example simple and complex models give very different results for X2
- Provided a spectrum of difficulty for different modeling problems, from low to high difficulty: Tides, salinity, sediment, Chl a, Contaminants, geomorphology, primary productivity, larvae, ecosystems.
- Models helped to elucidate the entrapment zone in Suisun Bay
- X2 needs exponentially higher flows to move downstream due to stratification – its hard to model how stratification drives salinity. Chl a is also implacted.
- San Jose WPCP discharge also creates a salt wedge estuary
- Delta can also be stratified by heating
- Wind waves are important factor driving turbulence
- For South Bay copper model, sediment bed transport is hardest part of model
- 2D models can do a good job predicting currents, salinity and transport of conservative scalars
- Good observational data is critical

Water Quality Modeling in Estuaries Lessons Learned – Jim Fitzpatrick, HDR

- Presentation on modeling East coast estuaries
- Sediment transport and exchange was key in the Chesapeake Bay DO model
- Phosphorus got bound by iron oxide and released as the iron oxide was reduced
- Hydrodynamic models double in computational power every three years

Contaminant Modeling in San Francisco Bay: Lessons from Other Estuaries – Joel Baker, University of Washington, Tacoma

- Most models are for source apportionment, estimate ecosystem-level response times
- Estuaries are hardest kind of water body to model due to spatial heterogeneity

- Historically, models were one box completely mixed systems, with bioaccumulative partitioning based on coefficients
- SF Bay PCB model started with one-box model, was able to address questions of how long concentrations will take to decrease, then created 100 box model (which has since been used for Hg and PBDEs)
- New York/New Jersey harbor built a more complex model with higher resolution around harbor areas
- These models miss the "bathtub ring" effect, since nearshore areas are contaminated from previous activities on the land and contaminants from pilings
- Proposes conceptual model of contaminants on fringes
- There are supersorbing particles that need to be incorporated into models

Stormwater Modeling – Formula for Success – Roger Bannerman, Wisconsin DNR

- Lessons learned from Wisconsin stormwater regulation
- TMDL requires reduction of TSS from runoff of new construction, redevelopment, compared to no controls, also require retrofitting existing development
- Particulate component of stormwater metals is high (but significant in dissolved too)
- Control devices are included in WinSLAMM model, and this will inform design work
- Not all contaminants have the same sources by land use, so need constituent-by-constituent assessment of sources
- Have had good success with predicting contaminant concentrations geographically and installing controls to reduce TSS

The Regional Watershed Spreadsheet Model (RWSM): A Tool for Estimating Regional Loads- Alicia Gibreath, SFEI

- Improved loads estimated - About half the PCBs coming into the Bay are small tributaries, in-Bay Erosion is major source which was not included in the TMDL
- Estimated loads is 43kg, down from 72kg in TMDL
- Simple to understand – soils, land use gets to runoff coefficient, then use concentrations based on different kinds of land use
- Allows users to best leverage management options to target most significant sources
- Planning to QA the model, then finalize it and make it publically available
- Refining and increasing spatial data for Hg and PCBs to target specific sources
- The sampling 20(ish)-watershed reconnaissance study will be published soon, and results feed into the model
- Simple interface – output is contaminant load per watershed

Modeling discussion focused on how models can help cities leverage monitoring/management/control dollars. They can also help form MS4 permits goals.

AFTERNOON SESSION

The RMP Mercury Strategy – Jay Davis SFEI, SFEI

- Goal is to collect data to support management decisions
- Looking at where Hg enters the food web, what are high leverage sources and pathways, what are the management actions and what will be their impact on reduced food web accumulation?
- Total mercury is going to decline very slowly
- Actions to help reduce methylmercury in food web dependent on methylation/demethylation, food web biodilution (if there's a larger population, then there's less in each organism), fish that grow rapidly have lower concentrations
- Legacy mercury is getting into the food web – similar isotopic abundance in sediment and fish (So Bay – mine tailings, No Bay – mining, urban runoff and deposition)
- No trend in striped bass concentrations over 40 yr period
- SWAMP programs finds accumulation in the most remotest regions, indicating the importance of atmospheric deposition
- Management actions in next 10-20 years: can reduce total inputs. Nutrient control may have mixed effect (biodilution vs. increased anaerobic condition)
- Changing conditions in the bay due to clarifying, climate change, etc. could impact food web accumulation
- For reservoirs, management practices that promote rapid fish growth reduce food web mercury
- Easier to control mercury in tidal marshes, ponds and reservoirs than the open bay

What is the Estuary's Pulse? – Bruce Herbold, USEPA

- Most delta fish flee salinity, which is based on flow
- Pelagic Organism Decline (POD) – species crashed in 2000.
- Microcystis grows well on ammonia and diatoms don't – there have been microcystis blooms over core smelt habitat
- Salinity levels important throughout estuary – X2 is spending most of its time in the upper estuary
- Reduction of wetland habitat also impact X2 which would push it eastward even without exports. Flood control in the 30s caused huge salinity peaks. Dams helped to normalize the peaks. After exports began in 70s, dry years salinity stays high all year. Water control plan helped to restore seasonality, but no variability between different types of water years.
- FLaSH (Fall Low Salinity Habitat) – Fall outflow used to be highly variable, but since 2000 it's been fairly low. In 2011 had a change in conditions with a high amount of outflow and there was fish recovery. The fish that were produced in the spring survived in the fall better than they had in 10 years. There was a phytoplankton bloom east of Carquinez which led to abundant zooplankton and delta smelt grew well.

