San Francisco Estuary Institute

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RMP Technical Review Committee
December 13th, 2011
10:00 AM to 3:00 PM
DRAFT Meeting Summary

Meeting Participants

Nirmela Arsem (EBMUD)
Bridgette DeShields (Arcadis (WSPA))
Eric Dunlavey (City of San Jose)
Diane Griffin (GenOn Energy, Inc.)
Mike Kellogg (City and County of San Francisco)
Tom Hall (EOA, Inc. (South Bay Dischargers))
Chris Sommers (EOA, Inc. (BASMAA))
Karen Taberski (SFB RWQCB)
Luisa Valiela (USEPA)

Rachel Allen (SFEI)
Jay Davis (SFEI)
Amy Franz (SFEI)
Cristina Grosso (SFEI)
Susan Klosterhaus (SFEI)
Lester McKee (SFEI)
Meg Sedlak (SFEI)
David Senn (SFEI)
Don Yee (SFEI)

Paul Salop (Applied Marine Sciences)

Via Telephone:
Rob Lawrence (USACE)

1. Introductions and Approval of Agenda and Minutes

Bridgette DeShields commenced the meeting, and welcomed the new industry representative, Diane Griffin. She is currently representing GenOn Energy (formerly Mirant); Diane was formerly the TRC representative for EBMUD in early 2000.

Karen Taberski commented on the minutes from the September meeting, making a few corrections to the language. She motioned to approve the minutes, pending these corrections, which Mike Kellogg seconded. The minutes were approved.

Meg Sedlak reviewed the action items. She noted that item #4 regarding coordination of mussel sampling (from the September meeting) is not worth pursuing because the RMP and National Mussel Watch (NMW) sample different species (the RMP uses transplanted bivalves while NMW collects native mussels). Joining forces would not result in a reduction of effort; therefore follow up on this item is not necessary.

Regarding Sept 2011 item #5, the sport fish committee will be consulted (via conference call or in-person meeting) to determine whether the sampling will move to a 5-year cycle from the current 3-

year cycle. The group was consulted by e-mail in September and October, but there was some disagreement among the members that will be easier to address with a conversation. Jay Davis noted that he expects sport fish monitoring to move to a 5-year cycle, potentially including more species.

Meg Sedlak updated the TRC on the location of the 6 dissolved oxygen (DO) probes that Dave Schoellhamer's USGS group will be placing throughout the Bay. While these probes were not directly funded by the RMP, this funding was received by USGS in part due to work funded by the RMP (National Water Quality Monitoring Council inventory of monitoring in San Francisco Bay). Dave Schoellhamer is in the process of setting up the probes and data systems; if TRC members would like the data aggregated or collected in a specific manner they should make their recommendations now.. Chris Sommers asked if Dave Schoellhamer is coordinating with local agencies in determining the placement of the DO probes, noting that Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) collects DO data from Alviso Slough and the Guadalupe River. He offered to contact Dave Schoellhamer and share this data with him, as well as coordinate the placement of any DO probes in the South Bay. He will also mention this work at the next Bay Area Stormwater Management Agencies Association (BASMAA) meeting.

Action Items:

- Chris Sommers to work with Dave Schoellhamer to coordinate the placement of DO probes in the South Bay and share DO data from local agencies. (*Meg Sedlak contacted Dave via e-mail to initiate this discussion.*)

2. Steering Committee Report

Meg Sedlak noted that Tom Mumley was elected the new Steering Committee (SC) chair. Kirsten Struve was elected vice-chair, with plans that she will assume the position of chair once she becomes more familiar with SC operations. Meg Sedlak also noted that Dow Chemical no longer holds an NPDES permit, which affects the fees paid by the other industrial dischargers. Per SC instructions, Lawrence Leung will re-invoice the other industrial dischargers to cover the shortfall due to Dow Chemical. The SC also approved changes to the Status and Trends (S&T) Monitoring program. They will discuss increasing the program fees by 2% at the April 2012 SC meeting. Dave Schoellhamer submitted a draft fact sheet for publication by the RMP. The SC recommended investing some resources into improving the fact sheet before publishing, so the RMP has subcontracted with Chris Werme (who has worked on the Pulse for a number of years) to edit it.

3. Planning Update

Jay Davis distributed appendix 1 (the multi-year budget table) from the Master Plan (which has been renamed the "Multi-Year Plan"), noting that the table and the budget are still in flux. The annual planning cycle will begin in October, with an extended SC meeting, the Multi-Year Plan will be updated and finalized by the end of the year, and then be approved at the January SC meeting. The current version will be distributed for review by the SC members within the next few days.

