



## Bay RMP Technical Review Committee Meeting

June 20, 2023

### Meeting Summary

#### Attendees

TRC Member	Affiliation	Representing	Present
Yuyun Shang	EBMUD	POTW	Yes
Mary Lou Esparza	Central Contra Costa Sanitary District	POTW	No
Tom Hall	EOA, Inc.	POTW	No
Heather Peterson	City and County of SF	CCSF	No
Anne Hansen Balis	City of San Jose	POTW	Yes
Bridgette DeShields*	Integral Consulting	Refineries	Yes
Chris Sommers	BAMSC (EOA, Inc.)	Stormwater	Yes
Shannon Alford	Port of San Francisco	Dredgers	No
Richard Looker	SF Bay Regional WQCB	Water Board	Yes
Luisa Valiela	US EPA	US EPA-IX	Yes
Ian Wren	Baykeeper	NGOs	Yes
Jamie Rose Sibley Yin	US Army Corps of Engineers	USACE	Yes

#### Staff and Others

- Jay Davis – SFEI
- Amy Kleckner - SFEI
- Bryan Frueh - City of San Jose
- Tom Mumley – SFBRWQCB
- Gerardo Martinez - SFBRWQCB
- Scott Dusterhoff – SFEI
- Rebekah Lindsay - SFEI
- Diana Lin - SFEI
- Miguel Mendez - SFEI
- Rebecca Sutton - SFEI
- Alicia Gilbreath - SFEI
- Don Yee - SFEI
- Martin Trinh - SFEI

## 1. Introductions and Review Agenda

Bridgette DeShields opened the meeting with a round of introductions and a brief review of the day's agenda.

## 2. Decision: Approve Meeting Summary from March 29, 2023, and Confirm/Set Dates for Future Meetings

Bridgette DeShields asked the group for any final comments on the previous meeting's summary. SFEI corrected Chris Sommers' affiliation to BAMSC. Receiving no other comments, Bridgette confirmed the dates for upcoming meetings. The next TRC meeting was confirmed for September 19, 2023 and the end of year TRC meeting was scheduled for December 7, 2023. The Multi-Year Planning Meeting was confirmed for November 1, 2023.

### **Action Item:**

- Correct Chris Sommers' affiliation in March TRC meeting summary (Martin Trinh, July 15, 2023)
- Send out calendar invites for December 7, 2023 TRC meeting (Martin Trinh, July 15, 2023)

### **Decisions:**

- Chris Sommers motioned to approve the meeting summary. Ian Wren seconded the motion. The motion was carried by all present members.

## 3. Information: SC Meeting Summary from April 26, 2023

Jay Davis went over the notable items from the April Steering Committee meeting, beginning with the financial update from Jen. For the upcoming WQIF 2023 - PFAS proposal, the SC approved the plan to submit the WQIF proposal and use RMP funds as match. The SC also approved the adjusted scope and budget for the Stormwater CEC Groundwork Project, moving the modeling to year two, as well as the adjusted scope and budget of the near-field sediment and prey fish pilot. The revised process for consideration of MMP proposals, updated SEP list with the addition of the proposed HAB monitoring project, and proposed rationale for workgroup formation/deactivation were all approved by the Committee. Other notable topics from the SC meeting, such as the status of incomplete projects, communications products, and website updates were also on the June TRC agenda.

## 4. Discussion: Presentation of Special Study Proposals Recommended by Workgroups

Jay Davis introduced the item by giving an overview of the budget, and then discussing the extensive coordination happening across workgroups. He continued with a review of the number and type of special studies that were up for consideration, noting that the time during this agenda item should be used to ask technical questions of the proposal authors present at the meeting.

Jay shared that Tan Zi, lead watershed modeler for SFEI, had accepted a position with Alameda County Water District. This will cause a 1 to 2 quarter pause for many of the watershed modeling efforts being conducted by the RMP. SFEI is currently assessing staffing options, including hiring, having recent hires adopt the workload, or working with contractors.

Workgroup leads then briefly outlined each of the 16 proposals, highlighting how each related to other RMP efforts - both proposed or already completed - as well as time-sensitivity. After reviewing the proposals for each workgroup, the TRC members discussed the technical details of the presented studies.

