

**RMP Technical Review Committee Meeting
September 22, 2009
San Francisco Estuary Institute
Draft Meeting Minutes**

Attendees:

Mike Connor (EBDA)	Rod Miller (SFPUC)
Bridgette DeShields (Arcadis/WSPA)	Trish Mulvey (SFEI Board of Directors)
Eric Dunlavey (City of San Jose)	Rachel Allen (SFEI)
Naomi Feger (SFRWQCB)	Jay Davis (SFEI)
Tom Hall (South Bay Dischargers (EOA))	Susan Klosterhaus (SFEI)
Francois Rodigari (EBMUD/BACWA)	John Oram (SFEI)
Chris Sommers (Stormwater Agencies (EOA))	Meg Sedlak (SFEI)
Karen Taberski (SFRWQCB)	Don Yee (SFEI)

1. Introductions and Approval of Agenda and Minutes

Meg Sedlak made introductions, and asked for comments on the TRC minutes. No comments were made, and Chris Sommers made a motion to approve the minutes and Karen Taberski seconded and the motion passed unanimously.

2. Information: Steering Committee Minutes

Meg Sedlak summarized the Steering Committee (SC) meeting in August 2009, mentioning that the budget was generally on track. There is a minor shortfall of about \$15,000 due to declining interest rates; she also indicated that she is continuing to work with Caltrans to obtain delinquent fees (*after the meeting, Dylan Whyte of RWQCB indicated that the contract for the 2005 to 2007 fees had been signed*).

3. Ranking of 2010 Pilot and Special Study Ideas

Ms. Sedlak indicated that the SC reviewed the votes from the TRC and had a difficult time interpreting the results as there was too much disparity in the voting. The SC directed the TRC to discuss the pilot and special studies (PS/SS) and develop consensus as to which studies to fund in 2010, which to defer to 2011, and which to reject outright. She proposed accepting some of the less contentious studies directly, and focusing the hour allotted on the more debatable items.

Chris Sommers asked why the SC had sent the PS/SS discussion back to the TRC. Naomi Feger indicated that the SC wanted recommendations based on consensus of studies to fund, not a simple ranking. Jay Davis also mentioned that the TRC does not have to spend all of the money in the PS/SS budget. There was a brief discussion of who officially votes, but Naomi Feger suggested that all just come to agreement without an official vote.

Chris Sommers proposed discussing the studies first by agreeing on the ones which ranked the highest, then the ones that ranked the lowest, and then discussing the ones where there was no clear consensus. Karen Taberski also mentioned that some studies could be postponed, funded in part, or spread over two years.

Chris Sommers then introduced the studies based on their results from the voting after the previous TRC meeting.

- Study 14: Monitoring of Small Fish for PCBs
 - Everyone agreed to fund this study without discussion
- Study 7: SQO development for San Francisco Bay
 - Everyone agreed to fund this study without discussion
- Study 11: POC Loads Monitoring in Representative Watersheds – Reconnaissance
 - Chris Sommers mentioned that from his point of view, this study is a must, because it determines where sampling can be done.
 - Meg Sedlak indicated that it is actually an add-on study, which determines if the sites are in fact accessible.
 - Francois Rodigari mentioned that the budget amount for this study was small.
 - Everyone agreed to fund this study.
- Study 10: Develop and update spreadsheet model
 - Chris Sommers suggested that this be put off to 2011
 - Mike Connor expressed some concern that this was an individual sectors permit condition and whether this was an appropriate use of RMP funds. Chris Sommers indicated that storm water loading is a regional issue and that a lot of effort had been expended to see that the RMP and the MRP were well-coordinated. He also indicated that of the eight sites specifically listed in the permit, the RMP at present was only monitoring two (Hayward and Guadalupe).
 - Jay Davis mentioned that the spreadsheet model is a high priority for the small tributaries loading strategy and SPLWG.
 - Trish Mulvey proposed that it be funded for study, unless the budget was unattainable for this year.
 - The study was included in those to be funded for 2010.
- Study 13: Conceptual model for bioaccumulation
 - Everyone agreed to fund this study without discussion.
- Study 9: POC Loads Monitoring – Scoping Needs for “Land Use” specific monitoring
 - Chris Sommers indicated that there was high variability in the voting on this study. The goal of this study is to identify specific land use and emission data for contaminants from representative watersheds. Southern California has developed emission rates for eight land use categories. Due to the differences in the watersheds and contaminants, this classification is not directly transferable to the Bay Area. Chris Sommers indicated that

this work was a piece of the strategy upon which modeling and field work would be based.

