# Executive Board Meeting Agenda

**Friday, August 15, 2014, 9:00 a.m. – 12:30 p.m.**
**SFPUC, Hetch Hetchy Room, 13th Floor**
**525 Golden Gate Ave., San Francisco, CA**

| Agenda Item | Time | Page # |
|---|---|---|
| **ROLL CALL AND INTRODUCTIONS** | 9:00 a.m. – 9:03 a.m. | |
| **PUBLIC COMMENT** | 9:03 a.m. – 9:05 a.m. | |
| **CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER** | 9:05 a.m. – 9:10 a.m. | |
| **CONSENT CALENDAR**<br>1. July 18, 2014 BACWA Executive Board Meeting Minutes<br>2. May 2014 & June 2014 Treasurer's Reports | 9:10 a.m. - 9:15 a.m. | <br><br>3-7<br><br>8-21 |
| **REPORTS**<br>3. Committee Reports<br>4. Executive Board Reports<br>5. Executive Director Report<br>6. Regulatory Program Manager Report<br>7. Other BACWA Representative Reports<br>a. RMP-TRC: Rod Miller<br>b. RMP Steering Committee: Karin North; Jim Ervin<br>c. Summit Partners: Dave Williams<br>d. ASC/SFEI: Laura Pagano; Dave Williams<br>e. Nutrient Governance Steering Committee: Ben Horenstein; Jim Ervin<br>f. SWRCB Nutrient SAG: Dave Williams<br>g. SWRCB Focus Group – Bacterial Objectives: Lorien Fono; Amy Chastain<br>h. SWRCB Focus Group – Mercury Amendments to the State Plan: Tim Potter<br>i. Nutrient Technical Workgroup – Eric Dunlavey | 9:15 a.m. – 10:30 a.m. | <br>22-24<br><br>25-31<br>32-33<br><br><br><br><br><br><br><br><br><br><br><br>34-48 |
| **OTHER BUSINESS**<br>8. Discussion : Adjustment of scope of work for WBA<br>9. Approve: Fiscal Year 2015 Amended Budget | <br>10:30 a.m. – 10:35 a.m.<br>10:35 a.m. – 10:40 a.m. | <br>49<br>50-52 |

| | | |
|---|---|---|
| 10. Discussion: Nutrients<br>a. Technical Work<br>i. Update on WS Case Studies Symposium<br>ii. Draft Scopes of Work for Scientific Studies<br>iii. New Hampshire Nutrient Investigation (Phil Trowbridge)<br>b. Regulatory<br>i. Update on Consultant Selection Process<br>c. Governance Structure<br>i. Steering Committee Governance Workgroup Meeting<br>ii. Program Coordinator | 10:40 a.m. – 11:15 a.m. | <br><br>53-58<br>59-94 |
| 11. Approve: Watershed Permit Fund Commitment for $865.000 | 11:15 a.m. – 11:20 a.m. | 95 |
| 12. Discussion: SFEI/RMP (Phil Trowbridge) | 11:20 a.m. – 11:25 a.m. | |
| 13. Discussion: Biannual Update from CWCCG (S. Deslaurieres) | 11:25 a.m. – 11:40 a.m. | |
| 14. Discussion: IT/Web Upgrade | 11:40 a.m. – 11:45 a.m. | 96-103 |
| 15. Discussion: CASA Statewide Pesticide Steering Committee | 11:45 a.m. – 11:50 a.m. | |
| 16. Discussion: Joint Meeting with Water Board | 11:50 a.m. – 12:00 p.m. | 104-105 |
| 17. Discussion: SSO Enforcement Options | 12:00 p.m. – 12:05 p.m. | 106-110 |
| 18. Discussion: JPA Funding Resolution | 12:05 p.m. – 12:10 p.m. | 111 |
| 19. Discussion: Draft Agenda for Pardee Technical Seminar | 12:10 p.m. – 12:20 p.m. | 112-113 |
| 20. Discussion: Board & Committee Meeting Calendar for Jan-Dec 2015 | 12:20 p.m. – 12:25 p.m. | 114 |
| **SUGGESTIONS FOR FUTURE AGENDA ITEMS** | 12:25 p.m. – 12:30 p.m. | |
| **NEXT REGULAR MEETING** | | |
| The next regular meeting of the Board is scheduled for **September 19, 2014 from 9:00 am – 12:30 pm** at the **EBMUD Treatment Plant Lab Library, 2020 Wake Avenue, Oakland** | | |
| **ADJOURNMENT** | 12:30 p.m. | |

# Executive Board Meeting Minutes

Friday, July 18, 2014, 9:00 a.m. – 12:30 p.m.

**EBMUD Lab Library**
**2020 Wake Ave., Oakland, CA**

**ROLL CALL AND INTRODUCTIONS**

Executive Board Representatives: Mike Connor, Chair (East Bay Dischargers Authority); Laura Pagano, Vice Chair (San Francisco Public Utilities Commission); Jim Ervin (San Jose); Ben Horenstein (East Bay Municipal Utility District); Roger Bailey (Central Contra Costa Sanitary District).

Other Attendees:

Tim Potter (Central Contra Costa Sanitary District);
Vince De Lange (East Bay Municipal Utility District);
Bhavani Yerrapotu (Sunnyvale);
Karin North (Palo Alto);
Ryan Merlo (B&C)
Greg Baatrup (FSSD)
Monica Oakley (RMC);
Amanda Roa (Delta Diablo);
David Williams (BACWA);
Lorien Fono (BACWA);
Alina Constantinescu (LWA);
Arvind Akela (CDM Smith);
Holly Kennedy (HDR);
David Senn (SFEI);
Christian Nilson (ReNUWIT)

**PUBLIC COMMENT**

None.

**CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER**

None

**CONSENT CALENDAR**

1. June 20, 2014 BACWA Executive Board Meeting Minutes
2. April 2014 Treasurer's Report

***Consent Calendar items 1 and 2*** *were approved in a motion made by Laura Pagano and seconded by Mike Connor. The motion carried unanimously.*

**REPORTS**

**Committee Reports** were included in the handout packet for agenda **item 6.**

AIR Committee – Lorien reported that Air Board Fees are increasing. Sarah Deslauriers will be invited to the next meeting in September to give an AB32 scoping plan update, and the November meeting will be at EBMUD.

Collection Systems Committee – Monica handed out committee report hard copies. Vince Calzone is new chair, Lenny Rather from Oro Loma at Vice Chair. Victor Lopez from the State Water Board

gave a presentation on the State's SSO Reduction Program to the group which will be distributed via the ***BACWA Bulletin***. Claudia Villacourta will come to the November meeting.

Permits Committee – Sunnyvale is requesting that BACWA send in a comment letter about receiving water monitoring and continuous chlorine monitoring. Regional Water Board specified that the new receiving water monitoring requirements are a shallow was discharger issue and pertain to ammonia. Ben and Laura feel that this is an important issue that BACWA should engage on. ***BACWA will draft a letter addressing the two issues and will also discuss it at the next joint meeting with the Regional Water Board. Mike will separately contact Bill Johnson.***

CIWQS has gained CROMMER certification. CASA is continuing to work to expand CIWQS to incorporate reporting

Executive Board representatives (Board) were given an opportunity to provide updates from each of the Principal agencies under agenda **item 4, Executive Board Reports.** Non-principal members were also given an opportunity to report out on behalf of their agencies. No actions were taken on the report-outs.

Jim Ervin gave a short presentation on Net Environmental Benefit designation, and how San Jose has argued to the Regional Water board that they improve the biological community and should be granted this designation.

Roger Bailey reported that they hired Jean Marc Petit as head of engineering. Preparing to install zeolite-anamox system, hopefully by August. They will be doing a study on ammonia impact on phytoplankton growth.

Ben Horenstein attended NACWA – DC water got a 100-year bond and green attribute, which brought in investors from Europe and needed to be certified as part of a green portfolio. Ben was also elected to the NACWA Board.

Laura Pagano reported that they met with Regional Water Board staff to discuss their recycled water projects. They also met with Felicia Marcus regarding SRF funding. They met with the EPA, who appear to be willing to work with SFPUC to be flexible on dilution. They are also upgrading to Class A Biosolids with TPAD which will increase ammonia.

Mike Connor reported on the results of sidestream experiments. Union San has been running ANITA Mox the last few months and seeing good, reliable removal of ammonia and total nitrogen.

The **Executive Director's June Report** was included in the handout packet for agenda **item 5** and David Williams highlighted items in the report as well as the intended IT upgrades.

The **Regulatory Program Manager (RPM) Report under agenda item 6** was included in the handout packet. Lorien highlighted vector control hearing. Patricia McGovern will attend the August meeting and will discuss maternity leave coverage.

**Other BACWA Representative Reports** were given an opportunity to provide updates under agenda

**Item 7, Other BACWA Representative Reports.** No actions were taken based on the reports.
a. RMP-TRC: Rod Miller
b. RMP Steering Committee: Karin North; Jim Ervin – Karin gave an update on the RMP projects planning for the next year.
c. Summit Partners: Dave Williams – no update
d. ASC/SFEI: Laura Pagano; Dave Williams – Elected Board members. Executive Director Interviews – the Board did three interviews and selected top person, who turned them down, and are now negotiating with second person.
e. Nutrient Governance Steering Committee: Ben Horenstein; Jim Ervin
f. SWRCB Nutrient SAG: Dave Williams
g. SWRCB Focus Group – Bacterial Objectives: Lorien Fono; Amy Chastain – Attended meeting on July 14, see info in packet.
h. SWRCB Focus Group – Mercury Amendments to the State Plan: Tim Potter – Attended meeting on July 14, see report out in the packet.

The following **Executive Director Authorized Actions** were taken since the May 16, 2014 Board meeting, listed under agenda **item 8**, and reviewed by the ED.

a. Chair Authorization of funds for extension of AED support from Alexandra Gunnell through July 24, 2014 not to exceed $9,999.
b. Chair Authorization of addition of funds to agreement with Sherry Hull for Assistant Executive Director Services for fiscal year 2013-14 (FY14) not to exceed amount of $2,000 File 13, 218.
c. Board Authorization to reallocate funds for SFEI contract(s) File(s) [12,980 to 13,064]. Reallocations: $35,000 from Moored Sensors Task and $15,000 from Monitoring Program Development; $25,000 to LSB Synthesis and $25,000 to Science Oversight and Project Management. SFEI will complete all work under all tasks and no additional funds will be required from BACWA – *approved in a motion by Ben, seconded by Roger. The motion carried immediately.*
d. Chair Authorization to transfer funds between line items on the BAPPG FY 14 Budget in order to fund an agreement with Chinook Book in an amount not to exceed $3,400. Advertising the Baywise Website for the Bay Area Pollution Prevention Group will be included in the annual Chinook Book edition for late summer 2014 and the Chinook Coupon Application.

**OTHER BUSINESS**

Agenda **Item 9 -** Additional scope of work for WBA –*discussion postponed to next meeting.*
Agenda **Item 10 -** Nutrients

a. Technical Work

*i.* Update on WS Case Studies Symposium – Dave discussed budgetary issues, since speakers would need funding for airfare/hotel. The Board passed a motion to charge $50. *Roger moved to fund their travel and charge attendees $50. Laura seconded the motion, which passed immediately.*

ii. Lower South Bay Synthesis Presentation – Dave Senn gave a presentation on the LSD Synthesis and prioritization of FY15 projects. Dave has been preparing for the Bay Delta Conference that will be held in October 2014. ***Dave Senn will send the presentation to BACWA to distribute.***

Draft Scopes of Work for BACWA Funded Scientific Studies - There was a discussion about the model to track funding going forward – i.e. how is BACWA engaged in the details of how our money is spent.

iii. Representative for Nutrient Technical Workgroup – Jim will ask Eric Dunleavy to be official BACWA representative.

b. Regulatory

i. Update on SWRCB SAG on Nutrient WQO – The statewide project is parallel to SF Bay effort, and shouldn't impact it. CASA is the POTW lead in this effort. They are looking into numeric indicators (rather than objectives). Tom Grouvhog and Adam Link are the representatives.

ii. Update on Consultant Selection Process – There are three project teams being interviewed – Carollo/AECOM and CH2MHill/RMC on August 7, and HDR/B&C on August 11.

c. Governance Structure

i. Debrief on 2nd Steering Committee Meeting – Dave Senn passed around a list of the projects that the Steering committee voted should go forward.

ii. Program Coordinator – Regional Water Board agrees for the need for a Program Coordinator and is asking for in-kind report. There was a discussion about how BACWA should proceed, and alternatives for funding this position.

iii. Steering Committee Governance Workgroup Meeting

Agenda **item 11** –Christian Nilsen gave a presentation updating the Board on ReNUWIt Activities. He gave a summary of the sidestream pilot projects for nutrient removal that they are working on with BACWA member agencies. They are also involved in the Oro Loma Ecotone Pilot project. Christian gave BACWA a copy of a thumbdrive with material related to their projects.

Agenda **item 12 –** Proposed agenda Items for Next Joint BACWA/WB meeting are included in the packet. Targeting end of July/early August. ***Dave will add chlorine monitoring, and discussion of Pardee agenda.***

Agenda **item 13** Draft comment letter on the BDCP report – there was a discussion about

whether to include a discussion about nutrients in BACWA's comment letter. ***Lorien will update the letter to express BACWA's concern that the BDCP Project will increase nutrient loading, and get an appropriate citation from Dave Senn.***

Agenda **item 14** - Draft Agenda for Pardee Technical Seminar – Tim pointed out that we should get input from Tom Mumley about his list of items for Pardee. Karin suggested outside fundraising for wastewater initiatives be included as a discussion item.

Suggestions for Future Agenda Items:
Time suggests that the independent studies that are going on should be part of the one-tent concept. We should discuss how to implement that.

The meeting adjourned at 12:34 p.m.

The next regular meeting of the Board is scheduled for **August 15, 2014** from 9:00 am – 12:30 pm at the SF PUC, Hetch Hetchy Room, 13th Floor, San Francisco, CA.

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

July 15, 2014

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: D. Scott Klein, Controller, East Bay Municipal Utility District
SUBJECT: Eleventh Month Treasurer's Report

As required by section eight of the Joint Powers Agreement establishing the Bay Area Clean Water Agencies (BACWA) and California Government Code Sections 6500 et seq., attached is the BACWA Treasurer's Report for the period covering **July 1, 2013 through May 31, 2014** (eleven months of Fiscal Year 2013-2014). 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 05/31/14

| DESCRIPTION | BEGINNING FUND BALANCE 07/1/13 | TOTAL RECEIPTS | TOTAL DISBURSEMENTS | ENDING FUND BALANCE 5/31/14 | OUTSTANDING ENCUMBRANCES | UNOBLIGATED FUND BALANCE 5/31/14 |
|---|---|---|---|---|---|---|
| BACWA | 669,142 | 658,610 | 469,204 | 858,547 | 149,288 | 709,259 |
| TRNG FND | 248,247 | 507 | 248,754 | - | - | - |
| AIR | 12,894 | 78,508 | 62,826 | 28,576 | 15,514 | 13,063 |
| BAPPG | 51,748 | 79,719 | 58,669 | 72,798 | 20,274 | 52,524 |
| LEGAL RSRV | 303,928 | 621 | 4,549 | 300,000 | - | 300,000 |
| WQA CBC | 369,481 | 692,146 | 416,470 | 645,157 | 533,233 | 111,925 |
| BACWAOPRES | 152,925 | 7,075 | - | 160,000 | - | 160,000 |
| RWR | 16,733 | 47 | - | 16,780 | - | 16,780 |
| RESERVE | 120,000 | - | 120,000 | - | - | - |
| WOT | 48,062 | 163,733 | 153,500 | 58,295 | - | 58,295 |
| PRP84 | 59,109 | 11,910,258 | 11,715,480 | 253,886 | 31,758 | 222,128 |
| WQA EMERG | 405,238 | 827 | 406,065 | - | - | - |
| TECHACTION | 253,274 | 517 | 253,791 | - | - | - |
| CBC OPRSRV | 164,121 | 1,034,768 | - | 1,198,890 | - | 1,198,890 |
| PRP50 | 157,852 | 14,699 | 63,080 | 109,472 | 18,578 | 90,894 |
| | 3,032,754 | 14,642,036 | 13,972,388 | 3,702,402 | 768,645 | 2,933,757 |

# BACWA Revenue Report for May 2014

| 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 | 450,000 | - | - | - | - | 494,061 | - | 494,061 | (44,061) |
| Bay Area Clean Water Agencies | BDO Other Receipts | - | - | - | - | - | - | (9,987) | (9,987) | 9,987 |
| Bay Area Clean Water Agencies | BDO Fund Transfers | 10,675 | - | - | - | - | - | 11,163 | 11,163 | (488) |
| Bay Area Clean Water Agencies | BDO Interest Income | 3,000 | - | - | - | - | - | 2,873 | 2,873 | 127 |
| Bay Area Clean Water Agencies | BDO Assoc.&Affiliate Contr | 159,000 | - | 1,500 | - | - | 160,500 | - | 160,500 | (1,500) |
| **BACWA TOTAL** | | **622,675** | **-** | **1,500** | **-** | **-** | **654,561** | **4,049** | **658,610** | **(35,935)** |
| BACWA Training Fund | BDO Interest Income | - | - | - | - | - | - | 507 | 507 | (507) |
| **TRNG FND TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **507** | **507** | **(507)** |
| AIR-Air Issues&Regulation Grp | BDO Member Contributions | 78,340 | - | - | - | - | 78,384 | - | 78,384 | (44) |
| AIR-Air Issues&Regulation Grp | BDO Interest Income | - | - | - | - | - | - | 124 | 124 | (124) |
| **AIR TOTAL** | | **78,340** | **-** | **-** | **-** | **-** | **78,384** | **124** | **78,508** | **(168)** |
| BAPPG-BayAreaPollutnPreventGrp | BDO Member Contributions | 80,000 | - | - | - | - | 29,505 | 50,000 | 79,505 | 495 |
| BAPPG-BayAreaPollutnPreventGrp | BDO Interest Income | - | - | - | - | - | - | 214 | 214 | (214) |
| **BAPPG TOTAL** | | **80,000** | **-** | **-** | **-** | **-** | **29,505** | **50,214** | **79,719** | **281** |
| BACWA Legal Reserve Fnd | BDO Interest Income | - | - | - | - | - | - | 621 | 621 | (621) |
| **LEGAL RSRV TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **621** | **621** | **(621)** |
| WQA-WtrQualityAttainmntStratgy | Administrative & General | - | - | - | - | 1,500 | - | - | 1,500 | (1,500) |
| WQA-WtrQualityAttainmntStratgy | BDO Member Contributions | 675,000 | - | 750 | - | - | 675,500 | - | 675,500 | (500) |
| WQA-WtrQualityAttainmntStratgy | BDO Other Receipts | - | - | - | - | 3,232 | - | 9,987 | 13,219 | (13,219) |
| WQA-WtrQualityAttainmntStratgy | BDO Interest Income | 1,000 | - | - | - | - | - | 1,927 | 1,927 | (927) |
| **WQA CBC TOTAL** | | **676,000** | **-** | **750** | **-** | **4,732** | **675,500** | **11,914** | **692,146** | **(16,146)** |
| BACWA OperatingRsrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | 6,763 | 6,763 | (6,763) |
| BACWA OperatingRsrve Fnd | BDO Interest Income | - | - | - | - | - | - | 312 | 312 | (312) |
| **BACWAOPRES TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **7,075** | **7,075** | **(7,075)** |

# BACWA Revenue Report for May 2014

| DEPARTMENT | REVENUE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | YEAR TO DATE | | | | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DIRECT | INVOICED | JVS | DIRECT | INVOICED | JVS | ACTUAL | |
| Regional Water Recycling | BDO Interest Income | - | - | - | - | - | - | 47 | 47 | (47) |
| **RWR TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **47** | **47** | **(47)** |
| WOT - Wtr/Wwtr Operat Training | BDO Member Contributions | 160,500 | - | 6,000 | - | - | 163,500 | - | 163,500 | (3,000) |
| WOT - Wtr/Wwtr Operat Training | BDO Interest Income | - | - | - | - | - | - | 233 | 233 | (233) |
| **WOT TOTAL** | | **160,500** | **-** | **6,000** | **-** | **-** | **163,500** | **233** | **163,733** | **(3,233)** |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Fund Transfers | - | - | - | - | - | - | (488) | (488) | 488 |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Interest Income | - | - | - | - | - | - | 2,599 | 2,599 | (2,599) |
| Prop84BayAreaIntegRegnlWtrMgmt | Administrative Support | - | - | - | - | - | 143,122 | - | 143,122 | (143,122) |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient Landscape Reba | - | - | - | - | - | 3,647,671 | - | 3,647,671 | (3,647,671) |
| Prop84BayAreaIntegRegnlWtrMgmt | Central Dublin RW Project | - | - | 1,073,500 | - | - | 1,073,500 | - | 1,073,500 | (1,073,500) |
| Prop84BayAreaIntegRegnlWtrMgmt | Novato North Area Proj. | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa St Hospital Stage 1 | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Sonoma Valley RWP Stage 1 | - | - | 625,000 | - | - | 625,000 | - | 625,000 | (625,000) |
| Prop84BayAreaIntegRegnlWtrMgmt | Harding Park RWP | - | - | - | - | - | 2,008,300 | - | 2,008,300 | (2,008,300) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bair Island Restoration | - | - | 1,265,000 | - | - | 1,265,000 | - | 1,265,000 | (1,265,000) |
| Prop84BayAreaIntegRegnlWtrMgmt | South Bay Salt Pond Habitat Re | - | - | - | - | - | 1,201,750 | - | 1,201,750 | (1,201,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | Regional Green Infrastructure | - | - | 35,770 | - | - | 191,776 | 22,928 | 214,704 | (214,704) |
| Prop84BayAreaIntegRegnlWtrMgmt | WQ Improve Flood Mgmt & EP | - | - | - | - | - | 248,077 | (57,716) | 190,361 | (190,361) |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient LRP | - | - | 33,916 | - | - | 91,386 | - | 91,386 | (91,386) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bay Friendly Landscape TP | - | - | - | - | - | 39,205 | - | 39,205 | (39,205) |
| Prop84BayAreaIntegRegnlWtrMgmt | Weather Based Irrigation Cntrl | - | - | 12,043 | - | - | 27,907 | - | 27,907 | (27,907) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UR | - | - | 127,534 | - | - | 261,682 | - | 261,682 | (261,682) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UI | - | - | 149,532 | - | - | 332,948 | - | 332,948 | (332,948) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Clothes Washrs | - | - | 415,067 | - | - | 415,067 | - | 415,067 | (415,067) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa Co. Rainwater HP | - | - | 5,635 | - | - | 12,761 | - | 12,761 | (12,761) |
| Prop84BayAreaIntegRegnlWtrMgmt | Conservation Program Admin | - | - | 12,866 | - | - | 33,618 | - | 33,618 | (33,618) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Partnership TA | - | - | 15,767 | - | - | 41,002 | 24,873 | 65,875 | (65,875) |
| Prop84BayAreaIntegRegnlWtrMgmt | Flood Infrastructure Mapping T | - | - | 1,350 | - | - | 4,808 | - | 4,808 | (4,808) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stormwater Improvements & PBP | - | - | 11,288 | - | - | 11,288 | - | 11,288 | (11,288) |
| Prop84BayAreaIntegRegnlWtrMgmt | Pescadero Integrated FRAH | - | - | 21,880 | - | - | 63,069 | - | 63,069 | (63,069) |
| Prop84BayAreaIntegRegnlWtrMgmt | Restoration Guidance, San FC | - | - | 8,873 | - | - | 20,407 | - | 20,407 | (20,407) |
| Prop84BayAreaIntegRegnlWtrMgmt | SF Estuary Steelhead MP | - | - | 28,313 | - | - | 77,718 | - | 77,718 | (77,718) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Program Admnstrtn | - | - | 4,307 | - | - | 8,584 | 9,915 | 18,499 | (18,499) |
| **PRP84 TOTAL** | | **-** | **-** | **3,847,644** | **-** | **-** | **11,908,146** | **2,111** | **11,910,258** | **(11,910,258)** |
| WQA Emergency Resrve Fnd | BDO Interest Income | - | - | - | - | - | - | 827 | 827 | (827) |
| **WQA EMERG TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **827** | **827** | **(827)** |
| WQA Tech Action Fund | BDO Interest Income | - | - | - | - | - | - | 517 | 517 | (517) |
| **TECHACTION TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **517** | **517** | **(517)** |
| CBC Operating Resrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | 1,033,159 | 1,033,159 | (1,033,159) |
| CBC Operating Resrve Fnd | BDO Interest Income | - | - | - | - | - | - | 1,610 | 1,610 | (1,610) |
| **CBC OPRSRV TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **1,034,768** | **1,034,768** | **(1,034,768)** |
| Prop50BayAreaIntegRegnlWtrMgmt | BDO Interest Income | - | - | - | - | - | - | 442 | 442 | (442) |
| Prop50BayAreaIntegRegnlWtrMgmt | Administrative Support | - | - | - | - | - | 14,257 | - | 14,257 | (14,257) |
| **PRP50 TOTAL** | | **-** | **-** | **-** | **-** | **-** | **14,257** | **442** | **14,699** | **(14,699)** |

# BACWA Expense Report for May 2014

| 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 | Reloc HYD 11595 Edgewater OAK | - | - | - | - | - | - | - | 7,341 | - | 7,341 | (7,341) |
| Bay Area Clean Water Agencies | BC-Collections System | 26,000 | - | - | - | - | 3,792 | 21,208 | 250 | - | 25,250 | 750 |
| Bay Area Clean Water Agencies | BC-Water Recycling Committee | 41,552 | - | - | - | - | 9,910 | - | - | - | 9,910 | 31,642 |
| Bay Area Clean Water Agencies | BC-Biosolids Committee | 5,000 | - | - | - | - | - | - | - | - | - | 5,000 |
| Bay Area Clean Water Agencies | BC-InfoShare Groups | 25,000 | - | - | - | - | 16,199 | 8,801 | - | - | 25,000 | - |
| Bay Area Clean Water Agencies | BC-Laboratory Committee | 5,000 | - | - | - | - | - | - | 2,106 | - | 2,106 | 2,894 |
| Bay Area Clean Water Agencies | BC-Miscellaneous Committee Sup | 106,368 | (5,843) | 5,843 | - | - | 66,511 | 71,342 | - | - | 137,853 | (31,485) |
| Bay Area Clean Water Agencies | LS-Regulatory Support | 2,000 | 3,000 | - | - | - | 3,048 | 2,452 | - | - | 5,500 | (3,500) |
| Bay Area Clean Water Agencies | BDO Fund Transfers | - | - | - | - | - | - | - | - | 6,763 | 6,763 | (6,763) |
| Bay Area Clean Water Agencies | LS-Executive Board Support | 2,000 | - | - | - | - | 1,218 | 782 | - | - | 2,000 | - |
| Bay Area Clean Water Agencies | CAS-CPSC | 5,000 | - | - | - | - | - | - | 5,000 | - | 5,000 | - |
| Bay Area Clean Water Agencies | CAS-PSI | 500 | - | - | - | - | - | - | 500 | - | 500 | - |
| Bay Area Clean Water Agencies | CAR-BACWA Annual Report | 5,000 | - | - | - | - | - | - | - | - | - | 5,000 |
| Bay Area Clean Water Agencies | CAR-BACWA Website Development/ | 7,820 | (740) | 740 | 76 | - | 760 | 740 | 5,787 | - | 7,287 | 533 |
| Bay Area Clean Water Agencies | AS-BACWA Admin Expense | 3,000 | - | - | 794 | - | - | - | 3,215 | - | 3,215 | (215) |
| Bay Area Clean Water Agencies | CAR-Other Communications | 5,199 | - | - | - | - | - | - | 73 | - | 73 | 5,127 |
| Bay Area Clean Water Agencies | SP-BAPPG Contribution | 50,000 | - | - | - | - | - | - | - | 50,000 | 50,000 | - |
| Bay Area Clean Water Agencies | GBS-Contingency | 31,100 | - | - | 5,050 | - | - | - | 7,534 | - | 7,534 | 23,566 |
| Bay Area Clean Water Agencies | GBS- Meeting Support | 13,000 | (79) | 79 | 115 | - | 272 | 728 | 10,823 | (100) | 11,723 | 1,277 |
| Bay Area Clean Water Agencies | AS-Executive Director | 175,000 | (43,750) | 43,750 | - | - | 14,584 | 160,417 | - | - | 175,000 | - |
| Bay Area Clean Water Agencies | AS-Assistant Executive Directo | 75,000 | 5,715 | 1,785 | - | - | 15,690 | 64,810 | - | - | 80,500 | (5,500) |
| Bay Area Clean Water Agencies | AS-EBMUD Administrative Servic | 40,000 | - | - | - | - | 17,305 | 22,695 | 3,502 | (6,885) | 36,617 | 3,383 |
| Bay Area Clean Water Agencies | AS-Insurance | 4,000 | - | - | - | - | - | - | 4,321 | - | 4,321 | (321) |
| Bay Area Clean Water Agencies | BDO-CAS-Stanford ERC | 10,000 | - | - | - | - | - | - | 10,000 | - | 10,000 | - |
| Bay Area Clean Water Agencies | CAS-Arleen Navaret Award | 1,000 | - | - | - | - | - | - | - | - | - | 1,000 |
| Bay Area Clean Water Agencies | CAS-FWQC | 5,000 | - | - | - | - | - | - | 5,000 | - | 5,000 | - |
| **BACWA TOTAL** | | **643,539** | **(41,697)** | **52,197** | **6,036** | **-** | **149,288** | **353,975** | **65,451** | **49,778** | **618,492** | **25,047** |
| BACWA Training Fund | BDO Fund Transfers | - | - | - | - | - | - | - | - | 248,754 | 248,754 | (248,754) |
| **BACWA TRAINING TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **248,754** | **248,754** | **(248,754)** |
| AIR-Air Issues&Regulation Grp | Administrative Support | 3,900 | - | - | - | - | - | - | - | 3,900 | 3,900 | - |
| AIR-Air Issues&Regulation Grp | BDO Contract Expenses | 74,440 | - | - | - | - | 15,514 | 80,626 | - | (21,700) | 74,440 | - |
| **AIR TOTAL** | | **78,340** | **-** | **-** | **-** | **-** | **15,514** | **80,626** | **-** | **(17,800)** | **78,340** | **-** |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Fog | 17,000 | - | - | - | - | - | - | 8,000 | - | 8,000 | 9,000 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Mercury | 2,500 | - | - | - | - | - | - | - | - | - | 2,500 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Pesticides | 10,000 | - | - | - | - | - | - | 10,000 | - | 10,000 | - |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Pharmaceutical | 9,998 | - | - | - | - | - | - | - | - | - | 9,998 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-General P2 | 1,500 | - | - | - | - | - | - | - | - | - | 1,500 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Emerging Issues | 21,437 | (1,589) | 1,589 | - | - | 16,966 | 6,032 | 10,673 | - | 33,670 | (12,233) |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Other | 11,500 | (4,949) | 4,949 | - | - | 1,020 | 5,979 | 3,028 | (3,028) | 6,999 | 4,501 |
| BAPPG-BayAreaPollutnPreventGrp | Administrative Support | 4,275 | - | - | - | - | - | - | - | 4,275 | 4,275 | - |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Multi-Pollutant | 19,000 | (913) | 913 | - | - | 2,289 | 13,711 | - | - | 16,000 | 3,000 |
| **BAPPG TOTAL** | | **97,210** | **(7,451)** | **7,451** | **-** | **-** | **20,274** | **25,722** | **31,700** | **1,247** | **78,944** | **18,267** |