Becky presented six proposals from the ECWG. The primary focus was on stormwater CECs, with a recommended 300K proposal from their SST committee. The proposal aimed to include monitoring, primarily focusing on conceptual model development for specific CECs and establishing a load estimation modeling plan. Notably, the conceptual model development did not require Tan's involvement, and it was emphasized that this proposal would not have an immediate impact on modeling. Year 3 of the Tire and Roadwear Contaminant project was introduced, involving the addition of analytes through the UW lab to finalize data and risk evaluation processes.

There was discussion about addressing concerns regarding existing data, particularly for OPEs, Bisphenols, and other Plastic Additives, which required revising the CECS Strategy due to levels of high concern, along with PFAS. Despite existing surface water data, concerns were raised about the outdated wastewater data. The proposal received strong support from the workgroup, and there was consideration of potential follow-up studies in the Bay.

Another topic of discussion was the PFAS Synthesis and Strategy project. It was highlighted that recent data synthesis and a clear path forward were lacking, and a revision of the document was necessary, incorporating BACWA work and adding onto existing S&T work. The addition of 40 target analytes, including TOP (total oxidizable precursors), was proposed, offering a broader understanding of environmental levels. While sediment analysis was declined, water analysis was approved, and the 2024 sport fish monitoring project was deemed a major element of CECs work.

Richard inquired about the conceptual modeling for WDM and its alignment with Pedro's modeling framework. The relevance of pathways and the allocation of

resources were discussed. The meeting highlighted the budget allocation and the ongoing effort to engage with Pedro and other modelers to ensure an effective conceptual framework.

For Microplastics, Diana Lin introduced the Stormwater Monitoring Pilot, which aimed to enhance methods for field sample collection and analysis, focusing on capturing smaller particles, addressing undercounting in tire wear measurements, and leveraging OPC and SCCWRP parallel sampling. Early fund release for this project was proposed. Year 1 and Year 2 budgets were also outlined for a SEP study focusing on collection methods for microplastics in water and sediment, with questions raised about data compatibility and size distribution.

Scott Dusterhoff of the Sediment Workgroup then introduced a study proposed by Karen Thorne and Jessie Lacy at USGS, which aimed to study sediment accretion rate in marsh restoration sites. The project involved selecting sites based on access, with a timeline spanning over two years, including data collection and release of data. Discussion revolved around funding coordination, USGS QAQC, and the project's compatibility with RMP timelines. Another proposal for Year 3 of a project involving SSC and wave monitoring in South and Lower South Bay was rescoped to include synthesis from tier 3, but not tier 2 sampling. South Bay restoration funded year 1, but could not fund year 2. The project aimed to enhance data robustness for wave monitoring, with budget reallocation discussed for different tiers of monitoring and maintenance work.

Alicia presented five proposals, of which three were intended for ranking and two required higher-level TRC/SC decisions. The first proposal focused on integrated monitoring and modeling of PCBs and mercury, with plans to continue sampling at three locations around the Bay. The second year aimed to complete the dataset, with continued modeling for load estimation, including sensitivity analysis. This work was set to be phased over two years, with \$150K for monitoring and \$66K for modeling in 2024, intended to modify the model for integration with Monte Carlo calibration techniques. The team relied on Tan and his team's expertise for this effort. In the discussion, Luisa raised concerns about time-sensitivity, Richard mentioned Pedro's ongoing engagement with WDM, and further input from Tom and Chris about prioritizing the best model.

It was noted that the last SPLWG two items were not up for consideration in this meeting and would be discussed at a later date with the SC.

The progress of monitoring, which had commenced the previous year, was acknowledged, involving sites like Guadalupe River, ACdMP, and Walnut Creek. There was an emphasis on addressing spatial heterogeneity in the model, with approximately half of the modeling already completed and a plan for 4-6 samples per site over 2-3 years. Luisa emphasized the time sensitivity of this initiative, proposing a monitoring-first approach in the first year, followed by modeling in the second.