- Everyone agreed to fund this study.
- Study 12: Proposal to develop highly resolved 3D model of the South Bay
 - Chris Sommers noted that it is the most expensive study. Karen Taberski asked if the budget could be reduced while still accomplishing the goals.
 - Mike Connor mentioned that the USGS was using the Delft 3D model and wondered how many different models of the bay were needed.
 - John Oram indicated that the Delft model was a commercial model meaning that any changes to the model would be an additional fee. He also indicated that USGS had hired a full-time modeler just to work on the model and modifications. The SUNTANS has the advantage that it is open source (free), community driven, and flexible in its application. John mentioned that the budget could be reduced but it would slow the progress of the work.
 - Mike Connor asked how this model could help make management decisions upon completion of the modeling exercise (approximately four years). Jay Davis and John Oram described the capacity of the model to determine where the contaminants are, where they go, and how they move, enabling the policy makers to know what influence contaminated areas will have on a region. Bridgette DeShields suggested that the model could also predict what effect clean up actions will have, and help prioritize management actions and additional studies.
 - Eric Dunlavey was concerned that models consistently do not provide enough results, and that they become outdated quickly, taking money that could be spent on collecting data. He wanted to know what reduction in uncertainty of our forecasts would be obtained with this effort. John Oram mentioned that previous models, such as the multibox model, have taught us a lot, and that this model will provide more detailed information, particularly in the Bay margins.
 - Chris Sommers asked how the model could be calibrated, and how predictions could be validated. John Oram said that this model is calibrated with physical parameters, such as salinity, temperature, and density. The USGS and the RMP have a plethora of data on these parameters.
 - Chris Sommers mentioned that he was disappointed with the multibox model, and that as the 3D bay model is developed, there should be regular updates in order to maintain confidence in the project. Jay Davis noted that a request had previously been made by the CFWG that a detailed workplan be laid out, describing tasks, what we will get for the investment (including anticipated reduction in uncertainty), the limitations of the model, an evaluation of data needs, a description of validation, the effort's relationship and dependence on other projects, and check in points along the way in this multi-year project.

- John Oram mentioned the sediment model being developed by a post-doc working with Dr. Mark Stacey of UC-Berkeley, and that this model is needed to move forward.
- Naomi Feger stated that this study was a high priority to the waterboard and pointed out that there was time for John Oram to write the workplan document before the funding is officially approved, which might address some of the concerns being raised.
- Chris Sommers supported this idea, and asked that the potential future data needs that are not included in the budget allotted be outlined in the document.
- Trish Mulvey suggested that the document be complete by the end of November, compatible with John Oram's workload, and that the funding for the project be contingent upon the document. The review process could then occur at the December TRC meeting.
- The study was approved for funding contingent upon the development of a workplan document.
- Study 4: Impact of dissolved copper and olfactory system of juvenile salmon
 - It was generally agreed that this study could be delayed until the next funding cycle. Some TRC members feel the study needs rescoping and that there should be further discussion among the stakeholders, NOAA and the Regional Board. This information need is a high priority as it is a permit requirement for dischargers and this study should be given priority in 2011.
 - Meg Sedlak recommended that a meeting be convened to discuss the project and that the study be brought back to EEWG, TRC and SC.
- Study 15: PCB Conceptual Model 1.5
 - It was agreed that this project be postponed until 2011. Karen Taberski and Naomi Feger asked if SFEI could research what is already available in terms of literature reviews on PCB degradation.
- Dioxin strategy study: Surface water monitoring of loads from Guadalupe and Delta
 - Meg Sedlak mentioned that this work was a piggyback effort off of the triennial Guadalupe and Mallard island work that was occurring in 2010.
 - Everyone agreed to fund this study.
- Study 16: Screening of biological matrices for anthropogenic pollutants
 - Eric Dunlavey mentioned that study 16 will use state of the art methods to prioritize emerging contaminants (EC), which the RMP should focus on. Meg Sedlak added that it was cost effective to do a non-targeted analysis, and that this study would generate a large scan of data.
- Study 3: Estimation of PBDE thresholds in common terns
 - Mike Connor asked if the PBDE tern study could be postponed, to wait for the development of a national threshold for bird eggs. He also indicated that since PBDEs have already been banned, the PBDE study is not needed. Naomi Feger indicated that the water board feels that this study is important because it will make progress towards determining if beneficial uses are impaired due to PBDEs. We have little in the way of good effects

threshold data available. For example, we see high levels of PBDEs in tern eggs and have limited effects studies. Karen Taberski pointed out that the available effects data are for other species, e.g., chickens and mallards. Chris Sommers expressed concern with the RMP funding an east coast study with east coast species. Naomi Feger indicated that her understanding is that the RMP, through Meg Sedlak, initiated this study and that using the common tern is a better surrogate for tern species in the Bay than chickens and mallards. Jay Davis mentioned that the tern eggs in the Bay area have much larger concentrations of PBDEs than others seen around the world. Meg Sedlak added that only Barnett Rattner at the USGS Patuxent facility was studying effects on PBDEs on bird eggs. It was proposed that this study be recommended to fund but that a quick review of the development of standards for BDE in sport fish and effects thresholds for birds be conducted.

