



Bay RMP Technical Review Committee Meeting

23 June 2026

Zoom Stuff

This meeting is being
recorded and AI-transcribed





1. Introductions and Review Goals for the Meeting (10 min)

Today's Agenda Highlights



Information/Discussion: RMP Planning Update



Information/Decision: PCB TMDL Studies 2027



Discussion: Presentation of Special Study Proposals Recommended by Workgroups



Information/Decision: Fixed Monitoring Station Network



Decision: Recommendation for Special Studies in 2027



Discussion: Plus/Delta on Workgroup Meetings



Information/Decision: Watershed Dynamic Modeling Workplan 2027



Discussion: Communications Update









2. Decision: Approve Meeting Summary from March 25, 2026 Review/Confirm/Set Dates for Future Meetings (10 min)

Desired Outcomes:

- Approve meeting summary
- Confirm meeting dates

Meeting Schedules

- Technical Review Committee Meetings
 - Wednesday September 16, 2026
 - December - TBD (W 12/9, W 12/16, ?)
- Scheduled Steering Committee Meetings
 - Monday August 24, 2026
 - Monday November 16, 2026 (MYP Workshop + SC)
- RMP Annual Meeting
 - Wednesday October 21, 2026



3. Information: Steering Committee Meeting Summary from April 13, 2026 (10 min)

Desired Outcome:

- Informed Committee

April SC Agenda Highlights



**Information/Decision: RMP Financial
Update for 2026 Q1**

**Information/Discussion: RMP Planning
Update**

**Information/Discussion: Workgroup
Planning Update**

**Information/Discussion: 2026 S&T
Monitoring Update**

**Discussion/Decision: AI Use on RMP
Products**

Discussion: Communications



4. Information: RMP Planning Update (45 min)

Desired Outcome:

- Informed Committee
- Guidance on planning related to future EPA funding allotments
- Guidance on special study final deliverables

Tracking Bay Health Funding Update

Overall 5-Year Total Request: \$23.5M

Final Allotment = \$6.5M (Awarded 3/10/2026) and a no cost extension through September 2031

Next steps and proposed timeline:

- **Semi-Annual Progress Report - submitted end of April**
- **Allocate funds through the end of the grant period - in progress**
- **RFP/Q for Modeling, Field Support, New Lab Analysis**
- **Review and submit an updated QAPP**

Special Studies Budgets

- 2027: \$2.7M
 - 2028 - 2030: Approximately \$2.5M annually
 - 2031 - TBD
-
- Fee schedule for 2029 and beyond
 - Dredger fees unknown
 - S&T Planning for 2031

Tracking Bay Health/RMP Funding Update

- Planning and governance for the three main program areas 2027 - 2031
 - Program Management
 - TBH funding for communication and data services
 - Status and Trends
 - Tracking what has been committed as match for other EPA proposals
 - Special Studies
 - Proposals for multi year projects
 - Support for integration amongst the workgroups without overburdening our advisors and stakeholders bandwidth/capacity.

Bay RMP Future Planning

- Science Staff
- Deputy Program Manager
- Staff to assist with - modeling, QA, stormwater sampling
- Others as we determine what else is needed



Discussion

Q: Should a special study result in a journal article or technical report?



Tire- and Vehicle-derived Contaminants, Current Use Pesticides, Pharmaceuticals, and other Emerging Contaminants in Dry vs. Wet Season Bay Water

Ezra Miller, Kelly Moran, Rebecca Sutton
San Francisco Estuary Institute

Edward Kolodziej
University of Washington

CONTRIBUTION No. 1271 / MARCH 2026

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Quaternary Ammonium Compounds in Wastewater Influent, Effluents, and Biosolids: Analysis from Twelve Wastewater Treatment Plants from 2020 to 2023

Anna K. Mahony, Tyler A. Clair, Miguel A. Mendez, Patrick J. McNamara, and William A. Arnold*

