



**RMP
Technical Review Committee
March 25th, 2014
San Francisco Estuary Institute
Meeting Summary**

Attendees

Bridgette DeShields, Arcadis/WSPA
Ian Wren, San Francisco Baykeeper
Karen Taberski, SF RWQCB
Rod Miller, SFPUC
Eric Dunlavey, City of San Jose
Nirmela Arsem, EBMUD
Meg Sedlak, SFEI
Jay Davis, SFEI
David Senn, SFEI

Jim Kelly, SFEI
Don Yee, SFEI
Ellen Willis-Norton, SFEI

Call In

Tom Hall, EOA, Inc. (South Bay Dischargers)
Robert Lawrence, US Army Corps of Engineers

I. Introductions and Approval of Agenda and Minutes [Bridgette DeShields]

Meg Sedlak opened the meeting by stating that the agenda item “Decision, Information: Proposals for Additions in Status and Trends” has been postponed until more TRC members are available to participate in the discussion. Meg scheduled a WebEx conference call to discuss margins sampling. Bridgette DeShields asked if all members were in favor of approving the previous TRC summary, and the summary was unanimously approved.

II. Information: Steering Committee Report [Meg Sedlak]

Meg Sedlak informed the TRC that Allied Defense Recycling was subject to enforcement action and ended after the RMP received a check from them for \$40,000. SC Chair Tom Mumley was essential in helping obtain the funds. Meg stated that at the January meeting the SC discussed the pros and cons of combining the RMP Annual Meeting with the State of the Estuary Conference. The SC agreed that merging the two meetings was valuable because of the visibility the RMP received, increased attendance, and the collaboration eliminated the potential for overlap between meeting content and materials. Rod Miller noted that the registration process could have been smoother. Other topics of discussion included the RMP’s communication strategy, the formation of a Selenium Strategy Team, and membership in the SC, TRC, and RMP workgroups.

III. Information: Update on Nutrients [Dave Senn]

David Senn provided the TRC with an update on nutrient modeling efforts. Three meetings were held with the nutrient technical advisors in 2013 and the result was the completion of a high level modeling plan. Dave stated that the model would be a resource to the community, with

researchers being able to use the base hydrodynamic model to work on their specific nutrient, or other contaminant, project. Any improvements made to the model would be shared with SFEI.

Dave then summarized the discussion and outcomes of the modeling workplan meeting held on January 16 and 17 at SFEI. The goal of the meeting was to clarify the science questions that the model was going to answer. There were three categories of science questions: 1) basic processes, 2) changes and future conditions, and 3) contribution of anthropogenic nutrients to current conditions. Dave then provided a list of 16 science questions that fall within the three categories. He stated that the technical advisors need to determine if the model platform can answer all of the scientific questions. For example, Dave is unsure questions about phytoplankton community composition can be answered easily with the model platform; a Darwin mode approach may need to be used which takes a lot of computational energy. The TRC agreed that the model should start basic and various dimensions (e.g. a longitudinal axis) should be added over time to ask increasingly complex questions.

Dave informed the TRC that the RMP proposed to move forward with the Delft modeling platform. USGS has already begun developing a hydrodynamic model for the Bay-Delta, CASCaDE, using the Delft platform; USGS has agreed to partner with the RMP to complete the model. Dave then listed the timeline for the modeling effort; year one will include model set-up, year two will focus on Lower South Bay and South Bay's ecosystem response; year three will include Suisun Bay's ecosystem response, year four will be full Bay modeling, and year five will focus on phytoplankton community composition. Dave stated that the model will not include the margin areas. Once the model is functional, the various parameters can be adjusted to evaluate the ecosystem response. For example, if clams are removed from the model, can the increase in phytoplankton biomass be explained?

Dave then presented the budget for the model. Hydrodynamic modeling will cost \$100,000 per year, water quality modeling will cost \$300,000, the technical team will require \$60,000 in funding, and the consulting firm Deltares who will provide scientific expertise on a as-needed basis will cost \$60,000 a year. Dave noted that a full-time water quality modeler will be hired during the development process. The full budget proposal will be brought to TRC in June for approval.