Alicia moved on to discuss the Tidal Area Remote Sampler Pilot, which was adapted from an EPA remote sampler. This sampler was designed for tidal areas, aimed at enhancing the ability to sample pollutants in these regions. The project built on carryover from the previous year. Another project discussed was the Dog PCB Detection study, which involved robust planning, scalability, and feasibility considerations in collaboration with WB and permittees. Richard expressed reservations about the project scope, advocating for conducting a pilot project rather than just planning. This led to discussions about the urgency of the project through the MRP and its potential regulatory implications. Chris raised the question of whether the pilot should be conducted by RMP.

For the general RMP, Don described a Remote Sampler Purchase project aimed at supporting CEC efforts. The need for pilot testing and regulatory implications were discussed. Additionally, Watershed Dynamic Model Maintenance (\$50K per year on average) was discussed, with ensuring no overlap with Proposal 1 a primary concern.

Jay introduced the PCBWG projects concerning PCB trend monitoring in PMU Shiner Surfperch and sediment deposition in SLB Intertidal areas, both with significant connections to modeling.

The workgroup strategy budgets were included as integral components for funding.

## 5. Break

## 6. Decision: Recommendation for Special Studies for 2023

The process of study prioritization by TRC members was similar to last year, and played out in a smooth and successful manner. With all of the adjustments made to the proposals and the delay of the Tan-dependent modeling proposals, the combined total of the proposals was \$10K under the total planned budget of \$1.628M. Jay suggested moving the \$20K for shiner surfperch to S&T, allowing Don to add PCB analysis (\$14K) and grain size analysis (\$6K) to the Monitoring of Sediment Deposition in San Leandro Bay Intertidal Areas proposal. To address the extra \$10K, Diana proposed moving \$10K from year 2 of the Microplastics Stormwater Monitoring Pilot to year 1.

### **Decisions:**

- The Committee approved the 2024 Special Study list. The motion was carried by all present members.
- The Committee approved the new budgets for the Microplastics Stormwater Monitoring Pilot and Monitoring of Sediment Deposition in San Leandro Bay Intertidal Areas proposals. The motion was carried by all present members.

## 7. Decision: Update List of RMP Projects Eligible for Supplemental Environmental Project Funding and Recommend Allocation of Existing SEP Funds

Jay discussed the update of the SEP list, specifically the additional projects to recommend to the SC and the identification of funding priorities using MMP funds. The current SEP projects were collected from proposals by workgroups, and studies that did not make the cut for special studies were also considered. Three proposals: Size Distribution of MP in SF Bay, Sediment Loads from Bay Area Watersheds, and Sediment Conceptual Models for Individual Bay Segments were added to the SEP list. Chelsea Rochman will assist Diana with the MP proposal.

Jay noted that Tan's departure led to one proposal (Sediment Load from Bay Area Watersheds Under Future Climate) being pushed to 2025. This proposal will be moved back for 2025 Special Studies consideration instead of being put on the SEP list. The proposal for the Sediment Conceptual Model Report project was brought up, with the explanation that the recently completed project could not accomplish everything, so modular next steps were considered. There was agreement from the TRC, and the project was intended to be part of the sediment workgroup. The meeting also touched upon the importance of having the optimal list of projects and the need to maintain an up-to-date SEP list.

Discussion then moved to watershed modeling and staffing. There were plans to convene a small group to discuss deliverables and necessary work that could not be pushed out. There was interest in the concept of having a standing contract instead of an on-staff modeler for watershed modeling to ensure stability and long-term commitment. Jay highlighted the importance of finding the right person for this role. He mentioned Craig Jones and Pradeep Mugunthan as good examples of successful modelers for other projects. Tom raised concerns about instability with staffing and the need for assurance that progress would continue in a stable manner. The meeting concluded with a commitment to work towards long-term stability in staffing and exploring different models to achieve this goal.

### **Action Items:**

- Update SEP list to include 2024 proposals (Amy Kleckner, July 30, 2023)
- Post updated list to website (Martin Trinh, July 30, 2023)

## 8. Lunch

## 9. Discussion: RMP Proposal for Water Quality Improvement Funds

The focus of the proposed project is to address PFAS as a high priority for various stakeholders, including the State of California. The project aims to get ahead of potential future issues related to PFAS.

