



RMP Technical Review Committee Meeting

September 21st, 2010

San Francisco Estuary Institute

First Floor Conference Room

7770 Pardee Lane, Oakland

10:00 am-2:30 pm

Meeting Participants

Mike Connor (EBDA)

Bridgette DeShields (Arcadis (WSPA))

Eric Dunlavey (City of San Jose)

Tom Hall (EOA, Inc (South Bay Dischargers))

Mike Kellogg (City and County of San Francisco)

Rod Miller (SF PUC)

Trish Mulvey (SFEI Board of Directors)

Francois Rodigari (EBMUD)

Karen Taberski (SFBRWQCB)

Luisa Valiela (US EPA) (call in)

Rachel Allen (SFEI)

Jay Davis (SFEI)

Rainer Hoenicke (SFEI)

Susan Klosterhaus (SFEI)

Lester McKee (SFEI)

Meg Sedlak (SFEI)

Don Yee (SFEI)

1. Introductions and Approval of Agenda and Minutes

Meg Sedlak and Jay Davis reviewed action items from the previous TRC meetings, noting that Steve Bay is scheduled to come to the October 20th Benthic Workgroup meeting. There were no comments on the minutes from the previous meeting. Mike Kellogg made a motion to approve the minutes, Karen Taberski seconded, and the minutes were approved by consensus.

2. Information: Steering Committee Minutes

Meg Sedlak noted that Kirsten Struve was replacing Arleen Navarret as the large POTW representative to the Steering Committee (SC). Ms. Sedlak will work with her to take on tasks begun by Arleen Navarret. The SC could still use a new small POTW representative. Jay Davis and Meg Sedlak asked Francois Rodigari to recommend a colleague prior to the next SC meeting on October 19th. There is currently no formal definition of “small POTWs”. A discussion ensued concerning dredger participation on the TRC and SC. John Prall from the Port of Oakland is currently the TRC representative from the dredger community.

Meg Sedlak informed the committee that the SC approved the package of special studies for 2011.

Action Items

- Francois Rodigari to recommend a possible small POTW representative to the SC.

3. Information: Pulse and Annual Meeting Update

Jay Davis reviewed the agenda for the RMP Annual Meeting, which will be held on October 5th at the Oakland Museum. Two keynote speakers will be presenting: Tom Schueler from the Chesapeake Stormwater Network and John Sansalone from the University of Florida. Jay Davis asked for feedback on the lunchtime audience participatory activity. He proposed audience voting on various possible factsheet topics. The pilot factsheets, on triclosan and triclocarban, will be available in the 4th quarter of 2010. Mike Connor suggested voting on topic areas for the proposed expanded Pulse. Jay Davis will be meeting with Tom Mumley on September 22 and will discuss expanding the Pulse and combining the RMP and State of the Estuary (SOE) meetings in 2011. These ideas will be discussed with the SC in October. Rainer Hoenicke mentioned that additional funding would have to come from SFEP for the expanded Pulse. Jay Davis is also working with Andy Gunther and the SFEP to develop an improved report card for the Bay. This will certainly be a topic of discussion at the 2011 SOE meeting.

Trish Mulvey noted that SFEI does not have an annual meeting, and asked how the RMP fits into the overall picture of SFEI.

Rod Miller suggested moving from a periodic newsletter or Estuary Insert to electronic updates. Mike Connor noted that Rainer Hoenicke's quarterly report to the Board of Directors could be relatively easily converted to an electronic update, and Meredith Williams is working on the format for distributing this to a larger audience. He also mentioned that the Bay Area Clean Water Agencies (BACWA) recently began this type of communication, which was well received.

Francois Rodigari noted that BACWA and the Regional Water Quality Control Board (RWCQB) will be meeting to discuss factsheet topics, and suggested that Jay Davis participate in this discussion to coordinate RMP efforts with BACWA and Water Board projects. Jay will seek their help in adding a management component to the technical factsheets that SFEI will produce. Tom Hall suggested that Adam Olivieri be contacted if the CEC factsheets will address monitoring, because of his work on the state recycled water document.