Discussion:

Karen Taberski asked why the focus was on South Bay even for answering questions about basic processes. Dave replied that the focus will be on the entire Bay for the basic processes questions. He noted that South Bay is interesting because there has not been a large drop off in chlorophyll concentrations, as there has been in North Bay; the change in chlorophyll has been more gradual in South Bay. Tom Mumley responded that there are two different phenomenon occurring in North and South Bay that need to be distinguished. In North Bay, there is ammonia toxicity and the inhibition of phytoplankton growth, while in Lower South Bay there is classic eutrophication.

Karen Taberski asked if year one refers to 2014; Dave replied that year one will begin in 2014, but the years do not follow the calendar year. Rod Miller asked if the SFB RWQCB is helping prioritize the science questions. He was concerned that nutrient regulation will precede the science. Dave responded that it is possible to focus on source attribution in the earlier stages of

the modeling process; however, it may not be the most efficient way of reaching the goals of the model. Dave added that a Nutrient Steering Committee has been formed to ensure that the regulatory priorities are addressed. Jim Kelly stated that he is unsure if the Nutrient SC is well suited to address the regulatory priorities. Dave responded that there could be a group in-between the Nutrient SC and the Nutrient Science Team that addresses stakeholder concerns.

Ian Wren asked what portion of the RMP Nutrient funds will be dedicated to the modeling effort. Jay responded that the RMP will dedicate approximately \$350,000 for year one of the modeling effort and the balance will be provided by the Nutrient SC. In future years, there will be a shift in funding so the RMP is not providing the majority of the funding.

Action Items:

1. Dave Senn will send the TRC the spreadsheet that details the nutrient modeling timeline and deliverables

IV. Discussion: Update on “Pulse Lite” and Annual Meeting [Jay Davis]

RMP Update

Jay Davis indicated that the 2014 RMP Update (Pulse Lite) will cost less to produce than in 2012 because there will be fewer articles. The Update will include program highlights, program area updates, and trends at a glance. Jay listed some possible RMP activities and accomplishments that the program highlight section can include such as the completion of the PCB Synthesis; work on Contaminants of Emerging Concerns; the completion of the PBDE synthesis and manuscript; Meg Sedlak’s article on PFOS in Bay biota; the outcomes of the methylmercury forum; and refinements to the Status and Trends program.

Jay stated that a draft of the Update will be sent to the TRC and SC by May 30th, 2014 and reviewer comments will be due by June 20th. The draft laid-out version will be sent to reviewers on August 8, comments will be due August 15, and the RMP Update will be printed on September 26.

Discussion:

Karen Taberski asked about the total cost for producing the RMP Update; Meg responded that it will cost around \$50,000. Rod Miller wondered if the RMP Update should include a section on the impact of the California drought. Meg Sedlak responded that the topic could be a topic for a panel discussion at the RMP Annual Meeting. RMP stakeholders could discuss the financial implications, conservation efforts, and plans for the future. Eric Dunlavey noted that WWTPs have implemented water efficiency efforts for the past 15 years; even as the population grows, less water is used. Ian Wren stated that the discussion could be tied into other RMP work, such as how the drought will impact nutrient concentrations. Meg suggested asking Felicia Marcus to be involved in the Panel. Karen Taberski recommended that someone from the Department of Water Resources give an introductory presentation.

RMP Annual Meeting

Jay stated that the SC was interested designating blocks of time during the Annual Meeting for the RMP program areas. Possible program areas to include on the agenda are Status and Trends, Small Tributaries Loading, Nutrients, and Contaminants of Emerging Concern. Jay noted that

one of the topics would need to be removed from the schedule if a panel on the drought was added. Other possible topics include new monitoring programs the RMP is overseeing around the state (Delta and the Klamath Basin) or the RMP's updated communication strategy.

Discussion:

Bridgette DeShields asked Jay when the agenda would be finalized; Jay responded May 6th. Bridgette stated that the TRC should take the draft agenda to their agencies and ask for input. Jay and Meg agreed that TRC members should send ideas for outside speakers if they are relevant; however, the majority of the speakers would be SFEI staff and RMP workgroup panelists.

Action Items:

2. TRC members will send Jay Davis input on the draft RMP Annual Meeting agenda.

V. Information: Update on Selenium Strategy [Jay Davis]

Jay Davis stated that the SC discussed forming a Selenium (Se) Strategy Team and whether the team would be charged with gathering consensus on Se thresholds or with managing a smaller effort focused on identifying data gaps. The SC agreed that the smaller effort would most likely reach their goals. Bridgette DeShields stated that the Se Strategy Team will first work on identifying and reducing data gaps. If the first goal is achieved, more experts can join the team and work toward gathering consensus. The team will meet in April or May to discuss potential studies and the Strategy will be completed by October.

