DRAFT-for EXTERNAL review

REGIONAL MONITORING PROGRAM FOR WATER QUALITY IN SAN FRANCISCO BAY

sfei.org/rmp

Bay RMP Multi-Year Planning Meeting

October 20th, 2021

Meeting Summary

Attendees (all participants remotely attending)

Member	Affiliation	Representing	Present
Yuyun Shang	EBMUD	POTW	**Yes**
Eric Dunlavey	City of San Jose	POTW	**Yes**
Amanda Roa	Delta Diablo	POTW	**Yes**
Xavier Fernandez	San Francisco Bay Water Board	Water Board	**Yes**
Anne Balis	City of San Jose	POTW	**Yes**
Bridgette DeShields	Integral Consulting	Refineries	**Yes**
Adam Olivieri	BASMAA (EOA, Inc.)	Stormwater	**Yes**
Tom Mumley*	SF Bay Regional WQCB	Water Board	**Yes**
Richard Looker	SF Bay Regional WQCB	Water Board	**Yes**
Luisa Valiela	US EPA	US EPA-IX	**Yes**
Karin North	City of Palo Alto	POTW	**Yes**
Tom Hall	EOA, Inc.	POTW	**Yes**

*Chair; alternates in gray and italicized

Staff and Others

- Jay Davis - SFEI
- Melissa Foley – SFEI
- Rebecca Sutton - SFEI
- Ezra Miller - SFEI
- Don Yee - SFEI
- Martin Trinh - SFEI
- Jim Haussner - CMANC

1. Introductions and Review Goals for the Meeting

Following a pre-meeting discussion about the recent Annual Meeting, Tom Mumley conducted a quick roll call. Tom then highlighted that the Multi-Year Plan is still a work in progress, particularly the workgroup priorities and budgets. The workgroups did not have the opportunity to fully consider the upcoming Multi-Year Plan at their meetings last spring. Additionally, Tom reminded the group that last year's MYP meeting did not set the planning budget, but rather discussed options for the RMP Steering Committee at the January meeting. Tom also gave a quick overview of pressing questions to discuss during this meeting such as management questions/drivers, team organization, integration, and modeling and monitoring. Tom concluded the item by suggesting that a substantial update to the MYP should be made within the next two years.

2. Discussion: Setting the Scene – Planning for 2023 and Beyond

Melissa opened this agenda item by highlighting the work recently completed by the RMP. The first major work was the ongoing Status & Trends review. The first review in 20 years, this redesign oversees the RMP's transition from targeting legacy contaminants to contaminants of emerging concern (CECs) with help from external advisors and a stakeholder "Council of Wisdom". In addition, modeling work has been expanding with connections to monitoring. There has been $200k in SEP funds dedicated to the integration of watershed and Bay modeling. This focus on integration is apparent as workgroups continue to collaborate. RMP special studies are trailblazers for CEC monitoring, a function of the expanding S&T program. RMP special studies are trailblazers for CEC monitoring, a function of the expanding S&T program.

Due to the shifting nature of the S&T program, substantial updates will be made to the Multi-Year Plan (MYP). The transition from legacy contaminants to CECs and an emphasis on integrating modeling and monitoring remain the primary focuses of this redesign. These changing program priorities may impact workgroup structure. Melissa noted that the workgroup MYPs were not well developed beyond 2023, with planned allocations past 2023 being best guesses for many workgroups . Melissa followed this overview by informing the group that the Steering Committee would be voting on the proposed 3% budget increase for 2023-2025. She reminded the group that fees were held constant for 2022.

Melissa gave a brief update on the current S&T review. Beginning in April 2020, the RMP reviewed the program by matrix - water, sediment, and biota. Eight external advisors and eight internal Council of Wisdom stakeholders oversaw and guided this process, revising designs and budgets. Contaminant priorities include optimizing S&T designs for CECs while maintaining monitoring for other contaminants. Core elements of this include dry season sampling in Bay water, Bay sediment, and margins sediment, along with biota monitoring of sport fish and bird eggs . Pilot studies for water in the wet season and sediment in the dry season will accompany prey fish and harbor seal efforts. The RMP will also piggyback studies with the USGS for open

Bay water collection as well as with the NMS for bivalves. Special studies will be conducted as necessary. Melissa gave a brief update on the budget, which has evolved alongside the changes to the sampling designs. The new proposed budget offers some slight overall savings over the original budget. The cost of the water matrix will nearly double from $750k to $1.43 million due to the addition of wet season monitoring. Offsetting this increase is the reduction of the sediment budget by $800k from $1.86 million. This was accomplished by shifting the frequency of sampling legacy contaminants from once every four years to a ten-year cycle. The biota budget is estimated to be around $2.14 million. This will result in savings of $140k in the new design compared to the current design with the new budget totaling $4.62 million. Funding for the USGS suspended sediment and nutrient cruises were not included in these totals. Melissa proceeded to outline a schedule for each element over the next 10-year period.