Jay Davis also suggested getting audience feedback on communication platforms for the lunchtime activity. Trish Mulvey added that the activity could include written feedback, along with "sticky dot voting". The group agreed that the lunchtime activity should solicit feedback on communication platforms.

Jay Davis mentioned that the 2010 Pulse is going to the press, and thanked Karen Taberski for her hard work. He suggested that the 2011 Pulse focus on wildlife effects due to contaminants, and 2012 would be an appropriate year for a focus on Contaminants of Emerging Concern. The 2011 Pulse could feature Meg Sedlak's summary of the Exposure and Effects Pilot Study; some of the recently completed effects studies such as mercury and PBDE work in birds, PAHs in flatfish, benthic TIE studies, and endocrine disruption; and a summary of the status of wildlife populations. Luisa Valiela asked if this would overlap with the concurrent Bay Report Card, and suggested that it would be a good opportunity to highlight and coordinate both efforts, rather than duplicating work. Trish Mulvey noted that a Pulse on Effects may need more time for reviewing and editing,

because of the potentially sensitive nature of the content. Jay Davis mentioned that he deliberately proposed “Ecological Health” as the title so as to avoid to more controversial “Effects”, however Karen Taberski pointed out that the topics differ significantly. The exact title will need to be more carefully considered to accurately reflect to the focus of the Pulse.

Lester McKee gave a preview of his Annual Meeting presentation on “Recent Findings on Stormwater Loadings and BMPs/Multi-Year Watershed Loading Sampling Plan”. With the implementation of the Municipal Regional Permit (MRP), there is increased focus on stormwater contaminant loading. Using PCBs as a model, Dr. McKee illustrated how we can identify and track contaminants from their sources to the Bay, to inform effective management and control.

Regarding a table showing PCBs still in use, Lester McKee noted that PG&E and oil refineries were conspicuously absent from the list of current transformer users, and speculated that the total mass of PCBs in use is significantly higher. Bridgette DeShields mentioned that one of the listed sites is actually demolished. The list is incomplete and not current because it is based on information provided to the EPA as of 2007.

Rainer Hoenicke and Trish Mulvey asked about the effectiveness of management actions for PCBs. Some potential sources include the large barrels of PCBs found by CEP in 2004, and air deposition. The only research on loading in the Bay Area from air deposition has been in dry conditions, while the literature shows that wet conditions can have 2 to 20 times the loading of PCBs than dry conditions. Lester McKee noted that PCBs are often mobilized from local sources and begin entering the water system due to redistribution by foot traffic and local wind. Thus, he considers that the atmospheric component of the PCB TMDL is likely underrated, but not grossly.

Lester McKee suggested that PCB regulations be improved to the level of mercury regulations. For example, it is illegal for contractors not to dispose of mercury containing equipment. PCBs also continue to be used in dielectrics. Mike Connor noted that the replacement product may be worse than the current problem. Because PCBs that enter the Bay are not evenly distributed, there are “high leverage areas” for management actions.

Action Items

- Jay Davis to coordinate with BACWA and Regional Board on factsheets.
- Meg Sedlak and Jay Davis to create a list of RMP factsheet topics.

4. Action: Dioxin Sediment Sampling

The SC approved funding for analysis of additional surface sediment and core samples, and is looking to the TRC for guidance on which samples to analyze. Susan Klosterhaus and Don Yee reviewed the samples that have been analyzed to date. For surface sediments, 47 samples collected in the 2009 dry season have been analyzed. There are samples collected for dioxins from the 2008 dry season (47 samples) and from the 2010 wet season (27 samples). The three options for analysis are:

- A) 47 dry season samples (provides increased spatial coverage)
- B) 27 wet season samples (provides wet-dry comparison)

- C) Hybrid: all wet season samples, plus some additional dry season samples (wet-dry comparison, plus repeat dry season sites, which enable some statistical calculations)

The objectives of surface sediment sampling for dioxins are to: assess spatial variation in Bay, estimate the reservoir in Bay sediments, determine if recent loadings are different from historical loadings, and collect data for food web and mass budget models. Although option (A) would enable further assessment of spatial variation, Don Yee noted that the estimate for the dioxin reservoir will be unknown until a dry/ wet comparison is made. Higher wet season concentrations would indicate that there is loading from the tributaries, whereas lower wet season concentrations could suggest that the tributaries are cleaner than the existing Bay reservoir.

