

**RMP Technical Review Committee Meeting  
June 21, 2005  
San Francisco Estuary Institute  
Meeting Minutes**

In attendance: David Dwinell (USACE), Diane Griffin (EBMUD), Andy Gunther (AMS), Andy Jahn (Port of Oakland), Mike Kellogg (City and County of San Francisco), Jim McGrath (Port of Oakland-Emeritus), Mala Pattanayek (BBL), John Prall (Port of Oakland), Trish Mulvey (SFEI Board and Clean South Bay), Steve Ritchie (South Bay Salt Pond Restoration Project), Chris Sommers (EOA-BASMAA), Karen Taberski (Regional Board), Dave Tucker (City of San Jose), Jay Davis (SFEI), Sarah Lowe (SFEI), John Oram (SFEI), Meg Sedlak (SFEI), and Don Yee (SFEI)

By telephone: Brian Anderson, UC-Davis

**1. Introductions and Approval of Agenda and Minutes**

Dave Tucker opened the meeting by asking for comments on the March 2005 minutes. Minor editorial changes were requested. Assuming that the editorial changes would be made, the Committee approved the meeting minutes.

**Action item: Include action items from the June 2005 meeting into the action items developed from the March 2005 meeting.**

**2. Information: January Steering Committee Report**

Meg Sedlak provided a summary of the Steering Committee meeting on April 18th, 2005. The major items from the meeting were a memorandum addressing the 2003 Review Panel recommendations regarding conflict resolution and a budget approval process. Ms. Sedlak indicated that the Steering Committee strongly endorsed a consensus process and did not support a voting system when conflicts within the group could not be resolved. The memorandum will be revised and sent back to the Committee for discussion in July. Mike Connor presented a budget review process at the Steering Committee meeting; however, at the meeting, it was agreed by all parties that a two percent increase in the Program would be made for the next three years (e.g., 2007, 2008, and 2009). In 2009, the increase in the Program's budget would be reviewed.

**3. Action: Contingency Fund Requests – South Bay Salt Pond and USGS**

Jay Davis stated that several requests had recently been made to the RMP for using the contingency fund. The contingency fund is \$50,000, which, if unused, is a source of revenue to the following year's Program. The South Bay Salt Pond Restoration Project (SBSP) requested that SFEI participate in a \$740,000 research and monitoring effort in the South Bay to determine the impact of wetland restoration on the bioavailability of mercury. SFEI and several other agencies, including the Santa Clara Valley Water District and USGS, are currently

developing a proposal for two to three years of research and monitoring. This proposal should be available shortly.

Steve Ritchie of the SBSP gave a short presentation on the goals of the project and potential areas for collaboration with the RMP. Dr. Ritchie stated the restoration project of 15,000 acres of wetlands was one of the most ambitious projects in the US and presented a number of significant issues including the change of flow and sediment dynamics in the South Bay; the potential accumulation of mercury in the food web; and impacts to wildlife including birds and fish.

Andy Gunther asked about the impacts to shrimp fisheries in the South Bay. Dr. Ritchie indicated that his group is in the process of looking at old fish and game data to determine a baseline for this industry. Jim McGrath stated that this project presented a great opportunity for the RMP to move into the area of wetlands monitoring and research.

A question was asked regarding the source of mercury. Committee members indicated that the source was likely the New Almaden Mining District via the Guadalupe River. A mercury TMDL exists for the SF Estuary as well for the Guadalupe River. Jim McGrath commented that the reservoirs in the New Almaden Mining District might be some of the largest sources of mercury.

Jay Davis commented that this proposed monitoring includes use of sentinel fish species, potentially complementing small fish mercury monitoring that the RMP has been considering for several years.

Chris Sommers noted that this is a relatively short term project and queried Dr. Ritchie about the long term monitoring plans. Dr. Ritchie stated that these were summarized in a Draft Adaptive Management Plan that will be prepared for a stakeholders meeting in July. Several committee members stated that they would like to see the Adaptive Management Plan before they considered releasing funding to SBSP.

In response to a question regarding the funding of the SBSP, Steve Ritchie indicated that acquisition of the ponds was funded in part by the State (\$72 million), the federal government (\$8 million) and the private foundations (\$20 million). Stewardship of the ponds is funded through a variety of agencies including Fish and Wildlife Service, Pacific Gas and Electric, and Wildlife Conservation Board, etc. The planning effort of the project is funded by Proposition 50 and the Coastal Conservancy.

