

Meeting Summary

RMP Sources, Pathways and Loadings Workgroup Meeting
May 14-15, 2026

Attendees (Name, Affiliation)

- Alicia Gilbreath, SFEI
- Amy Kleckner, SFEI
- Bonnie De Berry, EOA, representing the San Mateo stormwater program
- Brian Frew, City of San Jose wastewater compliance
- Bridgette DeShields, Integral Consulting, representing Western States Petroleum Association and industrial dischargers, chair of the RMP Technical Review Committee
- Dan Hossfeld, USEPA
- David Peterson, SFEI
- Diana Lin, SFEI
- Don Yee, SFEI
- Ezra Miller, SFEI
- Gerardo Martinez, San Francisco Regional Water Quality Control Board (Water Board)
- James Limbrunner, Tufts University, science advisor
- Jay Davis, SFEI
- Jennifer Dougherty, SFEI
- John Riverson, Ulteig
- Jon Butcher, Tetra Tech, science advisor
- Kara Mirmelstein, SFEI
- Kat Rodolfi, Integral Consulting, representing Western States Petroleum Association and industrial dischargers
- Kelly Moran, SFEI
- Kyle Stark, SFEI
- Lester McKee, SFEI
- Lisa Sabin, EOA, representing SCCVURP
- Lisa Walsh, Geosyntec
- Luisa Valliela, US Environmental Protection Agency (USEPA)
- Matthew Héberger, SFEI
- Meg Maturn, City of San Jose wastewater compliance
- Melissa Foley, SFEI
- Noah Rudko, SFEI
- Paul Salop, AMS
- Pedro Avellaneda, SFEI
- Richard Looker, Water Board
- Robert Budd, California Dept. of Pesticides Regulation, science advisor
- Sasha Mariniuk, SFEI
- Setenay Frucht, Water Board
- Tom Jobes, science advisor

1. Programmatic Overview and Stakeholder Priorities

Program Context and Funding

The SPLWG meeting opened with a land acknowledgment and a reminder of the RMP's primary goal: explicitly supporting regional management decisions through robust water quality data. The RMP is experiencing significant growth, with the 2026 budget doubling to **\$9.2 million**, largely due to a new San Francisco Bay program office and new EPA grants. Of this, **\$3.8 million** is allocated to Special Studies, with the SPLWG managing a **\$519,000** planning budget. The core SPLWG Strategy and Program Management proposal (**\$80k**) was presented to continue supporting internal coordination, Multi-Year Plan updates, and external stakeholder engagement.

Water Board Regulatory Horizon

- **Mercury TMDL:** The Water Board is updating the TMDL using two decades of new data, evaluating compliance timeline extensions rather than altering waste load allocations. The Mercury Synthesis report is expected in August 2026, with final Board adoption targeted for Spring/Summer 2028.
- **PCB TMDL:** Running approximately two years behind Mercury, the PCB TMDL revision will focus geographically on Priority Margin Units (PMUs). The Synthesis report is expected by Summer 2028, with Board adoption planned for Summer 2030. Key needs include PMU PCB budgets and integrated watershed-bay models.
- **Contaminants of Emerging Concern (CECs):** Impairment decisions and potential 303(d) listings for PFAS could occur around 2030, likely triggered by fish tissue concentrations. Collecting data now to support future PFAS loading models is recommended.

BAMSC Perspectives and Control Measures

The Bay Area Municipal Stormwater Collaborative (BAMSC) highlighted that old industrial land uses produce the highest PCB loads. Their control measure methods rely on managing PCBs during building demolitions and identifying high-concentration properties (>1 ppm) for state-overseen abatement. During the discussion, it was noted that while PG&E did not receive specific budget approval for transformer removal, they are opportunistically replacing PCB-containing equipment during routine maintenance and sharing transformer locations within PMUs.

2. Watershed Dynamic Modeling (WDM)

Model Recalibration and Updates The WDM simulates discharge and sediment concentrations across 255 river reaches. To ensure a credible pollutant model, the team delayed the PCB/Mercury modules to fix underlying physical representations of hydrology and sediment.

- **Hydrology:** The team fused PRISM and NLDAS datasets to fix errors in how daily precipitation was disaggregated to hourly increments, drastically improving the fit to observed daily flows.
- **Sediment:** Revisions included fixing erosion wash-off rates, redefining critical bed shear stresses for silt and clay, and correcting F-tables that were causing unrealistic channel velocities. The recalibrated model estimates an average annual sediment load to the Bay of **0.76 million metric tons** (2011–2025).
- **Mercury:** Parameterization is underway utilizing 1,367 local soil samples to establish potency factors across major land-use categories.

2027 Watershed Modeling Workplan Special Study Proposal (\$580k for 2027; \$2.5M EPA Grant through 2030)

The workgroup unanimously supported the agile multi-year modeling workplan. Key 2027 tasks include:

- **Meteorological Forcing:** Partnering with University of Nebraska researchers to address Bay Area spatial rainfall heterogeneity using novel data imputation methods.
- **Channel Geometry & Land Use:** Replacing idealized cross-sections with real-world measurements and updating the MTC 2020 land use dataset to refine pervious/impervious delineations.
- **Applications:** Creating refined models for PMUs (e.g., Redwood Creek, San Leandro Bay) to run "what-if" load reduction scenarios (like green stormwater infrastructure implementation) to quantify recovery pacing.

