RMP Technical Review Committee Meeting
March 29th, 2006
San Francisco Estuary Institute
Meeting Minutes

In attendance: Jamison Crosby (Contra Costa Clean Water Program), David Dwinelle (US Army Corps of Engineers), Jim Cloern (USGS), Bridgette DeShields (BBL/WSPA), Andy Gunther (AMS), Alan Jassby (UC-Davis), Mike Kellogg (City and County of San Francisco), Larry Kolb (Regional Board), John Prall (Port of Oakland), Francois Rodigari (EBMUD), Chris Sommers (EOA-BASMAA), Karen Taberski (Regional Board), Dave Tucker (City of San Jose), Mike Connor (SFEI), Nicole David (SFEI), Jay Davis (SFEI), Ben Greenfield (SFEI) Sarah Lowe (SFEI), Lester McKee (SFEI), Jon Oram (SFEI), Daniel Oros (SFEI), Meg Sedlak (SFEI), Bruce Thompson (SFEI), and Don Yee (SFEI)

By telephone: Scott Ogle (Pacific Eco-Risk Laboratory) and Joy Cooke Andrews (Cal. State – Hayward)

1. Introductions and Approval of Agenda and Minutes

Dave Tucker opened the meeting by asking for comments on the December 2005 minutes. Ms. Taberski and Chris Sommers requested several minor editorial changes be made. Pending these changes, the minutes were approved.

With regard to the action items from the December meeting, Meg Sedlak indicated that several of the items would be discussed today including a discussion of RMP participants' status and trends priorities. A revised version of action items is attached to the meeting minutes.
Action item: Include action items from the March 2006 meeting into the action items previously developed.

2. Information: January Steering Committee Report

Meg Sedlak provided a brief summary of the Steering Committee (SC) meeting on January 23rd, 2006. Ms. Sedlak noted that many of the items discussed at the SC meeting were included on the day's TRC agenda (e.g., discussion of the Pulse outline, Evaluating Status and Trends Priorities, and SWAMP/CEP updates). The 2005 expenditures were less than budgeted. Approximately $60,000 of 2005 labor costs will be carried over into 2006 to complete unfinished tasks. An additional approximately $130,000 of unallocated subcontracts will also be carried over into 2006. The 2007 budget ($3,125,047) was approved by the SC with the previously agreed upon two percent increase in fees.

Ms. Sedlak indicated that the SC had approved the following Program name change from "Regional Monitoring Program for Trace Substances in the San

Francisco Estuary" to "the Regional Monitoring Program for Water Quality in the San Francisco Estuary." Ms. Sedlak asked the TRC to approve this name change. Karen Taberski motioned for approval; Bridgette DeShields seconded and the name change was passed unanimously.

3. Discussion: Information Needs of RMP Participants

Meg Sedlak explained that the RMP began a process last fall to review the information needs and priorities for the Status and Trends program. As part of this process, the RMP is soliciting input on a prioritization table that was presented in September 2005 to the TRC. Ms. Sedlak indicated that power analyses will be conducted on the sport fish, sediment, and water sampling elements to assist in the evaluation of Program elements. Sport fish power analysis was performed by a consultant, Andy Jahn, in November and presented to the Fish Committee in November 2005. Sediment and water power analyses will be completed in the Spring of 2006.

Ms. Sedlak indicated that the group could focus the discussion by going through the table prepared by SFEI staff for the September TRC meeting or by using the Regional Board's table that was presented in the December TRC meeting. The group thought it would be useful to discuss both.