Karen Taberski wondered whether as part of the SBSP Waste Discharge Requirements the project should be funding the RMP. Dave Tucker suggested that Bruce Wolfe of the Regional Board, Steve Ritchie, and Mike Connor convene

a meeting to discuss funding. Chris Sommers indicated that this issue would also need to be discussed at the Steering Committee.

Trish Mulvey asked whether the project was time sensitive. Steve Ritchie indicated that the work would begin this Fall.

Conceptually, members of the TRC agreed that coordination and support of the program made sense.

**Action items: Obtain SBSP proposal/Adaptive Management Plan and forward to TRC members. Bruce Wolfe of the Regional Board, Steve Ritchie and Mike Connor convene a meeting to discuss funding. Discuss use of contingency funds at Steering Committee meeting.**

**4. Discussion: Long-Term Program Planning**

The May 31<sup>st</sup> joint CEP/RMP meeting in which long term goals and projects for both programs were presented was briefly discussed. Jay Davis noted that the RMP was in the process of developing five-year plans for each of the workgroups in an effort to present a coherent research strategy that addressed the RMP management questions and objectives. Long term plans for the Sources, Pathways, and Loading, and the EEPS Work Groups have been developed. A workplan for the Contaminant Fate Work Group has not been prepared; however, the long-term multi-box plan could be easily adapted. Jay Davis indicated that he would develop a five-year plan for the RMP based on the workgroup plans and a prioritized list of the management questions and objectives. This long-term plan could be used as a communication tool to describe the questions we are asking and what we are learning, and a tool for leveraging other sources of funding.

Based on the joint meeting, the TRC was less interested in developing a joint study plan between the CEP and RMP although the Committee members agreed that coordination between the organizations was very important.

Dave Tucker requested that a meeting be held with the work groups and the TRC to present of the long term plans. Mr. Tucker was interested in outlining the research for the next several years. Ms. Mulvey requested that this be a continuous two-year-planning process, and that the workgroups are properly informed of and prepared for this process.

**Action items: Meg Sedlak to convene a meeting and coordinate development of a Five-year Plan for Contaminant Fate Work Group. Meg Sedlak to convene a meeting of Workgroups and TRC after the CFWG has met and developed a draft Five-Year Plan. After this joint meeting, Jay Davis to develop a Five-Year Program Plan for RMP, including a narrative that ties together the prioritized list of management questions and the proposed studies.**

**5. Information: Update on Multi-Box Model**

John Oram gave an update on the status of the multi-box model. Tetra Tech is currently in the process of validating the model. To date, Tetra Tech has identified one error in the code regarding a conversion factor. John indicated that this did not have an appreciable effect on the results of the model. He also indicated that as a result of the modifications of Version 1 of the model that Version 2.0 predicts it will take slightly longer to achieve the cleanup goals (i.e., 90 vs 110 years).

**6. Information: Sport Fish Monitoring Update**

Ben Greenfield gave a presentation on the results from the 2003 sport fish monitoring event. Seven different species of fish were analyzed for a suite of contaminants including metals, pesticides, PCBs and PBDEs. By-catch species, including anchovy, sardines, and herring, were also analyzed for select chemicals. Ben Greenfield indicated that the samples were prepared for analysis in a manner similar to how they would be eaten (e.g., some fish were analyzed whole body, others with skins removed, etc.). Sport fish data have been collected for four sampling periods since 1994. Mercury concentrations in leopard shark and striped bass were above the screening value. PBDEs were identified in fish, congener 47 was the dominant congener. Concentrations of PBDEs were relatively high in anchovies. Discerning trends in some of data sets was difficult although in some instances, there are positive correlations with lipid content. Concentrations of DDT in fish show a general decline as do the concentrations of PCBs. Concentrations of organics in white sturgeon were unusually elevated in 2003. No long-term trends were observed in striped bass with regard to mercury.

With regard to the 2006 sampling season, Mr. Greenfield suggested possible new initiatives could include sampling new species and examining whole body samples as a means to assess impacts to wildlife. Dave Tucker asked whether the fish consumption study would be redone, with the idea of assuring that the present understanding of risk to consumers is correct. Karen Taberski indicated that there was not a lot of impetus to redo the survey as it is not that old (1999), it was a lot of work, and there is not a lot of evidence to suggest that consumption patterns have changed significantly.