Cite This: <https://doi.org/10.1021/acs.est.5c14775>

Read Online

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ABSTRACT: Quaternary ammonium compounds (QACs) are high production volume chemicals used in consumer and industrial products, including disinfectants. Influent, effluent, and biosolid samples were collected from 12 wastewater treatment plants (WWTPs) from 2020 to 2023 and analyzed for 21 QACs to assess influent loadings and discharges to the environment via effluent and biosolids. The median total QAC concentrations in liquid influents ranged from 18 to 194 $\mu\text{g/L}$, while liquid effluent concentrations were substantially lower (0.15 to 1.1 $\mu\text{g/L}$). Median biosolid concentrations were substantial (26–430 mg QAC/kg solids dry wt; maximum ~ 1 g/kg). For many WWTPs, the mass loadings of QACs in biosolids were of similar magnitude as those in influents, indicating that sorption plays a large role in the removal of QACs. At most plants, $\geq 90\%$ of QACs were removed by a combination of sorption (9–72%) and degradation (28–91%). One plant that used aerobic digestion had only 1% of the initial QACs in the biosolids. On a national scale, 1900 tons of QACs were estimated to enter WWTPs in liquid influents annually, 30 tons were estimated to be discharged with liquid effluents, and 770 tons were estimated to leave with biosolids, of which 640 tons are land applied or landfilled.

KEYWORDS: disinfectants, biodegradation, biosolids, sorption, benzalkyldimethylammonium compounds (BACs), ethylbenzalkyldimethylammonium compounds (EBACs), dialkyldimethylammonium compounds (DADMACs)

INTRODUCTION

The recent COVID-19 pandemic led to a rise in the use of household disinfectants, and usage may continue in the coming years.^{1–3} Quaternary ammonium compounds (QACs) are a class of chemicals used in many household, commercial, and industrial products, a majority of which are marketed as disinfectants.^{4–7} Many individual QACs have been designated as “high production volume chemicals” by the U.S. EPA, meaning that more than 1 million pounds ($>450,000$ kg) are produced and/or imported each year.^{8,9} After use, many QACs are discharged to sewer systems and are also released into the environment from other uses (e.g., algaecides, emulsifiers).^{10,11} Given the substantial loads of QACs to wastewater treatment plants (WWTPs),¹² it is important to understand the effectiveness of QAC removal during treatment and the loads released to the environment via effluents and biosolids. A difficult aspect of understanding the fate of QACs is that there are many classes and types of QACs, several of which have been understudied.

There are four main classes of QACs: benzalkyldimethylammonium compounds (BACs), ethylbenzalkyldimethylammonium compounds (EBACs), alkyltrimethylammonium compounds (ATMACs), and dialkyldimethylammonium com-

pounds (DADMACs) (see Figure S1 for structures). Over 50% (216/430) of disinfectant products on the EPA List-N, which provides recommended disinfectants for use against COVID-19, contain QACs.^{13,14} Most disinfectants contain multiple QACs, often from multiple classes, to be more effective against a variety of bacteria and viruses.^{15,16} Individual QACs are typically abbreviated with a C_n representative of the number of carbons in the long alkyl chain, followed by the class to which the QAC belongs (i.e., decyltrimethylammonium chloride would be C_{10} -ATMAC). Many disinfectant products on EPA List-N contain C_{12} -BACs, C_{12} -EBACs, and C_{12} -ATMACs.¹⁷ Although DADMACs are used in about half as many disinfectants as BACs, they are used at higher concentrations. While not in disinfectants, ATMACs are used in antistatic agents, corrosion inhibitors, and preserva-

Received: October 17, 2025

Revised: December 3, 2025

Accepted: December 4, 2025



5. Discussion: Presentation of Special Study Proposals Recommended by Workgroups (65 min)

Desired Outcome:

- Discussion and clarification on proposed studies

Emerging Contaminants Workgroup

- Emerging Contaminants Strategy for 2027 [\[Early Funding\]](#) - \$90,000
Final Deliverable: CEC strategy update (include NTA strategy) Spring 2028
- Tires Strategy for 2027 - \$10,000
- 1. Stormwater Contaminants of Emerging Concern Monitoring 2027 [\[Early Funding\]](#) - \$451,000
Final Deliverable: PFAS Focus Contaminant Class Final Report July 2028
- 2. Newly Identified Tire- and Vehicle-derived Contaminants in Bay Water and Stormwater [\[Early Funding\]](#) - Year 2 of 2 - \$105,000
Final Deliverable: Technical Report October 2027
- 3. Nontarget Analysis of Bay Area Stormwater - WY 2027 Year 3 of 3 [\[Early Funding\]](#) - \$156,000
Final Deliverable: Final Manuscript May 2028