Dave Tucker began the discussion by outlining BACWA needs. He indicated that their primary focus is on meeting the regulatory needs of their NPDES permits. Elements with direct impact on regulators or TMDLs are a high priority. As such, the group places a higher priority on water, sediment, and bioaccumulation Program elements. The group is also very interested in seasonal variation (e.g., winter sampling). Mr. Tucker would like RMP staff to evaluate the frequency of analyses (i.e., for some analytes it may not be necessary to sample every year if changes aren't expected). Mr. Tucker placed a high priority on identifying emerging contaminants with the idea of avoiding legacy contamination. Ms. Sedlak mentioned that an emerging contaminants workgroup has been developed and will meet in June (see item #10 Program updates or the March TRC package for further details). Mr. Tucker indicated that aquatic toxicity work is a lower priority for BACWA, and sediment toxicity is a lower priority since it is always toxic and the cause is unclear. Mr. Tucker advocated keeping a big picture perspective when adding or deleting Program elements.

David Dwinelle indicated that the dredging community is very interested in understanding the causes of sediment toxicity and specifically the causes of seasonal variation in sediment toxicity. Dredged material testing data indicate that some organisms don't do well in winter. Karen Taberski also expressed interest in determining the causes of winter toxicity. Mr. Dwinelle noted that the RMP tends to see higher sediment toxicity than does the dredging community using similar tests. Mr. Dwinelle also stated the importance of using RMP data to develop baselines for future comparison.

Bridgette DeShields noted that the Sediment Quality Objectives (SQOs) will generate additional data requirements. The SQO framework includes some toxicity test species not currently sampled by RMP, and some tissue sampling. She suggested that the RMP may need to collect additional data for the SQO (e.g., data that can be used to evaluate impacts to wildlife (e.g., small prey fish) and more sediment quality data).

Chris Sommers emphasized the importance of quantifying long-term trends and of power analyses in making decisions regarding the prioritization of Status and Trends elements. He also stated that an emphasis on contaminants in sediment is appropriate for the RMP given the impending SQOs and the fact that contaminants in sediments tend to drive the TMDL process and impact the food web more than water concentrations. Sediment input occurs in winter, suggesting the need for assessment in winter. Increasing use of pyrethroids also suggests a greater emphasis on sediment chemistry and toxicity. A shift toward sampling of bedded sediment is also occurring in tributary monitoring. BASMAA's priorities for RMP are not as driven by NPDES permit requirements as are BACWA's and WSPA's.

Karen Taberski noted that while the power analyses are important, in the case of the sediment redesign, it was a balance of the findings from the power analysis and the fiscal constraints of the program that determined the current sampling designs for water and sediment.

Andy Gunther asked how many samples are needed to meet the goals of the program, or exactly what questions is the program trying to answer? If it is an objective (e.g., water or sediment), how frequently does the program need to analyze to demonstrate that it is answering the questions? Chris Sommers indicated that the 303 (d) listing outlined data needs but that he thought it was relatively few samples to list a water body (e.g., two).

Mike Connor summarized day's discussion so far and he and Francois Rodigari suggested that the criteria for assigning priorities in the Table be clearly delineated.

For water chemistry:

- Evaluate number of sites;
- Understand the impact of seasonal variation and episodic events; and
- Evaluate the analyte list (need for new emerging contaminants) and the frequency at which existing contaminants are analyzed.

For sediment chemistry:

- Evaluate number of sites
- Review analyte list
- Evaluate impact of new regulations (e.g., SQOs)

For bioaccumulation:

- Evaluate number of sites
- Evaluate seasonality

For sport fish:

- This review is largely going through the Fish workgroup

For sediment toxicity:

- Understand what is causing sediment toxicity
- Evaluate whether there are alternative ways to identify toxicity

For episodic toxicity:

- Needs to be redesigned
- Need to make sure that it is coordinated with other programs (e.g., CEP)
- Needs to have its own work group that is separate from the winter pilot

4. Information: Setting Priorities for the 2007 Program Plan

Meg Sedlak outlined the process for incorporation of new pilot and special studies into the 2007 RMP. She indicated that the TRC would need to rank the 12 pilot studies as high, medium or low and that she would send out a table with the studies to the TRC after the meeting. She requested that the rankings be submitted by May 1. Based on the current budget projections, approximately $300,000 is available in 2007 for pilot studies.