**7. Information: Annual Meeting and Pulse**

Ms. Sedlak stated that this year's annual meeting had the highest number of registered participants (222) and highest number of no shows (43). A total of 191 attendees were present. Approximately 25 percent of the surveys were returned. Surveys suggested that participants were generally pleased with the event, the newsletter, Pulse, and Annual Monitoring Results. A general comment on the Annual Meeting was that more time is needed for question and answer sessions. Future topics for the Annual Meeting to consider included: continued research on mercury; emerging contaminants such as PFOS, pharmaceuticals, and pyrethroids; and information on biological effects.

Several committee members indicated that it was difficult to find seating and parking. A suggestion was made to have longer more in-depth talks or to separate the meeting into a two-day event with management issues on the first day and science issues on the second.

Suggestions for alternative venues included: the Paramount Theater, the Regional Board auditorium, and the Department of Transportation building.

With regard to the Pulse, committee members felt the one-page summary sheet was too negative and the Pulse was also somewhat negative in tone. Several people stated that they thought the Pulse was now too long and not a document that could be given to senior management. Jay Davis indicated that several prominent Bay area researchers had already contacted him regarding submissions for the 2006 Pulse.

**8 Action: Responding to Review Panel Recommendations**

Meg Sedlak presented a memorandum that addressed two recommendations by the outside review panel: enhance linkages with universities and interactions with similar monitoring programs. The committee had no comments on the memorandum and felt that it adequately documented the RMP's efforts to enhance its interactions with external organizations.

**9. Information: Workgroup Updates**

Meg Sedlak stated that all three of the workgroups had met in the last quarter. Each of the workgroup leads provided a summary of recent activities and a handout that is attached to the minutes. Ms. Sedlak indicated that EEPS Workgroup had met in April and June to discuss research priorities for the next four years. EEPS has prepared a draft four-year workplan that outlines research for terns, cormorants, benthos/sediment, fish effects, and Clapper rails.

Lester McKee also prepared a summary handout that is attached. Major milestones for the Sources, Pathways, and Loading Workgroup are the preparation of a five-year work plan and the Mallard Island Year 2 Report.

The Contaminant Fate Workgroup met in May to discuss the multi-box model, the food web model, and a Draft Plan for Core Sampling and Analyses. It is anticipated that coring will be undertaken late Fall/early Winter.

**10. Information: Update on Laboratory Issues**

Don Yee and Meg Sedlak prepared a handout summarizing several QA/QC issues for RMP samples. As outlined in the memorandum, issues were identified with the PAH and PBDEs analyses at both AXYS and CDFG. Brooks Rand is continuing to investigate issues associated with analysis of selenium in water.

Meg Sedlak stated that EBMUD had recently completed its data demonstration package for PCBs and pesticides by HR-MS and that it looked good. EBMUD

has begun analyzing 2004 samples. Ms. Sedlak thanked EBMUD and Diane Griffin for bringing this project to fruition.

Sarah Lowe recommended that the Toxicity Identification Evaluation (TIE) testing be eliminated for this year because UC-Davis was undergoing method development. Brian Anderson stated that the University had received a large grant to evaluate TIE testing and would like to apply these methods to next years' samples.

Dr. Yee stated that some of the PAH contamination identified in AXYS samples resulted from the method itself whereby boiling glass water filters in toluene at high temperatures produces PAHs. Dr. Yee is working with AXYS to identify either a new method of extraction or a new method of collection which does not involve glass filters. Don Yee indicated that one solution would be to collect whole water samples; however, there would be no particulate or dissolved information for these samples. In addition, the extraction costs would increase as there would be a separate extraction cost for the whole water samples. Another alternative would be to explore the use of flat-filters although one potential downside would be that they tend to clog.

**11. Information: Program Update and Laboratory Data Status Sheet**

Meg Sedlak provided a summary of recently completed documents and gave an update on the laboratory deliverables.

**12. Action: Set Date for Next Meeting**

Next meeting was set for Tuesday, September 20th. Meeting was adjourned at 3 o'clock.