Emerging Contaminants Workgroup

4. QACs in Wastewater and Upstream Sources - \$203,000
Final Deliverable: Final Manuscript July 2029
5. Ultra-Short Chain and Extended List of Per- and Polyfluoroalkyl Substances in Bay Water - \$140,000
Final Deliverable: Final Report October 2028
6. PFAS in Precipitation: Year 2 and Year 3 [\[Early Funding\]](#) - \$62,000
Final Deliverable: Final report October 2029
7. Parabens and Related Transformation Products in Bay Area Wastewater Effluent - \$94,000
Final Deliverable: Final Manuscript/Technical Report April 2029
8. Contaminants of Emerging Concern in San Francisco Bay Bird Eggs [\[Early Funding\]](#) - \$10,000
Final Deliverable: Compositing and archiving September 2027; Full proposal for SEP list

Microplastics Workgroup

- Strategy Funding for 2027 - \$3,000
1. Evaluation of Tire Wear Particles in Urban Stormwater Runoff, and Method Evaluation for Other Types of Microplastics Year 1 of 3 [\[Early Funding\]](#) - \$150,200
Final Deliverable: Technical Report November 2029

Sediment Workgroup

Strategy Funding - \$25,000

The SedWG ranked three proposals the same:

- Developing a Workplan for Monitoring Suspended-Sediment Flux at the Golden Gate - \$42,000. Workplan completed in Winter 2027 [\[Requesting early funding\]](#)
 - Evaluating sediment dispersal and benthic community recovery three years after a shallow-water sediment placement in South San Francisco Bay - \$154,538. Draft journal article or final USGS Open File Report in Winter 2029
 - Conceptual Understanding of Sediment Transport Processes in South Bay and Lower South Bay - \$186,800. Final report in Fall 2028
4. Sediment accretion in San Francisco Bay wetland restorations Phase II - \$120,000 for 2027. Data Release and Draft Manuscript completed in Winter 2028

Sources, Pathways, and Loadings Workgroup

- SPLWG Strategy for 2027 - \$80,000

Deliverables: 3-4 local stakeholder meetings, MYP update, internal/external meetings

1. Develop Discharge Rating Curves at Existing Stage Monitoring Stations - \$100k, \$240k over 3 years [\[Early Funding\]](#)
SOP for ADCP operation, report and data package for modeling team April 2030
2. Stormwater Monitoring Systems Improvements - \$60k, \$180k over 3 years [\[Early Funding\]](#)
QA/QC planning form, sites information database and an annual progress summary and plan for the upcoming year presented at the 2027 SPLWG meeting
3. Stormwater Monitoring at Fixed Stations - \$144k, \$644k over 3 years [\[Early Funding\]](#)
Sample collection (4 storms), data management and upload to CEDEN, report February 2028

Sources, Pathways, and Loadings Workgroup

4. Small Automated Sampler Continued Improvements - \$60k, \$160k over 4 years
[\[Early Funding\]](#)

Targeted refinements in hardware, software, operations, and QA/QC. Construction, deployment and operation manuals written and posted on GitHub

5. Improved Watershed Delineation to Support Modeling, Data Interpretation, and Site Selection - \$75k

30-40 priority watersheds delineated. ESRI tool and user guide packaged and published on the RMP website

PCB Workgroup

- Strategy Funding for 2027 - \$20,000
1. PCB Synthesis - \$103,000
Final Deliverable: Technical Report July 2028



Short Break





6. Decision: Recommendation for Special Studies in 2027 (1 hour)

Desired Outcomes:

- Recommendation to Steering Committee on a suite of studies for 2027 funding
- Recommendation of any new proposals to be eligible for SEP funding

<https://docs.google.com/spreadsheets/d/1oWr2ZkTf72FIDmBGDwtEMIMrOa5E--ZbnRa4paDVL3Q/edit?usp=sharing>



Lunch





7. Information/Decision: Watershed Dynamic Modeling Workplan 2027 (30 min)

Desired Outcomes:

- Informed Committee
- Committee approval to proceed with 2027 workplan



Proposed Watershed Modeling Workplan for 2027

For the RMP Technical Review Committee

June 23, 2026

Matthew Heberger & Pedro Avellaneda

Where the modeling team is today

Sediment model finalized	May 29
Mercury results available	June 30
Report internal review	July 17
Report out for external review	July 24
Comments due	Aug 7
FINAL report	Aug 14



WDM portal:

<https://mghydro.com/pages/wdm/>

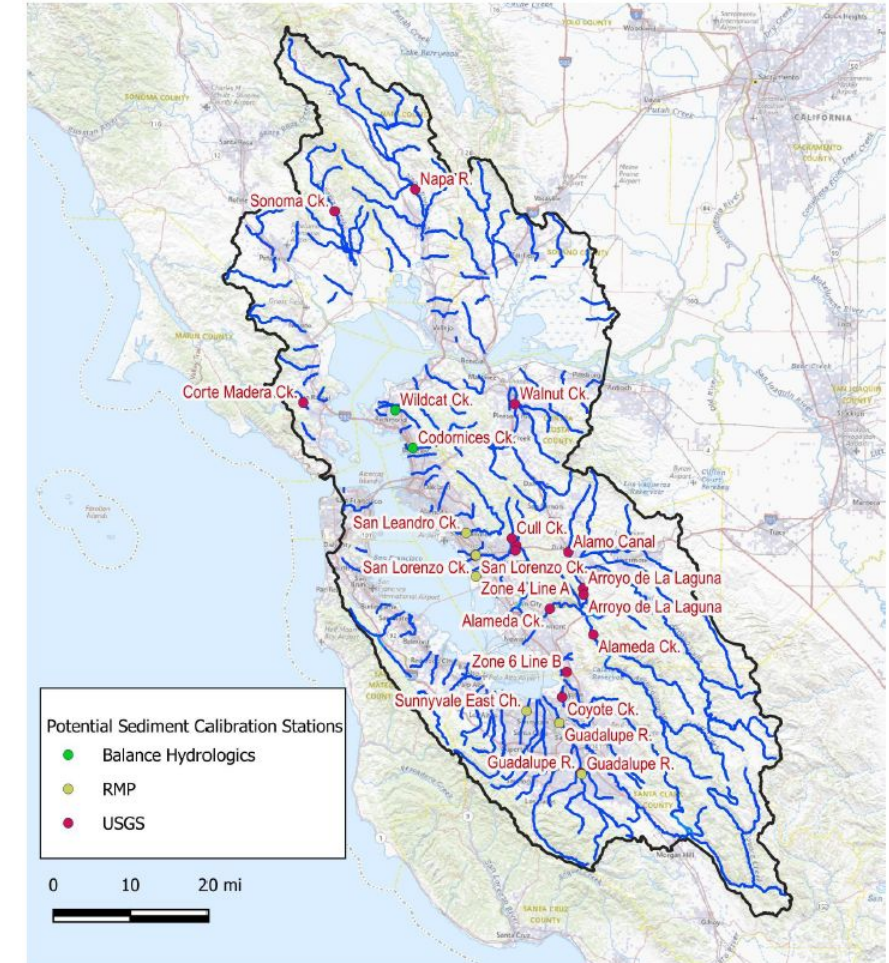
Project Context

Watershed modeling for 2026 - 2030 is funded by the **Tracking Bay Health (TBH)** grant from the USEPA.

We are proposing an “**agile**” project management style for timely completion high-priority tasks while maintaining flexibility.

RMP workgroups & TRC play an important role in **planning and oversight** for watershed modeling.

Main home in the Sources, Pathways, and Loadings WG; consultation and oversight by Sediment, Mercury, PCB, Emerging Contaminants, and Microplastics Workgroups.



Watershed Modeling Purposes

- Support TMDL and permit requirements
- Estimate regional loads
- Assess management actions
- Identify High-Leverage Sources
- Simulate sediment erosion and transport to the Bay
- Provide input to the Bay Hydrodynamic Model, as part of an Integrated Watershed-Bay Modeling system

Main Goals for 2027



Pollutant Load Estimates

Provide updated estimates for critical pollutant loading across the region.