Discussion:

Jim Kelly asked if the release of the TMDL will be deferred until the Se Strategy Team has completed their work. Jay responded that the draft TMDL will be released in June and the information the team produces will not be incorporated into the report. Bridgette added that the data obtained from the team's monitoring studies could influence adaptive management or the implementation of the TMDL. Jim stated that he was unsure if there was a Se threshold that had been proposed that was a reachable goal. Jay responded that Tom Mumley is interested in generating targets that are reachable.

VI. Information: Update on Reanalysis by EBMUD of Organics in Sediment

Don Yee reminded the TRC of the perceived dip in PCB concentrations from 2004 to 2006. He informed the TRC that EBMUD's reanalysis of the PCB samples indicated that the low bias was due to a change in the drying methodology. EBMUD subsequently offered to also reanalyze pesticide, PAH, and PBDE samples from 2005, 2006, 2007, 2011, and 2012 to determine if the low bias was evident in other organic contaminants. The same low bias was identified for total pesticides in 2005 and 2006; the concentrations were two to four times higher when reanalyzed. The low bias in PAH concentrations in 2005 to 2006 was not as significant, with concentrations 20 to 70% higher once reanalyzed. For alkylated PAHs the low bias was similar to that of pesticides, the reanalyzed 2005 and 2006 concentrations were two to three times higher.

Don stated that the RMP has learned that typical QC samples may not show inter-lab/inter-year differences. Therefore, in future years some samples will be retained for inter-year verification. Don asked if the TRC would recommend taking the same action as they did with PCBs, removing the 2004 to 2006 pesticide and PAH numbers from CD3, with a footnote stating that

the data is available on request. Meg Sedlak replied that the RMP is waiting for the reanalyzed PBDE data from EBMUD; once all of the data is available she will send the results to the TRC and ask for their input.

Action Items:

3. Meg Sedlak will ask for guidance from TRC at next meeting on EBMUD reanalysis.

VII. Action: Recommendation for Reductions in Status and Trends [Don Yee, Meg Sedlak, Jay Davis]

Water

Meg Sedlak began the discussion on possible reductions to the S&T program by stating that the RMP will be out on the water every two years to measure copper and cyanide for the Site Specific Objective, selenium for the TMDL, and ancillary parameters. Every eight years the RMP will monitor for PCBs, PAHs, pesticides, Hg, and MeHg. Don Yee noted that for copper, with 10 to 15 samples 100% power can be achieved, but the RMP needs to decide the appropriate time frame for obtaining the 10 samples. If copper was sampled on a four-year cycle, then 100% power would not be achieved for eight years, which the group has decided is too long a time frame.

Meg asked whether MeHg should be sampled biennially since the RMP will already be out on the Bay. She noted that there is value in understanding MeHg cycling and trends, but that there will be a slight cost for sampling.

Discussion:

Eric Dunlavey asked why 1 ug/L copper difference was chosen as the standard for the power analysis. Meg Sedlak stated that it was included in the Basin Plan, but that she will confirm after the meeting. Jay stated that there was value biennially sampling MeHg because the Baywide MeHg average appears to have decreased since 2006 and it would be useful to determine if the trend continued. Karen Taberski stated that the benefit of sampling exceeded the costs. Eric asked the cost of MeHg analyses; Meg replied that the analytical cost was approximately \$175.

Bridgette noted that by switching to a four-year sampling cycle, there would not be many analytes sampled during the wet season. Meg replied that it is worth thinking about changing the design to sample metals during the wet season.

Sediment

The proposed S&T design includes decreasing the number of dry season sediment samples to 27. Every four years PAHs, PCBs, Hg, and PBDEs will be sampled. Every eight years, metals, pesticides, benthos, and toxicity will be sampled. Meg asked the TRC if the program should continue to alternate wet and dry season sampling to catch the wet season phenomena. If the RMP continues to alternate wet/dry season sampling, there may be reduced power since there will be eight years in-between sampling during the same season.