Jay Davis walked the committee through the special studies (SS) plans for 2012 and beyond. Due to the reductions in S&T, more funding for SS was made available in 2012, so the planning meeting identified some immediate uses for this funding, even though the focus was on guidance for 2013. One suggestion was to hold a mercury workshop, based on the results from the 2011 mercury synthesis, to get input from experts on the next steps. This idea will be vetted with the mercury strategy team in the first quarter of 2012. Other updates coming out of the planning meeting included the Dioxin strategy, which will delay a synthesis effort to 2014, so that all of the matrices that have been analyzed in recent years can be incorporated. After the completion of the emerging contaminants synthesis in 2012, a strategy will be developed based on the conclusions from the synthesis, and $15,000 was allocated from the 2012 budget for this purpose. The Exposure and Effects Workgroup (EEWG) suggested holding a workshop on the moderate toxicity seen throughout San Francisco Bay, either as a Pellston workshop through the Society of Environmental Toxicology and Chemistry (SETAC) or locally, as well as moving forward on the development of tools for benthic assessments in mesohaline portions of the Bay. The 2012 budget includes $50,000 for each of these efforts, although the final scope will need to be vetted by the EEWG. Finally, an additional $30,000 was allocated for analyzing the complete suite of nutrients in the 2012 stormwater samples, including QA, shipping, and reporting costs. Jay Davis noted that Brian Hubinger also requested additional selenium loading and speciation studies, and that this work may be considered for 2012 funding.

Luisa Valiela asked about the items listed in lines 131-136 of the appendix 1 table (trash, shellfish, pathogens, etc.). Jay Davis noted that these ideas had come up at previous planning workshops, but that no funding was currently allocated to them. Tom Hall asked about the shellfish survey and exotic species eradication effort that the RMP funded. Meg Sedlak noted that Andy Cohen wrote a report for the TRC and it was distributed to the TRC, but she indicated that she would get a more recent update on the status of these efforts for the TRC.

Action Items:

- Meg Sedlak will update the TRC on the status of the mussel eradication effort.

4. 2012 Pulse and Annual Meeting

Jay Davis noted that the SC will continue to discuss planning elements at the quarterly SC meetings. At the November meeting, they briefly discussed RMP communications, and decided to have a full discussion on how to continue the Pulse at the January SC meeting. They will consider whether to produce the Pulse every year, reduce it to every other year, or periodically reduce the scope. For the short term, the 2012 Pulse will be "full scale", and will focus on emerging contaminants. However, Jay Davis noted that some deliverables are coming slower than expected, such as the state panel emerging contaminants report, which will now be released in May, and the broadscan screening special study, which was delayed due to the Gulf of Mexico oil spill.

However, even if the Pulse will not be released until later in 2012 or early 2013, Jay considered this a good topic for the next Annual Meeting, and will discuss this with the TRC at a later meeting. He suggested that the Annual Meeting broaden its scope slightly, and morph it into a forum for policy discussions, with outcomes that could affect the Bay. He noted that environmental monitoring does not get attention in the green chemistry movement, and this could be a forum for increasing the

profile of monitoring. Chris Sommers noted that this should be discussed with the SC, because while it would bring in more individuals and more press, it would decouple the Annual Meeting from the RMP.

Karen Taberski asked about the 2011 Pulse. Jay Davis noted that the "window" for producing it was missed in October as a result of the move, and therefore completing it in November or December was not feasible. The electronic version will be released in early January, and the hard copy will be available in late January or early February.

Action Items:

- Discuss the scope of the Annual Meeting with the SC.

5. 2012 Joint CTAG-TRC Meeting

Meg Sedlak indicated that SCCWRP has proposed the topic of "Regional Monitoring: Lessons Learned and Future Needs" for the next joint SCCWRP Commission's Technical Advisory Group (CTAG) and TRC meeting. This meeting is scheduled to be in Northern California. She asked if the TRC still finds this sort of interaction and the topic useful, and if it should be held at SFEI or another venue in the Bay Area.

Chris Sommers suggested that the meeting should be held at SFEI, to use and showcase the new building and conference room. He suggested that the desired outcome of this meeting be made clearer beforehand, and that if the goal is identifying ways to collaborate, then the agenda should lead towards that. Meg Sedlak noted that the strengths of SFEI and SCCWRP complement each other well, and that the first few joint meetings resulted in collaborations between the organizations.

Chris Sommers suggested that the meeting focus on just a few topics, so that the discussions can delve into the important details. Karen Taberski concurred, suggesting that nutrients would be a good element to focus on, as the Bay Area is currently developing a nutrients strategy, while the Southern California Bight has a lot of on-going nutrients work. Bridgette DeShields suggested that the other agenda item be similarly informative for SCCWRP as nutrients would be for the RMP. Chris Sommers noted that emerging contaminants would not be ready for this type of discussion, but that toxicity, including molecular methods for toxicity identification evaluations, might be an appropriate topic.