3. Fixed Monitoring Station Network (FMSN)

Network Vision and Pilot Selection

Unlike past short-term fixed stations, the FMSN is designed for multi-decadal operation to establish long-term trends and calibrate models using continuous flow and turbidity datasets. Supported by a **\$1 million** EPA grant and **\$1.15 million** in RMP funding, the first four stations must target PCB trends in industrial watersheds. Two primary candidates for the first pilot station were discussed:

- **Zone 4 Line A:** Features stable, easy-to-model channel geometry, an established rating curve, and open space for atmospheric gauges. PCB reductions here will likely stem from natural redevelopment.
- **Ettie Street Pump Station:** A highly industrial watershed with known sources and anticipated management actions. However, modelers strongly cautioned against using this site, as the stop-and-start nature of pump stations disconnects flow from natural watershed processes, making modeling and flow calculation extremely difficult.

2027 FMSN Monitoring Special Study Proposal (\$144k)

SFEI proposed funding to monitor the first pilot station during WY 2027. The design uses the turbidity-surrogate method, collecting discrete samples across the hydrograph during four targeted storms (including the first flush and peak storms) to capture continuous loads for PCBs, Hg, SSC, total metals, and TOC.

- **Discussion:** BAMSC permit timelines require all four initial stations to be selected and instrumented by Summer 2027, and data to be available for reporting by March 2028. SFEI noted that aligning research-driven monitoring with strict municipal compliance deadlines has historically caused friction, but agreed to accelerate site selection and explore delivering QA'd data ahead of formal state database uploads to meet BAMSC needs.

4. Stormwater Monitoring and 2027 Special Study Proposals

WY 2026 Stormwater Monitoring Update

During an average rainfall year in WY 2026, the team successfully sampled five major storms, executing 11 distinct studies across three workgroups. They expanded the use of small automated samplers (collecting 17 successful samples directly into lab bottles) and deployed the new vacuum-based Aquamatic sampler to reduce CEC contamination risks. Recently analyzed data from WYs 2021-2022 monitoring highlighted unexpectedly high mercury at the Kerner Pump Station, prompting further source investigation.

2027 Special Study Proposals

- **Stormwater Systems Improvements (\$60k):** A foundational project to transition the program to a standardized system. Tasks include developing automated QA/QC planning tools to calculate required sample counts, establishing weekly coordination meetings, and migrating the reconnaissance database into ArcGIS Survey123.

- **Small Automated Sampler Improvements (\$60k):** Funding to resolve reliability challenges identified during WY2026, focusing on fixing power/connectivity issues, preventing line clogging, and improving software UI for the stage-triggered samplers.
- **Discharge Rating Curves (\$100k):** Leverages existing stage-only flood control gauges to create discharge rating curves at seven priority sites, filling WDM geographic data gaps. Includes purchasing an Acoustic Doppler Current Profiler (ADCP) to safely measure full channel flow profiles during storms.
- **Improved Watershed Delineation (\$75k):** Replaces the manual delineation of urban watersheds with an automated ArcGIS tool. It will integrate high-resolution LiDAR with municipal storm drain networks to accurately map contributing areas, though BAMSC cautioned that municipal subsurface data requires heavy ground-truthing.

5. Mercury Synthesis Update

Lester McKee provided a preview of the Mercury Synthesis report sections detailing loads from the Central Valley and the Guadalupe River.

- **Central Valley:** The long-term arithmetic average load is 163 kg/yr, which falls well below the TMDL allocation of 330 kg/yr.
- **Guadalupe River:** The long-term average load is 61 kg/yr. While this is below the original TMDL estimate of 92 kg/yr, it remains significantly higher than the stringent 2 kg/yr allocation. Particle ratio data currently shows no evidence of a declining trend in the system.

6. Closed Session: 2027 Special Studies Prioritization

The workgroup evaluated the special study proposals against the \$519,000 planning budget. Because the total requests fit within the budget, hard cuts were unnecessary, but the group established the following consensus rankings to forward to the Technical Review Committee:

1. **Discharge Rating Curves:** Highly rated for its direct contribution to model development ahead of the upcoming TMDL revisions.
2. **Stormwater Monitoring System Improvements:** Deemed foundational and absolutely necessary to support all ongoing fieldwork.
3. **Stormwater Monitoring at Fixed Stations:** High BAMSC priority. (Note: Multi-year funding estimates for the remaining three stations will need to be revisited next year).
4. **Small Automated Samplers.**

5. **Improved Watershed Delineation:** Ranked lowest strictly due to a lack of immediate timing urgency compared to the other projects, but the workgroup noted that they are fully supportive of the project.

7. Action Items

1. **Post CDF plots for precipitation and flow data:** Jim Limbrunner suggested that Cumulative Distribution Function (CDF) plots for precipitation and flow would help the team better evaluate the model's accuracy. Matthew Héberger agreed to add these plots to the online handout.
2. **Add a double mass plot to the Mercury Synthesis Report:** Tom Jobes noted that the figure presented did not clearly show a decrease in mercury loads violating the TMDL. Lester explained that a double mass plot reveals a statistically significant change in the slope of the flow-to-sediment relationship post-1999 and agreed to add this plot to the final report to clearly display evidence of this trend.
3. **Provide site characteristics summary for rating curve proposal:** Robert Budd requested background information for each site to provide further justification for site selection. Matthew Heberger agreed to provide a site characteristics summary before the TRC meeting. Tom Jobes also requested a map showing gaged vs ungaged area in the WDM domain to highlight data gaps this project would fill.
4. **Continued collaboration with BAMSC:** SFEI and BAMSC agreed to continue sharing information. BAMSC plans to share updated PCB source properties with the modeling team. SFEI plans to develop a sites database and agreed to develop a site name reference table, linking site names across CEDEN, SFEI, and BAMSC.

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