Discussion:

Rod Miller asked if the RMP would be able to catch an event, such as El Niño, that would affect contaminant concentrations or trends if sampling only occurred every four years. Meg stated that

the RMP is flexible enough to mobilize a sampling effort if the stakeholders believe an event is worth capturing. Jay stated that there are contingency funds available for increased monitoring. Jay added that without annual data the RMP will be unable to tell if the concentrations during the event are unusual. However, Jay stated that there are diminishing returns for obtaining the same data annually and the funds could be directed to other priorities.

Ian Wren asked if the RMP was confident that monitoring Se every four years in sediment was sufficient; Meg replied that Se is typically measured in water and sportfish and that the RMP will monitor Se biennially in water. Karen stated that she will ask Barbara Baginska if she is okay with sampling Se at a lower frequency in sediment.

Karen stated that wet season sampling mainly occurred to sample toxicity; however, toxicity will only be sampled during the dry season based on this new design. Meg asked if benthos, toxicity, metals, and pesticides should be sampled in 2018. Karen responded that toxicity should be sampled in 2018, but benthos should only be sampled during the dry season. Bridgette DeShields stated that if toxicity is also sampled during the dry season alongside metals and pesticides, then all the sediment analytes will be sampled every four years. Jay replied that instead of sampling metals and pesticides initially, some of the sediment sample could be archived. If there are high toxicity hits, metals and pesticide concentrations could be analyzed.

Don Yee suggested removing benthos sampling from the S&T program until the results from the analyses become clearer. Karen replied that benthos could be sampled during the dry season only at stations where an appropriate index is available.

Action Items:

4. Karen Taberski will ask Barbara Baginska if she is okay with sampling Selenium at a lower frequency in sediment.

Bivalves

The new S&T design includes a reduction in the number of bivalve sampling sites from 11 to six. PAHs will be sampled every two years and every four years PCBs, PBDEs, metals, and pesticides will be sampled. Jay noted that there is no clear trend for PAH concentrations in bivalves; however, bivalves are the ideal matrix for PAH monitoring because they don't metabolize PAHs. If the RMP sampled biennially, CEC concentrations could also be monitored. Additionally, it would take 26 years to get to 80% power for PAHs if bivalve sampling occurred every four years. Karen stated that she would support continuing the biennial sampling of bivalves.

VIII. Information: Update on the 2014 Special Study Evaluating Effects of Particle size? Shape on Amphipod Toxicity [Meg Sedlak]

Meg Sedlak informed the TRC that there is reduced funding for the 2014 special study on amphipod toxicity. The State Water Board is providing \$25,000 rather than \$50,000 from the Southern California Coastal Water Research Project. To account for the decrease, toxicity will only be compared against clay concentration; previously the effect of clay, lipid content, and

particle size was going to be analyzed. Karen Taberski noted that if the RMP is interested, lipid content could be analyzed as part of a 2015 special study.

IX. Information: Update on Workgroups and Scorecard [Meg Sedlak]

Meg Sedlak reviewed the RMP's workgroup activities. She stated that the Nutrient Conceptual Model and coring manuscript will be completed by April 2014. The Sources, Pathways, and Loadings Workgroup will be holding their next meeting on May 29. The Exposure and Effects Workgroup will check in this year to decide how to support the SFB RWQCB's need to collect sediment data from 303(d) listed hotspots in the Bay. The SFB RWQCB is interested in seeing some Bay hotspots can be removed from the 303(d) list. The Emerging Contaminants Workgroup is meeting on April 15 to discuss the bioanalytical tools study and current use pesticide, effluent, microplastic, and alternative flame retardant monitoring. The Sportfish Workgroup recently met to discuss the 2014 summer sampling effort.

Jay Davis then updated the TRC on the Delta RMP. The Delta RMP Steering Committee recently picked four focus areas for which workgroups will be formed including Mercury, Nutrients, Pesticides, and Pathogens. Each workgroup is generating a monitoring program design, which the Delta RMP's Technical Review Committee will review and approve. Monitoring is expected to begin in late 2014 or early 2015. Karen Taberski asked about the funding mechanism; Jay replied that before funding is secured the Delta RMP wants to decide what studies they are interested in supporting.

Meg Sedlak ended the discussion by stating that the RMP has been getting involved in monitoring in the Klamath River Watershed. The RMP recently hired Randy Turner who will serve as the Coordinator of the Klamath Basin Monitoring Program.

X. Action: Set date for next meeting and Plus/Delta [Bridgette DeShields]

The second quarter TRC meeting was scheduled for June 17, 2014.