Kelly expressed gratitude to the Committee members for their support and encouraged open discussion and feedback. The Committee discussed the need for PFAS monitoring data for urban runoff and emphasized the importance of source control as the primary strategy, as treating PFAS would be challenging.

The project's main goal is to provide valuable information for the DTSC Safer Consumer Products Program, which recently received a significant infusion of funds allowing them to expand their staff and conduct more work at a faster pace. The Committee members expressed enthusiasm for the proposal concept and acknowledged the importance of collaboration with DTSC. The proposal involves collaboration with various organizations and disadvantaged communities, with a proposed urban focus. The scope of the grant was still in the conceptual stage, and they aimed to finalize it by early August. Several Committee members volunteered to review the proposal.

The budget and match funding were also discussed. The main challenge lies in the required match funding. Kelly explained that they were exploring options for match funding from various sources, including DTSC, current ongoing projects, and possible partnerships with other entities.

The TRC expressed interest in expanding the scope of the proposal to include other CEC-related products, potentially enabling the inclusion of aligned projects in the grant application. Further discussions and detailed planning would be carried out to finalize the proposal application, ensuring it aligns with the objectives of various stakeholders and regulatory bodies.

Ian Wren volunteered to provide feedback and review of the proposal. The Water Board will play a role and Chris Sommers was recommended as an advisor.

### **Action Items:**

- Distribute the proposal to Ian Wren, Chris Sommers, and the Water Board for review (Kelly Moran, August 15, 2023)

## 10. Discussion: S&T Monitoring Update and Design

Amy discussed the timing of the RMP S&T activities, particularly focusing on the dry season water sampling, nearfield prey fish and sediment, margins sediment, and marine mammal activities. Amy added she hoped to receive the results soon from the analysis of toxic contaminants during the wet season, but SGS AXYS had not provided a specific timeline for that yet.

For the dry season, the plan is to conduct water sampling at 22 stations distributed across five Bay segments. Out of these, six stations would be fixed, with one located in each subembayment and one in the lower South Bay. The remaining 16 stations would be randomly selected using the GRTS method. This dry season water sampling is scheduled to take place from August 28 to September 1, 2023.

Regarding sediment sampling in the dry season, the RMP was focused on the nearfield Bay sediment. The plan is to collect sediment samples from 12 targeted stations that would overlap with the wet season water sampling locations. The sediment sampling would occur in August with collection by Marco Sigala at SJSURF, and testing for PFAS, bisphenols, TOC, nitrogen, percent solids, and grain size. This sediment sampling was planned for August 2023. The margins Bay sediment effort would sample at 24 stations for the same analytes, also in August. Amy would go into depth for the Deep Bay sediment-sampling plan in the next agenda item, hoping for final approval by the TRC. The Deep Bay Sediment effort would sample up to 17 stations, 4 targeted “historic” stations (1 each from CB/SB/LSB + 1 Pinole Point), and up to 13 random stations (4 CB, 4 SB, 4 LSB). PBDEs will also be sampled here in addition to the aforementioned analytes, after which PBDEs will be discontinued.

The discussion also touched on the focus on chemicals of emerging concern (CECs) in the sediment sampling. The group suggested that there was no need to sample at the San Pablo and Suisun stations. Instead, they considered using a hypothetical negative control station, Pinole Point station, to confirm their model's assumption that urban uses drove CECs transport. They wanted to show that a less urban site would have lower CEC levels. This would be logistically feasible and fit within the budget. They discussed the curvature to shoal and decided that the next segmentation would be in 2028.



The RMP planned to address both CECs and legacy contaminants in their sampling efforts. Amy agreed to make sure not to conflict with the planned eelgrass restoration at Pinole. The TRC approved this approach.

For prey fish, the plan is to sample at 12 stations and test for PFAS and ancillary tissue parameters. Topsmelt, Mississippi silverside, and staghorn sculpin will be analyzed for PFAS and archived for potential analysis of bisphenols, OPEs, and other CECs.