# BACWA Expense Report for May 2014

| DEPARTMENT | EXPENSE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | | YEAR TO DATE | | | | OBLIGATED | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ENC | PV | DA | JV | ENC | PV | DA | JV | | |
| BACWA Legal Reserve Fnd | BDO Fund Transfers | - | - | - | - | - | - | - | - | 4,549 | 4,549 | (4,549) |
| **BACWA LEGAL TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **4,549** | **4,549** | **(4,549)** |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Technical Support | 896,902 | (79,092) | 79,092 | - | - | 499,911 | 379,792 | - | - | 879,703 | 17,199 |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Collaborations & Sponso | 30,000 | - | - | - | - | - | - | 30,000 | - | 30,000 | - |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Commun. & Reporting | 6,000 | - | - | - | - | - | - | - | - | - | 6,000 |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Other | 33,800 | - | - | 5,000 | - | 33,322 | 1,678 | 5,000 | - | 40,000 | (1,200) |
| **WQA CBC TOTAL** | | **966,702** | **(79,092)** | **79,092** | **5,000** | **-** | **533,233** | **381,470** | **35,000** | **-** | **949,703** | **21,999** |
| BACWA Reserve | BDO Fund Transfers | - | - | - | - | - | - | - | - | 120,000 | 120,000 | (120,000) |
| **BACWA RESERVE TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **120,000** | **120,000** | **(120,000)** |
| WOT - Wtr/Wwtr Operat Training | Administrative Support | 2,500 | - | - | - | - | - | - | - | 2,500 | 2,500 | - |
| WOT - Wtr/Wwtr Operat Training | BDO Contract Expenses | 158,000 | - | - | - | - | - | - | 151,000 | - | 151,000 | 7,000 |
| **WOT TOTAL** | | **160,500** | **-** | **-** | **-** | **-** | **-** | **-** | **151,000** | **2,500** | **153,500** | **7,000** |
| Prop84BayAreaIntegRegnlWtrMgmt | Administrative Support | - | 250 | - | 26 | - | 750 | 500 | 4,011 | - | 5,261 | (5,261) |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Contract Expenses | - | (2,956) | 2,956 | - | - | 31,008 | 40,445 | - | - | 71,453 | (71,453) |
| Prop84BayAreaIntegRegnlWtrMgmt | Central Dublin RW Project | - | - | - | 1,073,500 | - | - | - | 1,073,500 | - | 1,073,500 | (1,073,500) |
| Prop84BayAreaIntegRegnlWtrMgmt | Novato North Area Proj. | - | - | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa St Hospital Stage 1 | - | - | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Sonoma Valley RWP Stage 1 | - | - | - | 593,750 | - | - | - | 593,750 | - | 593,750 | (593,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | Harding Park RWP | - | - | - | - | - | - | - | 2,008,300 | - | 2,008,300 | (2,008,300) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bair Island Restoration | - | - | - | 1,201,750 | - | - | - | 1,201,750 | - | 1,201,750 | (1,201,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | South Bay Salt Pond Habitat Re | - | - | - | - | - | - | - | 1,201,750 | - | 1,201,750 | (1,201,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | Regional Green Infrastructure | - | - | - | 35,770 | - | - | - | 191,776 | - | 191,776 | (191,776) |
| Prop84BayAreaIntegRegnlWtrMgmt | WQ Improve Flood Mgmt & EP | - | - | - | - | - | - | - | - | (197,743) | (197,743) | 197,743 |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient LRP | - | - | - | 33,916 | - | - | - | 275,207 | - | 275,207 | (275,207) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bay Friendly Landscape TP | - | - | - | - | - | - | - | 56,287 | - | 56,287 | (56,287) |
| Prop84BayAreaIntegRegnlWtrMgmt | Weather Based Irrigation Cntrl | - | - | - | 12,043 | - | - | - | 109,137 | - | 109,137 | (109,137) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UR | - | - | - | 127,534 | - | - | - | 1,124,892 | - | 1,124,892 | (1,124,892) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UI | - | - | - | 149,532 | - | - | - | 1,368,032 | - | 1,368,032 | (1,368,032) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Clothes Washrs | - | - | - | 415,067 | - | - | - | 1,816,946 | - | 1,816,946 | (1,816,946) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa Co. Rainwater HP | - | - | - | 5,635 | - | - | - | 27,762 | - | 27,762 | (27,762) |
| Prop84BayAreaIntegRegnlWtrMgmt | Conservation Program Admin | - | - | - | 12,866 | - | - | - | 83,982 | - | 83,982 | (83,982) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Partnership TA | - | - | - | 15,767 | - | - | - | 106,153 | 36,290 | 142,443 | (142,443) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stream Restoration in North BD | - | - | - | - | - | - | - | 30,250 | 149,491 | 179,741 | (179,741) |
| Prop84BayAreaIntegRegnlWtrMgmt | Flood Infrastructure Mapping T | - | - | - | 1,350 | - | - | - | 11,871 | 2,047 | 13,918 | (13,918) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stormwater Improvements & PBP | - | - | - | 11,288 | - | - | - | 41,615 | - | 41,615 | (41,615) |
| Prop84BayAreaIntegRegnlWtrMgmt | Pescadero Integrated FRAH | - | - | - | 21,880 | - | - | - | 84,472 | - | 84,472 | (84,472) |
| Prop84BayAreaIntegRegnlWtrMgmt | Restoration Guidance, San FC | - | - | - | 8,873 | - | - | - | 20,407 | - | 20,407 | (20,407) |
| Prop84BayAreaIntegRegnlWtrMgmt | SF Estuary Steelhead MP | - | - | - | 28,313 | - | - | - | 150,552 | - | 150,552 | (150,552) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Program Admnstrtn | - | - | - | 4,307 | - | - | - | 29,633 | 9,915 | 39,549 | (39,549) |
| **PRP84 TOTAL** | | **-** | **(2,706)** | **2,956** | **3,753,170** | **-** | **31,758** | **40,945** | **11,674,535** | **(0)** | **11,747,238** | **(11,747,238)** |
| WQA Emergency Resrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | - | - | 406,065 | 406,065 | (406,065) |
| **WQA EMERGENCY TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **406,065** | **406,065** | **(406,065)** |

# BACWA Expense Report for May 2014

| DEPARTMENT | EXPENSE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | | YEAR TO DATE | | | | OBLIGATED | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ENC | PV | DA | JV | ENC | PV | DA | JV | | |
| WQA Tech Action Fund | BDO Fund Transfers | - | - | - | - | - | - | - | - | 253,791 | 253,791 | (253,791) |
| **WQA TECH TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **253,791** | **253,791** | **(253,791)** |
| | | | | | | | | | | | | |
| Prop50BayAreaIntegRegnlWtrMgmt | Administrative Support | - | 250 | - | 52 | - | 1,025 | 225 | 52 | - | 1,302 | (1,302) |
| Prop50BayAreaIntegRegnlWtrMgmt | BDO Contract Expenses | - | (1,313) | 1,313 | - | - | 17,553 | 9,225 | - | - | 26,778 | (26,778) |
| Prop50BayAreaIntegRegnlWtrMgmt | Regional Conservation | - | - | - | - | - | - | - | 48,321 | - | 48,321 | (48,321) |
| Prop50BayAreaIntegRegnlWtrMgmt | EBMUD Ca. Waterstar Initiative | - | - | - | - | - | - | - | 7,322 | (7,322) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | EBMUD Richmond RWP | - | - | - | - | - | - | - | 8,448 | (8,448) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | Redwood City RWP | - | - | - | - | - | - | - | 3,285 | - | 3,285 | (3,285) |
| Prop50BayAreaIntegRegnlWtrMgmt | Mt. View-Moffat RWP | - | - | - | - | - | - | - | 5,561 | (5,561) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | N. Marin RWP | - | - | - | - | - | - | - | 1,971 | - | 1,971 | (1,971) |
| **PRP50 TOTAL** | | **-** | **(1,063)** | **1,313** | **52** | **-** | **18,578** | **9,450** | **74,961** | **(21,331)** | **81,658** | **(81,658)** |

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

August 11, 2014

MEMO TO: Bay Area Clean Water Agencies Executive Board

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

SUBJECT: Twelfth Month Treasurer's Report

As required by section eight of the Joint Powers Agreement establishing the Bay Area Clean Water Agencies (BACWA) and California Government Code Sections 6500 et seq., attached is the BACWA Treasurer's Report for the period covering **July 1, 2013 through June 30, 2014** (twelve months of Fiscal Year 2013-2014). 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 06/30/14

| DESCRIPTION | BEGINNING FUND BALANCE 07/1/13 | TOTAL RECEIPTS | TOTAL DISBURSEMENTS | ENDING FUND BALANCE 6/30/14 | OUTSTANDING ENCUMBRANCES | UNOBLIGATED FUND BALANCE 6/30/14 |
|---|---|---|---|---|---|---|
| BACWA | 669,142 | 660,371 | 552,006 | 777,507 | 153,194 | 624,312 |
| TRNG FND | 248,247 | 507 | 248,754 | - | - | - |
| AIR | 12,894 | 84,508 | 78,340 | 19,063 | 0 | 19,063 |
| BAPPG | 51,748 | 79,719 | 70,930 | 60,537 | 11,413 | 49,124 |
| LEGAL RSRV | 303,928 | 621 | 4,549 | 300,000 | - | 300,000 |
| WQA CBC | 369,481 | 823,646 | 517,745 | 675,382 | 485,125 | 190,258 |
| BACWAOPRES | 152,925 | 7,075 | - | 160,000 | - | 160,000 |
| RWR | 16,733 | 47 | - | 16,780 | - | 16,780 |
| RESERVE | 120,000 | - | 120,000 | - | - | - |
| WOT | 48,062 | 163,733 | 153,500 | 58,295 | - | 58,295 |
| PRP84 | 59,109 | 11,910,258 | 11,811,285 | 158,082 | 31,508 | 126,573 |
| WQA EMERG | 405,238 | 827 | 406,065 | - | - | - |
| TECHACTION | 253,274 | 517 | 253,791 | - | - | - |
| CBC OPRSRV | 164,121 | 1,034,768 | - | 1,198,890 | - | 1,198,890 |
| PRP50 | 157,852 | 14,699 | 63,536 | 109,015 | 18,053 | 90,963 |
| | 3,032,754 | 14,781,297 | 14,280,500 | 3,533,551 | 699,294 | 2,834,257 |

# BACWA Revenue Report for June 2014

| 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 | 450,000 | - | - | - | - | 494,061 | - | 494,061 | (44,061) |
| Bay Area Clean Water Agencies | BDO Other Receipts | - | - | - | - | - | - | (9,987) | (9,987) | 9,987 |
| Bay Area Clean Water Agencies | BDO Fund Transfers | 10,675 | - | - | 1,761 | - | - | 12,924 | 12,924 | (2,249) |
| Bay Area Clean Water Agencies | BDO Interest Income | 3,000 | - | - | - | - | - | 2,873 | 2,873 | 127 |
| Bay Area Clean Water Agencies | BDO Assoc.&Affiliate Contr | 159,000 | - | - | - | - | 160,500 | - | 160,500 | (1,500) |
| **BACWA TOTAL** | | **622,675** | **-** | **-** | **1,761** | **-** | **654,561** | **5,810** | **660,371** | **(37,696)** |
| BACWA Training Fund | BDO Interest Income | - | - | - | - | - | - | 507 | 507 | (507) |
| **TRNG FND TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **507** | **507** | **(507)** |
| AIR-Air Issues&Regulation Grp | BDO Member Contributions | 78,340 | - | 6,000 | - | - | 84,384 | - | 84,384 | (6,044) |
| AIR-Air Issues&Regulation Grp | BDO Interest Income | - | - | - | - | - | - | 124 | 124 | (124) |
| **AIR TOTAL** | | **78,340** | **-** | **6,000** | **-** | **-** | **84,384** | **124** | **84,508** | **(6,168)** |
| BAPPG-BayAreaPollutnPreventGrp | BDO Member Contributions | 80,000 | - | - | - | - | 29,505 | 50,000 | 79,505 | 495 |
| BAPPG-BayAreaPollutnPreventGrp | BDO Interest Income | - | - | - | - | - | - | 214 | 214 | (214) |
| **BAPPG TOTAL** | | **80,000** | **-** | **-** | **-** | **-** | **29,505** | **50,214** | **79,719** | **281** |
| BACWA Legal Reserve Fnd | BDO Interest Income | - | - | - | - | - | - | 621 | 621 | (621) |
| **LEGAL RSRV TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **621** | **621** | **(621)** |
| WQA-WtrQualityAttainmntStratgy | Administrative & General | - | - | - | - | 1,500 | - | - | 1,500 | (1,500) |
| WQA-WtrQualityAttainmntStratgy | BDO Member Contributions | 675,000 | - | 90,000 | - | - | 765,500 | - | 765,500 | (90,500) |
| WQA-WtrQualityAttainmntStratgy | BDO Other Receipts | - | 1,500 | 40,000 | - | 4,732 | 40,000 | 9,987 | 54,719 | (54,719) |
| WQA-WtrQualityAttainmntStratgy | BDO Interest Income | 1,000 | - | - | - | - | - | 1,927 | 1,927 | (927) |
| **WQA CBC TOTAL** | | **676,000** | **1,500** | **130,000** | **-** | **6,232** | **805,500** | **11,914** | **823,646** | **(147,646)** |
| BACWA OperatingRsrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | 6,763 | 6,763 | (6,763) |
| BACWA OperatingRsrve Fnd | BDO Interest Income | - | - | - | - | - | - | 312 | 312 | (312) |
| **BACWAOPRES TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **7,075** | **7,075** | **(7,075)** |

# BACWA Revenue Report for June 2014

| DEPARTMENT | REVENUE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | YEAR TO DATE | | | | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DIRECT | INVOICED | JVS | DIRECT | INVOICED | JVS | ACTUAL | |
| Regional Water Recycling | BDO Interest Income | - | - | - | - | - | - | 47 | 47 | (47) |
| **RWR TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **47** | **47** | **(47)** |
| WOT - Wtr/Wwtr Operat Training | BDO Member Contributions | 160,500 | - | - | - | - | 163,500 | - | 163,500 | (3,000) |
| WOT - Wtr/Wwtr Operat Training | BDO Interest Income | - | - | - | - | - | - | 233 | 233 | (233) |
| **WOT TOTAL** | | **160,500** | **-** | **-** | **-** | **-** | **163,500** | **233** | **163,733** | **(3,233)** |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Fund Transfers | - | - | - | - | - | - | (488) | (488) | 488 |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Interest Income | - | - | - | - | - | - | 2,599 | 2,599 | (2,599) |
| Prop84BayAreaIntegRegnlWtrMgmt | Administrative Support | - | - | - | - | - | 143,122 | - | 143,122 | (143,122) |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient Landscape Reba | - | - | - | - | - | 3,647,671 | - | 3,647,671 | (3,647,671) |
| Prop84BayAreaIntegRegnlWtrMgmt | Central Dublin RW Project | - | - | - | - | - | 1,073,500 | - | 1,073,500 | (1,073,500) |
| Prop84BayAreaIntegRegnlWtrMgmt | Novato North Area Proj. | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa St Hospital Stage 1 | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Sonoma Valley RWP Stage 1 | - | - | - | - | - | 625,000 | - | 625,000 | (625,000) |
| Prop84BayAreaIntegRegnlWtrMgmt | Harding Park RWP | - | - | - | - | - | 2,008,300 | - | 2,008,300 | (2,008,300) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bair Island Restoration | - | - | - | - | - | 1,265,000 | - | 1,265,000 | (1,265,000) |
| Prop84BayAreaIntegRegnlWtrMgmt | South Bay Salt Pond Habitat Re | - | - | - | - | - | 1,201,750 | - | 1,201,750 | (1,201,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | Regional Green Infrastructure | - | - | - | - | - | 191,776 | 22,928 | 214,704 | (214,704) |
| Prop84BayAreaIntegRegnlWtrMgmt | WQ Improve Flood Mgmt & EP | - | - | - | - | - | 248,077 | (57,716) | 190,361 | (190,361) |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient LRP | - | - | - | - | - | 91,386 | - | 91,386 | (91,386) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bay Friendly Landscape TP | - | - | - | - | - | 39,205 | - | 39,205 | (39,205) |
| Prop84BayAreaIntegRegnlWtrMgmt | Weather Based Irrigation Cntrl | - | - | - | - | - | 27,907 | - | 27,907 | (27,907) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UR | - | - | - | - | - | 261,682 | - | 261,682 | (261,682) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UI | - | - | - | - | - | 332,948 | - | 332,948 | (332,948) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Clothes Washrs | - | - | - | - | - | 415,067 | - | 415,067 | (415,067) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa Co. Rainwater HP | - | - | - | - | - | 12,761 | - | 12,761 | (12,761) |
| Prop84BayAreaIntegRegnlWtrMgmt | Conservation Program Admin | - | - | - | - | - | 33,618 | - | 33,618 | (33,618) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Partnership TA | - | - | - | - | - | 41,002 | 24,873 | 65,875 | (65,875) |
| Prop84BayAreaIntegRegnlWtrMgmt | Flood Infrastructure Mapping T | - | - | - | - | - | 4,808 | - | 4,808 | (4,808) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stormwater Improvements & PBP | - | - | - | - | - | 11,288 | - | 11,288 | (11,288) |
| Prop84BayAreaIntegRegnlWtrMgmt | Pescadero Integrated FRAH | - | - | - | - | - | 63,069 | - | 63,069 | (63,069) |
| Prop84BayAreaIntegRegnlWtrMgmt | Restoration Guidance, San FC | - | - | - | - | - | 20,407 | - | 20,407 | (20,407) |
| Prop84BayAreaIntegRegnlWtrMgmt | SF Estuary Steelhead MP | - | - | - | - | - | 77,718 | - | 77,718 | (77,718) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Program Admnstrtn | - | - | - | - | - | 8,584 | 9,915 | 18,499 | (18,499) |
| **PRP84 TOTAL** | | **-** | **-** | **-** | **-** | **-** | **11,908,146** | **2,111** | **11,910,258** | **(11,910,258)** |
| WQA Emergency Resrve Fnd | BDO Interest Income | - | - | - | - | - | - | 827 | 827 | (827) |
| **WQA EMERG TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **827** | **827** | **(827)** |
| WQA Tech Action Fund | BDO Interest Income | - | - | - | - | - | - | 517 | 517 | (517) |
| **TECHACTION TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **517** | **517** | **(517)** |
| CBC Operating Resrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | 1,033,159 | 1,033,159 | (1,033,159) |
| CBC Operating Resrve Fnd | BDO Interest Income | - | - | - | - | - | - | 1,610 | 1,610 | (1,610) |
| **CBC OPRSRV TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **1,034,768** | **1,034,768** | **(1,034,768)** |
| Prop50BayAreaIntegRegnlWtrMgmt | BDO Interest Income | - | - | - | - | - | - | 442 | 442 | (442) |
| Prop50BayAreaIntegRegnlWtrMgmt | Administrative Support | - | - | - | - | - | 14,257 | - | 14,257 | (14,257) |
| **PRP50 TOTAL** | | **-** | **-** | **-** | **-** | **-** | **14,257** | **442** | **14,699** | **(14,699)** |

# BACWA Expense Report for June 2014

| 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 | Reloc HYD 11595 Edgewater OAK | - | - | - | - | - | - | - | 7,341 | - | 7,341 | (7,341) |
| Bay Area Clean Water Agencies | BC-Collections System | 26,000 | (3,666) | 1,689 | - | 850 | 126 | 22,897 | 250 | 850 | 24,123 | 1,877 |
| Bay Area Clean Water Agencies | BC-Water Recycling Committee | 41,552 | (2,545) | 2,545 | - | - | 7,365 | 2,545 | - | - | 9,910 | 31,642 |
| Bay Area Clean Water Agencies | BC-Biosolids Committee | 5,000 | - | - | - | - | - | - | - | - | - | 5,000 |
| Bay Area Clean Water Agencies | BC-InfoShare Groups | 25,000 | (2,048) | 2,048 | - | - | 14,152 | 10,849 | - | - | 25,000 | - |
| Bay Area Clean Water Agencies | BC-Laboratory Committee | 5,000 | - | - | - | - | - | - | 2,106 | - | 2,106 | 2,894 |
| Bay Area Clean Water Agencies | BC-Miscellaneous Committee Sup | 106,368 | (33,552) | 33,552 | - | - | 32,959 | 104,894 | - | - | 137,853 | (31,485) |
| Bay Area Clean Water Agencies | LS-Regulatory Support | 2,000 | 1,475 | 525 | - | - | 4,523 | 2,977 | - | - | 7,500 | (5,500) |
| Bay Area Clean Water Agencies | BDO Fund Transfers | - | - | - | - | - | - | - | - | 6,763 | 6,763 | (6,763) |
| Bay Area Clean Water Agencies | LS-Executive Board Support | 2,000 | (1,190) | 1,190 | - | - | 28 | 1,972 | - | - | 2,000 | - |
| Bay Area Clean Water Agencies | CAS-CPSC | 5,000 | - | - | - | - | - | - | 5,000 | - | 5,000 | - |
| Bay Area Clean Water Agencies | CAS-PSI | 500 | - | - | - | - | - | - | 500 | - | 500 | - |
| Bay Area Clean Water Agencies | CAR-BACWA Annual Report | 5,000 | - | - | - | - | - | - | - | - | - | 5,000 |
| Bay Area Clean Water Agencies | CAR-BACWA Website Development/ | 7,820 | - | - | 113 | - | 760 | 740 | 5,899 | - | 7,399 | 421 |
| Bay Area Clean Water Agencies | AS-BACWA Admin Expense | 3,000 | - | - | 652 | - | - | - | 3,867 | - | 3,867 | (867) |
| Bay Area Clean Water Agencies | CAR-Other Communications | 5,199 | - | - | - | - | - | - | 73 | - | 73 | 5,127 |
| Bay Area Clean Water Agencies | SP-BAPPG Contribution | 50,000 | - | - | - | - | - | - | - | 50,000 | 50,000 | - |
| Bay Area Clean Water Agencies | GBS-Contingency | 31,100 | - | - | - | - | - | - | 7,534 | - | 7,534 | 23,566 |
| Bay Area Clean Water Agencies | GBS- Meeting Support | 13,000 | - | - | 145 | 300 | 272 | 728 | 10,968 | 200 | 12,168 | 832 |
| Bay Area Clean Water Agencies | AS-Executive Director | 175,000 | (14,583) | 14,583 | - | - | - | 175,000 | - | - | 175,000 | - |
| Bay Area Clean Water Agencies | AS-Assistant Executive Directo | 75,000 | 60,015 | 19,260 | - | - | 75,705 | 84,070 | - | - | 159,775 | (84,775) |
| Bay Area Clean Water Agencies | AS-EBMUD Administrative Servic | 40,000 | - | - | 2,350 | 3,000 | 17,305 | 22,695 | 5,852 | (3,885) | 41,967 | (1,967) |
| Bay Area Clean Water Agencies | AS-Insurance | 4,000 | - | - | - | - | - | - | 4,321 | - | 4,321 | (321) |
| Bay Area Clean Water Agencies | BDO-CAS-Stanford ERC | 10,000 | - | - | - | - | - | - | 10,000 | - | 10,000 | - |
| Bay Area Clean Water Agencies | CAS-Arleen Navaret Award | 1,000 | - | - | - | - | - | - | - | - | - | 1,000 |
| Bay Area Clean Water Agencies | CAS-FWQC | 5,000 | - | - | - | - | - | - | 5,000 | - | 5,000 | - |
| **BACWA TOTAL** | | **643,539** | **3,906** | **75,392** | **3,260** | **4,150** | **153,194** | **429,367** | **68,711** | **53,928** | **705,200** | **(61,661)** |
| BACWA Training Fund | BDO Fund Transfers | - | - | - | - | - | - | - | - | 248,754 | 248,754 | (248,754) |
| **BACWA TRAINING TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **248,754** | **248,754** | **(248,754)** |
| AIR-Air Issues&Regulation Grp | Administrative Support | 3,900 | - | - | - | - | - | - | - | 3,900 | 3,900 | - |
| AIR-Air Issues&Regulation Grp | BDO Contract Expenses | 74,440 | (15,514) | 15,514 | - | - | - | 96,140 | - | (21,700) | 74,440 | - |
| **AIR TOTAL** | | **78,340** | **(15,514)** | **15,514** | **-** | **-** | **-** | **96,140** | **-** | **(17,800)** | **78,340** | **-** |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Fog | 17,000 | - | - | - | - | - | - | 8,000 | - | 8,000 | 9,000 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Mercury | 2,500 | - | - | - | - | - | - | - | - | - | 2,500 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Pesticides | 10,000 | - | - | - | - | - | - | 10,000 | - | 10,000 | - |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Pharmaceutical | 9,998 | - | - | - | - | - | - | - | - | - | 9,998 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-General P2 | 1,500 | - | - | - | - | - | - | - | - | - | 1,500 |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Emerging Issues | 21,437 | (6,573) | 6,573 | 3,400 | - | 10,393 | 12,605 | 14,073 | - | 37,070 | (15,633) |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Other | 11,500 | - | - | - | - | 1,020 | 5,979 | 3,028 | (3,028) | 6,999 | 4,501 |
| BAPPG-BayAreaPollutnPreventGrp | Administrative Support | 4,275 | - | - | - | - | - | - | - | 4,275 | 4,275 | - |
| BAPPG-BayAreaPollutnPreventGrp | BAPPG-CE-Multi-Pollutant | 19,000 | (2,288) | 2,288 | - | - | 1 | 15,999 | - | - | 16,000 | 3,000 |
| **BAPPG TOTAL** | | **97,210** | **(8,861)** | **8,861** | **3,400** | **-** | **11,413** | **34,583** | **35,100** | **1,247** | **82,344** | **14,867** |

# BACWA Expense Report for June 2014

| DEPARTMENT | EXPENSE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | | YEAR TO DATE | | | | OBLIGATED | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ENC | PV | DA | JV | ENC | PV | DA | JV | | |
| BACWA Legal Reserve Fnd | BDO Fund Transfers | - | - | - | - | - | - | - | - | 4,549 | 4,549 | (4,549) |
| **BACWA LEGAL TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **4,549** | **4,549** | **(4,549)** |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Technical Support | 896,902 | (47,005) | 47,980 | - | 43,200 | 452,906 | 427,772 | - | 43,200 | 923,878 | (26,976) |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Collaborations & Sponso | 30,000 | - | - | - | - | - | - | 30,000 | - | 30,000 | - |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Commun. & Reporting | 6,000 | - | - | 1,806 | - | - | - | 1,806 | - | 1,806 | 4,194 |
| WQA-WtrQualityAttainmntStratgy | WQA-CE-Other | 33,800 | (1,103) | 2,105 | 6,184 | - | 32,219 | 3,783 | 11,184 | - | 47,186 | (13,386) |
| **WQA CBC TOTAL** | | **966,702** | **(48,108)** | **50,085** | **7,990** | **43,200** | **485,125** | **431,555** | **42,990** | **43,200** | **1,002,870** | **(36,168)** |
| BACWA Reserve | - | - | - | - | - | - | - | - | 120,000 | 120,000 | (120,000) | (120,000) |
| **BACWA RESERVE TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **120,000** | **120,000** | **(120,000)** | **(120,000)** |
| WOT - Wtr/Wwtr Operat Training | Administrative Support | 2,500 | - | - | - | - | - | - | - | 2,500 | 2,500 | - |
| WOT - Wtr/Wwtr Operat Training | BDO Contract Expenses | 158,000 | - | - | - | - | - | - | 151,000 | - | 151,000 | 7,000 |
| **WOT TOTAL** | | **160,500** | **-** | **-** | **-** | **-** | **-** | **-** | **151,000** | **2,500** | **153,500** | **7,000** |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Fund Transfers | - | - | - | - | 1,305 | - | - | - | 1,305 | 1,305 | (1,305) |
| Prop84BayAreaIntegRegnlWtrMgmt | Administrative Support | - | (250) | - | - | - | 500 | 500 | 4,011 | - | 5,011 | (5,011) |
| Prop84BayAreaIntegRegnlWtrMgmt | BDO Contract Expenses | - | - | - | - | - | 31,008 | 40,445 | - | - | 71,453 | (71,453) |
| Prop84BayAreaIntegRegnlWtrMgmt | Central Dublin RW Project | - | - | - | - | - | - | - | 1,073,500 | - | 1,073,500 | (1,073,500) |
| Prop84BayAreaIntegRegnlWtrMgmt | Novato North Area Proj. | - | - | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Novato So. Area, Hamilton Fiel | - | - | - | 31,250 | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa St Hospital Stage 1 | - | - | - | - | - | - | - | 31,250 | - | 31,250 | (31,250) |
| Prop84BayAreaIntegRegnlWtrMgmt | Sonoma Valley RWP Stage 1 | - | - | - | - | - | - | - | 593,750 | - | 593,750 | (593,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | Harding Park RWP | - | - | - | - | - | - | - | 2,008,300 | - | 2,008,300 | (2,008,300) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bair Island Restoration | - | - | - | - | - | - | - | 1,201,750 | - | 1,201,750 | (1,201,750) |
| Prop84BayAreaIntegRegnlWtrMgmt | South Bay Salt Pond Habitat Re | - | - | - | 63,250 | - | - | - | 1,265,000 | - | 1,265,000 | (1,265,000) |
| Prop84BayAreaIntegRegnlWtrMgmt | Regional Green Infrastructure | - | - | - | - | - | - | - | 191,776 | - | 191,776 | (191,776) |
| Prop84BayAreaIntegRegnlWtrMgmt | WQ Improve Flood Mgmt & EP | - | - | - | - | - | - | - | - | (197,743) | (197,743) | 197,743 |
| Prop84BayAreaIntegRegnlWtrMgmt | Water Efficient LRP | - | - | - | - | - | - | - | 275,207 | - | 275,207 | (275,207) |
| Prop84BayAreaIntegRegnlWtrMgmt | Bay Friendly Landscape TP | - | - | - | - | - | - | - | 56,287 | - | 56,287 | (56,287) |
| Prop84BayAreaIntegRegnlWtrMgmt | Weather Based Irrigation Cntrl | - | - | - | - | - | - | - | 109,137 | - | 109,137 | (109,137) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UR | - | - | - | - | - | - | - | 1,124,892 | - | 1,124,892 | (1,124,892) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Toilet & UI | - | - | - | - | - | - | - | 1,368,032 | - | 1,368,032 | (1,368,032) |
| Prop84BayAreaIntegRegnlWtrMgmt | High Efficiency Clothes Washrs | - | - | - | - | - | - | - | 1,816,946 | - | 1,816,946 | (1,816,946) |
| Prop84BayAreaIntegRegnlWtrMgmt | Napa Co. Rainwater HP | - | - | - | - | - | - | - | 27,762 | - | 27,762 | (27,762) |
| Prop84BayAreaIntegRegnlWtrMgmt | Conservation Program Admin | - | - | - | - | - | - | - | 83,982 | - | 83,982 | (83,982) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Partnership TA | - | - | - | - | - | - | - | 106,153 | 36,290 | 142,443 | (142,443) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stream Restoration in North BD | - | - | - | - | - | - | - | 30,250 | 149,491 | 179,741 | (179,741) |
| Prop84BayAreaIntegRegnlWtrMgmt | Flood Infrastructure Mapping T | - | - | - | - | - | - | - | 11,871 | 2,047 | 13,918 | (13,918) |
| Prop84BayAreaIntegRegnlWtrMgmt | Stormwater Improvements & PBP | - | - | - | - | - | - | - | 41,615 | - | 41,615 | (41,615) |
| Prop84BayAreaIntegRegnlWtrMgmt | Pescadero Integrated FRAH | - | - | - | - | - | - | - | 84,472 | - | 84,472 | (84,472) |
| Prop84BayAreaIntegRegnlWtrMgmt | Restoration Guidance, San FC | - | - | - | - | - | - | - | 20,407 | - | 20,407 | (20,407) |
| Prop84BayAreaIntegRegnlWtrMgmt | SF Estuary Steelhead MP | - | - | - | - | - | - | - | 150,552 | - | 150,552 | (150,552) |
| Prop84BayAreaIntegRegnlWtrMgmt | Watershed Program Admnstrtn | - | - | - | - | - | - | - | 29,633 | 9,915 | 39,549 | (39,549) |
| **PRP84 TOTAL** | | **-** | **(250)** | **-** | **94,500** | **1,305** | **31,508** | **40,945** | **11,769,035** | **1,305** | **11,842,793** | **(11,842,793)** |

# BACWA Expense Report for June 2014

| DEPARTMENT | EXPENSE TYPE | AMENDED BUDGET | CURRENT PERIOD | | | | YEAR TO DATE | | | | OBLIGATED | UNOBLIGATED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ENC | PV | DA | JV | ENC | PV | DA | JV | | |
| WQA Emergency Resrve Fnd | BDO Fund Transfers | - | - | - | - | - | - | - | - | 406,065 | 406,065 | (406,065) |
| **WQA EMERGENCY TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **406,065** | **406,065** | **(406,065)** |
| WQA Tech Action Fund | BDO Fund Transfers | - | - | - | - | - | - | - | - | 253,791 | 253,791 | (253,791) |
| **WQA TECH TOTAL** | | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **253,791** | **253,791** | **(253,791)** |
| Prop50BayAreaIntegRegnlWtrMgmt | BDO Fund Transfers | - | - | - | - | 456 | - | - | - | 456 | 456 | (456) |
| Prop50BayAreaIntegRegnlWtrMgmt | Administrative Support | - | (525) | - | - | - | 500 | 225 | 52 | - | 777 | (777) |
| Prop50BayAreaIntegRegnlWtrMgmt | BDO Contract Expenses | - | - | - | - | - | 17,553 | 9,225 | - | - | 26,778 | (26,778) |
| Prop50BayAreaIntegRegnlWtrMgmt | Regional Conservation | - | - | - | - | - | - | - | 48,321 | - | 48,321 | (48,321) |
| Prop50BayAreaIntegRegnlWtrMgmt | EBMUD Ca. Waterstar Initiative | - | - | - | - | - | - | - | 7,322 | (7,322) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | EBMUD Richmond RWP | - | - | - | - | - | - | - | 8,448 | (8,448) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | Redwood City RWP | - | - | - | - | - | - | - | 3,285 | - | 3,285 | (3,285) |
| Prop50BayAreaIntegRegnlWtrMgmt | Mt. View-Moffat RWP | - | - | - | - | - | - | - | 5,561 | (5,561) | - | - |
| Prop50BayAreaIntegRegnlWtrMgmt | N. Marin RWP | - | - | - | - | - | - | - | 1,971 | - | 1,971 | (1,971) |
| **PRP50 TOTAL** | | **-** | **(525)** | **-** | **-** | **456** | **18,053** | **9,450** | **74,961** | **(20,875)** | **81,589** | **(81,589)** |

# AIR Committee – Report to BACWA Board

AIR Committee Meeting on: 7/16/14
Executive Board Meeting Date: 8/15/14
Committee Co-Chairs: Nohemy Revilla and Randy Schmidt

**Committee Request for Board Action: None**

**Meeting held at the CH2M HILL office in Oakland.**
**17 attendees, representing 9 member agencies**

**Regulatory Update**

CH2M HILL provided an overview of regulatory issues: http://bacwa.org/Portals/0/Users/142/42/142/2014Jul16-AIR_Mtg_FINAL.pdf. Some key points from the meeting are as follows:

- The Bay Area Air Quality Management District (BAAQMD) is raising permitting fees to recover a greater share of the costs of implementing and enforcing regulatory programs for stationary sources of air pollution:
  - 3% fee increase for new and modified source filing, banking, alternate compliance plans, and permit to operate renewals
  - 2% to 9% fee increases associated with various schedules in Regulation 3

  For more information, see the BAAQMD fee schedule.
- At this time, the BAAQMD does not have any specific feedback on the cross-media issues comment letter we submitted on June 6th. BAAQMD is currently soliciting input and will develop specific responses to all received feedback later this year.
- On June 24th, the Supreme Court issued a ruling on the U.S. Environmental Protection Agency's (USEPA) regulation of greenhouse gases (GHG):
  - Affirmed USEPA's ability to regulate GHG emissions
  - Found key aspects of the GHG Tailoring Rule to be improper

  Specifically, the GHG Tailoring Rule findings were as follows:
  - GHG emissions alone cannot trigger Prevention of Significant Deterioration (PSD) or Title V requirements
  - If criteria pollutant emissions trigger PSD or Title V requirements, USEPA can require a technical evaluation of GHG reduction options
  - On August 8, 2014, USEPA issued guidance that biogenic GHG emissions will not trigger Prevention of Significant Deterioration (PSD) controls or mandatory Title V permits

  David Williams circulated the National Association of Clean Water Agencies (NACWA) alert describing this decision to the BACWA Executive Board.