Mike Kellogg suggested that if the CTAG has meeting business to conduct, that the meeting be timed so that TRC members can arrive after this has concluded; Jay confirmed that the CTAG will not be conducting internal business at this meeting. Bridgette DeShields and Chris Sommers volunteered to work with Meg Sedlak and SCCWRP to flesh out the agenda, and then take it to the SC.

Action Items:

- Chris Sommers and Bridgette DeShields will work with Meg Sedlak to develop the agenda, with definite goals, for the CTAG-TRC meeting.

- The agenda will be reviewed by Steve Weisberg and Tim Stebbins, before submission for approval to the SC.

6. 2011 Highlights and 2012 Workplan

a. Nutrients

Dave Senn presented the status of the ongoing work on nutrients and development of the nutrient strategy, and outlined the plans for future work. A strategy for nutrients in the San Francisco Estuary is underway, building off of previous work and identifying near term management decisions. The nutrient work in the Bay is moving forward as a cooperative endeavor among the RWQCB and various partners/stakeholders including the RMP. In 2012, work will commence on projects funded by the RMP and the Region 2 Regional Water Quality Control Board. The RMP funded projects are a) conceptual model and scenario building, b) external nutrients loads and data gaps analysis, c) management of Nutrient Strategy Development, and d) stormwater nutrient loads. David Senn presented a model for how partners, funding, work elements, oversight, and coordination will combine in the nutrient strategy. The funding provided by the RMP for management will cover only a piece of the Nutrient strategy management, with the rest to be covered by other partners. He noted that the joint strategy will leave a lot of room for collaboration, and that the RMP will serve as a good model for how collaboration can lead to science addressing management questions.

Nirmela Arsem asked if the strategy will also be gathering nutrients data from the POTWs. Tom Hall added that most plants are only required to monitor for ammonia, but that they regularly report flow data. Tom also noted that several of the shallow water dischargers in the South Bay (e.g. Sunnyvale, San Jose, Palo Alto, etc.) were also collecting additional species such as nitrate. Dave Senn admitted that this is a daunting task, but that the process and strategy will be evolving. A draft organizational structure and strategy will be available in November 2012, and will be evaluated by the partners. Luisa Valiela noted that the Regional Board has been holding stakeholder meetings, and asked if these meetings would be passed off to Dave Senn, so that concurrent meetings could be avoided. He indicated that these players are all in communication and that that is the current plan.

b. Modeling

Dave Senn presented current plans for modeling. He suggested that nutrients could be a priority in the modeling strategy, and that if the underlying sediment transport model were built up first for nutrients, it could also be applied to other contaminants. Given the multiple modeling platforms for the Bay and the disagreement among regional scientists, he suggested that the RMP should play a role in defining the modeling needs for the Bay and moving the modeling and management communities towards a "consensus" platform. A modeling symposium, in the second half of 2012, could be a first step in moving this along.

Jay Davis noted that the Margins Conceptual Model and the Bioaccumulation Conceptual Model reports will be released to the Contaminant Fate Workgroup (CFWG) and the TRC for review within the next 2 to 4 weeks. He noted that the Regional Board was not certain that developing an open bay model for PCBs and Hg would be a "no-regrets" action, however they were more supportive of developing an open bay model for nutrients, which is the first step in model

development. Thus, the $100,000 allocated for modeling in 2012 could be used in support of the nutrients work, including development of the box model or dynamic model. Lester McKee asked if the eventual margins components that would be added on to the open bay model would interact dynamically or if they would run independently. Don Yee indicated that they would likely be independent.

David Senn indicated that modeling will likely be an interest of BACWA's in the near future, and that he has proposed to them a numeric box modeling project for South Bay and Suisun Bay to begin in July 2011 if approved.

c. Sources, Pathways, and Loadings

Lester McKee updated the TRC on the Sources, Pathways, and Loadings (SPL) projects from 2011, including the regional watershed spreadsheet model and the 16 watersheds reconnaissance sampling effort. He noted that the Mallard Island and Zone 4 Line A technical reports were recently released, and will be submitted to journals for publication. Chris Sommers noted that a lot of hard work went into these successful projects, and both he and Lester McKee commended the watersheds team.

In 2012, sampling will occur at 4 watersheds over 4 storms, for an expanded list of analytes. The spreadsheet model will continue to be developed, in connection with a review of literature on event mean concentrations.

d. Hg and PCB Strategies

Jay Davis presented the slides he prepared for the International Mercury conference in Halifax summarizing the Hg synthesis report. He highlighted the "knobs" that managers may be able to use to affect mercury in the Bay, and distinguished between fast knobs (where a management change causes a quick response) and slow knobs. Chris Sommers pointed out that how hard it is to turn the knobs should also be a consideration. He noted that the fast knobs tended to be more habitat-related, while the slow knobs are regulated through discharge requirements. Given the goals of safe fish consumption and safe wildlife habitat, perhaps the Hg strategy team should re-focus how to get to these goals. The Hg synthesis is currently undergoing peer review, and will be published in Environmental Research as part of a special issue.