Amy mentioned that the Marine Mammal Center had already collected several harbor seal pups for analysis of toxic contaminants, and their work was progressing well.

The draft of the design review report is under review, and still awaiting feedback from advisors.

**Decisions:**

- The Committee approved the Deep Bay station sampling locations.

**Action Items:**

- Reach out to Marilyn Latta @ Coastal Conservancy to determine if eelgrass restoration project interferes/overlaps at Pinole Point station (Amy Kleckner, July 30, 2023)

## 11. Decision: Bay Margins Sediment Survey Design

In this item, Amy gave an overview of the new RMP margin sampling strategy. The plan involves sampling 12 sites every five years, with targeted sites near expected loading areas. She categorized the sites into priority sites and GRTS sites. Priority sites are selected based on interests from various programs, and one specific site per Bay segment is chosen for closer monitoring. GRTS sites are the ones with historical time series that will be revisited for continuity. The design aims to capture signals from near sources. The discussion also explored site distribution concerns and ways to coordinate with the WRMP. Some concerns were raised about the proximity of certain sites, but overall, the plan is designed to improve the understanding of the Bay's ecosystem and contamination levels over time, with consideration given to different Bay segments and programmatic needs. The possibility of adding WRMP sites and more fixed stations for years when legacy contaminants are included was also discussed. The plan intends to strike a balance between random and targeted sampling.

**Decisions:**

- The Committee approved the Bay Margins Sediment Survey Design.

**Action Items:**

- Document rationale for station selection (number in each segment and WRMP proximity) in S&T redesign doc and 2023 SAP (Don Yee, July 30, 2023)

## 12. Discussion: Interlaboratory Comparison Studies for 2023

Don Yee discussed a proposal for comparisons between different laboratories. The focus was on understanding how the labs performed relative to each other in analyzing various contaminants. The primary lab used was AXYS, with Eurofins being considered. Becky noted Eurofins was more expensive but closer geographically, potentially saving on shipping costs. Potential issues with lab performance and pricing were discussed, and a third lab was also suggested. Don mentioned cross-lab validation results from EPA and the possibility of using the same labs for other types of samples like wastewater and stormwater.

The Committee then discussed the need for volunteers to review the Bay margins report, and some members (Richard Looker and Luisa Valiela) volunteered for this task.

Towards the end of the meeting, Don discussed plans for PFAS and grain size analysis. PFAS analysis was prioritized due to EPA's interest, and Don planned to collect and analyze samples from different matrices for the study. He also considered adding grain size analysis to the study using a third lab and hoped to compare results to ensure consistency.

**Action Items:**

- Price out PFAS analysis for water and sediment vs. water only for two vs. three labs (Don Yee, July 31, 2023)
- Determine the cost of doing a grain size analysis interlab comparison this year (Don Yee, July 31, 2023)

## 13. Discussion: Communications Update

Jay began this agenda item by discussing the upcoming Annual Meeting and the agenda items that could be included. The meeting started with brainstorming about potential topics, including the annual meeting agenda and updates on the group's new website. The discussion then shifted to the structure of the Annual Meeting agenda, with a focus on potential presentation blocks. The first block discussed was related to the Regional Monitoring Program (RMP), where various topics were suggested, such as long-term perspectives, a presentation by Tom, and updates on the Multi Year Plan and the Program shift towards CECs

The second block centered around nutrients and sediment, although ideas for this block were not fully fleshed out. Suggestions included nutrient modeling work, updates on HAB studies, and possibly the Sand Science report. There was also a focus on CECs with discussions about CEC strategy updates, stormwater studies, PFAS and fish studies, and Bill Arnold's pro bono work on QACs.

Chris Sommers brought up the success of presentations from outside regulatory agencies in the previous year's meeting, particularly DTSC's presentation on PFAS. He suggested having more presentations related to PFAS due to its importance. Chris also mentioned the potential inclusion of microplastics and debris-related topics from DTSC.

The discussion then moved to the format and placement of DTSC's presentation. Suggestions included placing it in the general block or within one of the CEC blocks. The group pondered presenting on how climate change-induced hydrology changes impacted the region, potentially including updates on infrastructure design to handle extreme events. This would align with the theme of using updated science to inform management decisions.