**FY2015 Plans**

- The BACWA AIR Committee will continue to meet on a bimonthly basis, although this frequency might increase or decrease depending on the urgency of regulatory issues.

**Budget**

- Approximately $2,129 of $77,064 spent through July 11th for FY15

**Upcoming Events:** Sarah Deslauriers, the Program Manager for the California Wastewater Climate Change Group (CWCCG), has agreed to present on developing GHG regulations as they relate to Publicly Owned Treatment Works (POTWs) at our next BACWA AIR Committee meeting, which is scheduled for Wednesday, September 17th at the CH2M HILL office in Oakland.

The AIR annual newsletter will be published and distributed by the end of August.

# Recycled Water Committee – Report to BACWA Board

Recycled Water Committee Meeting on: 8/6/14
Executive Board Meeting Date: 8/15/14
Committee Chair: Cheryl Muñoz

**Committee Request for Board Action: None.**

**15 attendees (incl. 7 on phone) representing 7 BACWA member agencies.**
**Detailed notes from previous meetings are posted online.**

**2014 Prop 84 Drought Relief Regional Application**

ABAG/SFEP, the regional drought relief application lead, submitted the final application package on 7/18/14, which was a few days before the 7/21 deadline. Local project sponsors have already signed contracts with ABAG. The IRWM solicitation schedule is posted here: http://www.water.ca.gov/irwm/grants/docs/Index/Revised-Schedule_060214.pdf

**2014 Water Bond**

The Governor is proposing a $6B water bond for the November ballot which will include the following:

**Regional Water Reliability - $750M**

- Integrated regional water management (with minimum for direct expenditure for disadvantaged communities) $450M.
- Stormwater Capture $200M.
- Water conservation $100M.

**Safe Drinking Water - $400M**

- Provide clean, safe and reliable drinking water to all Californians. With minimum to leverage federal funds for safe drinking water and clean water programs and for disadvantaged communities.
- Small Community Program $200M.
- Public Infrastructure $200M.

**Water Recycling - $450M**

- Statewide water recycling projects and activities.

**Groundwater Sustainability- $450M**

- Prevent and reduce groundwater contaminants.
- Provide sustainable groundwater management support (technical assistance and planning grants for locals).

**Watershed Protection, Watershed Ecosystem Restoration, State Settlements - $1.175B**

- For statewide water-related habitat, flows and water quality in watersheds ($700M) and for state settlement obligations including Central Valley Project Improvement Act ($475M).

**Storage - $2B**

- Continuous appropriation for water storage projects.

**Sacramento-San Joaquin Delta - $475M**

- For Delta levee subvention programs and delta flood protection projects ($300M) and ecosystem restoration and science related to the Delta Plan and Delta Reform Act ($175M).

**Statewide Flood Management - $300M**

- Statewide flood management projects and activities.

**Agency Drought Relief Efforts**

There was a discussion that many of the smaller agencies haven't investigated low hanging fruit in terms of water reuse. For example, there are opportunities for refineries to use municipal recycled water. The committee may consider a joint workshop put on by BACWA and/or WateReuse Northern California Chapter to help agencies find ways to get started.

Several agencies discussed their plans to meet the State's new drought regulations while dealing with permitting backlogs for expanding recycled water distribution. Rhodora Biagtan from DSRSD discussed their municipal reuse program. They have seven fill stations where residents can pick up Title 22 quality recycled water. They have over 200 residents who are licensed to do so. They are starting up a facebook page where residents can share tips on how to interface with the program. Permitted residents also get signs for their lawns saying "irrigated with recycled water". One large advantage of this program is that it increases public acceptance of recycled water. Information is available on the following website: http://www.dsrsd.com/do-business-with-us/recycled-water-use/residential-recycled-water-fill-station.

Permitting - DSRSD initially reached out with the concept to Vlad at CDPH in February and met with him. Vlad discussed the program with the District Engineer, Robert Brownwood, who was agreeable with the concept. DSRSD wrote up the proposed program and submitted documents in early April. CDPH approved it on May 2. Within a month of CDPH approval, they received approval from RWQCB (Blair Allen, May 21).

**Recycled Water Landscape Guide**

The group working on the recycled water landscape guide just finished a draft of the design guidelines to put together landscape irrigation plans. Petaluma, Palo Alto, SFPUC and DSRSD have staff that would be interested in reviewing the design guidelines. The guidelines are suitable for both new construction and retrofits.

Completion date – The deadline has been pushed out to October. After the final document has been distributed, the consultant will be leading seminars around the Bay Area showing how the document could be useful to be both agencies and designers/horticulturalists working with the agencies. These seminars are being paid for with existing project funds.

**Recycled Water to decrease Nutrient Loads**

Besides San Jose, the only other agency in the Bay Area that uses reverse osmosis for recycled water treatment is EBMUD's RARE facility at Chevron (3.5 mgd). However, the industrial process water is also discharged, so there would be no net nutrient removal regardless of treatment process. The SFPUC is implementing the Westside Recycled Water Project, currently undergoing environmental review, that would include recycled water treatment facilities at the Oceanside Water Pollution Control Plant. The goal is to match the current water quality that Golden Gate Park is currently receiving. The treatment train will include RO, mainly due to issues with using the water for lake fill to decrease biostimulation and aquatic toxicity.

DSRSD developed a report on best management practices for irrigating redwood trees with recycled water, and in the future, agencies will have access to the Bay Area recycled water landscape guide.

**Next BACWA Recycled Water Committee Meeting:** September 3, 2014 from 10:00 am to 12:00 pm, 4th Floor Conference Room at EBMUD Headquarters.

# Executive Director's Report to the Board
# August 2014

**NUTRIENTS**:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:
- Attended the 1st meeting of the Steering Committee Governance Workgroup and served as scribe. Following the meeting prepared detailed meeting minutes and summary of action items. Materials delivered to the Steering Committee Facilitator.
-Coordinated the efforts of the CMG in interviewing shortlisted firms for the Optimization/Upgrade Studies. Developed an approach for ranking and selecting the firm for the CMG to begin negotiations.
-Participated in conference calls with the Carollo and the BACWA team planning the Nutrient Watershed Case Studies Symposium. Also discussed the Symposium with Paul Freedman who will be the MC for the event.
-Continued coordination on the in-kind support committed by BACWA for the EBMUD EPA grant for nutrient research
-Coordinated with the Science Manager on providing a LSB Update at the August Board meeting

**BACWA BOARD MEETING:**

-Worked with the AED in preparing for the August BACWA Board agenda including reviewing the agenda with the chair.
-Attended the BACWA July Board meeting and worked with the AED and RPM in preparing the minutes and Action Items.
-Continuing to track all action items to completion.

**ASC/SFEI:**

-Attended the ASC/SFEI Executive Committee to conduct a follow-up interview for the Executive Director positon.

**FINANCE:**

-Conducted discussion with the new and former AED regarding end of year close out and other upcoming activities that need to be undertake to successfully transition to the new FY.
-Coordinated with the EBMUD internal auditor on the audit of the BACWA JPA. Worked with the BACWA attorney to address questions which arose during the audit regarding compliance with the JPA.

**PERMITS COMMITTEE**:

-Attended the monthly Permit Committee meetings. Provided update on all BACWA nutrient related activities, and discussed the status of the consultant selection process, the Watershed Case Study Symposium, Statewide bacterial objectives, toxicity issues, the Vector Control permit, and the Statewide Mercury Program

-Worked with the RPM in preparing and submitting a comment letter on the BDCP which expressed concern about the impact from the Delta on Bay nutrient loading and selenium concentrations.

**RECYCLED WATER COMMITTEE:**

-Coordinated with the chair and AED regarding the request for additional consultant assistance on Recycled Water Committee Activities. Pending Board approval, the remaining funds on the existing contract will be carryforward for Committee support in FY 15.

**COLLABORATION:**

-Coordinated with the CASA ED on topics on mutual interest (i.e. upcoming Annual Conference, State Nutrient objectives, toxicity and potential litigation, and utility leadership committee).
-Participated in the monthly CASA Board conference call.

**ADMINISTRATION:**

-Engaged in frequent discussions with the new AED to help bring her up to speed as quickly as possible.
-Worked with the AED and RPM to prepare a request for quote to provide on-going IT and web site services to BACWA following the loss of the Linde Group as BACWA's IT service provider.
-Signed off on invoices, reviewed correspondence, prepared for upcoming Board meeting, responded to inquiries on BACWA efforts, oversaw updating of web page and provided general direction to BACWA staff.
-Worked with the RPM in the preparation of the monthly BACWA bulletin.
-Coordinated with the new AED to coordinate activities and review duties, schedules, and priorities.
-Resolved contracting issues associated with the "bridge contract" with CCP for Steering Committee facilitation services.

**MISCELLANEOUS MEETINGS/CALLS:**

-Paul Gilbert Snyder on Prop 50 and Prop 84
-BACWA chair and Committee chairs on items that arose during the month
-Water Board staff on coordinating the nutrient activities
-Jim Kelly as the Interim Executive Director of SFEI
-other misc calls and inquiries regarding BACWA activities

# July 18, 2014 BACWA Board Meeting
# Action Items

| ***Number*** | ***Subject (Lead)*** | ***Task*** | ***Deadline*** | ***Status*** |
|---|---|---|---|---|
| 2014.07-01 | Sunnyvale Comment Letter about receiving water monitoring & continuous chlorine monitoring. (RPM) | • Prepare Comment Letter<br>• Discuss at next Joint Meeting with Regional Water Board<br>• Mike Connor will contact Bill Johnson | | Completed |
| 2014.07-02 | Bay Delta Conference Presentation by David Senn (AED) | David Senn will send presentation to BACWA for distribution | Oct., 2014 | Completed |
| 2014.07-03 | Proposed agenda Items for Next Joint BACWA/WB meeting (ED) | Dave will add chlorine monitoring and discussion of Pardee Agenda | August 18, 2014 | Pending |
| 2014.07-04 | BDCP report (RPM) | Lorien will update the letter to express BACWA's concern that the BDCP Project will increase nutrient loading, and get an appropriate citation from Dave Senn | | completed |
| 2014.07-05 | Draft Agenda for Pardee Technical Seminar | Get input from Tom Mumley about his list of items for Pardee. Karin suggested outside fundraising for wastewater initiatives be included as a discussion item. | | Sent to Tom, response pending |
| 2014.07-06 | Tim suggests that the independent studies that are going on should be part of the one-tent concept. | Discuss how to implement that | | Completed, To be discussed at August Board meeting |

## Action Items Remaining from Previous BACWA Executive Board Meetings

| ***Number*** | ***Subject (Lead)*** | ***Task*** | ***Deadline*** | ***Status*** |
|---|---|---|---|---|
| 2014.03-79 | Baywise Website (BAPPG Chair) | Edit baywise.org to indicate that BACWA and BASMAA are sponsors. | 7/1/2014 | pending |
| 2014.05-102 | NACWA Inquiry Regarding Collaboration with Agriculture (ED) | Forward request to Napa and Sonoma agencies and respond to NACWA. | | pending |
| 2014.05-105 | Annual Report (ED) | Produce scaled-down version. | | pending |
| 2014.06-113 | Joint meeting with Air District (ED, Air Comm. Chair) | Set up meeting with senior staff at BAAQMD | 12/31/2014 | pending |

*FY15: 4 of 6 Action Items completed.*
*FY14: 124 of 128 Action Items completed.*
*FY13: 67 of 67 Action Items completed.*

# Board Calendar thru December 2014

*As of Thursday, August 14, 2014 at 8:42 AM*

| DATE | ASSIGNMENT | STATUS NOTES |
|---|---|---|
| 8/18/2014<br>BAAQMD Joint Meeting<br>**Items due: ?**<br><br>Connor; Pagano; Horenstein; Ervin; Bailey<br><br>BAAQMD Executive Officer and Staff<br><br>Williams; Fono | **Other Business: Discussions**<br>Chlorine Monitoring<br>Pardee Agenda | |
| 9/?/2014<br>Joint Meeting<br>**Items due: ?**<br><br>Connor; Pagano; Horenstein; Ervin; Bailey<br><br>Water Board Staff<br><br>Williams; Fono | **Other Business: Discussions** | |
| 9/19/2014<br>Monthly Board Mtg<br>**Items due: 9/12**<br><br>Connor; Pagano; Horenstein; Ervin; Swanson<br><br>Williams; Fono; Hull | **Consent**<br>Previous Board Meeting Minutes (AED)<br>Monthly Treasurer's Report (EBMUD Accounting)<br>**Reports**<br>Committee Reports (Committee Chairs)<br>Board Reports (Executive Board)<br>ED Report (ED)<br>RPM Report (RPM)<br>Chair/ED Authorizations (AED) | *5m*<br><br><br>*40m* |
| | **Other Business: Authorizations**<br>Chair Auth. For Tech Support from Kelly Moran | |
| | **Other Business: Discussions**<br>Pardee Technical Seminar (ED/AED)<br>Quarterly Update from CWCCG (S. Deslauriers)<br>Regulatory Issue Matrix, Updated (RPM)<br>Annual Member Meeting Planning (ED)<br>Optimization/Upgrade Studies Quarterly Update (CMG) | |
| 10/21 – 10/23<br>Pardee Technical Seminar<br>**Items due: 10/15**<br><br>Connor; Pagano; Horenstein; Ervin; Bailey<br><br>Williams; Fono; Gunnell | **Other Business: Discussions**<br>AIR Committee Restructuring | *No Board Actions Permitted* |
| 11/?/2014<br>Joint Meeting | **Other Business: Discussions** | |

| DATE | ASSIGNMENT | STATUS NOTES |
|---|---|---|
| **Items due: ?**<br><br>Connor; Pagano; Horenstein; Ervin; Swanson<br><br>Water Board Staff<br><br>Williams; Fono | | |
| 11/21/2014<br>Monthly Board Mtg<br>**Items due: 11/14**<br><br>Connor; Pagano; Horenstein; Ervin; Bailey<br><br>Williams; Fono; Hull | **Consent**<br>Previous Board Meeting Minutes (AED)<br>Monthly Treasurer's Report (EBMUD Accounting)<br>Annual Audit Report (EBMUD Accounting)<br>**Reports**<br>Committee Reports (Committee Chairs)<br>Board Reports (Executive Board)<br>ED Report (ED)<br>RPM Report (RPM)<br>Chair/ED Authorizations (AED) | *10m*<br><br>*plus previous month (Aug2013) 40m* |
| | **Other Business: Authorizations** | |
| | **Other Business: Discussions**<br>ReNUWIt Update (B. Horenstein/ M. Connor)<br>Annual Member Meeting Planning (ED)<br>Provide the Board an update on the EBMUD EPA Grant for Sidestream Treatment in the Fall | |
| 12/19/2014<br>Monthly Board Mtg<br>**Items due: 12/12**<br><br>Connor; Pagano; Horenstein; Ervin; Bailey<br><br>Williams; Fono; Hull | **Consent**<br>Previous Board Meeting Minutes (AED)<br>Monthly Treasurer's Report (EBMUD Accounting)<br>**Reports**<br>Committee Reports (Committee Chairs)<br>Board Reports (Executive Board)<br>ED Report (ED)<br>RPM Report (RPM)<br>Chair/ED Authorizations (AED) | *5m*<br><br>*40m* |
| | **Other Business: Authorizations** | |
| | **Other Business: Discussions**<br>Quarterly Update from CWCCG (S. Deslauriers)<br>Annual Member Meeting Planning (ED)<br>FY2016 Budget Planning<br>- Info Share Groups: consider bidding contract; update on participation and regular updates to e-mail list in FY15 (M. Barnes)<br>Optimization/Upgrade Studies Quarterly Update (CMG) | |

**CURRENTLY UNSCHEDULED AND SIGNIFICANT**

- Approval of Annual Report FY12 & FY13
- Defining BACWA Priorities/Revisit Strategic Plan
- BACWA Membership Engagement Opportunities
- Tech Seminar/Workshop: CCCSD Cogen explosion, SFPUC force main leak and repair, and BACWA member pilot plants.
- Chlorine Residual Analyzer Investigation
- Suggestions for Monthly Meeting Guest Speakers/Presenters: ie. Jim McGrath, State Water Board; ?
- CEC's (Kelly Moran)
- Strategy Development for Triennial Review (Permits Committee/Board)
- Optimization/Upgrade Studies Quarterly Report to Board(CMG) Mar, Jun, Sept, Dec 2015-2017

- Optimization/Upgrade Studies Biannual Report to Members (CMG/Consultant) Oct, April
- BAAQMD Biannual Joint Meetings (Feb, Aug 2015)

**BOARD COMMITTEES WITH NO MEETINGS CURRENTLY SCHEDULED**

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# Regulatory Program Manager's Report to the Board

**July 18 2014 – August 12 2014**

Prepared for the August 15, 2014 Executive Board Meeting

**NUTRIENT WATERSHED PERMIT SUPPORT:** Attended CMG meeting to discuss interviews for nutrient support contract. Distributed draft interview questions to the CMG. Participated in consultant team interviews and evaluations.

**SFEI CONTRACT OVERSIGHT:** SFEI has not submitted a new invoice in the last month for the FY14 contract. Reviewed the final invoice for FY13, which is now complete.

**NUTRIENT SYMPOSIUM SUPPORT:** Arranged and participated in conference calls. Organized RSVPs.

**RISK REDUCTION:** Contacted Alyce Ujihara at CDPH about their risk reduction proposal to EPA, which is a no-go. Discussed moving forward with risk reduction at the next joint meeting with the Regional Water Board.

**MEMBER TENTATIVE ORDERS:** Drafted comment letter on Sunnyvale's tentative order, requesting that agencies that pay into the RMP should not be required to do additional receiving water monitoring. The letter also commented on the new requirement in Sunnyvale's tentative order to report continuous chlorine monitoring daily maxima from the entire data set, rather than from data collected at the top of each hour.

**BAY-DELTA CONSERVATION PLAN:** Drafted comment letter requesting that a quantitative assessment of downstream impacts of the Bay Delta Conservation Plan be conducted. Specifically, the letter expressed concerned that the Plan will increase loads of selenium and nutrients entering the San Francisco Bay from the Delta and upstream.

**BACWA BULLETIN**: Drafted and distributed August BACWA Bulletin.

**COMMITTEE SUPPORT:** Drafted agenda for Permits Committee meeting. Drafted and posted meeting notes for June Recycled Water meeting, and drafted Recycled Water Board Report. Drafted AIR board report. Continued work on the AIR Committee Annual Newsletter, which will come out later in August.

**OTHER SUPPORT:** Drafted meeting notes from 7/18 Executive Board meeting. Reviewed and edited draft agenda for joint BACWA/RWB meeting on 8/18.

**MEETINGS ATTENDED**: Recycled Water Committee (8/6), Nutrient Support Consultant Interviews (8/7 and 8/11), Nutrient Symposium Telecon (8/9), Permits Committee (8/12).

**SF Bay Nutrient Strategy FY2014 Status (Contract with SFEI)**

Updated 6/27/2014 (June invoice not yet received)

**Total Spent of $675,000** **$308,732.00**

| Task | Description | Upcoming Deliverable | Original Date | Updates |
|---|---|---|---|---|
| 11 | Lower South Bay Synthesis | Draft Report | December 2013 | Expected in July 2014 |
| 4 (FY13) | Suisun Synthesis I | Final Report | December 2013 | Delivered March 2014 |
| 12 | Suisun Synthesis II | Draft Report | April 2014 | Expected in November 2014 |
| 13 | Nutrient Science Plan | Draft Plan | February 2014 | Expected in July 2014 |
| 22 | Moored Sensor Program | Draft Summary | April 2014 | Progress Report expected in June 2014 |
| 23 | Characterizing Phytoplankton Community Composition | Draft Report | April 2014 | Draft findings in July 2014 |
| 24 | Nutrient Monitoring Program Development | Draft Plan | March 2014 | TAG will begin meeting in Q2 2014, Development plan due in June 2014 |
| 3 (FY13) | Conceptual Model of Nutrient Exchange through Golden Gate | Draft Report | July 2013 | Delivered February 2014 |

# PROPOSED WORKPLAN FOR DEVELOPMENT OF A NUTRIENT MANAGEMENT STRATEGY

STEVE CAMACHO, LEAD STAFF
JACOB IVERSEN, STAFF
ZANE POULSON, PROGRAM MANAGER
STATE WATER RESOURCE CONTROL BOARD, BASIN PLANNING AND STANDARDS UNIT



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Contents

## 1.0 Introduction and Purpose of Document

The California State Water Resources Control Board (State Water Board) has initiated the process to address nutrient objectives and a program of implementation for the state's surface waters. Staff envisions that the objectives and program of implementation would be adopted as amendments to the Inland Surface Water, Enclosed Bays and Estuaries Plan. The nutrient amendments could include objectives and implementation strategies to help improve water quality in aquatic habitats by identifying endpoints that describe conditions necessary to protect beneficial uses. Creating nutrient amendments for the state will assist in supporting the Water Boards' Mission to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

The purpose of this document is to: 1) lay out an overarching strategy that will govern the management of nutrients or related biostimulatory conditions in freshwater and estuarine habitats to provide reasonable protection of beneficial uses of these waterbodies and 2) describe the process and technical work elements that the State Water Board will pursue to collect the information it requires to develop an effective approach for implementation of narrative objectives, focusing on wadeable streams in the first phase.

## 2.0 Previous Work on Nutrient Objectives

In 1999 the US EPA Region 9 and the State Water Resources Control Board (SWRCB) began development of nutrient objectives, focused on streams and lakes. Pilot studies were conducted to analyze existing data and explore alternative approaches. Based on these pilot studies, SWRCB staff have favored an approach to establish nutrient objectives known as the Nutrient Numeric Endpoint (NNE) framework. The NNE is comprised of two components. First, it would establish a suite of numeric endpoints based on the ecological response of an aquatic waterbody to nutrient over-enrichment (eutrophication, e.g., algal biomass, dissolved oxygen). Second, models would be used to link the ecological response endpoints to site-specific numeric nutrient targets and other potential management controls. This technical information would be used in the development of one or more approaches to implementation of nutrient narrative objectives to meet the overarching goals of the policy development effort.

**Commented [AL1]:** Are these pilot studies available, and did they include the possibility of controlling other conditions (or the effectiveness of controlling nutrients over these other conditions)?

A conceptual framework describing the NNE framework and review of applicable indicators was completed (Tetra Tech 2006) and recommended regulatory endpoints were proposed for streams and lakes (Tetra Tech 2006, Appendix 1). Spreadsheet models were developed for streams and lakes to serve as scoping tools. It was envisioned that the NNE response endpoints and models would serve as *guidance* to translate *narrative* water quality objectives for nutrients and biostimulatory substances and/or conditions. Draft scoping models were previously developed for lakes and streams by Tetra Tech (2006). For streams, two types of models were included in the Benthic Spreadsheet Model: 1) statistical models based on empirical field data developed by Dodds et al. (1998) for temperate streams in North America and 2) simplified versions of the QUAL2K, an EPA-supported steady state mechanistic model. The standard and revised QUAL2K models in the Benthic Spreadsheet Tool were optimized to the Dodds empirical relationship. For lakes, a scoping model was developed based on a simplified version of the BATHTUB model, a model developed and supported by the Army Corps of Engineers for uses in US lakes and reservoirs. At the time these models were developed, model optimization occurred without the benefit of data from California waterbodies. A substantial dataset on algal and nutrient levels in wadeable streams is now available for many parts of the State. The SWRCB is interested in utilizing these wadeable stream data, if possible, to make additional refinements to the response indicator numeric endpoints and in the associated modeling effort.

Since publication of the conceptual framework and recommended endpoints for streams and lakes, the SWRCB and EPA Region 9 have also funded updates to the science supporting the freshwater NNE (Tetra Tech 2006). The SWRCB has also funded science to support the development of regulatory endpoints for California estuaries (McLaughlin and Sutula 2008, Sutula et al. 2011), including San Francisco Bay (McKee et al. 2011, SFRWQCB 2012). The appropriate use of this new information will be explored in the current nutrient policy development effort.

## 3.0 Guiding Principles

The overarching goal is to develop a regulatory framework that will lead to effective nutrient management decisions and actions to achieve reasonable protection of beneficial uses. The state's effort to create an effective nutrient regulatory framework has several fundamental guiding principles. These include:

1) **The state should develop a policy which encourages effective management strategies that address nutrient pollution and biostimulatory substances and/or conditions (Figure 1).** Nutrient pollution can result in the overproduction of primary producers (e.g. algae and macrophytes) and heterotrophs (e.g. bacteria). This organic matter can have adverse consequences to aquatic life through changes in water and sediment quality as well as changes to the food web. Environmental variables such as hydrology, available light, benthic grazers, temperature, etc. can modify the ecosystem response to nutrients. Anthropogenic activities that alter these environmental variables can in some cases lead to biostimulatory conditions (lead to increased eutrophication) even under low nutrient conditions. Further, nutrient controls may have adverse impacts on beneficial uses. Therefore a policy is needed that addresses nutrient pollution, biostimulatory substances, and/or other conditions (see Figure 1) and provides a framework that creates incentives for effective waterbody/watershed management actions.

2) **The state should develop alternative approaches for implementation of narrative nutrient objectives.** The addition of implementation guidance for narrative objectives provides two important benefits: 1) a framework for consistent quantitative assessments and interpretation; and 2) the potential to trigger enforcement and remedial actions that narrative objectives do not. However, implementation guidance should be linked to reasonable protection of beneficial uses and must be robust to allow different approaches for different types of systems, including unaltered, moderately, and even highly modified waterbodies.

3) **Implementation guidance should have a strong linkage to beneficial use protection**. Depending on waterbody and hydrologic conditions, discharges of nutrients may result in a range of adverse to beneficial impacts to beneficial uses, and these impacts may vary as ecological and environmental conditions change downstream of a nutrient source. Indicators of these ecological responses may provide a more direct link to beneficial uses and are a function of various conditions, including nutrient concentrations. Therefore, the state is considering the option that nutrient narrative objectives may be implemented using a set of numeric endpoints for the biological, physical, and chemical indicators associated with the specific beneficial uses of the waterbody. Models will be needed to establish whether management actions can effectively achieve these endpoints and various conditions, including, but not limited to, nutrient concentrations.

4) **The state should have implementation guidance for all waterbody types.** The State Water Board intends to develop guidance that translates the narrative nutrient objective for all waterbody types.

5) **There should be statewide consistency with regional flexibility**. Statewide consistency is an important component of equity among stakeholders and is therefore crucial for statewide policy development. However, it is well recognized that the state has many different types of aquatic ecosystems, with varying biological characteristics. Therefore, a defensible statewide program must accommodate the unique qualities of different water bodies and ecosystems. Furthermore, our knowledge of the ecology of our waterbodies varies throughout the state, so the refinement of guidance will likely proceed in different ways and at different rates in different regions.

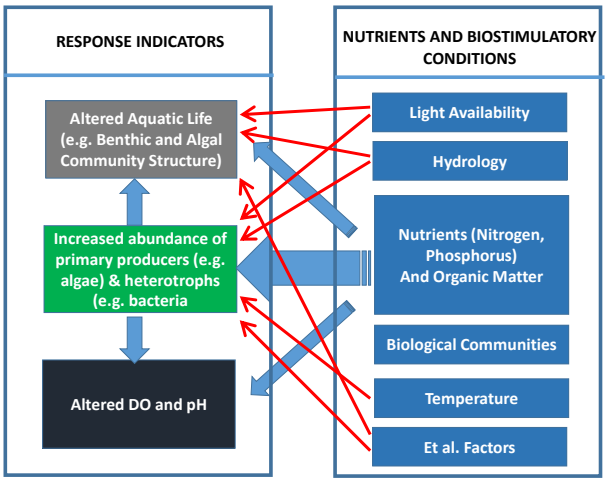


**Figure 1. Conceptual model of symptoms (response indicators; left-hand box) of eutrophication and other adverse effects of nutrient pollution and biostimulatory conditions (right hand box).**

**Formatted:** Font: Bold

**Commented [AL2]:** Comment: The conceptual model shown in this figure should reflect the multiplicity of conditions (blue boxes) that influence the response indicators; we added a few more arrows to suggest that this figure should provide a more comprehensive visual map of potential management options that may be developed as part of this policy.

## 4.0 Strategy to Develop Guidance to Interpret Narrative Nutrient Objectives

California is a large state and has a tremendous number and diversity of water bodies. It is not possible to develop guidance for all water body types in the near-term; it will be necessary to prioritize the adoption for specific waterbody types. Three phases are envisioned for development and adoption of the nutrient policy amendments. The bulk of previous work has been focused on freshwater habitats, specifically wadeable streams. For this reason, State Water Board staff's near-term strategy is to complete development and adoption of nutrient policy amendments to address the following elements by January 2016, hereto referred to as "Phase I":

1) Description of the options and recommended conceptual approach to support the interpretation of narrative guidance applicable to all waterbodies and

2) Specific guidance for wadeable streams.

**Commented [AL3]:** Given the relatively good quality of wadeable streams, as detailed in the SWAMP October 2013 report "Condition of California Perennial Wadeable Streams Based on Algal Indicators", it is not clear that wadeable streams should be the highest priority. This report indicated that over 95% of perennial, wadeable stream kilometers in California were estimated to fall below the 100 mg/m2 threshold in the 2006 Tetra Tech/EPA document.