Ms. Sedlak briefly introduced each of the pilot studies and stated whether the idea had been reviewed by an RMP work group. Each of the authors of the proposals had an opportunity to very briefly outline the importance of their respective projects and to answer questions. Ms. Taberski and Mr. Sommers requested that pilot study # 2 Regional Watershed Monitoring Program be removed from the process as BASMAA and the Regional Board are currently working on a regional permit that may address some of these information needs.

5. Lunch Time Presentation: Recent Bay-wide Changes in Phytoplankton and related Water Quality

Alan Jassby of UC-Davis presented compelling evidence to show that in the last ten years, a significant fall phytoplankton bloom has developed. In addition, during the same time span, primary productivity in the Estuary has doubled. The reasons for this increase in productivity are not clear. Nutrient loading to the Bay has declined significantly over this period. Possible reasons for the increase include: a decrease in suspended sediment from the Delta resulting in a greater availability of light to the water column; upwelling in the Pacific Ocean (which

may transport nutrients/algae into the Bay); and variations in the 18-year tidal cycle.

Jim Cloern commented on how significantly different the Estuary is today than what it was when the RMP began monitoring ten years ago.

6. Update on SWAMP/CEP

Rainer Hoenicke gave a brief update on the review of the SWAMP program. SPARC, the SWAMP review panel, met late last year to evaluate the program. A variety of recommendations were made including that the regional data gathering nodes such as the RMP be incorporated into the SWAMP program. Jay Davis and SFEI staff have recently completed a report evaluating all of the SWAMP bioaccumulation data. A companion report with recommendations for future Statewide bioaccumulation monitoring will be available soon. Requests for copies of these reports should be made to Jay (jay@sfei.org).

Andy Gunther stated that the CEP is undergoing redesign due to the lack of approval of TMDLs in Region 2. The Technical Committee has been disbanded. The Memorandum of Understanding that created the CEP will expire in September 2006. Andy was uncertain as to whether it would be renewed. However, funding for the joint CEP/RMP coring project has been secured and field work will commence in early May (3^{rd}-8^{th}).

7. Information: Update on Mallard Island

Nicole David gave a short presentation on the hydrology and rainfall patterns that resulted in the use of contingency funds to sample at Mallard Island in early January 2006. As a result of high flows in January, water was diverted to the Yolo Bypass to avoid flooding downtown Sacramento. Flows in downtown Sacramento were on the order of 50,000 cfs; corresponding flows in the Yolo Bypass were on the order of 260,000 cfs. The peak flows occurred between January 1st and 4^{th} were a combined flow of approximately 370,000 cfs.

Nicole indicated that the contingency money ($50,000) will be used to pay for the collection of samples and the laboratory analyses of the water samples for mercury, PBDEs, PAHs, PCBs, and selenium.

8. Action: Inclusion of Cormorants into the Status and Trends Program

Jay Davis indicated that the cormorant report was not finished and, therefore, it would be pre-mature to move on the recommendation for including the cormorants into Status and Trends at the meeting. He indicated that the report would be completed in the next week or so and that it would be circulated to the EEPS work group for approval and recommendation, to the TRC for approval and recommendation, and to the SC for approval and final incorporation into 2006 Status and Trends program.

Jen Hunt gave a short presentation on the cormorant egg monitoring pilot study. The study has sampled eggs in 2002 and 2004 as part of the exposure and effects pilot study (EEPS). In addition, previous data exists for one site from the CISNET program (1999 through 2001). Two ten eggs composite samples are collected at three sites in the Bay (Richmond Bridge, Don Edwards, and Wheeler Island). Samples were analyzed for PCBs, Hg, pesticides, PBDEs, and selenium. At select sites, concentrations PCBs (lipid normalized) and Hg exceed effectlevels thresholds. PCB concentrations are higher at the Richmond Bridge site (urban and industrial area); Hg concentrations are higher at Don Edwards (closer to Hg sources). No spatial differences were observed for DDT, selenium, or PBDEs. No long term trends are evident from the existing data.