Tom Mumley opened the discussion by asking the group about potential needs for sediment. Different funding opportunities were discussed as well as contingency plans for the need for revisions. Luisa Valiela asked the group if there were any methods in place to forecast potential changes in the budget, with Tom agreeing that this would be a helpful procedure to implement. With this in mind, Tom inquired if any group members would like to join the Council of Wisdom. Additionally, Tom noted that the mercury and PCB Total Maximum Daily Load (TMDL) checkpoints were approaching (2028 and 2030, respectively). Jim Haussner questioned the value of TMDLs as the program transitions to CECs, with Tom explaining that the Water Board still considers the TMDLs to be important.

3. Discussion: Potential Future Topics of Interest to the RMP

For this agenda item, Jay reviewed potential future topics of interest to the RMP. Restating that the main goal of the RMP is to inform management decisions, Jay gave a quick update from the stakeholder meetings. Top stakeholder priorities were the continued coordination across workgroups and studies, an update of management questions (for the Sources, Pathways, and Loadings, and Sediment workgroups, specifically), and an increased interest in PFAS for industrial municipal wastewater partners. Jay polled the group for possible future RMP decisions, ranging from large event-based monitoring (wildfires, floods), climate effects on water quality, atmospheric deposition, and beneficial reuse. Don Yee noted that the RMP had conducted copper studies during development of the Brake Pad Partnership, which could help inform future discussions around microparticles and tires.

Luisa suggested making connections to temperature more explicit, additionally questioning if this focus could capture large flora and fauna shifts. She pointed to kelp restoration efforts in Puget Sound as an example. Tom Mumley noted that temperature was easy to monitor, but flora and fauna shifts were more difficult to quantify. Luisa recommended identifying people or organizations capable of observing these trends. Ezra Miller suggested comparing observable effects to thresholds for organisms. As for atmospheric deposition, the

group noted that it would be difficult to make management decisions in this realm, although Tom added it is certainly worth consideration.

John Coleman proposed bringing an economist on board to help place a value on the RMP's work. Additionally, this could open up greater funding opportunities. Richard Looker also supported John's proposal of incorporating local universities, giving data to grad students to create new projects and collaborations.

4. Discussion: Information Priorities for 2022 and Beyond

For this action item, Melissa reviewed the RMP's management decision table, which had been categorized into management drivers, high priority drivers by topic, and other lower priority drivers. High priority management drivers include the municipal regional stormwater permit, the nutrient watershed permit for municipal wastewater, the ongoing 303(d) list and 305(b) report, and TMDLs for PCBs and mercury. The Water Board will help to update the TBD entries in this table soon. Other ongoing management drivers include copper, pesticide, cyanide, dioxin, sediment, and toxicity regulations. The last part of the table outlines future issues such as wastewater and stormwater inputs to the Bay, effects of reverse osmosis concentrate discharge, selenium TMDLs, and wetland restoration permits.

Tom gave an update on the mercury and PCB TMDL deadlines, being 2028 and 2030 respectively. Allocations for stormwater need to be met by these dates to avoid enforcement actions. Tom indicated that review and revision for mercury will need to be conducted by 2024. This includes consideration of including atmospheric deposition loading. Another key TBD is for sediment hotspots, which was reviewed in 2018, but is unlikely to be reviewed in 2022. PCB sediment hotspots remain a priority. Phase 2 Sediment Quality Objectives are not relevant at the moment; the current state sediment quality objectives are founded on RMP work and based on bioaccumulation. The State's current focus is currently on legacy contaminants such as organochlorine pesticides. The toxicity provisions are undergoing one more procedural adjustment, but these changes are not substantial enough to merit RMP discussion.

Luisa inquired about how to best adjust TMDLs, given that mercury concentrations have not improved due to the huge amounts of legacy mercury. Tom noted the rising concern for tribal and subsistence fishing will help drive new beneficial use designations. Jay wondered if tribal and subsistence uses should be captured in the table, with Tom agreeing that it should be explicit that this is a major consideration. PFAS should also be included. An updated version of this table will be shared before the January Steering Committee meeting, where the group will vote to approve the table.

Action Item:

- Update the RMP Management Decision Table (Melissa Foley, January 1, 2022).

5. Discussion: Cross-workgroup Coordination

Melissa began with a quick recap of some of the connections made between workgroups. The Emerging Contaminants, Microplastics, and Sources, Pathways, and Loadings (SPL) workgroups especially worked together. Proposed projects were presented to multiple workgroups to get technical feedback from experts to help guide the studies. One drawback of this method is the staff time required to present the same project at multiple workgroup meetings. Melissa showed a schematic that diagrammed the overlapping workgroup projects.