Work to complete numeric guidance for lakes will be completed pending additional technical work (Phase 2). Technical work supporting development of numeric guidance for California estuaries and non-wadeable rivers will be completed in Phase 3. Strategies and technical workplans are available describing nutrient management strategy and policy development for San Francisco Bay (SFRWQCB 2012) and the rest of the State's estuaries (McLaughlin and Sutula 2008). A workplan governing science to support nutrient policy in the Delta is under development (Chris Foe, Central Valley Regional Water Quality Control Board, personal communication). These nutrient policy efforts for the San Francisco Bay and waterbodies within the legal boundaries of the Sacramento-San Joaquin Delta are not addressed in this workplan.

**Table 1. Approximate schedule for completion of science, amendments development and adoption of guidance supporting nutrient objective implementation for California waterbodies.**

| Type | Science | Regulatory Amendments | |
|---|---|---|---|
| | | Development | Adoption |
| Conceptual Approach[1] | 2014 | 2015 | 2017 |
| Wadeable streams | 2014 | 2015 | 2017 |
| Lakes | 2014-2017 | 2017 | 2018 |
| Estuaries[2] and Non-wadeable streams/rivers | 2014-2018 | 2018 | 2020 |

**Commented [AL4]:** Given that nutrient objectives for the Bay and Delta will be developed in a separate process, we have deleted them from this table to avoid any confusion or misinterpretation.

However, if they are to remain as part of the table, it would be important to clarify that these are inddeed separate and distinct processes.

## 5.0 General Approach for Phase I

There are six basic tasks that have been identified for nutrient objective development for Phase I (Table 2). Some of the tasks are technical and some are not, but taken all together they represent the major milestones necessary for a scientifically-defensible and equitable program.

**Table 2. Summary of tasks and description to complete first phase of nutrient policy development.**

| Number | Task | Description |
|---|---|---|
| **1** | Conceptual Approach, Waterbody Definition and Classification | Provides an overview of conceptual approaches to nutrient objectives, rationale for preferred approach, provides definitions and classification of waterbodies. |
| **2** | Conduct and Synthesize Science to Support Numeric Guidance in Wadeable Streams | Science to support policy decisions on implementation guidance (i.e. selection of abiotic and/or ecological response indicators, numeric endpoints, and use of models to establish effective nutrient management in wadeable streams). |
| **3** | Implementation Plan Development | Defines how nutrient objectives will be achieved and how nutrient policy will be used in regulatory programs such as 303(d) listing, NPDES compliance, 401 certification, etc. |
| **4** | Rulemaking | The legislatively defined public process of developing, adopting, and implementing water quality objectives and policy |
| **5** | Outreach | Actively reaching out to technical, regulatory, regulated, and non-governmental stakeholders to ensure that their ideas, suggestions, and concerns are fully considered |
| **6** | Training, Standardization, and Information Management | Provides sufficient method standardization, data transfer formats, documentation and education for widespread, consistent, effective implementation. |

[1] Applicable to all waterbodies

[2] Excluding the San Francisco Bay and Sacramento-San Joaquin Delta

## 6 Specific Approach for Phase I

### 6.1 Conceptual Approach to Nutrient Objectives, Waterbody Definition and Classification (Task 1)

A strong technical foundation to support policy decisions regarding nutrient objectives has already been drafted (Tetra Tech 2006). This documentation will be updated to describe 1) the environmental problems that may be associated with nutrient pollution and biostimulatory substances that the policy could be crafted to address, 2) a definition and classification of the targeted waterbodies that could be covered under this policy, and 3) description of alternative regulatory approaches and the advantages and disadvantages of the alternatives under consideration by the State Water Board for implementing nutrient objectives. The product of this task will be a technical report.

**Product:** Technical report and related appendices.

### 6.2 Conduct and Synthesize Science to Support Implementation Guidance for Wadeable Streams (Task 2)

The primary goal of this task is to conduct analyses of existing data and synthesize science supporting the development of implementation guidance for California wadeable streams. Documentation will be expanded to: 1) evaluate a wide range of candidate abiotic and ecological response indicators that represent wadeable stream response to nutrient pollution, 2) conduct analyses and summarize published information on candidate indicators of effects on beneficial uses (Comment: The term "beneficial uses" should signify the same concept of beneficial use as in the Basin Plans.) and articulate how these thresholds link to a gradient of biological condition, 3) summarize the distribution of these indicators in various water body types, including minimally disturbed "reference" sites as well as other ambient sites across the State of California, 4) develop models using available data to support the linkage of response indicators to nutrient management and other watershed management options, and 5) identify key technical considerations for how the above technical information may be used in implementation.

At least three existing or completed studies will contribute to this task. (First, the SWAMP program has produced a synthesis of algal abundance indicators in reference and ambient perennial wadeable streams (Fetscher et al. 2013). Second, EPA-ORD has conducted analysis of existing California perennial wadeable stream data to document statistical relationships between nutrients, algal biomass, algal and benthic macroinvertebrate species composition (Fetscher et al., 2014). Third, a sub-set of the analyses conducted by EPA-ORD will be repeated for southern California only, in order to determine whether numeric endpoints vary by ecoregion.

A detailed technical workplan will propose additional analyses of existing data and synthesis to be conducted in order to accomplish this task. Advisory groups will have an opportunity to comment on this technical work plan.

**Product**: 1) Technical workplan, and 2) Technical reports and related appendices.

### 6.3 Implementation Plan Development (Task 3)

The goal of this task is to define how implementation guidance can be used in regulatory programs such as 303(d) listing, TMDLs, NPDES permits, NPS, etc. The linkage between guidance and compliance should be abundantly clear, convincing, and defensible. The State currently has specific guidance for how multiple site/event data should be compiled to make regulatory assessments. For example, there is an implementation policy for the 303(d) listing/delisting program. However, this guidance is based largely on

**Commented [AL5]:** It is not clear what is intended here. Is the idea that some subset of waterbodies would be the focus of the policy—e.g. those where a beneficial use is advsersly impacted? Or is this intended to link the policy to waters with particular designated uses in the Basin Plans?

**Commented [AL6]:** This analysis of approaches should include an assessment of nutrient control as compared to other biostimulatory conditions.

**Commented [AL7]:** Which of these three studies best describes the linkage of indicators to adverse effect on beneficial uses, per item 2 in the paragraph above?

**Commented [AL8]:** Note: Analyses such as these should recognize that there is a difference between the WARM and COLD aquatic life uses, and consider them independently.

**Commented [AL9]:** Did this study look at data for other biostimulatory conditions too and their relationship? if so, this fact should be mentioned. If not, and if the data is available, it may make sense to augment the evaluation.

existing chemical objectives and there is general agreement that the listing policy needs to be updated to work with sediment quality and biological objectives. This task necessitates working with stakeholders, regulators, and external Science Panel members to solicit their feedback on specific elements of the implementation guidance for narrative nutrient objectives which may utilize response indicators for assessment. Topics such as how many sites are needed per waterbody, how many sample events should be assessed over what period of time, the precision or error inherent in the stressor response models, what the attainable endpoints are for specific water bodies, and the nature of the impact on beneficial uses should all be considered in the implementation guidance.

**Commented [AL10]:** The biological integrity process is no longer an "objective" seeking effort. To the extent that changes the need to "update the listing policy" and reflect the new approach to biological integrity, that should be noted here.

**Commented [AL11]:** The question of "how large the magnitude of impairment" can be acceptable should require some scientific input, though this Task 3 appears to be mainly regulatory. Different degrees of degradation may be acceptable depending on the nature of the beneficial uses for the specific waterbody, therefore some of this discussion as it applies to wadeable streams should take place at the "conduct and synthesize science" stage prior to entering Task 3.

**Product**: Implementation guidance to accompany the draft nutrient amendments that includes draft language for 303(d) listing, NPDES permit compliance, NPS, and TMDLs.

### 6.4 Rulemaking (Task 4)

The goal of this task is to follow the legislatively defined public process of developing, adopting, and implementing objectives as described in the Water code. We contemplate documents such as a detailed Staff Report and proposed amendments to the State Water Board's Inland Surface Waters Plan. This task will also include public dissemination, review, and response process such as public workshops, response to comments, informational meeting presentations, State Water Board briefings, and a California Environmental Quality Assessment (CEQA) document, or equivalent, including a discussion of the factors that must be considered when establishing water quality objectives, the program of implementation for attainment of objectives, and various other considerations.

**Product**: Proposed amendment language, staff report and CEQA documentation with a full and complete administrative record for state and federal approval.

### 6.5 Outreach (Task 5)

Outreach will be conducted in accordance with the State Water Boards Public Participation Plan. The goal of this task is to actively reach out to technical, regulatory, regulated, and nongovernmental stakeholders to ensure that their ideas, suggestions, and concerns are fully considered. This task covers three important areas. First, stakeholders need to know about the development of any new objective or policy. Transparency is imperative for a successful process. Second, it is important that the Water Boards give all parties a reasonable and fair opportunity to voice their opinions about the relative merits and preferences regarding alternative approach(es). Third, the technical aspects of the objectives should receive an independent and rigorous technical review to ensure scientific integrity. The intent is that this technical review be ongoing through the program and will not replace the final peer review during amendment development. This task will require the creation of three different committees. These include: 1) Stakeholder Advisory Group: the primary committee that responds to early ideas and concepts, provides recommendations on project development, technical workplan and scope of scientific work, policy implementation, and serves as one of the vehicles for public outreach. Anyone can join the group, but representatives will be chosen to represent different sectors of the community such as regulated dischargers (i.e., wastewater, storm water, industrial, etc.), non-governmental organizations or environmental advocacy groups, other vested parties as needed and interested. 2) Regulatory Advisory Group: the primary committee that responds to regulatory specific issues such as elements of the Implementation Plan development including compliance/enforcement. Members may include staff from any of the nine Regional Water Boards, staff from each of the major programs at the State Water Board, other state resource agencies such as Fish and Wildlife, and federal agencies such as the USEPA and/or Fish and Wildlife Service. 3) Science Panel: comprised of independent science experts charged with review

**Commented [AL12]:** It is important that the Stakeholder Advisory Group be given an opportunity to provide meaningful input on both regulatory and scientific issues.

of all technical aspects of the policy development. The process, desired attributes and candidates for the Panel will be vetted by the two advisory groups. This three-committee system, if started early in the process, will provide tremendous value in terms of communication and policy-building, creating fair and equitable approaches and policy alternatives, and minimizing potential road blocks at the end of the policy development process.

A regulatory advisory group for nutrient policy and objectives (the State and Regional Technical Advisory Group or STRTAG, now renamed as the Regulatory Advisory Group (RAG)) exists. A similar three-committee system has already been established for the creation of estuarine nutrient objectives. The state will consider how to expand or reform these committees to achieve the intended goal.

**Products**: 1) A Stakeholder Management Plan prepared in accordance with State Water Board public participation guidelines, 2) Creation/reformation and facilitation of three Advisory Groups; Scientific, Stakeholder, and Regulatory, and 3) Meeting agendas, presentation materials and reports related to the convening of these groups.

### 6.6 Training, Standardization, and Information Management (Task 6)

Once nutrient policy and narrative objective implementation guidance are promulgated by the state, there must be clear and concise guidance to stakeholders on how to collect data with prescribed levels of quality assurance, how to interpret data, how the data will be used in the regulatory framework, and what to do if one fails to meet requirements. To ensure narrative nutrient objectives are applied appropriately, standardization of monitoring must be achieved. This task will require development of Methods Manuals, Standard Operating Procedures, and Quality Assurance Plans as needed to ensure that this standardization occurs. Also needed are standardized data transfer formats for incorporation of nutrient assessment data into SWAMP.

Significant progress in the area of methods standardization for bioassessment of wadeable streams has already been achieved, with a direct benefit for application of nutrient objectives in wadeable streams. Methods Manuals for stream algae and physical habitat measurements and a Quality Assurance Project Plan for chemistry sampling currently exist (http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads). A series of training workshops have been conducted on the SWAMP Stream Algal SOP and should be expanded. As with Bio-objectives, the State Water Board has a Training Academy that could serve as the platform for implementing the training.

**Products:** Methods Manuals/SOPs, standardized data transfer formats, training curriculum, training events for wadeable stream sampling in various regions of the state.

## 7.0 Schedule

**Table 2. Approximate schedule for completion of Phase I tasks.**

| Number | Task | Description | Targeted Date for Completion |
|---|---|---|---|
| **1** | Conceptual Approach, Waterbody Definition and Classification | Provides an overview of conceptual approaches to nutrient policy and objectives, rationale for preferred approach, provides definitions and classification of waterbodies. | 2015 |
| **2** | Conduct and Synthesize Science to Support Nutrient Objectives | Science to support policy decisions on selection of abiotic and/or ecological response indicators, numeric endpoints, and use of models to establish linkage to nutrient management. | 2015 |
| **3** | Implementation Plan Development | Defines how nutrient narrative objectives will be achieved and will be used in regulatory programs such as 303(d) listing, NPDES compliance, 401 certification, etc. | Staff report by 2016 |
| **4** | Rulemaking | The legislatively defined public process of developing, adopting, and implementing objectives | 2017 |
| **5** | Outreach | Actively reaching out to technical, regulatory, regulated, and non-governmental stakeholders to ensure that their ideas, suggestions, and concerns are fully considered | Ongoing throughout 3 yr period |
| **6** | Training, Standardization, and Information Management | Provides sufficient method standardization, documentation, standard data transfer formats, and education for widespread, consistent, effective implementation. | 2016 |

## 8.0 References

Fetscher AE, MA Sutula, LB Busse, ED Stein. 2013. Condition of California perennial wadeable streams based on algal indicators. 2013. Technical Report 0781. Southern California Coastal Water Research Project. Costa Mesa, CA. www.sccwrp.org

Fetscher AE, MA Sutula, A Sengupta, N. Detebeck. 2014. Improving Tools to Link Nutrients to Adverse Effects on Stream Ecosystem Services in California. EPA ORD Draft Technical Report. In Review

McKee L., M. Sutula, A. Gilbreath, J Beagle, D Gluchowski, 2011 Numeric Nutrient Endpoint Development for San Francisco Bay Estuary: Literature Review and Data Gaps Analysis. Technical Report 644. Southern California Coastal Water Research Project. Costa Mesa, CA.

McLaughlin K. and Sutula M. 2008. Developing nutrient numeric endpoints and TMDL tools for California estuaries: An implementation plan. Southern California Coastal Water Research Project and TetraTech Inc., Costa Mesa CA. SCCWRP Technical Report No. 540, www.scccwrp.org

SFRWQCB 2012. San Francisco Bay Nutrient Management Strategy. San Francisco Regional Water Quality Control Board http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/amendments/estuarineNNE/Nutrient_Strategy%20November%202012.pdf

Sutula M. 2011. Review of Indicators for Development of Nutrient Numeric Endpoints in California Estuaries. SCCWRP Technical Report No. 646. June 2011.

Tetra Tech. 2006. Technical Approach to Develop Nutrient Numeric Endpoints for California. Tetra Tech, Inc. http://rd.tetratech.com/epa/Documents/CA_NNE_July_Final.pdf

US EPA 2010. Using Stressor-response Relationships to Derive Numeric Nutrient Criteria. EPA-820-S-10-001.

| Area | Name | Rank (1 High to 4 lowest) | Links |
|---|---|---|---|
| Aquatic ecology, nutrient bio-geochemistry and management of eutrophication in ESTUARIES | Walter Boynton, Professor<br><br>University of Maryland | **None** | http://www.umces.edu/cbl/people/wboynton<br><br>http://www.gonzo.cbl.umces.edu/ |
| | Ivan Valiela, Professor, Boston University | **None** | http://people.bu.edu/valiela/index.html |
| | Robert Twilley, Professor, Louisiana State University | **None** | http://www.sce.lsu.edu/index.php/people1/faculty/robert-r-twilley/ |
| | Robert Diaz, Professor, Virginia Institute of Marine Science | **None** | http://www.vims.edu/people/diaz_rj/ |
| Aquatic ecology, nutrient bio-geochemistry and management of eutrophication in FRESHWATER HABITATS | Walter Dodd, Professor, Kansas State University | **Strong Concern** | http://www.k-state.edu/doddslab/Dodds%20CV.pdf |
| | Judith Meyer, Professor, University of Georgia | **SUPPORT** | http://www.ecology.uga.edu/facultyMember.php?Meyer-45/ |
| | Robert (Jan) Stevenson, Professor, Michigan State University | **None** | http://scholars.opb.msu.edu/expert.asp?n=Robert+Jan+Stevenson&u_id=2387&o_id=65 |
| | Stephen Carpenter, Professor, University of Wisconsin | **None** | http://limnology.wisc.edu/personnel/carpenter/ |
| | Michael Brett, University of Washington | **SUPPORT** | See biosketch and links in 07/02/14 email |
| Water quality computer simulation modeling, statistical stress-response models | Ken Reckhow, Professor Emeritus, Duke University | **SUPPORT** | http://fds.duke.edu/db/Nicholas/esp/faculty/reckhow |
| | Dominic DiToro, Professor, University of Delaware | **None** | http://www.ce.udel.edu/faculty/ditoro/ |
| | Stephen Chapra, Professor, Tufts University | **SUPPORT** | http://engineering.tufts.edu/cee/people/chapra/ |
| | Don Scavia, Professor, University of Michigan | **None** | http://graham.umich.edu/scavia/ |

| | | | |
|---|---|---|---|
| | Michigan | | |
| Implementation of Nutrient Management Measures | Richard Batiuk, Assistant Director, Chesapeake Bay Program | **Strong Concern** | Institution:<br>http://www.epa.gov/chesapeakebaytmdl/ |
| | Holly Greening, Executive Director, Tampa Bay Estuary Program | **None** | Institution<br>http://www.tbep.org/ |
| | Paul Stacey, Connecticut Department of Environmental Protection | **SUPPORT** | See biosketch (appendix 1) |
| | Donald Boesch, President, University of Maryland Center for Environmental Science | **None** | http://www.umces.edu/people/president |
| | David Stensel, University of Washington, WERF Nutrient Challenge Program | **SUPPORT** | See biosketch and links in 07/02/14 email |

# BACWA EXECUTIVE BOARD ACTION REQUEST

**AGENDA NO.:** 8

**FILE NO.:** 13,365

**MEETING DATE:** August 15, 2014

**TITLE: Modification of Scope of Work for Whitley Burchett**

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

## RECOMMENDED ACTION

The purpose of the scope modification to Whitley Burchett & Associates (WBA) existing agreement is to re-allocate the remaining funds to fund two new tasks. The first new task is to support the BACWA Recycled Water Committee with a Recycled Water Fill Facility Survey; the second new task is general consultant committee support for recycled water regulatory and drought-related issues.

## SUMMARY

***Summary of WBA Authorizations***

| Authorization | Term | Budget |
|---|---|---|
| BACWA Professional Services Contract, 8/1/2012 | Aug. 1, 2012 - June 30, 2013 | $49,906 |
| Amendment No. 1 Term Extension 6/27/2013 | Aug. 1, 2012 - June 30, 2014 | No Change |
| Amendment No. 2 Term Extension and Tasks 5 and 6 added | Aug. 1, 2012 - June 30, 2015 | No Change |
| *Proposed Amendment No. 3 Task 7 and 8 Added* | *Aug. 1, 2012 - June 30, 2015* | *No Change* |

## FISCAL IMPACT

Funds are available under the original contract to fund the Amendment. No additional funds are requested

## ALTERNATIVES

The Alternative is not to approve the additional tasks which would result in the fill station summary not being prepared and not having technical assistance in responding to drought related issues. This is not recommended due to the high priority of helping address drought issues.

*Attachments*:

1. WBA Contract Amendment No. 3, including proposed new Scope of Work.

**BAY AREA CLEAN WATER**
**CHART OF ACCOUNTS**

**BACWA MMIS**

| | | | | | PROPOSED | | | PROPOSED | | | | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ACCT | FUND | NEW | NEW ORG DESCR | PROGRAM | PROG DESCR | SUBPROG | SUBPROG DESCR | SUBPROG |
| ***REVENUES & FUNDING*** | **FY 2014 - 2015 Budget Approved** | **FY 2014 - 2015 Budget Amended** | | | | | | | | | |
| Principals' Contributions | 459,000 | | 4686 | BDO | 800 | Bay Area Clean Water Agencies | 9200 | BDO-Member Contributions | 211099 | BDO-Member Contributions | 1011099 |
| Associate & Affiliate Contributions | 162,180 | 6,120 | 4690 | BDO | 800 | Bay Area Clean Water Agencies | 9200 | BDO-Member Contributions | 211133 | BDO-Assoc.&Affiliate Contribution | 1011133 |
| Other Receipts | 0 | 41,354 | 4696 | BDO | 800 | Bay Area Clean Water Agencies | 9202 | BDO-Other Receipts | 211108 | BDO-Other Receipts | 1011108 |
| Fund Transfer | 6,500 | | 4687 | BDO | 800 | Bay Area Clean Water Agencies | 9203 | BDO-Fund Transfers | 211109 | BDO-Fund Transfers | 1011109 |
| Interest Income | 4,000 | | 4411 | BDO | 800 | Bay Area Clean Water Agencies | 9204 | BDO-Interest Income | 211117 | BDO-Interest Income | 1011117 |
| **Total** | **624,000** | | | | | | | | | | |
| | | | | | | | | | | | |
| ***PROJECT ELEMENTS*** | | | | | | | | | | | |
| **BACWA Committees** | | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | 9210 | BDO-Committees | | | |
| Collections System | 26,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211097 | BC-Collections System | 1011097 |
| Permit Committee | 1,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211098 | BC-Permit Committee | 1011098 |
| Water Recycling Committee | 1,000 | 7,365 | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211100 | BC-Water Recycling Committee | 1011100 |
| Biosolids Committee | 5,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211101 | BC-Biosolids Committee | 1011101 |
| InfoShare Groups | 12,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211102 | BC-InfoShare Groups | 1011102 |
| Laboratory Committee | 7,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211103 | BC-Laboratory Committee | 1011103 |
| Pretreatment Committee | 1,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | | BC-Pretreatment Committee | |
| BAPPG | 81,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | | BC-BAPPG | |
| Miscellaneous Committee Suppor | 0 | 28,064 | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211104 | BC-Miscellaneous Committee Sup | 1011104 |
| **Legal Support** | | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | 9212 | BDO-Legal Support | | | |
| Regulatory Support | 2,000 | 2,475 | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211107 | LS-Regulatory Support | 1011107 |
| Executive Board Support | 2,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211110 | LS-Executive Board Support | 1011110 |
| **Collaboratives and Sponsorships** | | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | 9213 | BDO-Collaboratives and Sponsorships | | | |
| State of the Estuary | 20,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211112 | CAS-PSSEP | 1011112 |
| CPSC | 5,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211113 | CAS-CPSC | 1011113 |
| PSI | 500 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211114 | CAS-PSI | 1011114 |
| Stanford ERC | 10,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211969 | CAS-STERC | 1011969 |
| Arleen Navarret Award | 0 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 212201 | CAS-A Navarret | 1012201 |
| FWQC | 5,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 212202 | CAS-FWQC | 1012202 |
| CWCCG | 25,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | | CAS-CWCCG | |
| **Communications and Reporting** | | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | 9214 | BDO-Communications and Reporting | | | |
| Annual Report | 1,000 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211115 | CAR-BACWA Annual Report | 1011115 |
| Website Development/Maintenanc | 8,300 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211116 | CAR-BACWA Website Development/ | 1011116 |
| Other Communications | 200 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211119 | CAR-Other Communications | 1011119 |
| **General BACWA Support** | | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | 9216 | BDO-General Support | | | |
| Contingency | 0 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211121 | GBS-Contingency | 1011121 |
| Meeting Support | 15,600 | | 6231 | BDO | 800 | Bay Area Clean Water Agencies | | | 211122 | GBS-Meeting Support | 1011122 |
| | | | | | | Bay Area Clean Water Agencies | | | | | |
| **Administrative Support** | | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | 9217 | BDO-Administrative Expenses | | | |
| Executive Director | 178,500 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | 211123 | AS-Executive Director | 1011123 |
| Assistant Executive Director | 76,500 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | 211124 | AS-Assistant Executive Directo | 1011124 |
| Regulatory Program Manager | 120,000 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | | AS-Regulatory Program Mananger | |
| EBMUD Financial Service & Aud | 40,000 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | 211125 | AS-EBMUD Financial Services | 1011125 |
| Administrative Expenses | 5,500 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | 211118 | AS-BACWA Admin Expense | 1011118 |
| Insurance | 4,500 | | 6241 | BDO | 800 | Bay Area Clean Water Agencies | | | 211126 | AS-Insurance | 1011126 |
| **PROJECT TOTALS** | **653,600** | | | | | | | | | | |
| **BALANCE** | | | | | | | | | | | |
| BACWA Legal Reserve Fund | 0 | | 4687 | BDO | 804 | BACWA Legal Reserve Fund | 9203 | BDO-Fund Transfers | 211109 | BDO-Fund Transfers | 1011109 |
| BACWA Operating Reserve Fund | 0 | | 4687 | BDO | 806 | BACWA Operating Reserve Fund | 9203 | BDO-Fund Transfers | 211109 | BDO-Fund Transfers | 1011109 |
| CBC Operating Reserve Fund | 0 | | 4687 | BDO | 814 | CBC Operating Reserve Fund | 9203 | BDO-Fund Transfers | 211109 | BDO-Fund Transfers | 1011109 |
| CBC Contributions | 675,000 | | 4686 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | 9200 | BDO-Member Contributions | 211099 | BDO-Member Contributions | 1011099 |
| CBC Other Receipts | 300,000 | 327,369 | 4696 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | 9202 | BDO-Other Receipts | 211108 | BDO-Other Receipts | 1011108 |
| CBC Interest/ Misc | 0 | | 4411 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | 9204 | BDO-Interest Income | 211117 | BDO-Interest Income | 1011117 |
| CBC Contract Expenses | | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | 9218 | BDO-Contract Expenses | | | |
| Technical Support | 50,000 | 327,369 | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211127 | WQA-CE-Technical Support | 1011127 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Collaborations & Sponsorships | 0 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211128 | WQA-CE-Collaborations & Sponsorships | 1011128 |
| Trainings | 0 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211129 | WQA-CE-Trainings | 1011129 |
| Commun. & Reporting | 21,000 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211130 | WQA-CE-Commun. & Reporting | 1011130 |
| Program Management | 0 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211131 | WQA-CE-Program Mgmt | 1011131 |
| Nutrient WS Permit Commitmen | 880,000 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | | WQA-CE-Nutrient WS Permit Commitment | |
| Nutrient Tech Support | 450,000 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | | WQA-CE-Nutrient Tech Support | |
| Risk Reduction | 15,000 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | | WQA-CE Risk Reduction | |
| Other | 0 | | 6231 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | | | 211132 | WQA-CE-Other | 1011132 |
| CBC Administrative Expenses | 0 | | 6241 | BDO | 805 | Clean Bay Collaborative (formerly WQAS) | 9217 | BDO-Administrative Expenses | 211142 | BDO-Administrative Expenses | 1011142 |
| CBC Balance | - | | | | | | | | | | |
| AIR Contributions | 81,120 | | 4686 | BDO | 802 | AIR - Air Issues and Regulation Group | 9200 | BDO-Member Contributions | 211099 | BDO-Member Contributions | 1011099 |
| AIR Other Receipts | 0 | | 4696 | BDO | 802 | AIR - Air Issues and Regulation Group | 9202 | BDO-Other Receipts | 211108 | BDO-Other Receipts | 1011108 |
| AIR Interest/Misc | 0 | | 4411 | BDO | 802 | AIR - Air Issues and Regulation Group | 9204 | BDO-Interest Income | 211117 | BDO-Interest Income | 1011117 |
| AIR Contract Expenses | 77,064 | | 6231 | BDO | 802 | AIR - Air Issues and Regulation Group | 9218 | BDO-Contract Expenses | 211143 | BDO-Contract Expenses | 1011143 |
| AIR Administrative Expenses | 4,056 | | 6241 | BDO | 802 | AIR - Air Issues and Regulation Group | 9217 | BDO-Administrative Expenses | 211142 | BDO-Administrative Expenses | 1011142 |
| Air Balance | | | | | | | | | | | |
| BAPPG Contract Expenses | 0 | | 6231 | BDO | 803 | BAPPG - Bay Area Pollution Prevention Group | 9218 | BDO-Contract Expenses | | | |
| Emerging Issues | 0 | 8,044 | 6231 | BDO | 803 | BAPPG - Bay Area Pollution Prevention Group | | | 211140 | BAPPG-CE-Emerging Issues | 1011140 |
| BAPPG Balance | | | | | | | | | | | |
| Prop50 Contributions | | | 4686 | BDO | 815 | Prop50/ Bay Area Integrated Regional Water Manageme | 9200 | BDO-Member Contributions | 211099 | BDO-Member Contributions | 1011099 |
| Prop50 Other Receipts | | | 4696 | BDO | 815 | Prop50/ Bay Area Integrated Regional Water Manageme | 9202 | BDO-Other Receipts | 211108 | BDO-Other Receipts | 1011108 |
| Prop50 Interest/Misc | | | 4411 | BDO | 815 | Prop50/ Bay Area Integrated Regional Water Manageme | 9204 | BDO-Interest Income | 211117 | BDO-Interest Income | 1011117 |
| Prop50 Contract Expenses | | | 6231 | BDO | 815 | Prop50/ Bay Area Integrated Regional Water Manageme | 9218 | BDO-Contract Expenses | 211143 | BDO-Contract Expenses | 1011143 |
| Prop50 Administrative Expenses | | | 6241 | BDO | 815 | Prop50/ Bay Area Integrated Regional Water Manageme | 9217 | BDO-Administrative Expenses | 211142 | BDO-Administrative Expenses | 1011142 |
| Prop50 Balance | | | | | | | | | | | |
| WOT Contributions | | | 4686 | BDO | 810 | WOT - Water/Wastewater Operator Training | 9200 | BDO-Member Contributions | 211099 | BDO-Member Contributions | 1011099 |
| WOT Other Receipts | | | 4687 | BDO | 810 | WOT - Water/Wastewater Operator Training | 9202 | BDO-Other Receipts | 211108 | BDO-Other Receipts | 1011108 |
| WOT Interest/Misc | | | 4411 | BDO | 810 | WOT - Water/Wastewater Operator Training | 9204 | BDO-Interest Income | 211117 | BDO-Interest Income | 1011117 |
| WOT Contract Expenses | | | 6231 | BDO | 810 | WOT - Water/Wastewater Operator Training | 9218 | BDO-Contract Expenses | 211143 | BDO-Contract Expenses | 1011143 |
| WOT Administrative Expenses | | | 6241 | BDO | 810 | WOT - Water/Wastewater Operator Training | 9217 | BDO-Administrative Expenses | 211142 | BDO-Administrative Expenses | 1011142 |
| WOT Balance | | | | | | | | | | | |

CARRY FORWARDS FROM FY14 TO FY15

BACWA COMMITTEES – WATER REYCYCLING COMMITTEE & MISCELLANEOUS COMMITTEE SUPPORT

**Whitley Burchett:** $7,365 & $28,064. Scope Adjustment - The purpose of the scope adjustment to Whitley Burchett & Associates (WBA) existing agreement is to re-allocate a portion of the funds remaining in the WBA existing contract to fund two new tasks to support the BACWA Recycled Water Committee with the preparation of a Bay Area Prop 84 Round 3 Sub-regional Concept Submittal, and the 2014 Drought Solicitation Pre-Application effort. The BACWA agencies would benefit from having consultant support with the Prop 84 proposal preparation for recycled water projects.

LEGAL SUPPORT – REGULATORY SUPPORT

**Downey Brand:** $2,475. On April 12, 2014 the BACWA Executive Director approved Amendment 1 to the fiscal year 2013-2014 Downey Brand agreement, File 12,970 to increase the contract value from $2,000 to $2,500 to allow for continued regulatory legal support beyond the $2,000 that had been expended as of January 2014. At this time the additional $500 has been utilized and continued support from Downey Brand is needed to support BACWA's regulatory efforts through June 30, 2014. Additionally, the Fiscal Year 2014-15 (FY15) BACWA budget, approved by the BACWA Executive Board on April 18, 2014, included a $2,000 line item for regulatory legal counsel services. This agreement with Downey Brand would provide regulatory legal support for BACWA for the remainder of FY14 and for FY15.

CBC

**SFEI:** $327,369. Two contracts; to extend the contract termination date to June 30, 2015 (based on remaining encumbrance less accruals).