- SPLWG Study: Monitoring and Modeling Contributions of Atmospheric Deposition to Watershed Mercury Loads
 - Karen Taberski indicated that the WB had concerns with the Atmospheric Deposition study, in that it is not called for in the TMDLs, one watershed atmospheric load may not be representative, and it makes more sense to characterize the background watershed load before collecting data on air deposition.
 - Chris Sommers suggested that atmospheric deposition is a larger issue than just mercury, and Mike Connor proposed to postpone the project to 2011 and develop a larger atmospheric deposition strategy. Bridgette DeShields added that atmospheric deposition is difficult and expensive to study, and that it would be better to address multiple contaminants at once. It was agreed that a new project with a small amount of funding, < \$12,000, be included in the recommendations put forward to the Steering Committee to develop an atmospheric deposition strategy.
 - Trish Mulvey suggested that studies 3 and 16 be funded for 2010.

Karen Taberski made a motion to accept the list of studies to fund and refer the recommendations to the SC, and Chris Sommers seconded it.

Action items:

- Develop a workplan for the modeling strategy that includes future data needs for the models, check ins, and collaborations.
- Hold a teleconference call to discuss revising the dissolved copper in the olfactory system of salmon study in consultation with NOAA and stakeholders, bring back to the TRC for consideration for studies for 2011.
- Research literature reviews on PCB degradation.
- Develop an atmospheric deposition strategy for atmospheric pollutants such as Hg, PCBs, and dioxin. Bring action item to the CFWG meeting in February.
- Determine if there are national PBDE standards/effects thresholds for bird eggs and sportfish.

4. Information: Program Review

The program review discussion was moved earlier in the meeting to accommodate members that had to leave early.

Ms. Sedlak reported that the SC did not see an urgent need for the Program Review. The Program already receives external technical review on an on-going basis from the advisory panels that are part of the workgroups, and the Program's finances are reviewed annually as part of the annual financial audit of the Institute. Ms. Sedlak stated that the questions that we want answered will guide who we should have on the review panel. Meg Sedlak mentioned that the program has set aside money for the Program Review. The Review typically occurs on a five-year cycle and the most recent Review was 2003.

Chris Sommers suggested the following questions: 1) is the money well spent? 2) how can the RMP better coordinate with other monitoring programs? and 3) what coordination efforts exist already?

Trish Mulvey mentioned that she had recently read the Little Hoover report that was released in January, and that there were a number of state-wide science needs that the RMP should consider addressing (e.g., better connection of academic research with regulatory needs). She also indicated that the Chesapeake Bay monitoring group became too focused on select issues and did not have a sharp focus on management information needs, and therefore less relevant.

Jay Davis mentioned that in the RMP Status and Trends program, there is no peer review, however it is perhaps not necessary because the statistical design is solid. Chris Sommers indicated that he was not too concerned about a technical review of the S&T elements as he thought that the RMP was doing well in this area.

Chris Sommers indicated that a key need for him was ongoing syntheses of all the information that the RMP collects. He indicated that the program was quite diverse and that there were few forums for synthesizing and presenting the lessons learned.

Karen Taberski commented that it would be good if the RMP was more connected with the IEP and Delta monitoring work. Mike Connor noted that there was not much collaboration between the air and water agencies and this might be an area where the RMP could improve communication.

Mike Connor suggested asking how the RMP could better coordinate with other organizations, and that it would be worthwhile pulling together data from similar programs, such as the Great Lakes and the Chesapeake Bay.

Chris Sommers proposed including review of the status and trends program, and adding to the peer review questions about increasing the non-technical communications from the RMP. He suggested increasing fact sheets to distribute to stakeholders. He also suggested that the review might focus on what the best outreach communication strategy is.

5. Master Plan

Jay Davis reported that the SC asked for a succinct (approximately 10 page) master plan that should be an easy read for managers. This document will be a starting point for the needs of the TRC, with appendices detailing the more specific items. The next SC meeting is on October 26, 2009, and Dr. Davis will have a draft by that meeting, that he will also send to be reviewed by the TRC. He asked that the TRC revise and submit their final information needs statements to him, because they will be used as focus points for the RMP.