Melissa invited SFEI workgroup members to share their experiences with the increased cross-workgroup coordination efforts within the RMP. The following discussion centered around three main questions; what was effective about cross workgroup coordination, what level of workgroup involvement is needed, and how feedback should be obtained when working with multiple groups. Tan Zi, of the SPL workgroup, has been at the head of using modeling to support many of the other workgroups. Addressing concerns of redundancy of multiple staff in meetings, he stressed the importance of having staff be involved in discussions and brainstorming. Kelly Moran, of the CECs workgroup, also supported this sentiment. Recognizing that it can be difficult to gather feedback and advice after the fact, she emphasized the need to have workgroup members contribute to these discussions. As someone who has had to donate a significant amount of personal time to the RMP, Kelly recognized the shortage of time and budget often allocated to these efforts. However, she noted that different decisions would be made if science advisors were not in the same room. Tom Mumley added that an issue could be that the workgroups generally only have one workgroup meeting per year, with too much to handle in that one meeting. He stressed the importance of recognizing cross-workgroup opportunities, which begins with having more consistent multi-year planning. Updating the entire RMP Multi-Year Plan will put the RMP in a better position to recognize projects of interest. Tom acknowledges that the RMP had done good work identifying proposals that multiple workgroups could weigh in on. Richard Looker commended SFEI staff on their work in the idea generation phase, noting the effectiveness of peer to peer communication. He observed that scheduling was often an impediment, though. The STLS workgroup, in particular, has incorporated intensive stakeholder involvement in the past, which could be a model for accommodating a high level of stakeholder input. Tom clarified that the TRC will make final decisions when workgroups have different priorities, with Melissa explaining that there is often a hierarchy of involvement, as lead workgroups designate priority rankings with other groups confirming the technical soundness of projects.

To close the item, Adam Olivieri acknowledged the tension between attendance and available resources (budget). Other members disagreed, crediting SFEI staff. Adam advised having one person attend and take meeting notes. Jay stated that, while staff can seek to minimize participation to the extent possible, there is great value in staff participating in discussion and brainstorming with leading experts, citing the valuable learning opportunities available, as well as the fact that time would be spent rewatching meetings or reviewing notes

anyways. Yuyun Shang outlined EBMUD's process of disseminating important information and collaborating across groups to develop shared workplans and goals.

6. Discussion: Workgroup Organization and Strategy Development, and General Allocation for Special Study Funding

Melissa presented a proposed timeline for updating the Multi-Year Plan for each workgroup. The PCB and SPL workgroups each have an associated strategy team. Many focus areas run across groups, with PCBs, Sediment, and SPL all sharing interest in watershed monitoring, watershed and Bay modeling, and sediment transport monitoring. The SPL and Emerging Contaminants workgroups are particularly focused on stormwater CEC monitoring, modeling strategy, and monitoring strategy. These two workgroups also work with the Microplastic Workgroup on tire strategy and transport pathways. For strategy and workplan development, the Sediment Workgroup will conduct its workplan development in 2022. The Emerging Contaminant Workgroup will have its strategy update in 2022; the SPL Workgroup is planning a strategy and management question update in 2023. Proposed developments include annual PCB strategy updates in tandem with TMDL updates, a Microplastics Strategy update after state guidance is received, and a Sediment Workgroup management question update in 2023.

Melissa then outlined the general workgroup budget allocation with Emerging Contaminants receiving 28% of the funding, SPL and Nutrients receiving 23% each, Sediment receiving 16%, PCBs receiving 6%, and Microplastics receiving 4%. Tom asked for a graphic that illustrated workgroup support. Luisa commended the programs for continuing to grow in terms of generating data. She also updated that an RFP will be issued by the EPA in early 2022 that could lead to additional funding sources.

Jay explained that Sport Fish also has an active strategy team that will convene prior to sampling in 2024. This will tie in with CECs and S&T monitoring. Bridgette added there is another statewide sport fish bioaccumulation group in California, the Safe to Eat Workgroup (STEW) (led by Jay). Tom commented on the difficulty of sustaining workgroups, proposing workgroups work on a cycle basis. He closed the item by proposing adding a PFAS Strategy Team to the Emerging Contaminants Workgroup, which will have to be decided by 2023.

7. Summary and Action Items

Melissa reviewed the action items to complete. Melissa and Tom will review the management table with any other interested parties. Meetings will be set up with SFEI workgroup leads to assess if additional coordination between groups would be beneficial, while also discussing budgets for 2022 and 2023. Priorities for each workgroup will also be discussed.

The Council of Wisdom will be informed of these discussions. Tom recognized that 2022 funding will be needed to support this work.

Action Items:

- Review RMP Management Table (Melissa Foley and Tom Mumley, January 1, 2022)
- Schedule meeting with workgroup leads (Melissa Foley, November 30, 2021)

Adjourn