AIR BALANCE – BAPPG – EMERGING ISSUES

**O'Rorke:** $8,044. BAPPG Social Marketing Assistance, new termination date of December 31, 2014. Existing contract that will enable the completion projects that were initiated to implement the Fiscal Year 2014 BACWA Budget and Workplan**.**

**BACWA**

**San Francisco Bay Nutrients Symposium Series**

**Symposium #2**

**"Watershed Nutrient Management Case Studies "**

October 6, 2014

8:00 am to 4:00 pm

Elihu M. Harris State Office Building Auditorium

1515 Clay Street, Oakland, CA. 94612

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**Case Study Watershed Presentations:**

1. Chesapeake Bay
2. Long Island Sound
3. Tampa Bay
4. Neuse River/Pamlico Sound
5. Saginaw Bay/Lake Huron
6. Truckee River/Pyramid Lake

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**Continental Breakfast** (30 min – 8:00 am to 8:30 am)

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**8:30 am – Opening Remarks and Perspective** (5 min – Dave Williams, BACWA Executive Director).

**Symposium Overview and "The Watershed Perspective"** (25 min – Moderator Dr. Paul Freedman, LimnoTech, Inc.).

**9:00 am: Case Study 1 - Chesapeake Bay Watershed**

1. The Chesapeake Bay Story 35 min – Rich Batiuk, P.E., US EPA).
2. POTW Response to the Chesapeake Bay Challenge (35 min. – Dr. Charles Bott, P.E., Hampton Roads Sanitation District).

***10:10 am <Morning Networking Break>*** *- 30 min*

**10:40 am: Case Study 2 – Long Island Sound Watershed**

3. Past, present, and future of the Long Island Watershed Management Program (35 min – Paul Stacey, New Hampshire Fish & Game).

**11:15 am: Case Study 3 – Tampa Bay Watershed**

4. Tampa Bay Watershed Program (35 min. – Ed Sherwood, Tampa Bay Estuary Program).

**Panel Discussion:** (40 min. – Freedman, Batiuk, Bott, Stacey, Sherwood).

***12:30 pm < LUNCH>*** *– 30 min*

**1:00 pm: Case Study 4 – Neuse River Watershed** (1:00 pm to 1:30 pm)

5. Overview of the Neuse River Watershed Program (30 min. - Dr. Kenneth Reckhow, P.E., Duke University).

**1:30 pm: Case Study 5 – Saginaw Bay/Lake Huron Watershed**

6. Saginaw Bay Watershed Program (30 min – Dr. David Dilks, LimnoTech).

**2:00 pm: Case Study 6– Truckee River Watershed and TMDL Program**

7. The Truckee River Watershed Assessment and TMDL/Trading Program (30 min – Laura Weintraub, LimnoTech).

***2:30 pm <Afternoon Networking Break>*** *- 30 min*

**3:00 pm – Panel Discussion – Summary of "The Watershed Approach to Water Quality Management"** (3:00 pm to 3:50 pm)

Panel discussion format on the major themes and issues common to the various case studies, and their application to the San Francisco Bay nutrient initiative.

Panel Moderator: Dr. Paul Freedman

- Chesapeake – Rich Batiuk, Dr. Charles Bott
- Long Island – Paul Stacey
- Neuse River – Dr. Kenneth Reckhow
- Tampa Bay – Ed Sherwood
- Saginaw Bay – Dr. David Dilks
- Truckee River – Laura Weintraub

**Closing Comments** (10 min – Dave Williams)

**BACWA**
**San Francisco Bay Nutrients Symposium Series**
**Symposium #2**
**"Watershed Nutrient Management Case Studies"**
**Speakers**
**TENTATIVE**

August 5, 2014

1. Dr. Paul Freedman, PE, BCEE, F ASCE, F WEF (**Symposium Moderator/Overview Presentation)**
    a. President and CEO, LimnoTech
    b. (734) 332-1200 work
    c. (734) 646-0521 cell
    d. pfreedman@limno.com

2. Dr. Kenneth Reckhow, PE (Topic: **Neuse River Basin (Pamlico Sound) Watershed Model/TMDL**)
    a. Duke University
    b. (919) 423-0096
    c. Reckhow@duke.edu

3. Dr. David Dilks, PE (Topic: **Lake Huron/Saginaw Bay**)
    a. Chief WQ & Watershed Modeler, LimnoTech
    b. (919) 423-0096
    c. ddilks@limno.com

4. Dr. Charles Bott, P.E. (**Chesapeake Bay**: POTW Perspective)
    a. Hampton Roads Sanitation District, Director of Research
    b. (757) 460-4228
    c. cbott@hrsd.com

5. Rich Batiuk, PE (Topic: **Chesapeake Bay**: Regulator Perspective)
    a. US EPA, Associate Director for Science, Analysis and Implementation
    b. (410) 267-5731
    c. batiuk.richard@epa.gov

6. Paul Stacey (Topic: **Long Island Watershed Management Approach**).
    a. New Hampshire Fish & Wildlife Dept. (Formerly Long Island Sound Office, Long Island Sound Researcher)
    b. (603) 294-0146
    c. paul.stacey@wildlife.nh.gov

7. Ed Sherwood, (Topic: **Tampa Bay** Nutrient Management Consortium).
    a. TBEP's Senior Scientist, and lead coordinator for the Tampa Bay Nitrogen Management Consortium
    b. (727)-893-2765 office
    c. esherwood@tbep.org

8. Laura Weintraub, P.E. (Topic: **Truckee River Watershed**).
    a. Senior Project Engineer/Manager (Co-developer WARMF watershed modeler; LimnoTech).
    b. (919) 423-0096
    c. lweintraub@limno.com

**Key Success Factors/Lessons Learned for Watershed Approach and TMDLs**
August 5, 2014

## Key Success Factors/Lessons Learned

### "A" Factors

1. Well-organized governance structure is essential.
2. Staged/phased implementation reduces risk of ineffective investments.
3. Adequate funding.
4. Government agency interest and involvement.
5. Stakeholder interest and involvement.
6. Outreach and education activities improve quality of review and comment by stakeholders.
7. Acceptance of adaptive management provides advantages.
8. Pollutant trading programs help by providing more cost-effective compliance.

### "B" Factors

1. Targeted implementation helps by tracking the comparative progress of WQ improvement strategies.
2. Active stakeholder meetings during TMDL development
3. Leverage collaboration and partnerships for improvements.
4. Efficiencies can be achieved through coordinated monitoring, tracking and accounting program.
5. A flexible plan to quickly address unknowns due to the complexities of the fate and transport of nutrients can improve progress towards water quality improvements.
6. Presence of a TMDL helps affect a successful outcome.

### Other Factors that may apply to San Francisco Bay

1. Approach to watershed/water quality modeling (e.g. complex, or simple).
2. Watershed controls implemented? (Performance?).
3. WQ criteria developed?
4. Invasive species?
5. Withdrawals/diversions?
6. Non-TMDL approach?
7. "Big mistakes"?

**ATTACHMENT F - Project Voting**

| Priority # | Project | Name | Cost Proposed | Conditional Decision Vote | | | Final Decision |
|---|---|---|---|---|---|---|---|
| | | | | UP | Sideways | Down | |
| 1 | P2 | Toxin Measurements | $175,000 | 12 | 0 | 0 | YES |
| 2 | P9 | Channel Monitoring | $75,000 | 10 | 2 | 0 | YES |
| 3 | P1 | Modeling | $165,000 | 10 | 2 | 0 | YES |
| 4 | P3 | Moored Sensor | $190,000 | 11 | 1 | 0 | YES |
| | P8 | DO in the Margins | $150,000 | 11 | 1 | 0 | YES |
| 5 | P15 | Project Management | $100,000 | 12 | 0 | 0 | YES |
| | P4 | Monitoring Program | $80,000 | 12 | 0 | 0 | YES |
| | | TOTAL | $935,000 | | | | |

note: P4 was for salary support PART A, SC will re-visit at next meeting

| | |
|---|---|
| To: | Nutrient Steering Committee |
| From: | David Senn |
| Re: | FY2015 Nutrient Proposals |

June 19, 2014

Dear Nutrient Management Strategy Steering Committee -

Attached please find a packet of proposed project descriptions for FY2015 funding consideration to support continued implementation of the San Francisco Bay Nutrient Management Strategy (NMS). A primary goal at the June 25 Steering Committee meeting is for the NSC to approve projects that will be undertaken in FY2015.

The projects proposed below are closely aligned with recommendations laid out in recent NMS reports, and were identified with input from key technical experts who are part of the "Core Team" (see Core Team make-up included with meeting materials). In order to keep the project descriptions brief and the packet digestible, the primary motivation(s) behind each project are noted, but detailed background is not included here. For a thorough review of major recommendations, please follow the footnoted links to the actual reports and read their closing sections where most of the recommendations are compiled.[1,2,3,4]

SFEI staff has begun working with technical experts from the Core Team, Water Board staff, and the Nutrient Technical Workgroup to develop a multi-year Nutrient Science Plan. The Science Plan will be developed over the subsequent year, and will lay out a set of sequenced and prioritized studies geared toward best-informing nutrient management decisions in San Francisco Bay. The Science Plan will be broadly vetted among the Core Team technical experts, the Nutrient Technical Workgroup, and the Steering Committee and receive external peer review. This year, in the absence of a full Science Plan, the approach will be to continue moving nutrient work forward, recommending and undertaking projects identified as high priority in recent NMS studies, and that can be considered "no regrets." In my thinking, no regrets means that the proposed work falls along a well-defined – if complex – path(s) toward informing important management decisions. Those paths will emerge through the Science Plan development process, and, as the paths take form, will in turn the Science Plan. The figures at the end of the packet are draft, but meant to illustrate some of those potential paths. For each of three different potential adverse impacts of nutrients, the last three graphics illustrate an approximate path we could follow, and the steps or studies along that path, toward

[1] http://sfbaynutrients.sfei.org/sites/default/files/Nutrients_CM_DRAFT_May12013_small.pdf
[2] http://sfbaynutrients.sfei.org/sites/default/files/MonitoringProgramJune2014.pdf
[3] http://sfbaynutrients.sfei.org/sites/default/files/Nutrient_Modeling_Approach_draftFINAL_Jan212014.pdf
[4] http://sfbaynutrients.sfei.org/sites/default/files/SuisunSynthesisI_Final_March2014.pdf

determining whether adverse impacts are occurring, and identifying the management actions that would mitigate or prevent adverse impacts. The orange diamonds correspond to on-going or completed projects. The numbered yellow stars indicate proposed FY2015 projects, and where along the critical path toward answering a question each sits.

The accompanying packet contains a slate of 16 proposed projects for the Nutrient Science Program in FY2015 (July 1-Jun 30). Those 16 projects greatly exceed the available budget for FY2015. Based on input from technical advisors and the Nutrient Technical Workgroup, I have recommended a list of 10 priority projects from the original set of 16. Because this set of 10 potential priority projects projects were further prioritized to yield 10, which combined still exceed the budget.

On June 25, we will focus on the proposed projects with the goal of the NSC ideally deciding what projects to prioritize for funding and implementation this year. To do this and recognizing time constraints at the meeting, and budget constraints within the NMS process, we propose the following approach for the June 25 meeting:
I will present a brief overview of all projects followed by a focused presentation / discussion of the recommended 10 projects. We will ensure there is time for NSC members to ask questions about any projects but we hope we can efficiently move the discussion to the recommended 10 projects. Because these projects collectively will also exceed the available budget, we hope to eventually move the NSC discussion to a prioritization and decision-making exercise wherein, the NSC will create a formal decision/recommendation on the set of projects that will be funded and implemented this year. Your advance time reviewing the proposed projects (with a potential emphasis on the recommended 10) will greatly increase our efficiency on the 25th.

Thank you, and see you on the 25th.

- Dave Senn

| | | | | Program Area | | | | Adverse Impact Pathway | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # | Project | Priority for FY2015 | Estimated Cost ($1000s) FY2015 | Monitoring | Special Study | Modeling | Assessment Framework | High Biomass LowDO Deep Subtidal | LowDO Shallow/ Margin | HABs | Altered phytoplankton community | Low production | Recommend Highest Priorities FY2015 | Available Resources |
| P.1 | Modeling | High | 500 | | | X | X | X | X | X | X | X | 500 | RMPold = 350<br>RMP2015 = 150 |
| P.2 | Toxin measurements and phytoplankton composition | High | 200 | X | X | | X | | | X | X | | 200 | |
| P.3 | Moored sensor program development/expansion | High | 340 | X | | | | X | X | X | | | 340 | RMP2015 = 330 |
| P.4 | Monitoring Program development, assessment framework: Analysis of historic data, program design | High | 270 | X | | | X | X | X | X | X | | 270 | |
| P.5 | Stratification scenarios for DO and HABs | High | 110 | | | X | X | X | | X | X | | 110 | |
| P.6 | Using monitoring data in conjunction with existing hydrodynamic modeling output to inform monitoring program design | Medium | 120 | X | | X | | X | | X | X | | | |
| P.7 | DO objectives (lit review, data analysis) | High | 100 | | | | X | X | X | | | | 100 | RB2 = 100 |
| P.8 | Dissolved Oxygen in shallow habitats | High | 300 | | X | | X | | X | | | | 300 | |
| P.9 | Additional Monitoring at current main channel stations in SFB, USGS cruises: phytoplankton taxonomy, nutrients | High | 100 | X | | | | X | | X | X | | 100 | |
| P.10 | Suisun Phytoplankton Growth: Continuation of pure culture experiments | High | 60 | | X | | X | | | | | X | 60 | |
| P.11 | Contribution to shared Research Vessel Purchase, in collaboration with USGS and other potential partners | Medium/ High | 400 | X | | | | X | | X | X | X | | |
| P.12 | Targeted mechanistic studies of HABs, phytoplankton composition, related to nutrient concentrations, forms | Medium | 200 | | X | | X | | | X | X | | | |
| P.13 | Fish/benthos studies in margin habitats to inform site specific DO objectives | Medium | 200 | | X | | X | X | X | | | | | |
| P.14 | Sediment flux studies: Benthic oxygen demand, nutrient fluxes/transformations | Medium | 250 | | X | | | X | X | | | | | |
| P.15 | Program management/science coordination | High | 200 | | | | | | | | | | 200 | RMP2015=20 |
| P.16 | External Review | Medium/ High | 50 | | | | | | | | | | | |
| | Total | | 3,400 | | | | | | | | | | | |
| | | | | | | | | | | | | total | 2180 | other = 950 |
| | | | | | | | | | | | | | | NSC =880 |
| | | | | | | | | | | | | | | total = 1830 |
| | | | | | | | | | | | | difference | -350 | |

| **P.1 Water Quality and Hydrodynamic Modeling** | **Priority = HIGH** |
|---|---|
| FY2015 Cost = 500,000; Year 1 funding of a multi-year project. (Note: $350,000 already secured through RMP) | |
| Collaborators: SFEI, USGS-Menlo, UC Berkeley, Stanford, UC Davis, key consultants | |

This project will begin the development of a water quality (WQ) model for San Francisco Bay to inform nutrient management decisions, and in parallel contribute to the development of the underlying hydrodynamic model through collaboration with USGS-led project CASCaDE II.[1] WQ modeling is the highest priority undertaking for FY2015 for two reasons:

- It will play fundamentally-important roles along the critical path toward informing most management decisions related to assessing health/impairment relative to primary indicators and identifying management actions that would mitigate or prevent impairment.
- Considerable work is needed to develop reliable WQ models

While there are numerous hydrodynamic models for the Bay, there are no WQ models coupled to hydrodynamic models that can be applied toward informing nutrient management decisions. Therefore, the primary Year 1 focus of this multi-year project will be on building regional capacity in WQ modeling. Hydrodynamic model development will move forward through collaboration with the CASCaDE II project, allowing the Nutrient Science Program to leverage ~$2mill in project funding from the Delta Science Program and USGS internal monies. WQ model development and application will be a multi-year effort, and that effort is anticipated to be among the more resource-intensive activities over the next several years. Fortunately, $350,000 in funding has already been allocated by the RMP toward developing this model (combined funds set aside from CY2012-2014) and can be used toward the total estimated cost in FY2015.

The phrase “water quality modeling”, as used here, covers a wide range of parameters and processes, and would be more accurately called biogeochemical (or reactive-transport) modeling plus ecosystem or ecological modeling. Numerous parameters/state variables and processes will be included within the WQ model:

- Predicted nutrient concentrations, and the loads, transformations between nutrient forms, uptake, and losses that create the predicted concentrations
- Phytoplankton biomass (i.e., total biomass) and production rate, loss rate (settling, death, grazing)
- Benthic grazer abundance and grazing rates (e.g., filter feeding clams) and pelagic grazer abundance and grazing rates
- Dissolved oxygen concentrations and the various process add or remove oxygen (+ primary production, air:water exchange; – phytoplankton and planktonic microbial respiration, sediment oxygen demand, nitrification, etc.)

[1] http://cascade.wr.usgs.gov/

- Nutrient and DO fluxes between the water column sediments, and similar reactions as above within the sediments that drive these fluxes
- Phytoplankton community composition: abundance of several classes of phytoplankton, class-specific growth requirements and growth rates
- Light availability, based either on suspended sediment output from the hydrodynamic model, or specified through a seasonally/spatially varying input file

WQ modeling will proceed in a phased approach (see schematic on p.2), as recommended by a team of modeling experts. After thorough examination of modeland potential platforms, the team recommended that we proceed with Deltares suite of models.[2] The Year 1 focus will be on addressing several key questions related to ecosystem response in simplified-spatial-domain subembayment models (important questions in South/Lower South Bay and Suisun Bay), allowing us to focus more energy on understanding the complex water quality processes, biological response, and physical drivers. In addition to building a solid quantitative-conceptual foundation over that year, work will proceed on gathering/building the key input files and setting up higher spatial resolution models at subembayment and whole-bay scales that will be the focus of work in Year 2 and beyond. While the primary hands-on modeler will be a new SFEI staff person, we plan to continue convening a technical advisors (including experts from Deltares, who will be major collaborators), some providing high level technical guidance and some providing hands-on support.

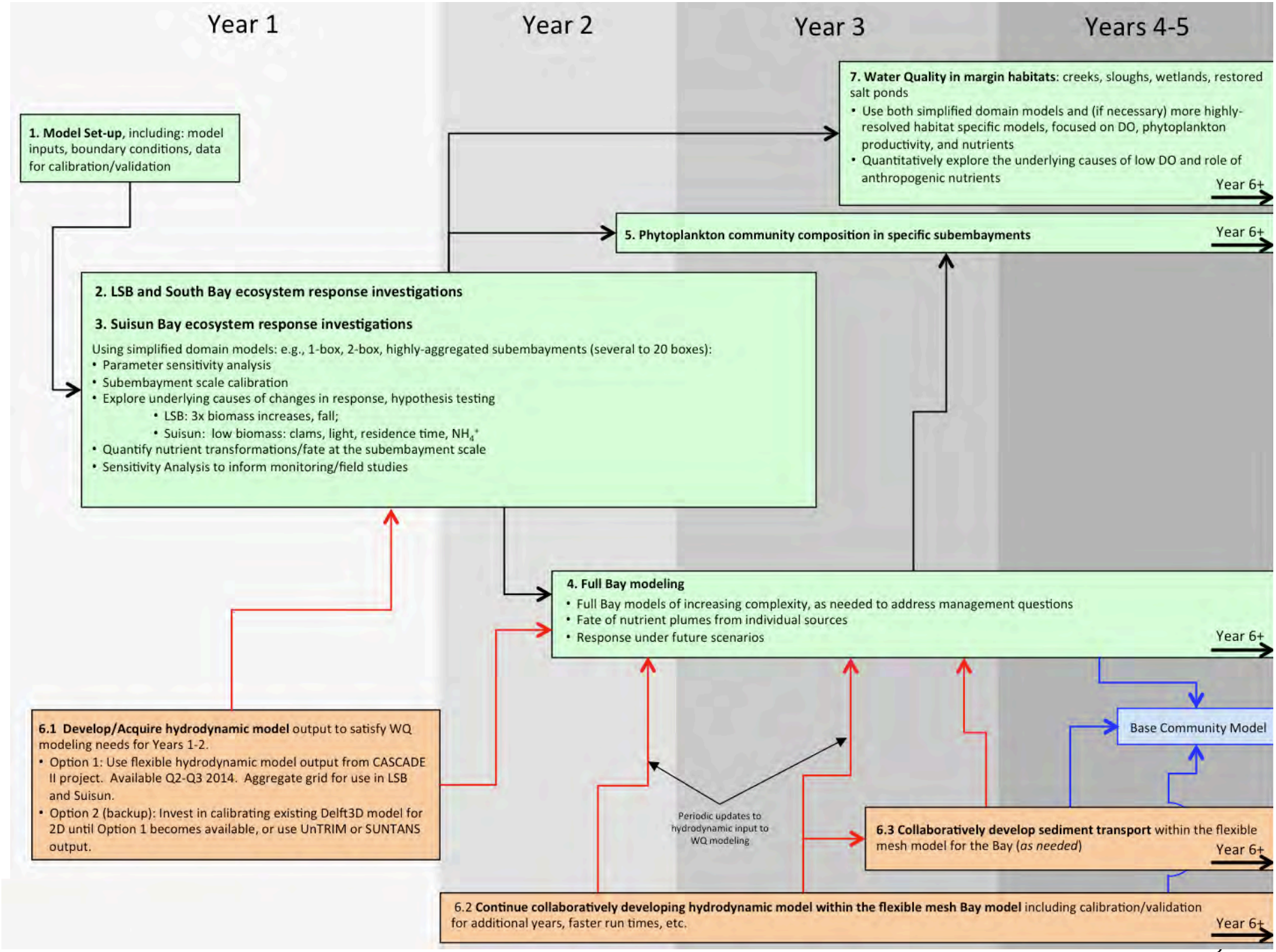
***Year 1 Deliverables***

A technical report document will be produced in June 2015 to describe Year 1 progress, and to identify recommended next steps next steps.

***Budget***

The majority of the salary will be directed toward a full time WQ modeler and collaborating staff (~$300k). The remainder will go toward technical collaborators ($100k) and hydrodynamic model development through the collaboration with USGS ($100k).

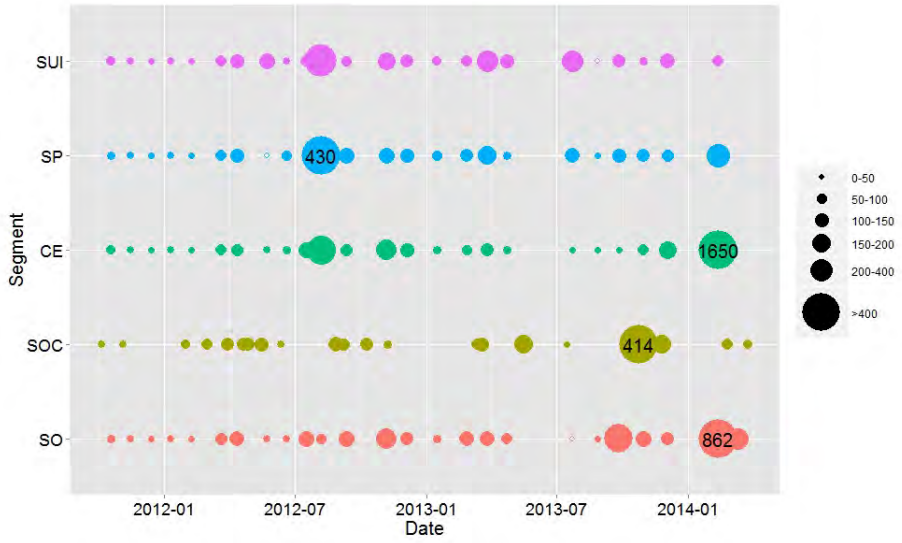
[2] http://www.sfei.org/sites/default/files/Nutrient_Modeling_Approach_draftFINAL_Jan212014.pdf


Year 1
Year 2
Year 3
Years 4-5
1. Model Set-up, including: model inputs, boundary conditions, data for calibration/validation
7. Water Quality in margin habitats: creeks, sloughs, wetlands, restored salt ponds
• Use both simplified domain models and (if necessary) more highly-resolved habitat specific models, focused on DO, phytoplankton productivity, and nutrients
• Quantitatively explore the underlying causes of low DO and role of anthropogenic nutrients
Year 6+
5. Phytoplankton community composition in specific subembayments
Year 6+
2. LSB and South Bay ecosystem response investigations
3. Suisun Bay ecosystem response investigations
Using simplified domain models: e.g., 1-box, 2-box, highly-aggregated subembayments (several to 20 boxes):
• Parameter sensitivity analysis
• Subembayment scale calibration
• Explore underlying causes of changes in response, hypothesis testing
• LSB: 3x biomass increases, fall;
• Suisun: low biomass: clams, light, residence time, $NH_4^+$
• Quantify nutrient transformations/fate at the subembayment scale
• Sensitivity Analysis to inform monitoring/field studies
4. Full Bay modeling
• Full Bay models of increasing complexity, as needed to address management questions
• Fate of nutrient plumes from individual sources
• Response under future scenarios
Year 6+
Base Community Model
6.1 Develop/Acquire hydrodynamic model output to satisfy WQ modeling needs for Years 1-2.
• Option 1: Use flexible hydrodynamic model output from CASCADE II project. Available Q2-Q3 2014. Aggregate grid for use in LSB and Suisun.
• Option 2 (backup): Invest in calibrating existing Delft3D model for 2D until Option 1 becomes available, or use UnTRIM or SUNTANS output.
Periodic updates to hydrodynamic input to WQ modeling
6.3 Collaboratively develop sediment transport within the flexible mesh model for the Bay (as needed)
Year 6+
6.2 Continue collaboratively developing hydrodynamic model within the flexible mesh Bay model including calibration/validation for additional years, faster run times, etc.
Year 6+

| P.2 Develop a 3-yr monthly time-series of algal toxins and phytoplankton community composition in San Francisco Bay | Priority = HIGH |
|---|---|
| FY2015 Cost = $200,000 | |
| Collaborators: UC Santa Cruz (R Kudela), USGS, SFEI | |

In this study, we propose to measure algal toxin concentrations in ~300 archived water column samples collected throughout the Bay between 2011-present; additional water column samples collected during FY2015; and a limited number of bivalve samples. All of the archived water column toxin samples have co-located algal pigment samples, and have been analyzed as part of a currently-funded project, which will allow us to explore the relationship between toxin abundance, chl-a, and phytoplankton community composition.

Developing an improved understanding of the relationship between HABs/toxins and nutrients in San Francisco Bay – and ambient conditions related to toxins and HAB-forming species – are among the highest priority science and monitoring needs for San Francisco Bay. Some phytoplankton species form harmful algal blooms (HABs) that produce toxins that adversely impact both aquatic life and humans. Links between nutrients and HABs/toxins have been shown in some estuaries. However, the relationship is complex, numerous factors contribute to the probability or frequency of HAB occurrence, and there has been limited investigation to date in the Bay exploring these linkages. To better understand both the linkages between nutrients and HABs/toxins in the Bay and ecosystem condition, substantially more data on toxins and phytoplankton composition are needed. Although no HABs have been noted in the Bay over the past few decades, potentially harmful species are commonly detected in low numbers by the USGS. The frequent presence of seed organisms, and the Bay's abundant nutrients, mean that HABs could develop if appropriate physical conditions prevail (stratification, temperature), as evidenced by the Fall 2004 red tide bloom in South Bay (Cloern et al., 2005). Pilot studies (2012-present) carried out by USGS-UCSC, in collaboration with RMP (2013-present), have found that the toxins domoic acid and microcystin commonly occur throughout the Bay. These pilot studies used a




*Domoic acid (DA) concentration captured by resin (ng DA/g resin). On some cruises South Bay and Central Bay were combined. SO=South Bay (including LSB); SOC = South + Central Bays; CE = Central Bay; SP = San Pablo Bay; SUI = Suisun + Lower Sacramento River. Numbers represent values of samples greater than 400 ng/g. Data: R Kudela*

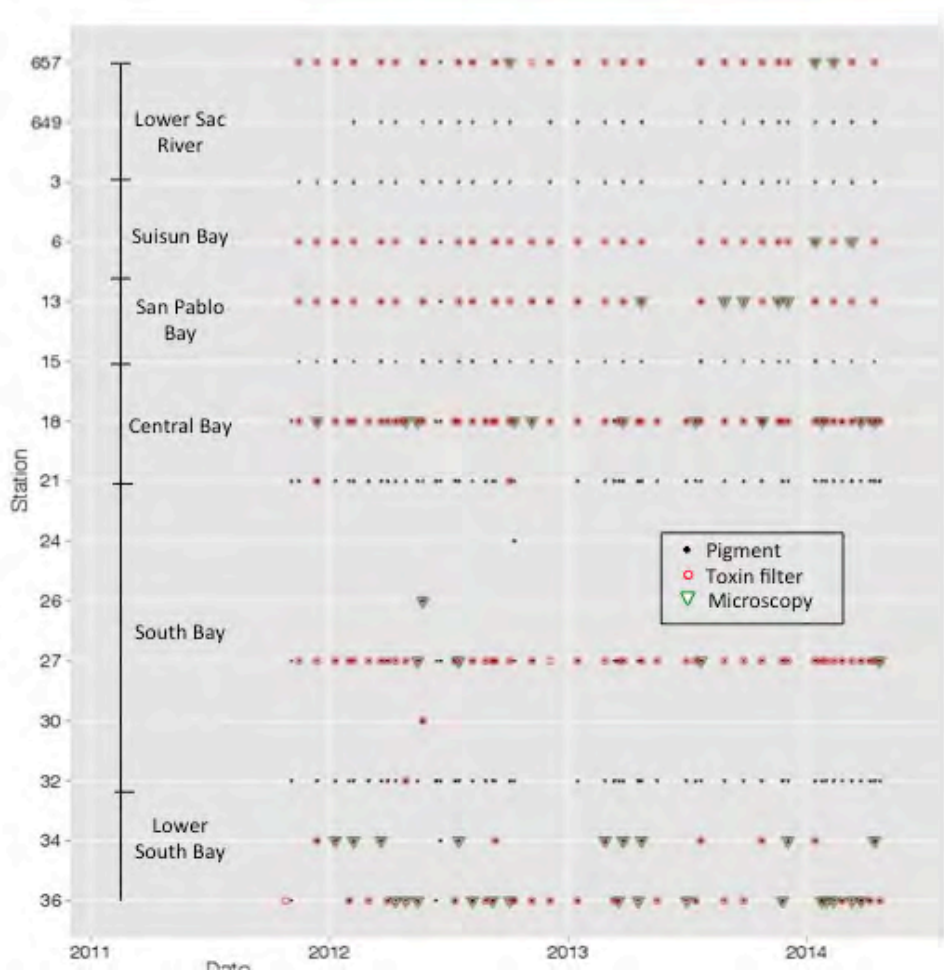
resin that binds several common toxins, and collected subembayment-integrated samples by continuously pumping water from the Bay past the resin while the ship was underway. This approach provides a cost-effective survey for toxins. However, the subembayment-integrated samples are likely too spatially-coarse to improve our understanding both about the magnitude of toxin plumes and the conditions under which toxins were created. An additional difficult with this resin-based technique is that extrapolations back to ambient concentrations are highly uncertain.

The project will achieve the following goals:

- Substantially advance our understanding about current conditions and important mechanisms in SFB with respect to algal toxins.
    - Determine how algal toxin concentrations vary seasonally and spatially, and, to some degree, how they vary interannually (over this relatively short period of record);
    - Assess how toxin concentrations compare to thresholds known to adversely impact ecological health;
    - To the extent possible, develop an improved understanding of, and testable hypotheses for, the physical/chemical/biological factors that contribute to the occurrence of higher/lower toxin abundance.
- Inform monitoring program requirements for toxin measurements, including:
    - Necessary spatial/temporal sampling resolution to adequately describe variability and to capture “events of concern” through comparison of discrete filter samples and subembayment–integrated measurements ;
    - Appropriate analytical methods (e.g., integrated resin-based samples vs. discrete locations) and optimized analytical techniques (e.g., methodologies for extracting the most relevant spectrum of toxins from a single sample).