**ACTION ITEMS**

| <b>ACTION</b>                                                                                                  | <b>WHO</b>           | <b>STATUS</b> |
|----------------------------------------------------------------------------------------------------------------|----------------------|---------------|
| Look into whether recent data on PCB congeners can be provided electronically                                  | David Dwinell        |               |
| Place a discussion of UCSC's participation in the RMP on the September TRC agenda                              | Meg Sedlak           |               |
| Obtain SBSP Proposal/Adaptive Management Plan and forward to TRC members.                                      | Meg Sedlak           |               |
| Bruce Wolfe of the Regional Board, Steve Ritchie and Mike Connor convene a meeting to discuss funding of SBSP. | Mike Connor          |               |
| Discuss use of contingency funds at Steering Committee meeting.                                                | Jay Davis            |               |
| Develop a Five-Year Plan for the RMP that addresses management objectives and questions                        | Jay Davis            |               |
| Convene a meeting and prepare a Five-Year Plan for the Contaminant Fate Workgroup                              | Meg Sedlak           |               |
| Convene a meeting of the workgroups with TRC to discuss long-term plans                                        | Meg Sedlak/Jay Davis |               |

## **Exposure and Effects Pilot Study Workgroup Meeting (2005)**

### Background:

The purpose of the Exposure and Effects Pilot Study (EEPS) is to identify exposure and effect indicators that can be used to monitor contaminant exposure and effects at different trophic levels, biological organization levels (e.g., biochemical, individual, population, and community levels), and spatial scales (e.g., locally or regionally). The goals of EEPS are:

- To develop indicators of Estuary exposure and effects for potential incorporation into the RMP Status and Trends Program. Long-term monitoring of these indicators will provide information to SFBRWQCB that can be used to evaluate the condition of the Estuary and, if needed, to implement management strategies to protect the Estuary; and
- To advance understanding of contaminant exposure and effects in the Bay through short-term special studies.

In 2004, an extensive literature review and evaluation process was conducted to select the indicators for EEPS. This work was summarized in the Conceptual Framework Model. Based on this report, the following indicators proposed for inclusion into EEPS:

- Terns
- Cormorants
- Benthos
- Diving Ducks
- Fish
- Clapper Rail
- Seal
- Sediment and Aquatic Toxicity

EEPS is funded at \$200,000 per year for the next three years (2005 through 2008).

### Meetings and Milestones:

EEPS met on April 4<sup>th</sup> and June 13<sup>th</sup> to discuss the research that will be undertaken on indicators. EEPS will meet again in late 2005. EEPS has added Dr. Daniel Schlenk of UC-Riverside to replace Dr. Spies who is resigning to conduct the fish effects work.



*Four-Year Workplan*

The RMP staff developed a draft Four-year Workplan outlining the indicator research conducted to date and the proposed research for the next three years (2005 – 2008). Based on a review of data and the criteria for incorporation of indicators into Status & Trends, research was proposed for:

- Terns
- Cormorants
- Benthos/Sediment Indicators
- Fish Effects
- Clapper Rail

*Four-year Draft Budget*

2005

Research proposed for 2005 included:

- Terns -- \$3,000 Analyses of Hg in Caspian Effects
- Benthos/Sediment Indicators - \$10,000 for evaluation of benthic archive samples/scoping out 2006-2008
- Fish Effects - \$50,000 (funded) + \$20,000 for development of laboratory culture
- Clapper Rail - \$5,000 for scoping feeding studies or other useful effect studies
- Small Fish - \$40,000

2006 and beyond

Research proposed for 2006 included:

- Terns – Egg Injection study
- Cormorants – Potentially moving into Status and Trends
- Benthos/Sediment Indicators – Validation of SQO work
- Fish Effects – Continuation of work (funded) and proposed work for 2007/2008
- Small Fish -
- Clapper Rail Effects -

EEPS Science Advisory Panel will review draft budget over next several weeks. Once comments on the budget are received, the budget will be incorporated into the Four-Year Workplan. This document and the budget will be sent to the TRC for comment.

## **Contaminant Fate Workgroup Meeting (2005)**

### Meetings and Milestones:

The most recent CFWG meeting was held on April 15, 2005. CFWG has added Dr. Keith Stolzen Bach of UCLA to the workgroup.

Topics of discussion included the following.