Mike Connor suggested using a tracer contaminant, such as dioxin congener profiles, from the tributaries to help estimate dioxin loading in the wet season. However, congener patterns may not be strong enough for this. Dioxin data from a few tributaries during the 2009-2010 wet season should be available shortly.

Bridgette DeShields, Karen Taberski, Tom Hall, Rod Miller, and Meg Sedlak all weighed in supporting the hybrid option (C). Francois Rodigari suggested doing option (A) now, and analyzing wet season data in 2012. Don Yee agreed that there is no disadvantage to that plan, but he considers the unknown seasonality factor more important than better spatial coverage. Trish Mulvey suggested asking for \$30,000 more, to fund the analysis of all samples (A plus B). It was generally agreed to move forward with option (C).

Don Yee discussed the goals of analyzing cores for dioxins: to determine if there is a legacy pool, to assess exposure risk to biota, and to observe a trend in loading (from pre- to post-industrial). There is no more material in the existing cores for the sections that have been dated, however sections just below or above the dated pieces can be analyzed, allowing their dates to be interpolated. He presented the options for analysis:

- A) 4 sections in each of the Bay cores (sections 1,2, and 3 plus bottom section)
- B) 4 sections in each Bay core (sections 1,3, and 5 plus bottom section)
- C) Use wetland cores

The wetland cores, being purely depositional, do not show the mixed layer or give an idea of exposure to biota, but would give a better estimate of the loading history.

Mike Connor noted that it would be good to verify a decline in dioxin loading because of the significant effort that has been done to control dioxin loading, and suggested using the wetland cores for this. Bridgette DeShields concurred, noting that it is suspected that there are no large sources in the Bay, but it would be good to verify that current loadings are lower than historic loadings. The exposure question can be answered by surface sediment analysis.

Don Yee will bring this recommendation back to the Dioxin Team, to determine if they agree with analyzing the wetland cores. The next Dioxin Team meeting will be held via phone or email, and should occur before the SC meeting in October 2010.

Lester McKee stated that an introductory meeting on nutrients will be held at the Water Board on October 4th, 2010, with a technical advisory group that includes Dick Dugdale, Jim Cloern, Clifford Dahm, Ralph ??? (Santa Cruz), and potentially Tom Hall. Brock Bernstein and Martha Sutula will be leading the group. The group will assess how to monitor if nutrients are changing in the Bay. Luisa Valiela noted that the EPA will attend the meeting. Amy Chastain, Mike Connor, and other BACWA members will also attend.

Action Items

- Discuss TRC recommendations on dioxin analyses with the Dioxin Team, before the October 19th SC meeting.

5. Information: Update on PFCs

Meg Sedlak presented an update on PFC monitoring in the Bay. Perfluorooctanesulfonate (PFOS) has been found at high levels in seal blood and cormorant eggs in the South Bay, however small fish, sport fish, bivalve, and ambient water concentrations throughout the Bay are at levels more comparable with those seen worldwide. All water samples, including wastewater, tributaries, Bay margins, and ambient water, had higher concentrations of perfluorooctanoic acid (PFOA) than PFOS. Though there is a similar spatial trend between seals and cormorants, the relationship between high concentrations in some species and low water concentrations is not yet understood.

The concentrations in South Bay cormorants is above the predicted no-effects value (PNEC), however Jay Davis suggested that it would be difficult to identify effects on the population or pin-point PFCs as the cause. Lester McKee suggested that the stormwater data indicate that PFCs are urban contaminants, because of the high concentrations seen at Z4LA and GR101, both sites receiving urban stormwater. Because of the strength of the carbon-fluorine bonds, PFCs do not degrade in the environment. Their half life in cormorants is quite short, however, so because the cormorant concentrations are not decreasing, there must be consistent sources.

Meg Sedlak recommended that the next steps in the PFC project are to continue with bird and seal sampling, and to continue to characterize sources.