*Sample Collection and Measurement:* This project will include several “Definite” (D) sets of analyses and one or more “Optional” (O) analyses. The choice among optional activities would depend both on available time and resources, and on indications from early measurements about which direction(s) would be most informative. Activities will include:

1. Measure toxin concentrations in filters collected during past or on-going monitoring at existing USGS sites
    - D.1 Archived filters collected beginning in 2008, after salt ponds were breached, through Apr 2014, generally at monthly or greater frequency, at stations in Lower South Bay (40 samples). Salt ponds are hypothesized to act as an incubator for harmful phytoplankton species.
    - D.2 Archived filters collected monthly from Nov 2011-Jun 2014 at one station per subembayment on a monthly basis (~240 samples, including 40 from Lower South Bay noted above). At all of those stations, pigment filters were also collected and recently analyzed in 2013-2014 as part of a related project.
    - O.1 Filters collected at 6-12 stations per full-Bay cruise from Jul 2014-May 2015 (100+ samples)




*Locations and dates for archived toxin samples, along with co-located pigment and microscopy samples*

2. Measure toxin concentrations in bivalve samples
    - D.3 Archived samples from Mussel-watch sites, RMP sampling, and other relevant past sampling activities (12 samples from 2012, 10-15 samples from 2014)
3. As part of other planned field activities in Fall 2014 (P.8), collect filter samples at 6-9 sites on a monthly basis. (2-3 sloughs, 3 sites per slough, and 1 station at the down-estuary end of Coyote Creek; Aug-Nov = 30-40 samples)
    - O.2 These samples could be collected during other fieldwork and would not require their own field campaign. For any newly-collected samples, pigment samples will also be analyzed.

***Deliverables***

- Progress update at 6 months
- Technical report at project's completion

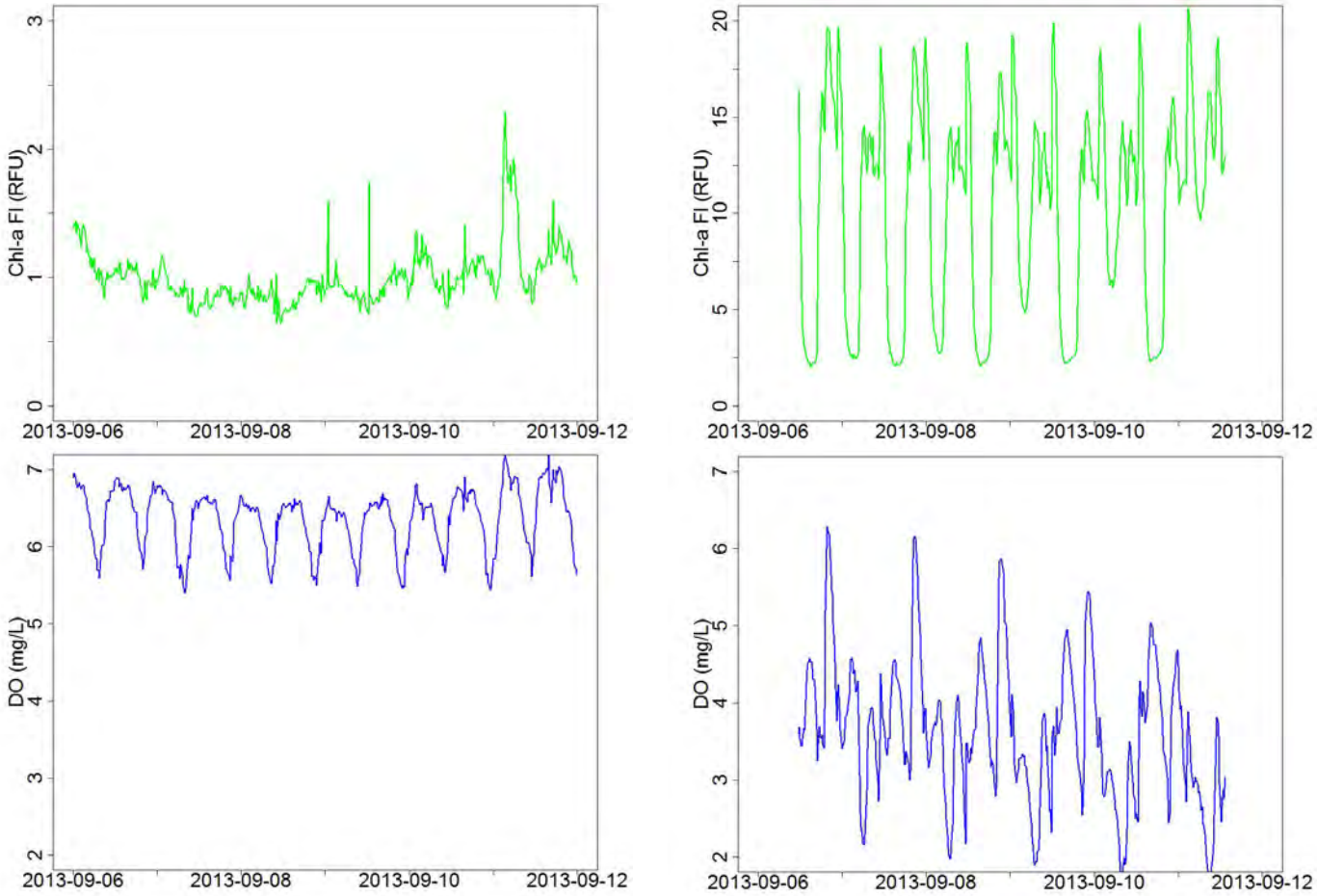
***Budget***

Funding will support a 1-year postdoc at UCSC to carry out sample analysis, data interpretation, and report preparation; analytical costs (lab supplies and consumables); collaborator support/supervision (total: $170k); and SFEI staff for collaboration and coordination (30k).

| P.3 Moored sensor program development/expansion | Priority = HIGH |
|---|---|
| FY2015 Cost = $340,000 | |
| Collaborators: SFEI, USGS-Sac, USGS-Menlo, SanJose | |

While scientific studies and monitoring by the USGS, DWR-EMP, and RMP provide us with several decades of water quality data in the Bay, most of that data has been collected at weekly-monthly time intervals. Phytoplankton biomass and related parameters such as nutrients, dissolved oxygen, and suspended sediments vary strongly over much shorter time scales (hours) due to diel cycles, mixing, biogeochemical processes, and tides. To better assess the Bay's condition, and to collect high-frequency data to calibrate water quality models, the RMP began funding a moored sensor network in 2013. This proposed study will: maintain existing stations; add one additional station; and continue data analysis and on-line data. visualization/download work; and inform on-going monitoring program development.

In Summer 2013, sensors for chl-a, dissolved oxygen, turbidity, temperature and other parameters were deployed at 3 stations in Lower South Bay and South Bay in




*Chl-a (relative fluorescence units; RFU) and Dissolved Oxygen (mg/L) at Dumbarton Bridge and Alviso Slough (4km upslough from confluence with Coyote Creek) over a 5 day period. At both sites, chl-a fluorescence varied tidally, but maximum values were 10-15 times greater at Alviso than Dumbarton (note different y-axis scales. Although the fluorescence signal is prone to interferences, the large differences here suggest that maximum phytoplankton biomass at Alviso (~50 µg/L) was substantially greater than at Dumbarton (3-5 µg/L), and emphasize the strong spatial and temporal variability in chl-a. DO also varied tidally at both sites. The DO minima at Dumbarton occurred at low tide, which could be the result of low DO draining shallow margin habitats mixing with open-bay water and moving past the sensor. DO was substantially lower at Alviso than Dumbarton and exhibited a multiple strongly-periodic maxima and minima.*

collaboration with the USGS's sediment group, who already have infrastructure for continuous monitoring for a subset of parameters in these areas. One of the sites, the Dumbarton Bridge, telemeters data every 15-minutes to a server, which will allow for eventually viewing data in near-real time. Year 1 efforts focused on installation, developing capacity for moored sensor maintenance and operation (including creating procedures for maintenance and data processing/management), and interpreting data to identify sites for network expansion. At present, moored sensors have been installed at Dumbarton Bridge, San Mateo Bridge, and in Alviso Slough.

In FY2015, we propose to add a 4$^{th}$ station in South Bay or Lower South Bay. Potential locations include Coyote Creek near where it enters Lower South Bay, or on a channel marker in the southern quarter of Lower South Bay, based on the strong north-south gradients in nutrients, chl-a, and suspended sediments in Lower South Bay. To allow for improved estimates of chl-a and phytoplankton biomass, we will design and execute experiments to better constrain the chl:fluorescence relationship and estimate uncertainty. We will also add telemetry to new and existing stations, where possible given site-specific logistical constraints. Due to increasing data, we will also invest further in developing standard procedures for data management and processing, including automation where possible, and developing a database. We will also further develop a web-accessible data visualization and download tool for accessing real-time and historic sensor data (pilot project begun in year 1). The goal is for this web interface to host data from multiple programs (SFEI/RMP, 2 USGS groups, and possibly others) and allow for intuitive data visualization, including viewing time series data from multiple stations and multiple parameters simultaneously.

***Deliverables***

A progress report will be submitted June 2015. In that report, we will analyze data to inform system understanding, identify lessons learned from year 2 of the program, and make recommendations for moored sensor priorities in year 3.

***Budget***

The budget for this task for FY2015 is $340,000. $250,000 of this is for personnel support across a range of tasks: sensor installation, maintenance and operation; data processing and management; data visualization; and data analysis and reporting. $70,000 will be used to purchase equipment for a 4$^{th}$ station, including telemetry, as well as to purchase one additional nitrate sensor. $20,000 will be used for field logistics support for our collaborators at USGS-Sacramento.

| | |
|---|---|
| **P.4.A Analysis of historic data to inform monitoring program development, assessment framework development, and synthesis/mechanistic interpretations**<br><br>**P.4.B On-going development of monitoring program structure** | **Priority = HIGH** |
| FY2015 Cost = $270,000 | |
| Collaborators: SFEI, UC SantaCruz , USGS-Menlo, other technical advisors, SCCWRP | |

*P.4.A Analysis of historic data to inform monitoring program development, assessment framework development, and synthesis/mechanistic interpretations*

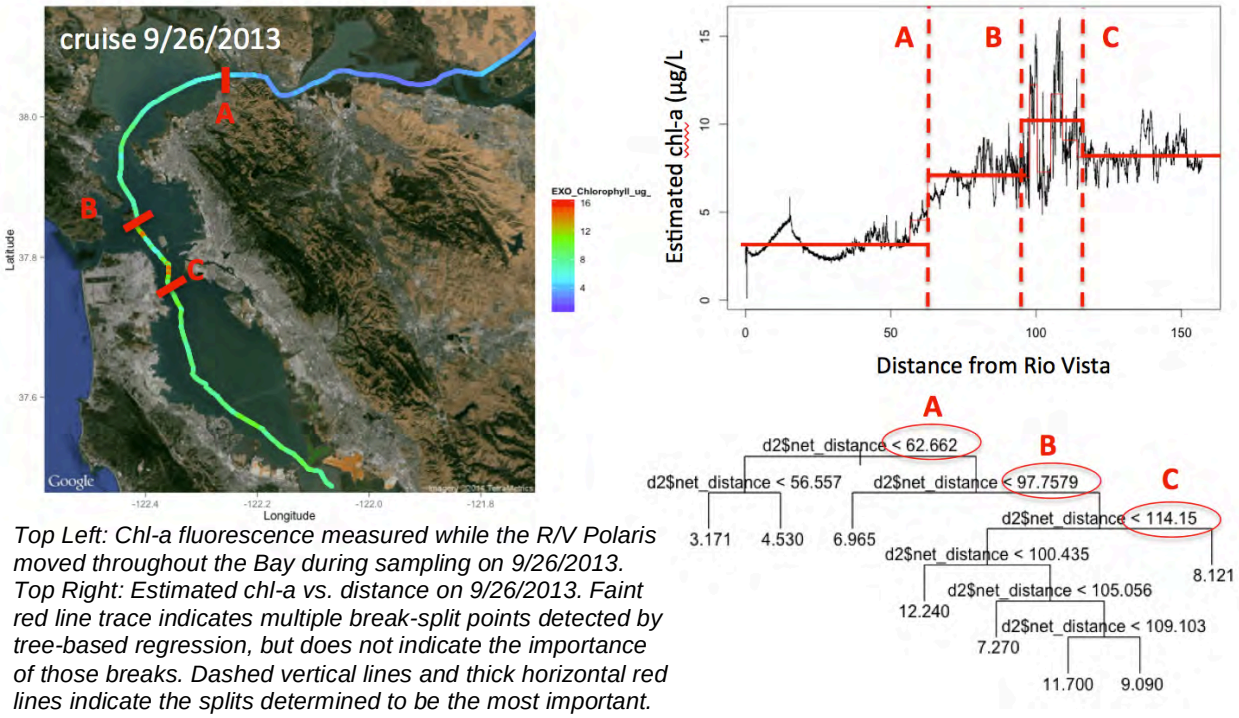
Summing over the many years of anticipated water quality monitoring ahead, the monitoring program will likely account for the largest portion of overall nutrient program costs. Therefore, there is considerable benefit to carefully planning and designing the most efficacious yet cost-effective program. We are also fortunate - for monitoring and assessment framework development and on-going synthesis/mechanistic interpretations - that long-term systematically collected monitoring data (~40 years) exist, plus data from a number of special studies, that can be extensively mined.

Through this project we will use historic monitoring data and other more focused data sets to explore key questions that technical advisors identified as important for informing monitoring program design, assessment framework development, and our overall understand of ecosystem response to identify data gaps and priority studies. Example questions include:

1. What is the optimal spatial/temporal resolution of sampling?
    a. What sampling spatial resolution is needed along the longitudinal axis of the Bay to capture most of the variability across a range of relevant parameters, seasons, etc.?
    b. What sampling spatial resolution is needed laterally, as a function of subembayment and season?
    c. In South Bay, what is the minimum temporal sampling during important periods (e.g., spring blooms)?
    d. What are characteristic scales (space/time) of phytoplankton blooms in Suisun Bay?
    e. Where should moored sensors be placed? What is the optimal blend of ship-based sampling and moored sensors?
2. Identifying spatial/temporal resolution of priority “events” (i.e., what are we trying to detect?)
    a. What levels of toxin concentration are problematic? How do these translate into spatial, concentration, and duration scales?
    b. What changes in phytoplankton composition or occurrence of potentially harmful species do we need to detect?
    c. What sampling resolution (lateral, longitudinal) is required to capture the priority “events” described above?

3. How has phytoplankton community composition in South Bay, Central Bay, and Lower South Bay changed over the past 20 years? What changes in physical, chemical, or biological drivers can explain those changes?
4. How frequently (and under what conditions) does the relationship used to estimate productivity in SFB (based on chl-a concentration and PAR, i.e., Cole and Cloern 1987) need to be validated/calibrated?

As each of these questions is explored, the results will be summarized as technical reports and, where appropriate, peer-reviewed publications. These technical reports will either be stand-alone documents, or included as sections within other reports related to monitoring program development or assessment framework development.




*Top Left: Chl-a fluorescence measured while the R/V Polaris moved throughout the Bay during sampling on 9/26/2013. Top Right: Estimated chl-a vs. distance on 9/26/2013. Faint red line trace indicates multiple break-split points detected by tree-based regression, but does not indicate the importance of those breaks. Dashed vertical lines and thick horizontal red lines indicate the splits determined to be the most important. Bottom Right: This tree illustrates the relative importance of splits, with A, B, and C representing the largest splits. Similar analyses will be carried for multiple dates/seasons, multiple parameters (chl-a, turbidity, T, salinity, nutrient concentrations) to identify the optimal spacing of stations along the Bay's axis.*

*P.4.B On-going development of monitoring program structure*

In March 2014, we completed a draft monitoring program development plan with input from a team of technical advisors. That plan is being circulated to stakeholders and other collaborators in June 2014 for additional input. The report lays out a number of priority activities – from analysis of existing data to inform optimal program design (spatial/temporal sampling frequency) to identifying a set of tiered recommendations for program implementation (new analytes, methods, costs, etc.).

During FY 2015, 2 meetings will be held with technical advisors, and 2 meetings with the Nutrient Technical Workgroup to obtain feedback from a group with a range of perspectives. With guidance from the technical advisors and the NTW we will

undertake the highest priority activities, using those recommended in the program development plan as a starting point.

***Deliverables***

Interim progress reports and updates will be produced in the form of powerpoint presentations or memos in advance of technical advisor or NTW meetings. Meeting summaries will also be prepared. An annual progress report on program development will also be prepared, bringing together results/recommendations for program structure (based on data analysis) with other programmatic advances (e.g., new analytes, methods, costs, tiers). An additional option is to produce an Nutrient Science Program annual report that summarizes progress on multiple fronts, describes monitoring-related observations (status, trends), and presents noteworthy results from special studies. If this product is viewed as a high priority, the budget/planning for this task may need to be reevaluated.

***Budget***

Funding will support staff effort on data analysis, program development, and report preparation (~235k), and technical advisors/collaborators (35k).

| P.5 Stratification scenarios for DO and HABs | Priority = HIGH |
|---|---|
| FY2015 Cost = $110,000 | |
| Collaborators: UC Berkeley (M Stacey), SFEI, SCCWRP, USGS-Menlo | |

The frequency and duration of water column stratification events in SFB is an important determinant of whether low DO and harmful algal blooms could become problems in deep subtidal habitats, in particular in South Bay and Lower South Bay. Initial worst-case-scenario calculations indicate that phytoplankton blooms of realistic magnitude could translate into low DO in bottom waters. However, those calculations assume that the water column stratifies for a long enough interval that the bloom can develop, and remains stratified long enough to allow low DO to develop and persist such that adverse impacts occur. Prolonged stratification also creates conditions under which HABs can form: e.g., the Fall 2004 red tide bloom in South Bay (Cloern et al, 2005). Under current conditions, stratification in San Francisco Bay is known to be variable at a wide range of timescales due to the strong tidal forcing and seasonal cycle in river flows and associated density gradients. This study will examine the relation and competition between the drivers that cause and break down stratification, assess the potential for this relationship to change such that stratification persists long enough to cause adverse impacts. More specifically, this study will address the following questions:

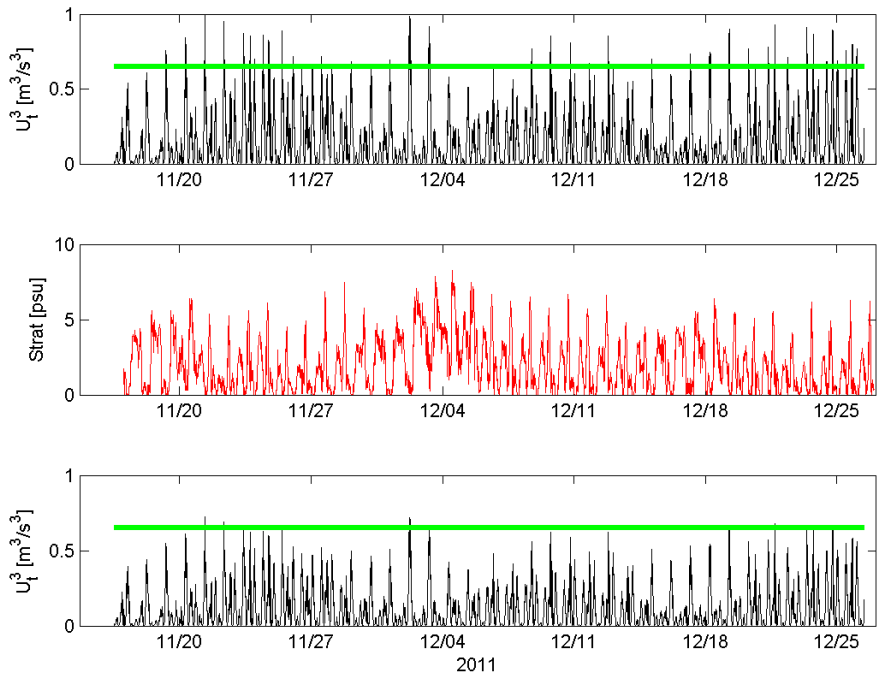
1. How frequently does stratification develop in different areas of the Bay and for how long does it typically persist?
2. What combinations of physical forcings lead to the set-up and break-down of stratification in key areas of SFB? What regulates the magnitudes of these opposing forcings, in particular around periods when shifts between stratified and destratified tend to occur? What could alter the magnitudes of these forcings?
3. How would changes in forcings translate to changes in stratification duration as determined through simplified domain modeling?

Analysis of long-term observations from Suisun Bay and South Bay will be combined with highly detailed shorter observation periods from the same basins to establish current stratification conditions. A focus of this analysis will be on establishing the relationship between stratifying processes that vary on seasonal, hydrographic (i.e., freshwater flow) event and tidal (semi-diurnal, diurnal and spring-neap) timescales and mixing processes that act to maintain an unstratified water column. We anticipate that both basins experience tidally-periodic stratification, with some persistence across multiple tidal cycles occurring during neap tides. We will explore the likelihood of stratification persisting for a spring-neap period (14+ days) under current conditions. The persistence of stratification across the spring-neap cycle is a critical threshold, since once stratification persists across one spring-neap cycle, it is likely to persist across multiple, potentially resulting in stratification that lasts for months.

To evaluate how future scenarios of change will influence the variation of stratification, we will build on the observational analysis using a combination of theoretical and numerical analysis. The theoretical analysis will compare stratifying and destratifying processes using dimensionless groups and evaluate the probability of

various lengths of stratification persistence under scenarios of climate change. Combining this analysis with simplified numerical models, which resolve the vertical structure of the density and flows (i.e., for a water column), will allow us to explicitly evaluate future scenarios and determine under what set of future conditions stratification may persist across the spring-neap cycle. Future scenarios will probe variation in stratification that may arise from changes to (a) freshwater flows/density gradients; (b) shorelines (whether by management action or sea level rise) and associated changes to the tides; (c) atmospheric heating; and (d) wind mixing. The future scenarios will be described by changes in tidal forcing (informed by considering scenarios for shoreline change; and analysis of sea level rise and inundation performed under separate funding) and alterations to the local buoyancy forcing (salinity gradients induced by freshwater flows). The balance between stratifying and destratifying processes will be evaluated using the numerical water column analysis with a particular focus on the threshold for stratification to persist across an entire spring-neap cycle.

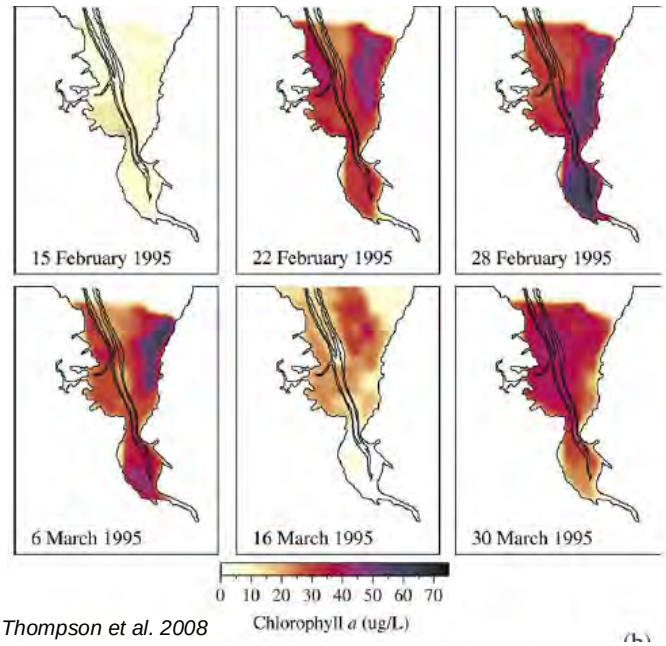
To illustrate the importance of these analyses, preliminary analysis of data from a Suisun Bay site indicates the potential for long-term persistent stratification under future scenarios. The top panel presents a metric of mixing (turbulent velocity cubed) and the second panel shows the co-located stratification (top-bottom salinity difference). The stratification is seen to be strongly periodic tidally, but a period of persistent stratification develops around December 4. Based on this stratification record, an estimated threshold for destratification is overlaid on the top panel (green horizontal line). In the bottom panel, the same comparison is made as in the top panel, but now with the tidal velocities uniformly reduced by 10%. If the threshold for destratification remains the same, even this minor change in tidal forcing is expected to lead to stratification that would persist for 2 weeks or more, as only a few tidal periods have sufficient energy to pass the threshold for destratification.




**Deliverables:** 6 month progress report/technical update and a final technical report
**Budget:** Support for PhD student (65k), M Stacey (25k), and SFEI and SCCWRP staff (20k).for collaboration and integration with nutrient assessment framework, modeling, etc.

| P.6 Apply hydrodynamic modeling output to inform monitoring program design | Priority = MED |
|---|---|
| FY2015 Cost = $120,000 | |
| Collaborators: SFEI and collaborators | |

The vast majority of water quality data collection in San Francisco Bay occurred in deep habitats along the Bay's main channel. However, it is well known that phytoplankton blooms commonly begin along the Bay's broad shoals. The Bay is generally considered to be a light-limited system throughout most of its area and much of the year. Along the shoals, the shallow water column allows for higher light levels, and higher phytoplankton growth rates. Other processes, such as biogeochemical transformations at the sediment:water interface, likely also have a more pronounced effect on water column chemistry than in deep subtidal areas.



*Thompson et al. 2008*

Tidal and wind-driven mixing also exert strong influences on the measured concentrations of various constituents. In that sense, the water mass at any location in the Bay is actually a time- and space-integrated sample, a mixture of water masses from different locations that contribute unique amounts to the final concentration of constitute. Therefore, designing the optimal monitoring program – one that captures the desired degree of spatial and temporal variability in key parameters and is capable of detecting "events of concern" (e.g., a phytoplankton bloom of a certain size; a plume of algal toxins) – will require hydrodynamic modeling.

Motivated by a similar goal as P.4, this project will combine output from existing hydrodynamic simulations with event scenarios or historic water quality data to achieve the following goals:

1. Introduce events of concern, such as major blooms or algal toxin events, and identify the optimal sampling scheme to reliably capture a range of priority events
2. Using backward trajectory modeling, identify the sources of water (space, time) that contributed to ambient concentrations at existing stations along the Bay's main channel; constrain the originating conditions that could have created observed conditions; and reveal zones that are poorly captured by the current program design.

Existing hydrodynamic model outputs that could be considedered include 1-2 years of Bay-wide SUNTANS simulations, or multiple years (up to 20) of output from UnTRIM.

| | |
|---|---|
| **P.7 DO objectives (lit review, data analysis)** | **Priority = HIGH** |
| FY2015 Cost = 100,000 | |
| Collaborators: SCCWRP, SFEI, technical advisors | |

This project will be a data analysis and literature review study focused on identifying what DO levels are protective beneficial of beneficial uses. It will address the following questions:

- What beneficial uses, and more specifically, what aquatic organisms are we aiming to protect in various habitats (deep subtidal, sloughs, creeks, wetlands)?
- What levels of DO are optimal or protective for those beneficial uses and organisms during life stages when they utlize those habitats?
- What low DO conditions would adversely impact those habitats/organisms - DO concentration, duration of events, spatial extent, seasonality (eg., relative to critical life stages)?
- How have other estuaries or coastal zones addressed the issue of site-specifc DO criteria, and “naturally” low DO in margin/shallow habitats?

The San Francisco Bay Regional Water Quality Control Board has secured $100,000 for this project, will support SCCWRP and SFEI staff and technical team for data analysis, literature review, and report preparation.

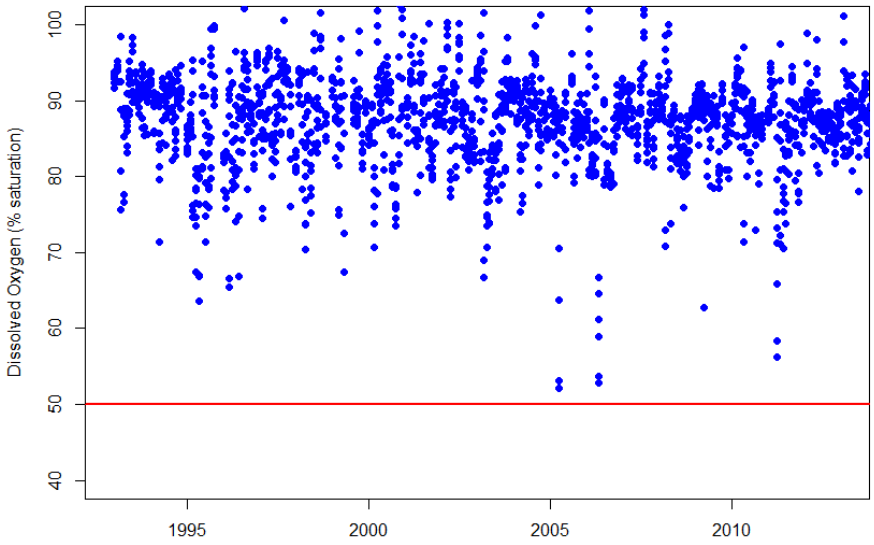
**Deliverables:** Progress updates and a final technical report.

**Budget:** Fund will be used to support SCCWRP and SFEI staff (total = 75k), and engaging technical experts and meeting costs (25k).

| **P.8 Dissolved oxygen in shallow margin habitats** | **Priority = HIGH** |
|---|---|
| FY2015 Cost = 300,000<br>This is a 1-year funding request for a project that would likely continue over 2+ years. | |
| Collaborators: SFEI, SanJose Santa Clara Valley Wastewater Agencylester, USGS-Sac | |

This proposed project will install, maintain, and interpret results from a several-station network of continuous monitoring stations for DO and other parameters in shallow margin habitats (creeks, sloughs) in Lower South Bay to assess condition with respect to DO and inform our understanding of major drivers.

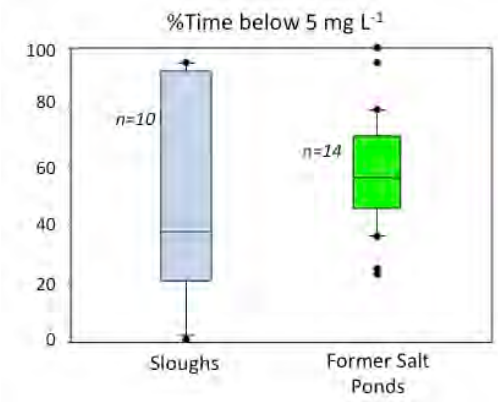
Low dissolved oxygen (DO) is a common symptom of excessive nutrient loads to estuaries and other water bodies, and results from oxygen consumption during

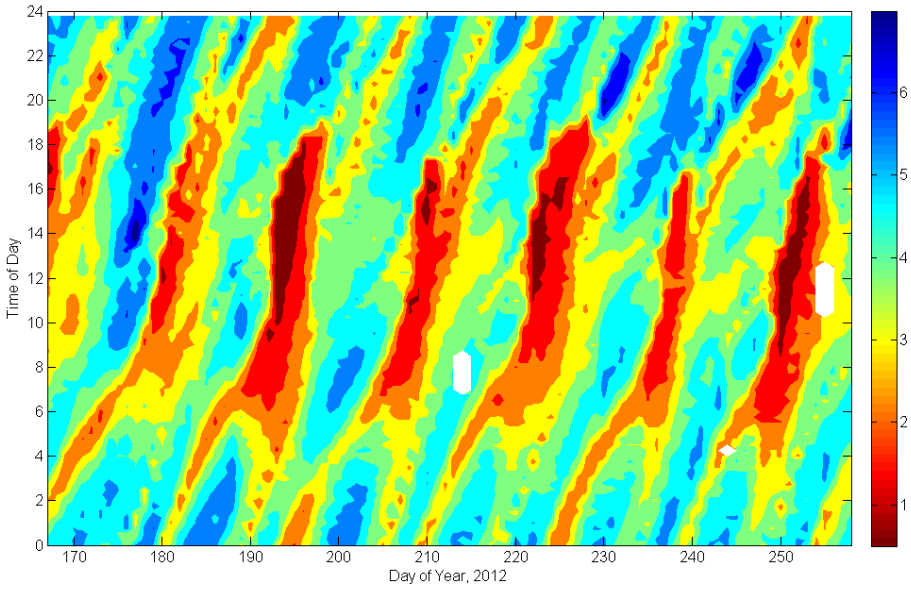



DO %saturation in bottom waters in deep subtidal areas at all USGS stations south of the Bay Bridge, 1993-2013. 100% saturation corresponds to 8.5±1.5 mg/L depending on temperature and salinity.

microbial degradation of organic matter (e.g., phytoplankton). Because of its well-established mechanistic link to nutrients, dissolved oxygen concentration is among the likely indicators of nutrient-related ecosystem health in San Francisco Bay. Most data on dissolved oxygen concentrations over the past ~20+ years have been collected in deep subtidal habitats, and DO concentrations, in general, have substantially exceed the Basin Plan criterion of 5 mg/L. Considerably less data is available for shallow margin habitats in San Francisco Bay, including sloughs, creeks, tidal wetlands, and former salt ponds undergoing restoration. Although these areas represent important habitats for aquatic organisms at certain life stages, there is no coordinated, systematic monitoring across a representative set of sites.