Action items:

- TRC members will revise and submit final information needs statements for the Master Plan.
- Jay Davis will develop a draft of the 10 page master plan asked for by the SC, for review by the TRC.

6. Information: Statistical discussion of the number of water sampling sites

Jay Davis mentioned that the number of stations may not have to be increased and that the discussion of sampling sites would be written up and a decision postponed to the next meeting.

Action item: Develop a memo discussing the number of sampling sites in the RMP.

7. Information: Pulse and Annual Meeting Update

Jay Davis noted that the 2009 Pulse has undergone its last edits, and would return from the printer in a week. The 2009 Pulse, like previous Pulses, required an intense work crunch in order to complete it on schedule. To alleviate this pressure, Jay Davis proposed deciding on the theme for the 2010 Pulse one meeting earlier, and asked for suggestions for the next Pulse. He also asked for suggestions for the voting question that occurs at lunch during the annual meeting. Meg Sedlak pointed out that Mike Connor had agreed to emcee the meeting.

Susan Klosterhaus gave a preview of the emerging contaminant presentation she will give at the annual meeting. She also asked for suggestions on how to shorten the presentation.

Her presentation was designed to update the public on the emerging contaminant work that has been done since her last talk, 2 years ago. Dr. Klosterhaus focused on three of the many emerging contaminants: perfluorinated compounds, triclosan, and flame retardants. Since most PBDEs have been banned in California, she looked at persistent chemicals that are used to replace PBDEs, such as TBPH and TBB which compose Firemaster 550, the fire retardant used in her couch. However, in comparison with PBDE levels, alternative fire retardants are found in much smaller concentrations. She concluded by outlining the ongoing projects about contaminants of emerging concern (CEC), such as the white paper, the CEC workshop on management in California, and the NOAA mussel watch program for CECs.

Mike Connor suggested that the last slide of her presentation was not useful, and asked if she could present alternative strategies, such as barrier technology, that might give a more uplifting conclusion.

Donald Yee gave a preview of his talk on San Francisco Bay cores. The core project was designed to create an inventory of pollutants in the bay. Sites were chosen around the bay, and in wetlands, with the expectation of seeing spatial and temporal pollutant distributions. Interestingly, Dr. Yee found mercury peaks in 1960, which he believed were not due entirely to mercury mining. Instead, they might come from urban sources such as coal and the change in energy technology. In the wetlands, sediment was exclusively depositional, making tracking PCBs, for example, much easier. Due to the sediment mixing in the bay, the feared “time bombs” of contaminants have likely already exploded, however as the pollutants spread and dilute, they will render ever increasing areas still slightly polluted.

The discussion returned to ideas for the next Pulse. Rod Miller suggested comparing the RMP and the San Francisco Bay with other monitoring programs at places like the Chesapeake Bay, the Great Lakes, the Delaware watershed, and the Puget Sound. Karen Taberski noted that lessons learned from the Great Lakes and the east on the management of nutrients might be relevant given that the Bay was becoming less light-limited. Mike Connor suggested that there was a fair amount of California state data and we could compare the SF Bay and information coming from SCCWRP, SWAMP and the Delta. He gave several examples including emerging chemical projects undertaken by SCCWRP (PBDE in seals), the sport fish monitoring by SWAMP, sediment quality objectives work, sediment toxicity work, nutrients and numeric endpoints, and ammonia.

Karen Taberski suggested emerging contaminants, with articles on the Green Chemistry Initiative and the literature review of contaminants of concern in wastewater, as a possible Pulse theme. Mike Connor added the SCCWRP collaboration and workshop, pharmaceutical take-backs, and the NOAA Mussel Watch project as additional ideas to contribute to an EC themed Pulse.

Jay Davis summarized the ideas so far: 1) emerging contaminants, 2) statewide comparison between Southern and Northern California programs, 3) national comparison, and 4) nutrient loads. At the SC meeting, a theme for the 2010 Pulse will be chosen.

For the lunchtime referendum, Jay Davis presented two ideas: 1) advice on the program review, including areas where the program can improve, such as communication, coordination, and effective use of funds and 2) prioritizing contaminants. Mike Connor suggested that the first idea would be more useful, and Karen Taberski noted that it could be helpful, although it has a negative spin. Rod Miller suggested asking if the RMP is as focused as it should be. At the meeting, it would be possible to show the amount of money being spent on different projects, and ask if this distribution is reasonable based on public priorities. Mike Connor proposed asking both for advice on the program review and if the RMP’s money is well focused. Francois Rodigari suggested that the

results from previous lunchtime votes, and ensuing actions, be summarized and presented to the voting public.