- The PCB Multi-box Model
  - John Oram delivered a presentation of version 1.0 (documented in a February 2005 technical report) and 2.0 beta of the Multi-box model. The latter incorporates recent USGS modifications to their sediment modeling routines which prevent some modeling artifacts resulting in unrealistic sedimentation or erosion in some modeled boxes. Workgroup members suggested areas of improvement for the model, including more regionally specific PCB loading and emissions history, congener specific tracking of degradation, calculations of *in situ* Koc values. Methods to examine model parameters and results were also suggested (PCB loading history and attenuation from deposition in borrow pits, comparing multibox results to the 1-box model using comparable inputs). Work examining these proposed changes to the model continues. Bill Mills of Tetra Tech presented their workplan for stochastic uncertainty testing of the Multi-box v2.0b, to determine which combination of parameters most influence the model results.
- The Food Web Model for the CEP
  - Dr. Frank Gobas of Simon Fraser Univ. presented work on the Food Web Model for CEP. The model is a fugacity based approach to estimating biota sediment accumulation factors (BSAFs) using San Francisco Bay parameters. The model uses published chemical properties to derive locale specific BSAFs. A project for state sediment quality objectives deriving empirical BSAFs may provide data to compare methods. A report to the CEP on the Food Web Model is being written and will be made available to CFWG members and other interested parties.
- A Draft Plan for Core Sampling and Analysis.
  - Donald Yee presented a draft sediment core sampling plan highlighting different approaches and decision points affecting the suitability of data obtained for particular purposes. Although the number of samples that could be collected and analyzed in the near term given current resources would be limited, the workgroup indicated the desirability of planning for supplementing the short term work with the possibility of longer term efforts. A hybrid approach was suggested, with more deterministic sampling to address particular questions (e.g. loading history and

attenuation) combined with (stratified) random sampling toward building a longer term statistically representative sampling of the bay. The work plan is currently under revision to incorporate these suggested changes. The work plan will be sent to CEP this summer for comment. It is anticipated that the sampling will occur late Summer/Fall.

Next meeting is scheduled for Fall 2005.

### **Sources Pathways and Loadings Workgroup Activities (2005)**

1. There will be two SPLWG meeting this year (May and October)
2. 1<sup>st</sup> WG meeting was held at SFEI on May 5<sup>th</sup>. Meeting minutes have been prepared and are available on our web site. Major agenda items included:

- a) Discussion and development of the SPL 5-year work plan

The discussion and written review comments received after the meeting have been incorporated to substantially improve the document. The work plan is now available for TRC review and approval.

- b) Discussion on criterion for picking another small tributaries loadings study site

The RMP funded review and reconnaissance field project (\$7.5k) will be completed in 2005 to help make decisions on where to sample next. The workgroup discussed a number of potential criterion. The Workgroup endorsed the product of the small project that would be a matrix of 6-12 potential locations for study – the matrix would be compiled in relation to potential criterion discussed – it would be then up to the WG to make final decisions and recommendations to the TRC.

- c) Discussion and ranking of special and pilots studies proposals

Lester solicited special and pilot proposal ideas for SPL consideration. The members then ranked them through an email process after the meeting. The proposals have been modified per written and verbal comments and will be further discussed along side any addition proposals that come in before the next WG meeting (scheduled in October).

- d) Update on Mallard Island and Guadalupe field studies

- e) Presentation by Neil Ganju on a sediment budget for Suisun Bay

- f) Presentation by Kit Conaway on Hg in Bay Area gasoline and Deisaline

- g) Presentation by Aaron Slowey on methylation in wetland areas of Alamitos creek

3. In summary, the products expected from SPLWG efforts this year include:

- a) SPLWG 5-year work plan approved by TRC and published on our web

- b) Guadalupe Year 1 Hg section published in Journal of the Total Environment (providing they accept the changes I am making based on their review)

- c) Guadalupe Year 2 final report published on our web after reviewer comments have been addressed

- d) Guadalupe Year 3 report (due to USACE September 30<sup>th</sup>) reviewed and published on our web

- e) Mallard Island interim report published on our web

- f) Mallard Is “final report” summarizing 4 years of data submitted to SPL for review

- g) A decision on where to start another small tributaries loading study
- h) A united decision from the WG on which special and pilot studies proposals to endorse for TRC consideration
- i) Secured funding and initiation of year 4 of the field work for Guadalupe study