6. Action: Water Pesticide Analyses

Don Yee presented two potential methods for pesticide sample collection for the RMP Status and Trends water samples:

- 1) 4 or 8 liter whole water grab
- 2) Infiltrax (filter/XAD) (equivalent to about 20L)

The whole water samples (option 1) have the advantage of no collection artifacts, but are logistically more difficult. The Infiltrax filters are easier to handle and have a larger volume equivalent to sample, but there is incomplete recovery in the filtering. A comparison of data analyzed using both sampling methods shows that the Infiltrax can have incomplete recovery, but fewer non-detects.

Don Yee recommended the whole water sampling technique, because it produces better recoveries for most analytes, which he suggested is more important than fewer non-detects. The grab whole

water samples thus produce less unknown uncertainty than the filtered samples. The current list of pesticides includes multiple DDTs and chlordanes, however Don Yee also noted that as AXYS develops methods for new pesticides, the RMP will be able to easily analyze for these new contaminants.

The TRC agreed with Don Yee's recommendation, and decided to continue with whole water grab samples (option 1).

7. Information: Sediment Quality Objectives - Indirect Effects

Ben Greenfield updated the TRC on progress in the statewide Sediment Quality Objectives (SQO) program, including how monitoring data are interpreted, and the potential effect of sediment contaminants on human health. The assessment framework is designed to improve the quality of sediment assessment across the state and determine if pollutant concentrations in sediment pose a risk to human health. It is set up in a tiered fashion, such that each tier requires more effort and data. If a location does not meet SQO at the first tier, it moves on to tier II, which is more detailed.

The models are currently designed for organic pollutants such as PCBs, and have not yet incorporated mercury. Trish Mulvey suggested that Ben Greenfield develop a proposal to the RMP to focus on mercury linkage between sediment and biota in the Bay, which could help advance the SQO work. Mike Kellogg suggested that the RMP could take an active role in developing and implementing SQO. Karen Taberski agreed that the indirect effects assessment framework is a logical way to interpret sediment data. Ben Greenfield noted that SQO is scheduled for implementation by January of 2011, but the program will likely negotiate for the next year.

The TRC embraced the idea of looking at indirect effects of sediment, and was interested in aligning the effort with the RMP.

Action Items

- Develop a RMP proposal for including Hg in SQO.

8. Information: Planning Update

Jay Davis updated the TRC on the status of the Master Plan, which was discussed at the August SC meeting. He will meet with Tom Mumley to go over feedback on the Master Plan on September 22. He also presented the new annual planning cycle, which is designed to keep the program moving forward and incorporating results from synthesis reports and multi-year studies by using placeholder budgeting. For example, the planning workshop will be held in January, and the budget will be set for 2012 in October of 2010. The workgroup meeting schedule was also presented. The Modeling Team is scheduled to have more regular meetings to map out the 3 modeling tasks to be completed.

In the first quarter of 2011, the Meg Sedlak will begin working on the Status and Trends Strategy. If she has recommendations from this evaluation, they may be able to influence the planning cycle in 2012.

Don Yee noted that an Air Deposition Strategy meeting was held in May 2010. There was little call for new information, and the team noted that the RMP is already addressing the top priorities, such as dioxins. By the end of 2010, they will document the work to date on air deposition, and summarize why it is desirable to move forward on dioxins only.

Jay Davis suggested that the TRC and SC could start considering holding the next RMP program review in 2012. He was not necessarily recommending this, but it is within the realm of possibility.

9. Information: Program Update and Laboratory Data Status

Meg Sedlak noted that the next modeling meeting is scheduled for November 15th, the benthic workgroup meeting is scheduled for October 20th, and the stressor ID workgroup will be held in November.

Regarding RMP deliverables, the Sources, Pathways, and Loadings team at SFEI is working to fill two positions, which when filled should help Lester McKee to meet the deadlines. Meg Sedlak noted that the program is right on budget for field work, and she expects no delays from the subcontractors.