A recent survey of existing continuous DO data collected over a 12 year period by assorted programs in South Bay and Lower South Bay margin habitats showed that DO was frequently below 5 mg/L (40% and 55% of the time, averaged across sites, in slough and former salt ponds, respectively). Low DO occurs naturally in margin habitats like wetlands and sloughs. However there is currently insufficient information to characterize the frequency, duration, and severity (how low) of events, or to explore the underlying causes (importance of natural vs. anthropogenic factors). One excellent data set, collected in Alviso Slough demonstrates that low DO exhibits strong periodicity and persists at levels <2-3 mg/L for 12 hours or more over several days. This station is, however, 2.5 miles upslough from the confluence with Coyote Creek, and the spatial extent of low DO there, and how representative this condition of other sites, are unknown.




DO (contours; mg/L) as a function of date and time of day, Jun 15 –Sep 14 2012. Sensor was ~2 ft above the bottom. Low DO occurred during strongly periodic windows that coincided with weak neap tides. During these windows, DO was lowest during daylight hours when oxygen production would otherwise be expected, and DO increased during highest tide of the day, which occurred during the late evening. One hypothesis that can explain the daily pattern is that stratification developed due to low tidal mixing energy during these weak neap tides, and oxygen was rapidly consumed in the bottom layer due to sediment oxygen demand. An alternate hypothesis is that the entire water column had low DO concentrations, and the low DO water mass was pushed further upstream during high tide. Data: M Downing-Kunz; SFEI 2014.

Funding is being requested for Year 1 of a 1-2 year field study to determine the frequency, duration, and spatial extent of low DO in representative margin habits (sloughs, creeks) using moored sensors complemented by field sampling/calibration. This project's major goals, include:

1. Characterize temporal (tides, diel) and spatial patterns in DO and related parameters across a sites having a representative range of physical/biological characteristics;
2. Determine the frequency and duration of events with DO < 5 mg/L (and other relevant thresholds);
3. Through additional field measurements (vertical profiles during longitudinal transects), characterize the spatial extent of noteworthy events or common conditions,

4. Through the use of basic modeling and field data, semi-quantitatively test hypotheses for why low DO occurs.

Instruments will be installed at up to 6 sites, and will require maintenance and data download approximately every 2-4 weeks, depending on the time of year and rate of biofouling. During regular maintenance trips and some special field trips (to coincide with events), DO will be measured in vertical profiles at stations along longitudinal transects in creeks and sloughs to spatially-characterize conditions.

Ideally, 2-3 of the sites for this project would be installed in August-September 2014, since low DO is most pronounced in Summer/Fall.

***Deliverables***

Progress updates will be given in the form of presentations and meeting materials at technical team meetings and NTW meetings. A final technical report will be produced at the project's completion.

***Budget***

Funds will be directed toward instrumentation and equipment (110k), staff time for maintenance and data interpretation (150k), and field support for USGS (40k).

| **P.9 Additional Monitoring at current main channel stations in SFB, USGS cruises: phytoplankton taxonomy, nutrients** | **Priority = HIGH** |
|---|---|
| FY2015 Cost = $100,000 | |
| Collaborators: USGS, SFEI/RMP | |

Currently, the USGS analyses samples for phytoplankton composition on only a limited number of stations, and only under certain conditions (typically only when chl-a exceeds 5ug/L), typically <5 stations per full-Bay cruise. Much more information – and collected consistently at a defined set of stations – is needed on community composition to determine if adverse shifts in phytoplankton composition are occurring, or harmful species are present at concerning levels, and to explore the underlying mechanisms leading to such shifts.

Similarly, nutrients are not a core part of the USGS research program and "optional"; therefore the full suite of analytes (i.e., no TN or TP) is not measured and spatial/temporal frequency is lower than is needed.

***Deliverable and Budget***
This project would support the measurement of 300 sets of nutrient analyses ($35k) and taxonomy on 300 samples for phytoplankton community composition and biovolume ($65k).

The nutrient results would be made publicly available through USGS's website, and phytoplankton data would publicly available as requested.

| P.10 Physiological Assessment of the "Bad Suisun" Phenomenon: Light and Nutrient Interactions | Priority = HIGH |
|---|---|
| FY2015 Cost = $60,000 | |
| Collaborators: UCSantaCruz, AMS | |

Ammonium ($NH_4^+$) inhibition of phytoplankton productivity in Suisun Bay has been inferred from increases in chlorophyll during mixed-assemblage incubations, coinciding with depletion of ammonium and increasing use of nitrate during the incubation period (Dugdale et al. 2007, Parker et al. 2012). These results may be confounded by changes in irradiance, growth rates and species composition between ambient and test conditions. To tease apart environmental and community effects from physiological effects, and to determine if elevated concentrations of $NH_4^+$ directly cause a decline in primary production under controlled conditions, this project will test 1) the $NH_4^+$ tolerance, 2) the influence of differences sources of nitrogen (N), and finally 3) the relative importance of N sources versus irradiance in regulating growth of individual phytoplankton species endemic to Suisun Bay.

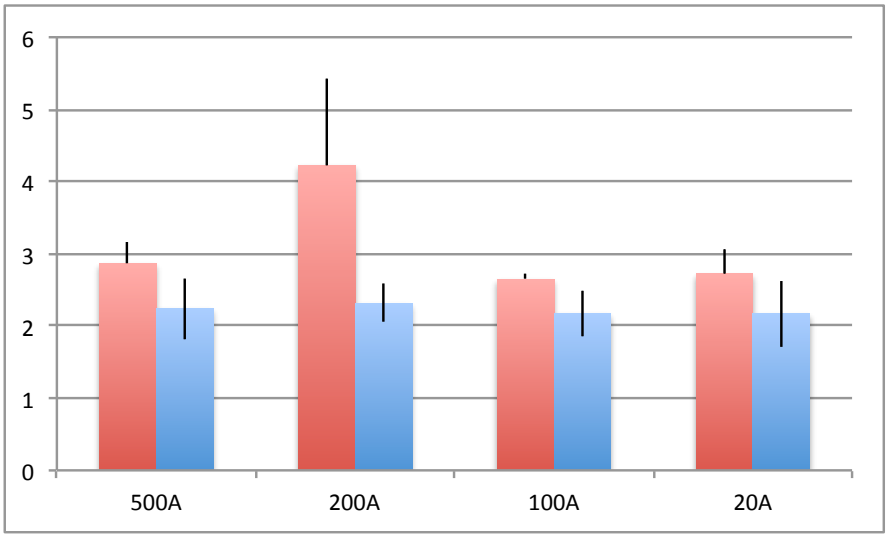



**Figure 1.** Carbon fixation (µg C µg Chl a-1 hr-1 on the y-axis in the diatom *Thalassiosira weissflogii* as a function of $NH_4^+$ (red bars) or $NO_3^-$ (blue bars) at concentrations of 20-500 µmoles $L^{-1}$ on the x-axis.

To date, eight species of phytoplankton from Suisun Bay have been isolated into pure culture. Only three of these have been tested for their tolerance to $NH_4^+$, as well as for growth on $NH_4^+$ relative to nitrate ($NO_3^-$). In one of the tested species, the diatom *Thalassiosira weisflogii*, the rate of carbon fixation was similar when grown on $NH_4^+$ compared to $NO_3^-$, and optimal $NH_4^+$ concentration for growth was 200 µmoles $NH_4^+$ $L^{-1}$. No inhibition of growth occurred in the range of $NH_4^+$ concentrations (20-500 µmoles $L^{-1}$) tested here (Figure 1). We would like to test the remaining five species for their $NH_4^+$/ $NO_3^-$ tolerance levels, and to perform irradiance-nutrient interaction experiments on three of the eight species isolated. One of the eight species of phytoplankton isolated is the diatom *Thalassiosira pseudonana*. This diatom is also in culture at the National

Center for Marine Algae (NCMA) and has had its genome sequenced (Abrust et al. 2004). It was originally isolated in 1958 from Moriches Bay in Long Island, NY, and we would like to compare the tolerance levels of the freshly isolated *T. psedonana* strain from Suisun Bay with that from NCMA to determine whether $NH_4^+$ tolerance levels are similar or dissimilar in these two cultures. This comparison will give us information on how large a role acclimation to culture conditions over a period of more than four decades may play in modulating the $NH_4^+$ tolerance thresholds of algae.

Using a similar rationale, we would like to isolate two-four species of phytoplankton from the southern part of San Francisco Bay (South Bay) in order to test their $NH_4^+$ tolerance thresholds. Comparison of tolerance levels between species already isolated from Suisun Bay with those from South Bay will tell us whether phytoplankton tolerance levels are similar or dissimilar in species from the two endpoints of the Bay. Both the comparison of phytoplankton isolated from Suisun with a species in the NCMA culture collection, and with species from South Bay, will help us understand whether $NH_4^+$ tolerance thresholds are largely genetically determined and/or how much a role acclimation to different regions and conditions play. These comparisons between literature, cultures and endpoints of the Bay will provide a mechanistic understanding of the interactions between $NH_4^+$ concentration and phytoplankton productivit, information that is necessary to make sound management decisions regarding the degree to which nutrients forms and concentrations exert negative control over the food web in Suisun Bay.

**Deliverable:** Progress updates and a final technical report.

**Budget:** ~45k would be directed toward salary support and lab materials to complete the Suisun Bay work, and the remaining 15k would be used for isolating and conducting growth experiments on cells isolated from South Bay for comparison.

| | |
|---|---|
| **P.11 Contribution to shared Research Vessel Purchase, in collaboration with USGS and other potential partners** | **Priority = HIGH** (but may not be possible this year) |
| FY2015 Cost = 400,000 | |
| Collaborators: USGS, SFEI, multiple partners | |

The USGS research vessel needs to be retired sometime within the next 2 years. USGS has a long-term personnel and operation budget to continue supporting a vessel and associated research and monitoring activities. However, USGS is limited in its access to funds to purchase another research vessel.

USGS has signaled its interest in partnering with organizations affiliated with the Nutrient Steering Committee on the purchase of a replacement research vessel. Contributing to the research vessel's purchase would secure the continuity of the 40-year water quality record for the Bay. USGS would continue docking, maintaining and operating the vessel. From a long-term (10 year) strategic and financial standpoint, contributing to the vessel purchase would ensure priority future research vessel use that could amount to a large cost savings for the region.

While directing funds toward this purchase may not be feasible with the current FY2015 budget, this is an important opportunity to ensure data collection continues through a federal-regional partnership. It is recommended that this remain a high-priority topic for discussion during the first half of FY2015, and that the Nutrient Steering Committee consider options for identifying or raising funds to support this collaborative effort.

| | |
|---|---|
| **P.12 Other targeted mechanistic studies exploring the role of nutrients in shaping phytoplankton community composition (including HABs), causing decreased primary production, or other effects** | **Priority = MED**<br><br>(wait for FY2016) |
| FY2015 Cost = 200,000 | |
| Collaborators: xxx | |

This project would test hypotheses of N:P, high NH4, and high NO3 on phytoplankton community, individual cell composition, etc. as one step along the path of evaluating whether these effects are occurring, and assessing their relative importance alongside other drivers.

While more studies on this topic will likely be needed to inform management decisions, given the number of recently completed (but still being written up) and on-going studies on this topic in the Suisun/Delta, it is proposed that no additional studies be sponsored during FY2015 from the Nutrient Steering Committee resources.

| **P.13 Fish/benthos field investigations in margin habitats to inform site specific DO objectives** | **Priority = MED** (wait for FY2016) |
|---|---|
| FY2015 Cost = 200,000/yr, multi-year study | |
| Collaborators: UCDavis, SCCWRP, SFEI | |

This project would conduct fish/benthos surveys in Lower South Bay (open waters) and in slough/creek habitats to identify species abundance and richness. The work would help inform several of the questions raised in P.7 related to habitat suitability with respect to DO for supporting fish and benthos. DO and T data would also need to be collected.

This project is a ultimately a high priority for determining if current conditions are supporting the expected habitat requirements of important species. Given budget constraints, this multi-year project could begin in FY2016. Starting in FY2016 would also allow DO data collected in FY2015 through P.8. to inform sampling design (and a continuation of P.8 during FY2016 would provide the necessary DO data to accompany biota survey data). However, if additional resources become available, the startup of P.6 and P.13 during the same year could allow for considerable overall cost savings.

| | |
|---|---|
| **P.15 Science Coordination/program management** | **Priority = HIGH** |
| FY2015 Cost = 200,000 | |
| Collaborators: SFEI | |

This project supports science coordination across projects, coordination with Nutrient Steering Committee, regulators and stakeholders, outreach, project management, contract management, and basic reporting. Funding would support 40% the Nutrient Science Program Lead Scientist (the remainder of support for the Lead Scientist is included within individual projects) and other SFEI staff for program management.

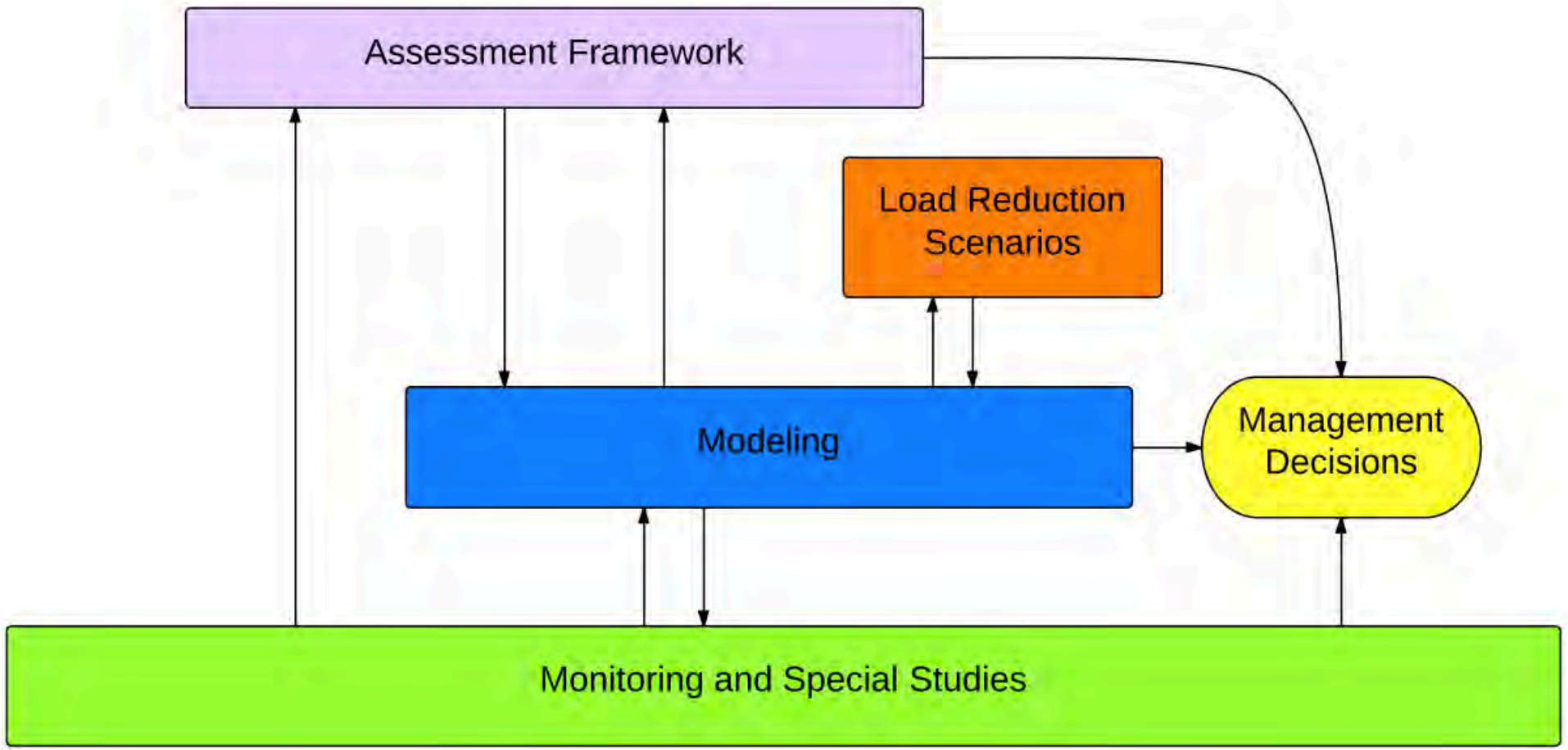
As the Nutrient Science Program moves into its second (first official) year and the number of work products and general progress increase, it may be important to begin generating an annual report – to serve as a progress report and to disseminate information to targeted audiences (managers, regulators, politicians). In particular, the editorial committee of the *State of the Estuary* has inquired whether the Nutrient Science Program could take the lead an effort developing the nutrient section during FY2015 and FY2016 (report publication date in FY2016). The Nutrient Science Program is well-positioned to take on that role. However, guidance is sought from the NSC, both about whether this is indeed an appropriate role and how it ranks among other priorities. Note: Costs associated with either an annual progress report or the *State of the Estuary* effort have not been included in the above budget.

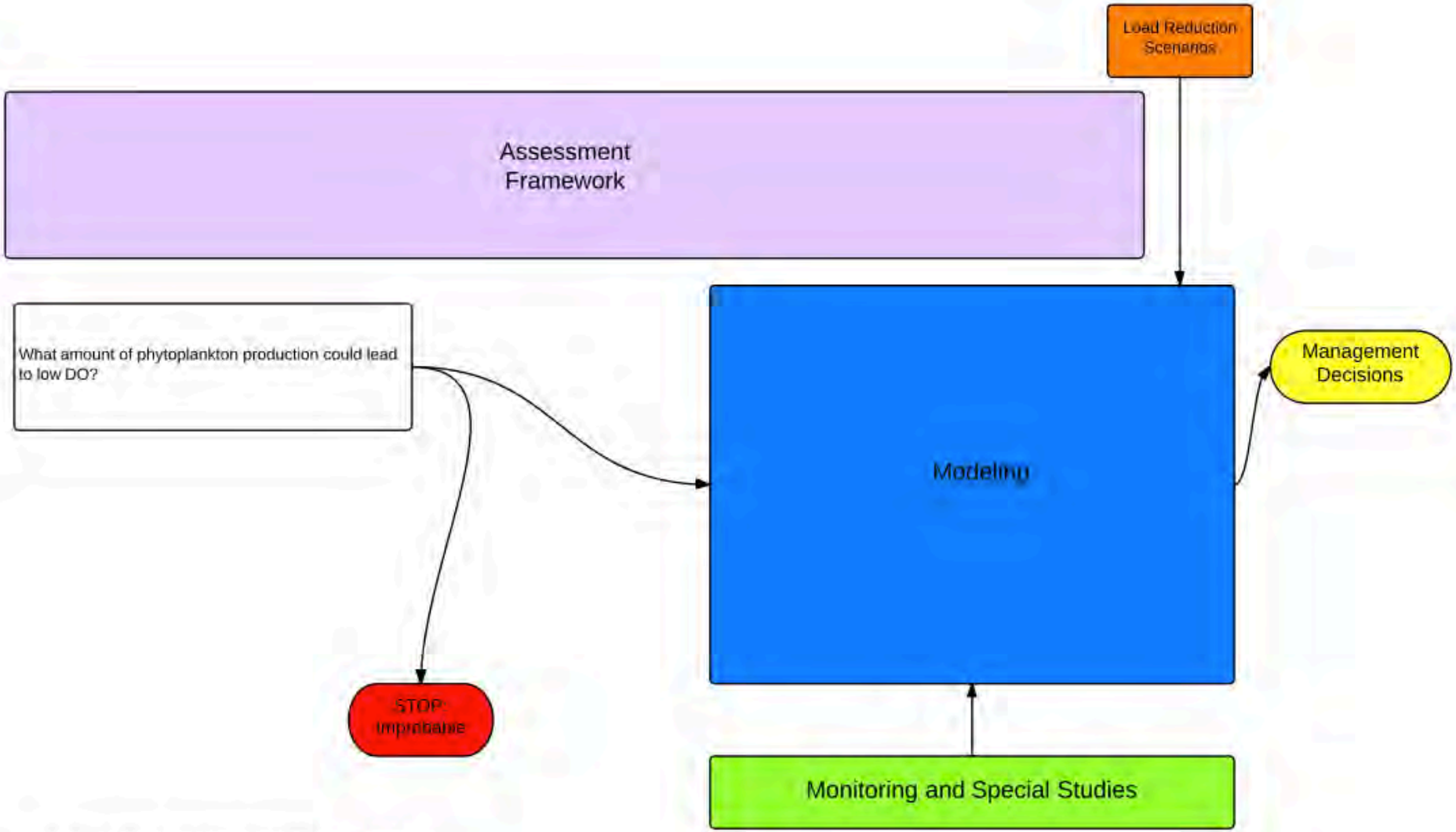
| **P.16 External Review** | **Priority = MED/HIGH** |
|---|---|
| FY2015 Cost = 50,000 | |
| | |

Convene an external advisory panel to review key aspects of the Nutrient Science Program and key work products (science plan, etc.), hold meeting with the NSC, stakeholders, and collaborators/experts.

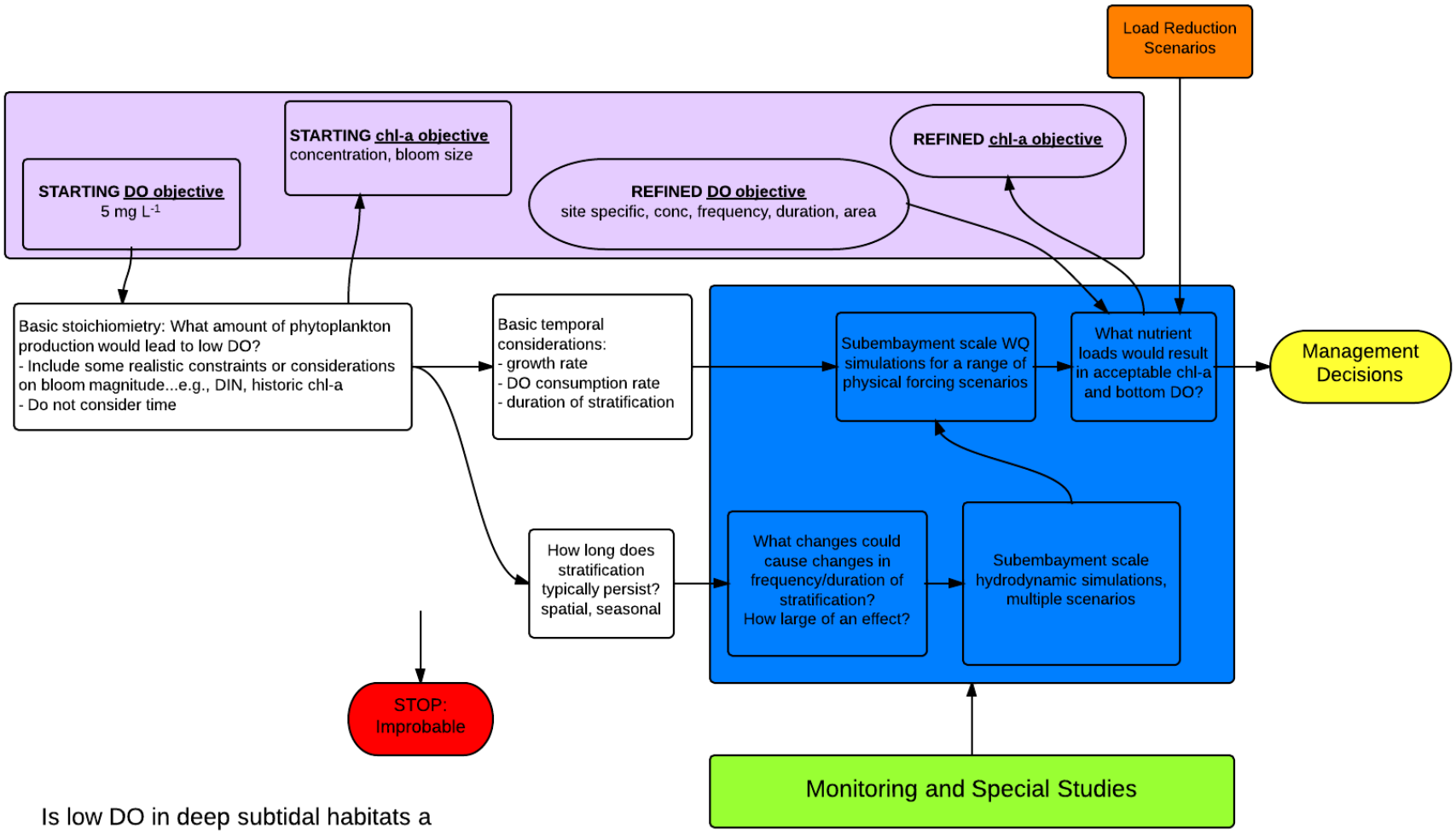
The question here is not whether external review is important. Instead the question is whether this should be carried out first in FY2015 or FY2016.

Approximately $30k from a FY2014 contract with BACWA for coordinating external review could be carried forward to FY2015,


Assessment Framework
Load Reduction Scenarios
Modeling
Management Decisions
Monitoring and Special Studies

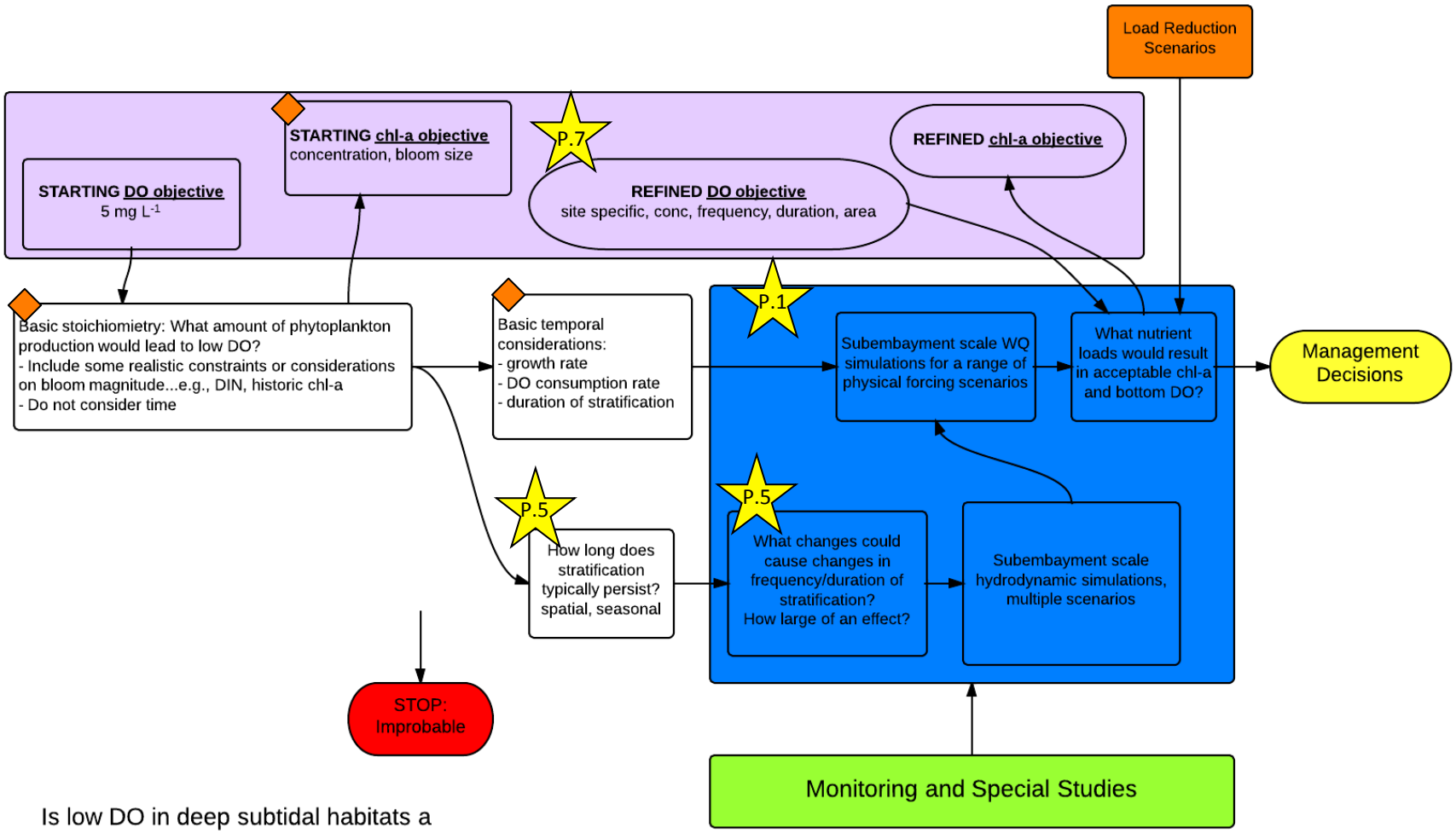



Is low DO in deep subtidal habitats a problem now or in the future?




Is low DO in deep subtidal habitats a problem now or in the future?

What management actions would prevent or mitigate adverse impacts?