PMU Management

Support the modeling and management of Priority Margin Units (PMUs).



Model Refinement

Continue to update and refine the model, focusing on sediment transport.

Primary Regulatory Drivers

Mercury (Hg) TMDL

Scheduled update for **2028**.

Requires refined regional-scale pollutant load estimates and boundary data.

PCBs TMDL

Scheduled update for **2030**.

Focus on Priority Margin Units (PMUs) to explore load reduction feasibility.

Modeling provides the necessary "what-if" scenarios for recovery trajectories.

Planned expenses

Table 2. Planned expenditures for watershed modeling, by category for 2027 to 2030, the duration of the EPA Tracking Bay Health grant.

All values in \$1000s

Category	2027	2028	2029	2030	Total
SFEI Labor	450	479	510	543	1,982
Subcontracts	115	120	130	135	500
Comp. Hardware & Software	15	1	1	1	18
Total	580	600	641	679	2,500

Proposed projects in 2027

Task		Budget (x \$1000)	
1. Model configuration and calibration			
	A. Update meteorological forcing datasets	50	
	B. Update channel geometry river reach F-tables	25	
	C. WDM/RWSM: Update and improve land use input data	60	
	D. Enhancements to sediment modeling	65	
			200

Proposed projects in 2027 (#2)

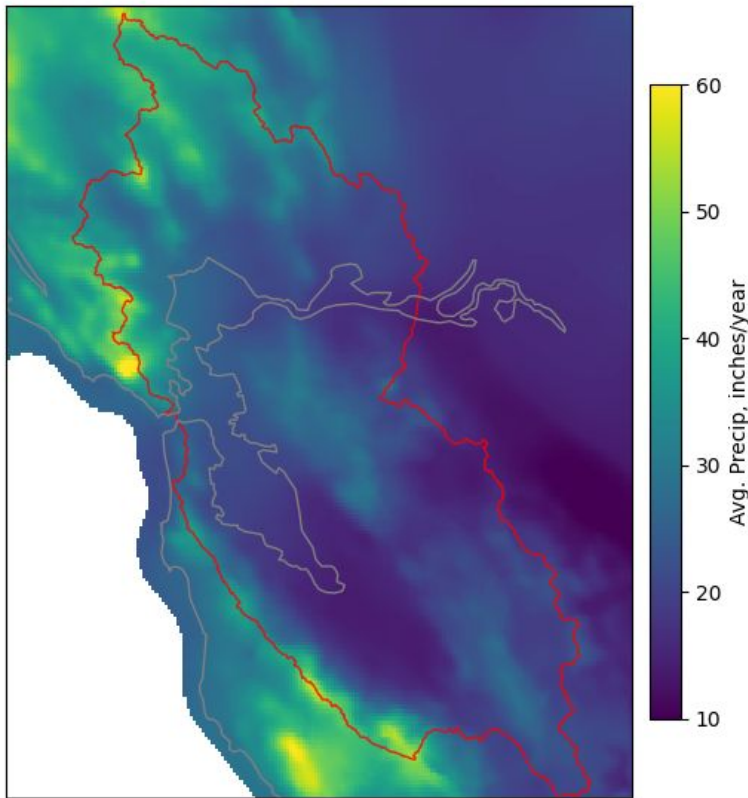
2. Watershed modeling applications			
	A. RWSM: Align HRUs with WDM and recalibrate RWSM	40	
	B. PCB TMDL Bay recovery: PMUs: Explore control measure feasibility through varied simulations by control measure type, scale, and pacing	100	
	C. Microplastics: Annual average discharge and load at the HRU scale	50	
	D. Provide boundary condition for in-Bay model: Daily flows by near-field subwatershed, three sediment size classes	50	
			240

Proposed projects in 2027 (#3)

3. Reporting and management			
	A. Reporting	85	
	B. Administration, stakeholder engagement, and project management	55	
			140
Total			580

Task 1.A. Update Meteorological Forcing

PRISM Annual Avg. Precip.



Partnering with University of Nebraska-Lincoln (Dr. Tirthankar Roy) to create state-of-the-art datasets.