8. Information: 2009 Atmospheric Deposition Dioxin

Don Yee presented the five-year dioxin strategy, focusing on atmospheric deposition. The CARB has data from 6 sites in the Bay Area from 2002-2004, but their report is still in progress. The RMP plans to estimate the loads to the bay and the watersheds, but deposition modeling is needed.

Jay Davis asked about the timing for the project, and Dr. Yee noted that it can be completed about 6 months from receiving the data from the ARB. Mike Connor suggested that upon completion of the dioxin air deposition work, Don Yee might want to revisit the CEP mass loading study of dioxin. Mike Connor also wondered how much of an influence pentachlorophenol (PCP) treated telephone poles (that can contain dioxin as an impurity) might affect the load.

9. Information: Program Update and Laboratory Data Status

Meg Sedlak gave an update of the program. She indicated that the white paper summarizing the workshop that was conducted in April on developing strategies for the State to manage emerging contaminants would be out shortly. SCCWRP and the RMP are also involved in assisting NOAA in redesigning the NOAA mussel watch program; this meeting will occur in October.

She also gave updates on the progress of the workgroups.

- a. The CFWG is working on the bay margins model, and will meet in January or February of 2010.
- b. The SPLWG will have a meeting in November of 2009, and is working on ranking watersheds, a statistical analysis of sampling methods, and integrating the MRP with the RMP.
- c. USGS is continuing work on the effects of selenium and mercury on bird eggs. Ben Greenfield and other RMP staff have begun collecting small fish and setting out DGTs. NOAA is midway through the juvenile flat fish study.
- d. The ECWG is working on the white paper, and the sources of PFCs.
- e. The Benthic WG had a meeting in August 2009, and they are working with SCCWRP and on SQOs to develop a method for characterizing benthos in the moderately saline and freshwater areas.
- f. Status and trends on sport fish samples have been collected, and are being sent to the labs.

Meg Sedlak mentioned that a number of SFEI staff presented at the AAAS meeting and that a short summary of the meeting is on the SFEI web site. LTMS is holding two workshops; one on dredging issues and mercury and the other on green sturgeon and long fin smelt. This second workshop will be on December 2 and 3, 2009 and is open to the public.

Meg reminded the group that if they had not yet registered for the annual meeting on October 6, 2009 they should. The day after the meeting BACWA and SFEI will be holding a QA/QC meeting. Please contact Jennifer Hunt for more information.

Meg Sedlak presented the RMP Data Status Summary, giving the average number of days data was submitted after sample collected from each of the contract labs.

10. Set Agenda and Date for Next Meeting

The chair stated that the next planned meeting would be in December 2009, and it was suggested that it be held on December 9, 2009.

ACTION	WHO	STATUS
Develop a workplan for the modeling strategy that includes future data needs for the models, check ins, and collaborations.	John Oram	To be completed for the December TRC meeting
Hold a teleconference call to discuss revising the dissolved copper in the olfactory system of salmon study in consultation with NOAA and stakeholders, bring back to the TRC for consideration for studies for 2011.	Meg Sedlak	
Search literature reviews regarding PCB degradation.	Meg Sedlak/ Rachel Allen	
Develop an atmospheric deposition strategy for atmospheric pollutants such as Hg, PCBs, and dioxin. Bring to CFWG meeting in February.	Don Yee	
Determine if there are national PBDE standards/effects thresholds for bird eggs and sport fish	Meg Sedlak	
Develop a draft of the 10 page master plan asked for by the SC, for review by the TRC	Jay Davis	To be completed by Oct 26, the next SC meeting
Develop factsheets on lessons learned from the RMP.	Meg Sedlak/ Jay Davis	
Revise and submit final information needs statements to the Master Plan – to be used as a goal for RMP studies	TRC members	
Develop a memo discussing the number of sampling sites in the RMP.	John Oram	Deferred until December
Outline a method for the review and dissemination of SEP projects for September TRC meeting	Meg Sedlak	

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Present RMP SEP projects to BACWA at their annual meeting or to the Executive Board	Meg Sedlak	
Keep a running tally on next steps and possible collaboration with SCCWRP's CTAG group and attend each other's planning meetings to grow collaborations	Meg Sedlak	Will present at the August SC meeting
Develop pollutant-specific links on the website. Include management questions and reports of interest.	John Oram / Meg Sedlak	To be considered as part of the RMP redesign of the website
Discuss incorporation of factsheets at next TRC meeting	Meg Sedlak	
Get feedback on the factsheets from the Steering Committee	Meg Sedlak	