In 2012, the PCB synthesis draft will be available in April.

Rachel Allen reviewed the 2011 work on small fish, including the small fish technical report that is under review. The 2011 seasonal sampling focused on 4 locations within the Bay, and the results will be reviewed in January 2012.

e. Effects

Meg Sedlak reviewed the completed Exposure and Effects (EE) studies from 2011. This includes the investigation of BDE effects in terns, the effects of PAHs on flatfish, the causes of sediment toxicity study, the molecular TIE work, and the Exposure and Effects Pilot Study (EEPS) summary report, all of which are either complete or nearly complete. The EEPS summary report includes recommendations for birds, fish, and benthos, and the EEWG will have a meeting focused on effects on fish in the second part of 2012.

The copper and the olfactory nerve salmon study was delayed for a while because of difficulties getting NOAA to accept any external funding (including RMP funds), however it is started and results will be available by December 2012. Chris Sommers was disappointed with the delay and noted that there is a permit requirement, with a set timeframe, that relies on this work, with consequences for the permit holders if the dates are not met. Given this, he asked that the TRC (rather than the SC) be kept up to date when projects connected with permit requirements are delayed. He indicated that he would provide Meg/Jay with a list of permit requirements that the RMP was providing information for. Meg Sedlak requested that other TRC members provide her with similar requirements. Karen Taberski indicated that the water board would not penalize the discharger agencies for a permit requirement that was funded but delayed.

Action Items:

- Keep the TRC up to date on the progress of projects pertaining to permit requirements.
- Chris Sommers to provide Meg Sedlak with permit requirements from the discharger community, and how these are aligned with the RMP priorities.

f. Contaminants of Emerging Concern (CEC)

Susan Klosterhaus reviewed the progress on CECs made in 2011. This included the completion of profiles of a few CECs, a draft manuscript of alternative flame retardants, a draft manuscript on the AXYS/ Mussel Watch pilot study, and the first part of the non-target (broadscan) screening project, run by the National Institute of Standards and Technology (NIST). In 2012, the broadscan screening work will be completed, and the CEC synthesis report is now expected in the summer (due to delays in the State water panel report). After the synthesis report is complete, a CEC strategy will be prepared, bringing in other partners and funders, and will be followed by an ECWG meeting. Susan also promoted the SETAC 2012 meeting, which will be held in Long Beach, California (Susan is a co-chair of the science sub-committee).

g. Dioxins

Don Yee reviewed the dioxin work, which was presented at the October 2011 Dioxin Strategy meeting. This included surface sediment, surface water, bay and wetland core, and tributary loading data, as well as an estimate of atmospheric deposition to the water surface. In 2012, dioxin work will focus on more cores and watersheds loading. A synthesis report, scheduled for 2014, will bring together conceptual models for the food web and mass balance.

h. Status and Trends

Amy Franz updated the TRC on the 2011 S&T sampling. The RMP successfully completed the water and sediment cruises, with 22 and 47 sampling sites, respectively. The sediment cruise also hosted 4 piggyback studies, which will provide the RMP with a large amount of additional information. Drs. Schoellhamer and Cloern also continued their SSC and basic water quality monitoring efforts. In 2012, the S&T work will include the sediment and bivalve sampling, as well as bird eggs. In 2013, only water samples will be collected.

The 2010 Annual Monitoring Results was completed on time, and gives a summary of the 2010 water, sediment, and bivalve sampling efforts and results.

i. Data Management

Cristina Grosso reviewed the 2011 highlights in data management. Part of data management includes making it publically available, and she presented statistics on the use of the CD3 (Contaminant Data Display and Download – the new name for the Web Query Tool). There was a delay in grain size reporting, which Meg Sedlak clarified was due to using two different methods for sizing (sieving and light-scattering), and the difficulties in the light-scattering technique are still being ironed out. Cristina also presented goals for 2012, which include enhancing the web tools, developing a web tool for reporting of effluent loadings for fee calculations, and continuing to coordinate the San Francisco Bay Regional Data Center, as well as reporting the data within a year.

Chris Sommers motioned to approve the detailed workplan, and Eric Dunlavey seconded it. The 2012 detailed workplan was approved.

7. Date for next meeting, Plus/ Delta exercise

The joint CTAG-TRC meeting is set for March 28th, so the TRC agreed to hold the next TRC meeting on March 13th.

Bridgette DeShields praised the 2011 year-end update presentations, and was pleased to have Diane Griffin back on the TRC.