Alicia suggested that the presentation on wet season updates could be a valuable addition, but Tom noted that the data will not be available in time for the Annual Meeting. The idea of having a story about how the changing climate affects the region's hydrology and the responses to it was well-received.

The group aimed to balance updates on ongoing work with new and important developments in the field. The discussion touched on various environmental issues, management challenges, and the use of scientific data to inform decision-making. The item concluded with the suggestion to revisit the agenda items later to finalize and organize the content for the Annual Meeting.

Jay gave an overview of the new RMP website and took suggestions from TRC members.

**Action Item:**

- List all of the agencies using our data in the data overview tab on the website (Martin Trinh, July 31, 2023)

## 14. Information: Status of Deliverables and Action Items

Amy reviewed the deliverables and action items with the TRC members. Amy began by reporting the Ethoxylated Surfactants in Water paper had been published in ES&T,

the Toxicology thresholds for EC's "living document" and PFAS & NTA in Marine Mammals study design and sample collection protocol had been shared at the ECWG meeting. The Sunscreens in Wastewater Report has been completed along with the QA Summary report for 2020 S&T activities. For field work, the sturgeon selenium muscle plug samples have been collected and the tidal area remote sampler pilot testing has been completed.

Following with overdue items, she noted that the SLB Recovery from PCB contamination draft report is being written by Stanford. SFEI does have PCB data. Melissa Foley is working on a draft technical report for the 2020 Selenium in North Bay clams and water effort. The 2022 clam results have not arrived, but Michael Weaver has sent Brooks the EDDs for results. The MTC Bay Area land use update continues to be held up as SFEI is still seeking the terms of release from Kearey Smith at MTC. Our contacts at MTC are no longer responsive. The dataset has been brought up to date in areas agreed upon by stakeholders, it has value and others are requesting our version of the updated data. The Integrated watershed modeling and monitoring implementation strategy draft is still in preparation.

Amy proceeded to outline delayed deliverables including the 2021 QA Summary for S&T Activities, which is awaiting bird eggs analysis. The CEC in urban stormwater manuscript and management summary has been delayed until early next year due to the stormwater groundwork project. The Nutrient light attenuation in RS products - technical memo has been delayed as funding from a new WQIF grant (estimated start date: July 2023) will support generating remote-sensed (RS) turbidity/Kd data. Those RS-data will then be analyzed as part of this project. We propose shifting the technical memo due date to Dec 2023, lines up well with the anticipated workflows of both projects, WQIF and SS 2021. Enhances to the DMMO database have been pushed back to September 30, 2023 as ESA is revising the data templates and SFEI is now testing those new templates.

Projects due before the September TRC meeting include the final Margins report and final Floating percentile sediment guidelines that Don is wrapping up. The S&T Dry Season sample collections for Bay, nearfield and margins sediments, Bay and nearfield water, preyfish will be completed by the September meeting. Don will complete the QAPP update by early July. The SPLWG will finish the quantifying stormwater flow and sediment flux to the Bay report by the end of June and Diana Lin will complete the Impact of remediation actions on San Leandro Bay recovery from PCB contamination final technical report at that time as well.

Bridgette applauded Amy's conciseness and appreciated the abbreviated deliverables list now included in the agenda packages in addition to the more detailed stoplight reports.

**Action Item:**

- Send Margins Report to Richard Looker & Luisa Valiela for feedback (Don Yee, July 31, 2023)
- Follow up with Tony re: a call to Caitlin Sweeney @SFEP for assistance in MTC roadblock (Amy Kleckner, July 31, 2023)

## 15. Discussion: Plan Agenda Items for Future Meetings

The Annual Meeting and RMP Update will be discussed as well as an update on S&T implementation. The annual calendar will be brought up along with updates on watershed modeling and workgroup strategies and progress. The Committee reiterated the need to compare the planning budget and actual budget as many efforts have shifted into different funding categories.

## 16. Discussion: Plus/Delta

Overall, the group was commended for their sustained effort and focus throughout the day. The TRC particularly appreciated the efficient recommendation session and Luisa's apricot jam.