Jay Davis stated that cormorant eggs are an important indicator species that should be included in the Status and Trends program for several reasons: a strong signal; good regional integrator; and indicator of upper trophic level exposure.

A power analyses suggested that there is not a great loss in power between one and two years. Jay recommended that the cormorants be include in the program biennially at a cost of $50,000.

Mike suggested that this recommendation be placed in context with the other biota that the RMP is sampling under both EEPS and Status and Trends. In response to a question from Bridgette DeShields, Jay stated that EEPS has monitored cormorants, terns, seals, and fish.

9. Information: Pulse Update

Jay Davis indicated that the 2006 Pulse was well on its way. The draft layout version of the Pulse will be available in the second week of May. Chris Sommers asked whether the mercury in hair item would be included. Jay Davis indicated that it would be written up; however, if the TRC did not like the article, it could be dropped from the Pulse at that point.

10. Information: Update on Dredging Food Web Modeling Study

John Oram gave an update on the modeling work that has been conducted to date looking at the impacts of dredging on the food web bioaccumulation. John synthesized suspended sediment plume studies, field data from EMAP, RMP and dredgers, and the Gobas bioaccumulation model to determine the impacts of dredging at the point of dredging (dredge site), near field (approximate 2 mile radius from dredge site), mid-field (large segment of Bay) and far field (the entire Bay). John focused on one contaminant (DDT). John observed significant bioaccumulation at the dredge site; a 3% difference in near-field concentrations; a 1 increase in far-field concentrations. John emphasized several constraints of the model (i.e., assumes steady state and continuous long-term exposure).

The results of the model generated substantial discussion. David Dwinelle indicated that Corps studies suggest that there is very little impact from dredging. Bridgette DeShields suggested that the assumptions of the model could be reviewed by Todd Bridges, who has developed bioaccumulation models of dredging. Andy Gunther indicated that the plume at the Alcatraz disposal site dissipates rapidly and to assume continuous exposure is not realistic. Mike Connor suggested that the input parameters to the model must be in error as the results for the dredge site were too high and did not make sense(*aside: further review of the model identified two discrepancies with the inputs; new model runs suggested a 100% increase at the dredge site*).

11. Information: Program Update and Laboratory Data Status

Meg Sedlak passed out a graphic showing that most of the 2004/2005 data have been received. She also highlighted two new work groups/workshops that were mentioned in the work group summaries attachment: the emerging contaminants workgroup and a benthic workshop. The emerging contaminants Science Advisory Panel members are: David Sedlak (UC-Berkeley); Jen Field (Oregon State) and Derek Muir (Environment Canada). The first work group meeting is scheduled for June 1st. Meg Sedlak also mentioned that pursuant to the request by the TRC, Bruce Thompson is organizing a benthic workshop for May 23rd. Karen Taberski and Bridgette DeShields indicate that this may conflict with NorCal SETAC meetings.

The meeting was adjourned at 3:15 pm.

ACTION ITEMS

ACTION	WHO	STATUS
Look into whether recent data on PCB congeners can be provided electronically	David Dwinelle	
Develop a Five-Year Plan for the RMP that addresses management objectives and questions	Jay Davis	To be conducted after preparation of all workgroup five-year plans.
Convene a meeting of the workgroups with TRC to discuss long-term plans	Meg Sedlak/Jay Davis	To be conducted after completion of a five-year plan for RMP
Conduct power analyses of S&T program elements, prepare new table with priorities and potential recommendations	Meg Sedlak/Jay Davis	To be conducted next quarter.
Convene a meeting of the winter sampling and episodic work groups	Meg Sedlak	
Convene a work group to evaluate benthic assessment methodologies and to achieve consensus on appropriate methodologies to use (~$10,000). Upon completion of this task, Bruce Thompson will prepare an EEPS work plan for benthos (~ $40,000) for approval by the TRC.	Bruce Thompson	