10. Action: Set Agenda and Date for Next Meeting

The next meeting is set for Wednesday, December 15, 2010. Bridgette DeShields asked for comments from the group on things that went well and improvements to the meeting (plus/delta). Trish Mulvey and Bridgette DeShields noted that the presentations and recommendations were focused and efficient. Eric Dunlavey appreciated the discussion on dioxin sampling in cores. Bridgette DeShields suggested that the meeting get out on time as an improvement.

#	Action Items – Sept 2010	Who?	When?	Status 9/27/2010
1	Recommend a possible small POTW representative to the SC	Francois Rodigari	Before the October 19 th SC meeting	
2	Discuss fact sheet needs and development with BACWA and Regional Board	Jay Davis	November	Pending
3	Create a list of RMP factsheet topics	Meg Sedlak, Jay Davis	November	Pending
4	Discuss analyzing the wetland cores with the Dioxin Team	Don Yee	Before the October 19 th SC meeting	Done – Hybrid proposal recommended
5	Develop a proposal for Hg in SQO	Ben Greenfield	??	

#	Action Items – June 2010	Who?	When?	Status 9/28/2010
1	TRC members to identify alternates to ensure good attendance and participation at TRC meetings	TRC members	On-going	Meg to contact TRC and SC representatives regarding next meeting (Prall and Lawrence)
2	Contact Joe Germano about sediment profiling in SF Bay.	Jay Davis	Next BWG meeting	Contacted Joe and have information on this issue.
3	Send a list of SFEI stormwater projects to Chris Sommers.	Lester McKee	July	
4	Chris Sommers and Ken Schiff (SCCWRP) will work together to plan a joint north-south stormwater meeting in the next 6 months.	Chris Sommers, Ken Schiff	By December 2010	
5	Explore holding a joint meeting between SFEI and SCCWRP on nutrients in about a year.	SFEI Staff	2011	
6	Standardize the format of RMP proposals	Jay Davis, Chris Sommers	Next round of proposals	
7	Review existing information on shellfish, and consider designing a comprehensive shellfish survey.	Meg Sedlak and Jay Davis	Spring 2011	
8	Begin developing an improved review process for future Pulses.	Jay Davis	Spring 2011	

#	Outstanding Action Items – March 2010	Who?	When?	Status 9/28/2010
1	Create web pages for the reports coming out of RMP each year	Rachel Allen	As needed	
2	Take fact sheet plan to the Steering Committee	Jay Davis	August SC meeting	
3	Coordinate with SFEP, BACWA, and BASMAA on fact sheets	Jay Davis		Pending

Notes:

1. Richard Looker substituted for Karen Taberski
2. Saskia van Bergen substituted for Francois Rodigari

P = present

C = call-in

X = not present

RMP Water Qual represented	MEMBER	Affiliation	2008				2009				2010			
			1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
POTWs	Francois Rodigari	EBMUD	P	P	P	P	P	P	P	P	P	(2)	P	
POTWs	Rod Miller	SF PUC	X	P	P	X	X	P	P	X	X	X	P	
South Bay Dischargers	Tom Hall	EOA, Inc.	P	P	P	P	P	P	P	P	P	P	P	
CCSF	Mike Kellogg	City and County of San Francisco	P	P	P	P	P	P	X	P	P	P	P	
City of San Jose	Eric Dunlavey	City of San Jose	P	P	X	P	P	X	P	P	P	P	P	
Refineries	Bridgette DeShields	Arcadis/WSPA	P	P	P	P	P	P	P	P	P	P	P	
Industry	Dave Allen	USS POSCO	X	X	X	X	X	X	X	X	X	X	X	
Stormwater	Chris Sommers	EOA, Inc.	P	P	P	X	P	P	P	P	P	P	X	
Dredgers	John Prall	Port of Oakland	P	P	X	X	P	P	X	P	P	X	X	
Corps of Eng.	Rob Lawrence	Army Corps of Engineers	X	X	X	X	X	X	X	X	X	X	X	
SF-RWQCB	Karen Taberski	SF-RWQCB	P	P	(1)	P	P	P	P	P	P	P	P	
US-EPA IX	Luisa Valiela	US EPA	X	P	X	P	X	C	X	C	P	X	C	