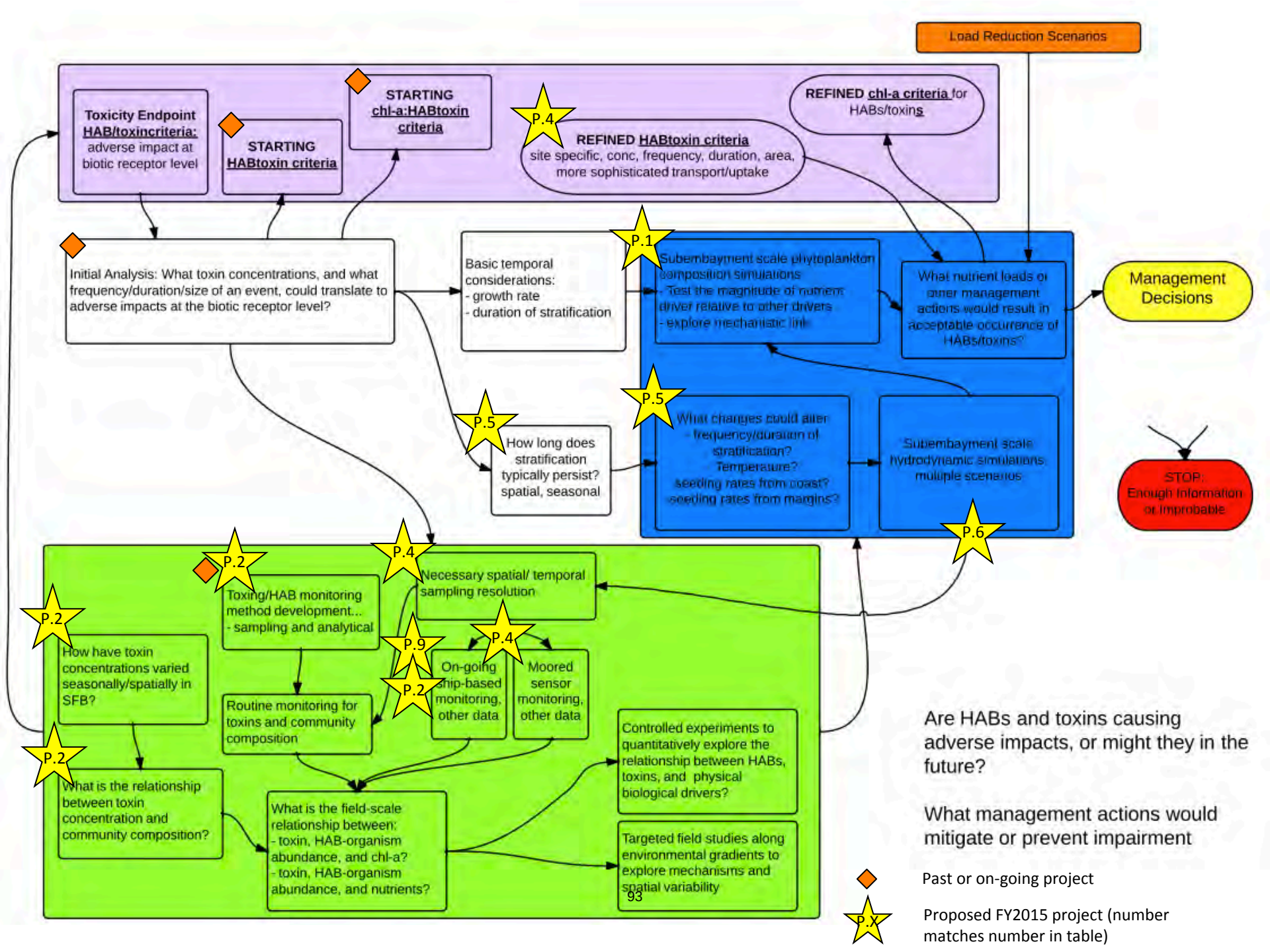


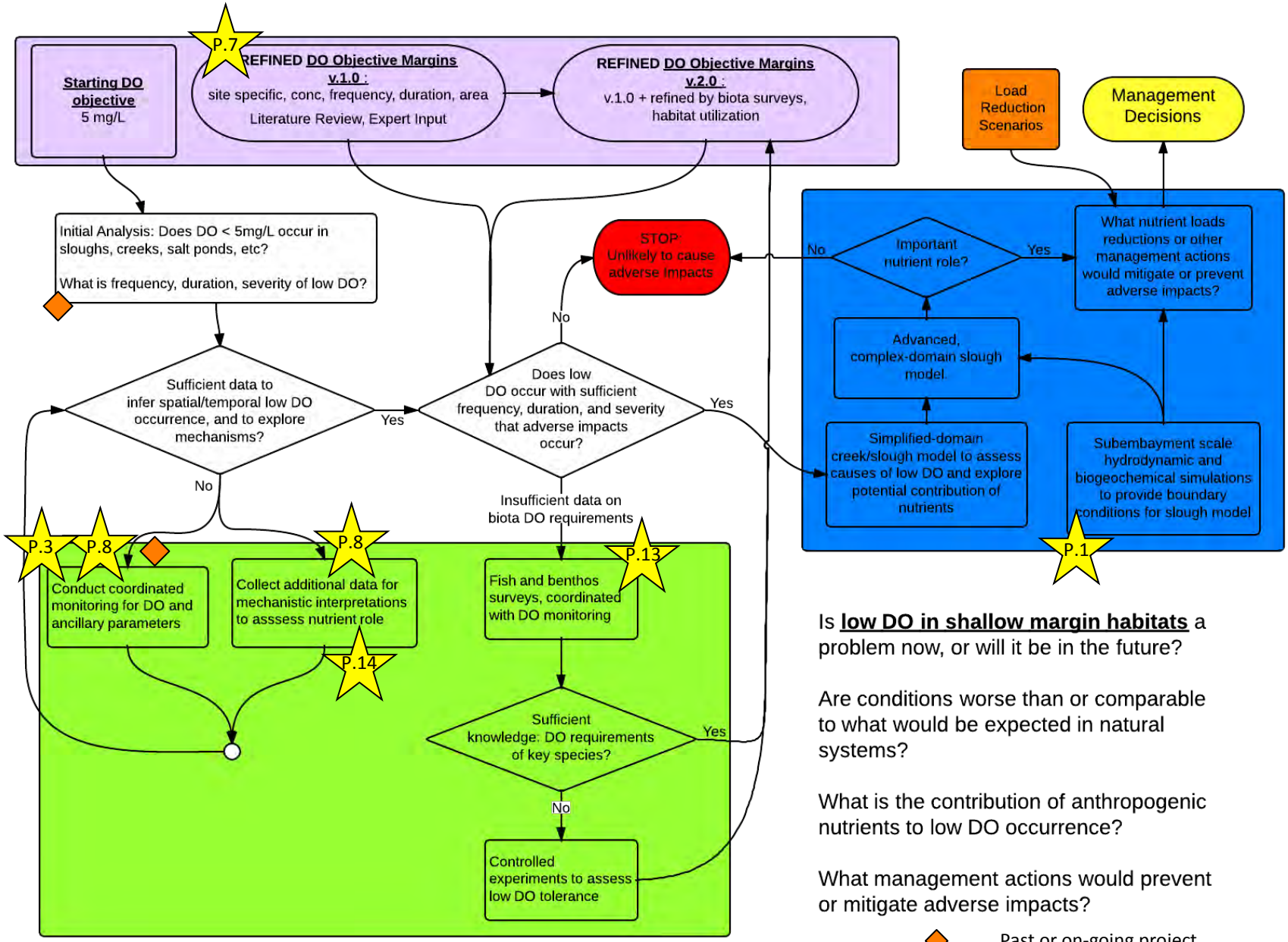

Is low DO in deep subtidal habitats a problem now or in the future?

What management actions would prevent or mitigate adverse impacts?

Past or on-going project

P.X Proposed FY2015 project (number matches number in table)


Load Reduction Scenarios
Toxicity Endpoint HAB/toxincriteria: adverse impact at biotic receptor level
STARTING HABtoxin criteria
STARTING chl-a:HABtoxin criteria
P.4
REFINED HABtoxin criteria site specific, conc, frequency, duration, area, more sophisticated transport/uptake
REFINED chl-a criteria for HABs/toxins
Initial Analysis: What toxin concentrations, and what frequency/duration/size of an event, could translate to adverse impacts at the biotic receptor level?
Basic temporal considerations: - growth rate - duration of stratification
P.1
Subembayment scale phytoplankton composition simulations - Test the magnitude of nutrient driver relative to other drivers - explore mechanistic link
What nutrient loads or other management actions would result in acceptable occurrence of HABs/toxins?
Management Decisions
P.5
How long does stratification typically persist? spatial, seasonal
P.5
What changes could alter - frequency/duration of stratification? Temperature? seeding rates from coast? seeding rates from margins?
Subembayment scale hydrodynamic simulations multiple scenarios
STOP: Enough information or improbable
P.6
P.2
Toxins/HAB monitoring method development... - sampling and analytical
P.4
Necessary spatial/ temporal sampling resolution
P.2
How have toxin concentrations varied seasonally/spatially in SFB?
P.9
P.4
P.2
On-going ship-based monitoring, other data
Moored sensor monitoring, other data
Routine monitoring for toxins and community composition
P.2
What is the relationship between toxin concentration and community composition?
What is the field-scale relationship between: - toxin, HAB-organism abundance, and chl-a? - toxin, HAB-organism abundance, and nutrients?
Controlled experiments to quantitatively explore the relationship between HABs, toxins, and physical biological drivers?
Targeted field studies along environmental gradients to explore mechanisms and spatial variability
Are HABs and toxins causing adverse impacts, or might they in the future?
What management actions would mitigate or prevent impairment
Past or on-going project
P.X
Proposed FY2015 project (number matches number in table)




Is **low DO in shallow margin habitats** a problem now, or will it be in the future?

Are conditions worse than or comparable to what would be expected in natural systems?

What is the contribution of anthropogenic nutrients to low DO occurrence?

What management actions would prevent or mitigate adverse impacts?

Past or on-going project

P.X Proposed FY2015 project (number matches number in table)

# BACWA EXECUTIVE BOARD ACTION REQUEST

**AGENDA NO.:** 11

**FILE NO.:** 13,364

**MEETING DATE:** August 15, 2014

**TITLE: Watershed Permit Fund Commitment for $865,000**

☒ **MOTION** ☐ **RESOLUTION**

## ACTION

Authorize payment in the amount of $865,000 to SFEI in order to comply with the provisions of the Watershed Permit for FY 15.

## SUMMARY

The Watershed Permit for Nutrients from Municipal Wastewater Dischargers to San Francisco Bay, NPDES Permit No. CA 0068873 adopted April 14, 2014, requires the commitment of $880,000 per year from POTW Dischargers as a collective effort to fund needed scientific studies as part of the implementation of the Regional Water Quality Control Board's Nutrient Management Strategy. The commitment is on a fiscal year basis and began July 1, 2014. BACWA's role in meeting this commitment is to collect the needed funds from its membership and provide those funds for the undertaking of the scientific studies. The identification of the studies to be undertaken is through a stakeholder governance Steering Committee on which BACWA holds two seats. At the June meeting of the Steering Committee, $935,000 of studies were approved with SFEI being the organization charged with completing the studies.

BACWA has already committed $15,000 of the $880,000 to provide support for the Steering Committee leaving an outstanding obligation of $865,000. This authorization of payment in the amount of $865,000 to SFEI will meet the first year of the Discharger's annual obligation under the Watershed Permit.

## FISCAL IMPACT

Funds are currently available in the BACWA reserves to make the payment to SFEI. This payment and subsequent annual payments to fund the scientific studies will be collected from the BACWA membership through a Nutrient Surcharge that will be included on the annual dues invoices to the BACWA members.

## ALTERNATIVES

Do not fund the Commitment. This alternative is not recommended since the payment is a regulatory requirement. BACWA members who do not participate in the payment of the Nutrient Surcharge will be handled individually by the Water Board, presumably through the Water Broad's 13267 authority to require funding of needed studies for regulatory issues.

IT/COMMUNICATIONS
PROPOSAL PRESENTED TO BACWA
EXECUTIVE BOARD MEETING
AUGUST 15, 2014

**PROPOSAL FOR IT/COMMUNICATIONS**
**FROM COURAGE COMPUTERS**
**FOR WEBSITE DEVELOPMENT/REDESIGN**
**IT & COMMUNICATIONS SUPPORT**

There are three areas in the proposal:

1. **IT Support for the three staff members.**
    a. This would include checking out and coordinating the three staff computers, recommending new software/backup/virus software/etc.
    b. This would be done at their offices, staff offices or remotely.
    c. They require a 5 hour retainer at their non-profit rate of **$120/hour = $600.**
    d. Hourly rate of $120/hour after the five hours retainer is used.
    e. Following the initial set up, they also offer as an alternative to hourly support – a program called Managed Services. (See document attached.) **This plan requires a minimum of 5 workstations. If BACWA grew to need this, the cost would be $9,000/year.**
        i. Set monthly rate of $150/workstation/month.
            1. Does NOT include help with additional projects. That would be additional at the hourly rate of $120/hour.
2. **Website development**
    a. Custom designed website with Content Management System: Base - **$4,500**
        i. Allows for new pages, templates, add members
        ii. Includes Home/About/Calendar/Committees/Forms/Google Analytics – essentially duplicating what we have now but with any changes we want.
    b. Additional Functionality (e.g. Members Only Access with user names and passwords) **$750/each additional function**.
3. **Communication Software**
    a. Recommends Mail Chimp: **$750**
        i. Includes setup, import email list, forms, newsletter templates to match our website and training.

**Introduction to Managed IT Services**
Computer Courage offers Managed IT Services to our customers. In this model of IT support, we provide a layer of IT management and responsibilities on top of our award winning support. Our Managed Services enable us to provide a higher level of service and stability to clients by taking an active and continuous role in our clients' technology. Managed IT features a simple billing model is used allowing us to provide many IT services under a single flat-rate billing model.

Managed IT is a proactive model, rather than a reactive one. Instead of troubleshooting and billing when technology fails, Computer Courage provides active monitoring of our clients' technology allowing us to treat issues and make recommendations before problems occur. Both Computer Courage and our clients benefit when the systems are running smoothly, and are thus working in a very cooperative and mutually beneficial model. This is primarily accomplished through two important elements:

1. A powerful active Monitoring Agent is installed on each of the Client's covered computers and used to monitor systems and perform maintenance.
2. A consulting schedule and set of procedures are established to identify critical performance goals, measure their success, and provide ongoing strategy and IT management to the client.

**Managed IT Benefits**
Managed IT plans include critical benefits that are not available in other IT models, including:

- Consistent, active consultation and planning of IT strategy and projects
- 24/7 monitoring and alerting on health and status of all covered IT components
- Patch management, antivirus management, and backup management
- Predictable IT budget with monthly pricing
- Prioritized user support with advanced ticketing system
- IT inventory management and system map
- Consultation and planning with regularly scheduled meetings and tasks

**Our Managed IT Service Plan**
Comprehensive is our full Managed IT services plan featuring monitoring and maintenance on all workstations, included user support, network and security management, vendor relationship management, and comprehensive IT consulting and strategy. Almost no work is billed hourly under the Comprehensive plan. Each comprehensive plan is customized to the clients' needs after a careful assessment with Computer Courage technicians.

*(continued on next page)*

**Features**

| Feature | Comprehensive Plan |
|---|---|
| *Reporting* | Included |
| *IT Consulting & Planning* | Included |
| *Windows and OS X Support* | Included |
| *Updated Systems Documentation & Map* | Included |
| *Priority Support* | Included |
| *Workstation Monitoring & Alerts* | Included |
| *Workstation Backup Monitoring* | Included |
| *Workstation Patch Management* | Included |
| *Workstation Antivirus* | Included |
| *Network management* | Included |
| *Mobile Device Management* | Included |
| *Email and Cloud Services Management* | Included |
| *Phone and Internet Consulting* | Included |
| *Vendor Relationship Management* | Included |
| *Quarterly IT Strategy Meetings* | Included |
| *Remote Support Sessions* | Included |
| *On-Site Visits* | Included |

**Pricing**

The plan costs $150 per month per workstation.  We require a minimum of five workstations to qualify for this plan.

**BACWA's IT Needs**

**Website**

- Currently hosted by PowerDNN, which also provides a tool for updating content on the website. The tool is unwieldy and we'd like to explore other options. The website management process sometimes freezes and linkage tools often don't work. Sherry (AED) and Lorien (RPM) are the main users of the website tool, but committee chairs also need occasional access.
- Need password protected areas of the site for members only
- Need search function
- Need better document management. Box.com works well for Dave/Sherry/Lorien to share files, but many of our members cannot access it because of agency firewalls, so links to box.com files do not work for them. We post some pdf's directly to the website, but we are limited in their size.
- We need a better way to promote/display educational opportunities and items of interest to the membership. These should easily link directly to more information (either on the BACWA site or on another website).
- *See end of this document for committee responses to BACWA inquiries about website and distributions list needs*

**Direct Communications**

- The BACWA bulletin is distributed via iContact. It works fine unless you want to make any changes to the format, at which point it is unusable.
- Committees use a combination of email lists (with lots of Cc's) or YahooGroups for their distribution lists. No one is actively dissatisfied (other than the RPM), but the situation could be improved.
- "BACWA Blasts" to all members are sent out via Contact Groups set up in the AED's Outlook. Is there a way for Outlook groups to be shared?

**Other IT Support**

- Filesharing between BACWA staff is done via box.com. We are reasonably satisfied with this utility.
- Dave Williams has requested some direct IT support to help him identify an email management and backup strategy.
- Harmonization of systems used by Dave and Sherry
- Direct support to Dave & Sherry for Box.net and Outlook
- Currently the AED seems to be the only maintenance point for email distribution lists. There is a risk in this. How can Dave, Lorien and Sherry synch Outlook contacts?

## Responses from Committees:

***Survey Question***
Committee Chairs, BACWA is investigating changing our IT support, and there may be an opportunity to improve our tools for committee communication and email distribution lists. Before meeting with potential IT support providers, it would be helpful to get your input on the following:

1. What methods do you use for electronic communication with your committee members (i.e., direct email list, Yahoo! Group, etc.)? Does this method meet your needs?

2. How does your committee use the BACWA website? Are there features on the website that you would like to see that are currently unavailable?

3. Do you have any other recommendations about ways that BACWA could improve its communications tools?

We will be meeting with prospective IT support providers on June 26, so your feedback before then would be much appreciated.

***Note: Lorien Fono (RPM) provides support for Recycled water and Permits, so those committees did not respond.***

### AIR

Hi Lorien,
Elyse, Nohemy or Randy may have additional feedback. My quick answers:
1. We use an Outlook distribution list for AIR, which seems to work fine for the needs of the committee.
2. Only a portion of our members use the website, primarily to review archived emails, reg documents, meeting slides and the calendar. Some members rely on the website for these things and others rely on the emails for them.
3. I need to think about this one. If there's time, it may be worthwhile to bring up to members at our next AIR meeting on July 16th.
Thanks,
Jim

No much more to add other than maybe using social media for item 3.

Thanks,
Nohemy Revilla

### Biosolids

Hi Lorien,

Sadly, the BACWA Biosolids committee is somewhat dormant right now. I do send out notices on the email distribution list. However, I have encouraged everyone to sign up for Greg Kester's CASA distribution list (Greg sends out a lot of emails).

We occasionally post items to the website (as appropriate).

I think email is probably still the best communication tool. It is nearly ubiquitous. Other communications (FB, twitter, web pages) require regular monitoring. One item that might help is working to make sure the information

is distributed to the correct person at an agency. This could be like a BACWA match-making service. I'm sure there are many people working on biosolids issues in the region that are not on the BACWA Biosolids distribution list (and some who would like to be off the list).

Take care,

Matt.

### Pretreatment

Hi Lorien, for the Pretreatment Committee, we use a direct email list. At this point, it meets our needs. We don't really use the BACWA website. I was going to put the Committee on the committee list and then post the reports, but have not done so yet, so at least the same information as for other committees is on the website. I guess, now I should wait until this IT process is complete. One thing that may be useful in the future is to have a shared space where we could work on documents together that is also private, but my understanding is that we could not do this with the BACWA website but would need to use another program that not all agencies are able to access. Thanks, Kirsten

### Collections

1. What methods do you use for electronic communication with your committee members (i.e., direct email list, Yahoo! Group, etc.)? Does this method meet your needs? ***The Collection Systems Committee uses a yahoogroups email distribution list. This system meets our needs. Attachments always work if they are in PDF format (a few people have trouble with Word document attachments). We do not use the file-sharing portion of the system because members either do not have access through their computer systems or they are not willing to enter a username and password as required. This is a critical issue for BACWA leaders to consider for future IT options. We have been able to provide a link to documents at the BACWA box.net location when non-PDF documents need to be distributed.***

2. How does your committee use the BACWA website? Are there features on the website that you would like to see that are currently unavailable? ***Collection Systems Committee members use the website to learn what the committee does, for the calendar of meetings, and to access committee documents.***

3. Do you have any other recommendations about ways that BACWA could improve its communications tools? ***None at this time.***

### BAPPG

Thank you for your efforts to improve BACWA's IT services. Below are our comments.

Cheers,

Karri

1. What methods do you use for electronic communication with your committee members (i.e., direct email list, Yahoo! Group, etc.)? Does this method meet your needs?
* Yahoo group and direct email - Yes

2. How does your committee use the BACWA website? Are there features on the website that you would like to see that are currently unavailable?
* Use the resource library for BAPPG materials, not just the Board reports but all kinds of useful outreach material
* Adding a search function would be terrific
* Yes, While BAPPG uses Baywise.org for public outreach, the BACWA website is used as a repository for past BAPPG products, including brochures, flyers, campaign artwork, etc. to make them available as a resource to BACWA members

3. Do you have any other recommendations about ways that BACWA could improve its communications tools?
* I'd like to see the member area more user-friendly: I don't think we need the logos posted, and it would be nice to have a title connected to the contact person so we know who we're contacting. I'd do it in an easy-to-read grid. Also, our listing is out of date (the person listed has retired)
* Keep the information up to date. Maybe store documents older than 3-4 years elsewhere or in a separate folder
* Add a line at the bottom of the main content on the Committee page like what is on the Biosolids Committee page that says, "For more information e-mail the Committee Chair, Karri Ving." This will ensure that whether a viewer is looking at the box at the left or the main content that they see who to contact for more information about the committee.
* Update committee reports more frequently

I would like to see a link next to the BAPPG logo that takes you to our baywise site as the public and non P2 BACWA members do pop onto our page from time to time.

# Bay Area Pollution Prevention Group

The **Bay Area Pollution Prevention Group (BAPPG)** develops a Bay wide pollution prevention program in cooperation with the Bay Area Storm Water Management Agencies (BASMAA). It develops a public education and information program directed to the public on how to prevent pollution through individual housekeeping practices. BAPPG provides a forum for information exchanges, sharing and regional projects. View all Bay Area Pollution Prevention Group Documents.

General meetings are held from 10:00 am to noon the 1st Wednesday of February, April, June, August, October, and December with a special Pollutant and Project Prioritization meeting held

in September. Steering Committee meetings (all members welcome to attend) are held from 9-10:00 am prior to General meetings and alternating months via teleconference on TBD dates.

I would also like resource files (non-report files), to be password accessible like the flowstobay site.

Username * [ ]

Password * [ ]

[Log in]

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DRAFT

# Executive Board Special Meeting Agenda

SF Bay Regional Water Board / BACWA
Executive Board Joint Meeting
August 18, 2014 9:00 – 10:30 AM
SF Bay Water Board, 1515 Clay Street, St. 1400 Oakland, CA

**ROLL CALL AND INTRODUCTIONS**

**PUBLIC COMMENT**

**DISCUSSION - OTHER BUSINESS**

1. Nutrients
    a. Governance Executive Committee
    b. Future Program Support
        i. Facilitator
        ii. Program Coordinator
    c. Progress on Consultant Selection for Optimization/Upgrade Studies
    d. WS Case Study Symposium
    e. SWRCB SAG on Nutrient Objectives
2. Drought Issues
3. Receiving Water Monitoring and Chlorine Residual requirements in permits
4. Vector Control General Order
5. Statewide Focus Group on Mercury Program
6. Statewide Focus Group on Bacterial Objectives
7. Other on-going topics
    a. Risk Reduction
    b. Toxicity
    c. CEC monitoring update
    d. Selenium
8. Joint Meetings with WB
    a. Mid-Year Coordination Meeting – Local venue
    b. Pardee Technical Seminar

## ADJOURNMENT

## Sherry Hull

**From:** Dave Williams
**Sent:** Wednesday, July 23, 2014 12:28 PM
**To:** Monica Oakley
**Cc:** Sherry Hull
**Subject:** RE: Request for Continuation of RMC Funds Into New Fiscal Year

Monica, I spoke briefly to Dan S. as the past chair and he thought that taking this to the next level of presenting to the WB would require a higher level of staff involvement (BACWA Board or senior managers from our membership) than the folks who normally attend the Collections Committee. I will put this request on the next Board agenda and see if the Board continues to be interested in pursuing this with the WB and if so we would simply extend the term of the agreement and proceed as you outline below.

***David R. Williams***
***Executive Director***
***Bay Area Clean Water Agencies (BACWA)***
***Cell: 925-765-9616***
***Email: dwilliams@bacwa.org***

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**From:** Monica Oakley [mailto:MOakley@rmcwater.com]
**Sent:** Wednesday, July 23, 2014 7:21 AM
**To:** Dave Williams
**Subject:** Re: Request for Continuation of RMC Funds Into New Fiscal Year

Yes, the original scope is just not completed yet and an extension of the contract expiration date would work fine. I suggest extending the expiration date to 12/31/14.

Monica Oakley

On Jul 22, 2014, at 6:47 PM, "Dave Williams" <dwilliams@bacwa.org> wrote:

> Monica, is this an issue of the original scope just not being completed yet? if so we would extend the term of the original agreement vs. carry forward the funds into next year. This is a technical budgeting issue within BACWA but it does impact how the work gets completed in this new FY. let me know which it is?
>
> ***David R. Williams***
> ***Executive Director***
> ***Bay Area Clean Water Agencies (BACWA)***
> ***Cell: 925-765-9616***
> ***Email: dwilliams@bacwa.org***
>
> ---
>
> **From:** Monica Oakley [mailto:MOakley@rmcwater.com]
> **Sent:** Tuesday, July 22, 2014 2:24 PM
> **To:** Dave Williams
> **Subject:** Request for Continuation of RMC Funds Into New Fiscal Year
>
> Hi Dave,

As we discussed, this email contains information about the outstanding Task Order under the 2013-2014 as-needed authorization for RMC.

There is one task outstanding, Task 2A, SSO Enforcement Options, from the FY2013-2014 contract.

The activities already completed on Task 2A are as follows:

- Develop up to five alternative enforcement approaches for SSOs – This element includes developing and documenting the detail associated with each of the alternatives sufficient to understand the method by which Regional Water Board staff (or other entity) would implement the alternative approach.

- Organize and facilitate one meeting with BACWA collection systems committee workgroup – This meeting will be used to present and discuss the details associated with preliminary alternatives, recommend changes, and add or delete alternatives.

A total of $2,653 (of the $4,985 budget) was spent on the above activities.

The activities still to go on this Task Order are as follows:

- Modify SSO enforcement options and add up to two more alternatives – This element includes incorporating comments from workgroup members and developing other alternatives as appropriate.

- Prepare for, organize, and attend one meeting with Regional water Board staff – This meeting will be used to present alternatives to Regional Water Board staff and discuss the potential method for implementation and any obstacles, including ways to overcome those obstacles.

An estimated $2,332 is needed to complete the remaining activities.

I believe it would be in BACWA's interest to complete the activities on this project. If you agree, please approve the continuation of the project into the new fiscal year. No additional funds are requested.

Please let me know if you have any questions, or need additional information, or would like to discuss anything.

Thanks.

**Monica Oakley, P.E.**

**RMC Water and Environment**
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<image001.png>

# BACWA TASK AUTHORIZATION FOR AS-NEEDED SERVICES

The Bay Area Clean Water Agencies (BACWA) uses contract consultants to carry out all of its functions. To ensure that the agency can be flexible and responsive, it engages some consultants on an "as-needed" basis, meaning that work is performed only when requested. When completed, this form constitutes approval of a new task under an existing "as-needed" contract. BACWA policies require the Executive Director to approve all tasks under $5,000; the Chair to approve all tasks over $5,000 but below $10,000; and the Executive Board to approve all tasks over $10,000. The consultant, the Executive Director, and the Assistant Executive Director shall work together to complete/update this form as tasks are authorized. No work shall begin on any task until this form has been completed.

**Consultant:** RMC Water and Environment

**Contract Number:** 12,974

**Contract Amount:** $20,000

| | Date Approved | Amount Approved | Description | Budget Line | Amount Spent | Approved By |
|---|---|---|---|---|---|---|
| 1. | 10/9/13 | $4,985 | SSO Enforcement Options | CBC Contingency/ Other | | D.Willliams / D.Stevenson |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| | **BALANCE** | $15,015 | | **TOTAL** | $0 | |

**Attachments *(attach longer descriptions if appropriate)*:**

1. Scope for Task Authorization No 1. – SSO Enforcement Options

**Bay Area Clean Water Agencies**
**Professional Services by RMC Water and Environment**

**Task Authorization No. 1: SSO Enforcement Options**
**Scope of Work**

September 23, 2013

Bay Area collection system agencies are growing increasingly concerned about increased activity by third parties in bringing lawsuits under the Clean Water Act for sanitary sewer overflows (SSOs) and other issues. Bay Area collection system agencies have increasing concern that these lawsuits do not constitute the legal activity by "citizens" in a way the Clean Water Act intended, and collection system agencies are concerned that the actions being brought, and the funds being demanded, are counter to the interests of their ratepayers and the public at large.

Since third parties only have jurisdiction if a regulatory agency does not take enforcement action when a violation occurs, the BACWA Collection Systems Committee has been discussing some alternative enforcement approaches that could be appropriate in addressing these violations. In addition, BACWA Collection Systems Committee members have expressed interest in developing the alternatives in more detail, and discussing them with Bay Area Regional Water Quality Control Board (Regional Water Board) staff. Regional Water Board staff have indicated to BACWA Board members an openness for this type of discussion. There are, however, no guarantees that an alternative regulatory approach will be implemented by Regional Water Board staff.

This task includes the following activities:

- Develop up to five alternative enforcement approaches for SSOs – This element includes developing and documenting the detail associated with each of the alternatives sufficient to understand the method by which Regional Water Board staff (or other entity) would implement the alternative approach.

- Organize and facilitate one meeting with BACWA collection systems committee workgroup – This meeting will be used to present and discuss the details associated with preliminary alternatives, recommend changes, and add or delete alternatives.

- Modify SSO enforcement options and add up to two more alternatives – This element includes incorporating comments from workgroup members and developing other alternatives as appropriate.

- Prepare for, organize, and attend one meeting with Regional water Board staff – This meeting will be used to present alternatives to Regional Water Board staff and discuss the potential method for implementation and any obstacles, including ways to overcome those obstacles.

If activities are desired beyond the scope described above, a new task authorization will be needed for additional funding.

**BAY AREA CLEAN WATER AGENCIES**

**EXECUTIVE BOARD RESOLUTION NO. R-15-01**

WHEREAS, since adoption of the Annual Budget for fiscal year 1984, and each fiscal year thereafter, the Executive Board has allocated Part A and Part B costs pursuant to authority provided in Section 10 of the Joint Powers Agreement among Member Agencies in the following manner (the "Allocation Method"):

a. a stated portion to the Original Signatory Members in equal shares; and

b. the balance to Associate and Affiliate Members based one or more of several factors consisting of the type of agency, size of plant, metals loadings, and total nitrogen loadings in the ratio that their share is to that of the total Associate and Affiliate Membership; and

WHEREAS, for the sake of clarity, the Executive Board desires by this Resolution to state specifically its adoption of the above Allocation Method in its adoption of Annual Budget commencing with the 2015 fiscal year Annual Budget and continuing each fiscal year thereafter unless and until a different allocation method is adopted by the Executive Board.

NOW, THEREFORE, BE IT RESOLVED that commencing with adoption of the 2015 fiscal year Annual Budget and with each Annual Budget adopted thereafter, the above Allocation Method for Part A and Part B costs is hereby adopted by the Executive Board pursuant to Section 10 of the Joint Powers Agreement unless and until such Allocation Method is changed by resolution of the Executive Board.

CERTIFICATION

The undersigned, as Chair of Bay Area Clean Water Agency, hereby certifies that the foregoing Resolution was duly adopted by the Executive Board at its regular meeting held on August 15, 2014.

_____

Chair

DRAFT

TOPICS FOR DISCUSSION AT THE ANNUAL TECHNICAL SEMINAR

October 21 – 23, 2014

EBMUD Pardee Facility

**Tuesday, October 21st (noon – 5:00 pm)**

Financial

1. Review of financial position and revenue needs for coming years
2. Dues/CBC/Nutrient Surcharge modifications
3. Outside fund raising for wastewater initiatives

Board/Committee/Membership

4. Review of overall committee structure, effectiveness and value to the membership
5. Options for incorporating Air as a BACWA Committee
6. Options for expansion of Board
7. Review of other programs administered by BACWA

Communications

8. Options for web site improvement
9. Options for better membership engagement

**Wednesday October 22nd (8:30 to 5:00)**

Nutrients

1. Technical
    a. Progress on WS studies and technical issues
    b. Update on scientific studies in progress
    c. Update on Science Plan
    d. Debrief on Symposium
2. Regulatory
    a. Scoping and Evaluation Plans

b. Update on permit monitoring efforts
c. Strategies for the next 5 year permit
d. Statewide Nutrient Objectives

3. Governance
    a. Executive Committee
    b. Program Coordination

Other Regulatory Issues

1. Risk Management
2. Selenium
3. Toxicity Plan
4. CEC monitoring

**Welcome WB**

**Thursday October 23rd (8:00 to 3:00)**

Coordination with WB

1. Review progress on Optimization/Upgrade Studies
2. Regulatory impacts of scientific findings to date
3. Discussion of insights gained from Symposium
4. Discuss "no net loading" and next 5 yr permit
5. Governance issues going forward
6. Discussion of POTW 20 year plans
7. Other Technical regulatory issues

**2015 BACWA EXECUTIVE BOARD**
**REGULAR MONTHLY MEETING SCHEDULE**

| DATE | TIME | LOCATION |
|---|---|---|
| January 29, 2015<br>*(Annual Member Meeting – no regular Board meeting in January)* | 8:30 – 3:30 | Boy Scouts Facility<br>1001 Davis Street, San Leandro, CA |
| February 20, 2015 | 9:00 – 12:30 | SFPUC |
| March 20, 2015 | 9:00 – 12:30 | EBMUD Lab Library |
| April 17, 2015 | 9:00 – 12:30 | SFPUC |
| May 15, 2015 | 9:00 – 12:30 | EBMUD Lab Library |
| June 19, 2015 | 9:00 – 12:30 | SFPUC |
| July 17, 2015 | 9:00 – 12:30 | EBMUD Lab Library |
| August 14, 2015 | 9:00 – 12:30 | SFPUC |
| September 18, 2015 | 9:00 – 12:30 | EBMUD Lab Library |
| October 21 – 23, 2015<br>*(Pardee Tech Seminar)* | TBD | EBMUD Pardee Facility |
| November 20, 2015 | 9:00 – 12:30 | SFPUC |
| December 18, 2015<br>*(Holiday Lunch)* | 9:00 – 2:00 | EBMUD Lab Library |

## Special Board Meetings to be scheduled in 2015:

Joint BACWA/San Francisco Bay Regional Water Board meetings will be scheduled for January, March, May, July, September, and November.