Olfactory Toxicity of Copper to Salmon in Freshwater and Seawater – David Baldwin, NOAA

- Impact on olfactory system can change neurophysiology and behavior
- Control fish stop swimming when odor introduced (predator response), but fish exposed to copper are less likely to stop swimming when exposed to odor, therefore high concentrations of copper can increase predation
- DOC makes copper less bioavailable (hardness and alkalinity don't have the same impact on bioavailability as DOC)
- Initial experiments were done in freshwater, so NOAA followed up with RMP doing experiments in saltwater. The differences in saltwater are smaller than in freshwater between copper and control. Therefore, if there is a threshold, it's above 100ug/L which is above criteria.
- Future studies will look into intermediate salinity levels and different salmon life stages.

Contaminants of Emerging Concern, Synthesis and Strategy – Meg Sedlak, SFEI

- RMP is reviewing literature for compounds for occurrence, toxicity, persistence, bioaccumulation
- Working with NIST to look at bioaccumulatives via GC-GC TOF
- Developing State of the art bioassays – 2013 study on estuarine fish and EDC bioassays
- Classify compounds into tiers based on risk (1-unknown; 2-minimal; 3-moderate; 4-high)
- PFOS, nonylphnols, PBDEs are in tier 3, nothing yet in tier 4
- State Panel came out with monitoring recommendations – many of the compounds are monitored as part of the RMP, although the hormones have not been in the RMP
- PFOS – withdrawn from US in 2002, but still larger reservoir in environment and concentrations are not decreasing. High concentrations in bird eggs in South Bay.
- PBDEs – no threshold data. Two formulations, penta and octa phased out, deca will be phased out. See dramatic declines in biota (sportfish and cormorant eggs) since 2002.
- Fipronil – see concentrations in sediment up to half LC50. Have seen concentrations in SoCal runoff above LC50.
- Alternative flame retardants – data gaps in tox info
- Next steps – strategy for CECs in upper tiers and incorporate new CECs into program

A multi-agency pilot project on contaminants of emerging concern (CECs) in California coastal bivalves – Keith Maruya, SCCWRP

- NOAA mussel watch project: DDT has declined since 1986
- PBDEs are highest nationwide in SoCal Bight
- Leverage multiagency effort to comprehensive sampling study
- In mussel tissues top CECs: alkylphenols are most abundant, then PBDEs, sertraline (antianxiety) and lomefloxacin (antibiotic).
- Land use – alkylphenols are highest in urban areas and lowest in agricultural areas; pesticides highest in ag areas; PPCPs have no trend with land use – however not many pesticides were looked at and the sample size is low
- Alkylphenols lower in POTW effluent impacted areas than stormwater impacted areas

- Used passive samplers to mimic bivalve accumulation
- Most CECs were very low or not detected

Discussion- Bill Johnson: how to focus DTSC green chemistry initiative on aquatic life endpoints. Ken M: We don't have the data yet, we're developing that now as part of this effort.

Tom Mumley: We're on the brink of putting together a regional strategy for packaging these questions and answers with a tiered approach to management and response. This will not be a regulatory strategy for now.

BACWA CHAIR / EXECUTIVE DIRECTOR AUTHORIZATION REQUEST

FILE NO.: 12,819

DATE: September 25, 2012

TITLE: Zentraal for Prop 84 Project Tracking/Reporting Software Development and Support

RECOMMENDED ACTION

Executive Director authorization for an agreement with Zentraal in an amount not to exceed $3,600 for Prop 84 project tracking/reporting software development and support to be completed by June 30, 2013.

SUMMARY

Zentraal currently provides support for the San Francisco Bay Integrated Regional Water Management (IRWM) website, which is currently used for tracking and reporting on projects that have received Proposition 50 grants. Under this new contract Zentraal will develop web-based tracking and reporting templates for Prop 84 projects to help BACWA comply with the State's grant conditions and record retention requirements. This work will be carried out under the supervision of Brian Campbell and Paul Gilbert-Snyder of EBMUD.

FISCAL IMPACT

This work will be funded by and is included in the Prop 84 budget.

ALTERNATIVES

No other alternatives were considered as the BACWA contracting policies authorize a sole source selection process for contracts under $50,000 and this vendor has provided good service at a reasonable price in past engagements.

Attachments:

1. Scope of Work
2. Purchase Order

Estimate

ZENTRAAL

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Brian Campbell
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Date 8/10/12 :: TERMS: Net 15

PROJECT TITLE: Software development and support for Prop 84 project tracking/reporting tool

Description	Qty	Rate	Cost
Creating second instance of project workspace, updating code to work with two instances (i.e. not commingle projects)	8	$100	$800
Populating project info and initial financial values	8	$100	$800
Training Webinar	3	$100	$300
As-needed support	8	$100	$800
Split Schedule-Information into two fields and update summary table logic and individual project templates	2	$100	$200
Summary table print view for top-level folder	1.5	$100	$150
UI changes to facilitate accessing archived reports (TBD)	2	$100	$200
Additional UI elements to facilitate adding attachments and show links to attachments when viewing projects	1	$100	$100
Report to show financials totals based on previous quarter	2.5	$100	$250
		Total	**$3,600**