- Addresses extreme spatial heterogeneity of rainfall in the Bay Area

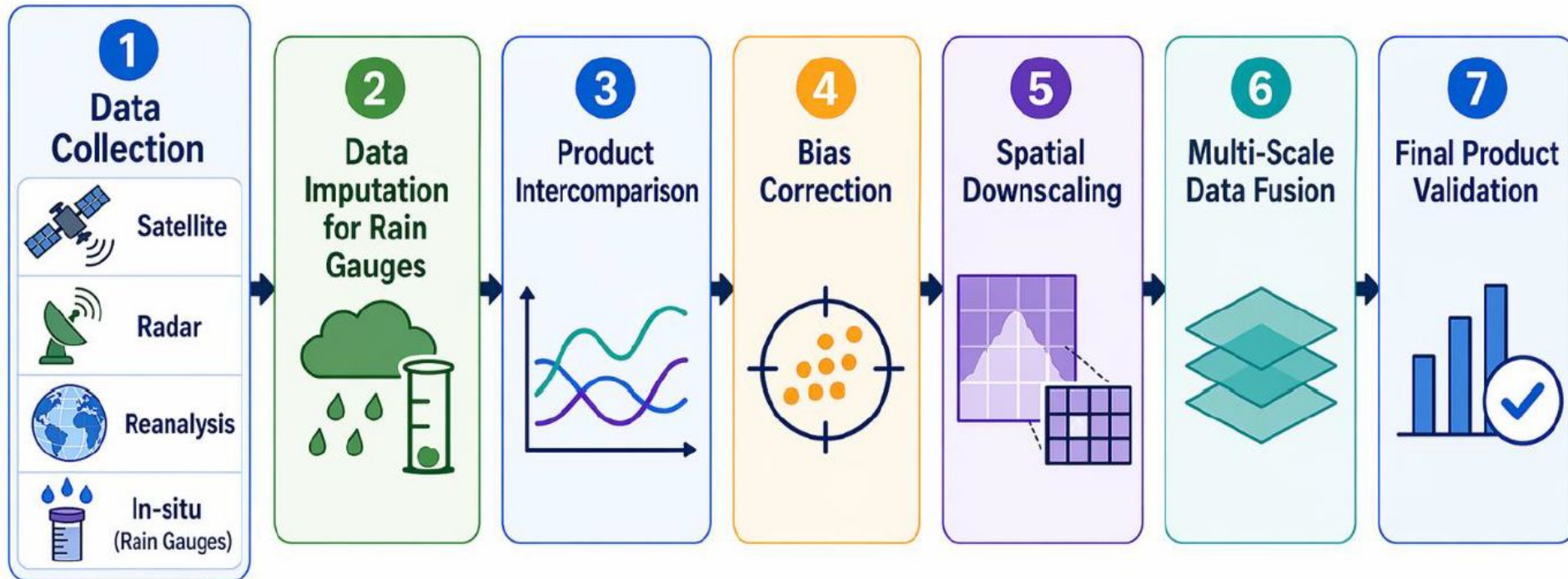


- Novel imputation methods for missing data



- Deliverable: Gridded hourly precipitation dataset

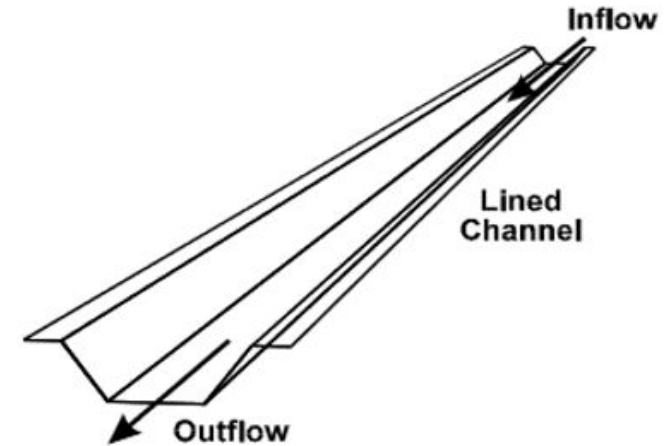
Task 1.A. Update Meteorological Forcing



Bottom line: Precipitation is fundamental to watershed modeling; improvements in forcing datasets will increase our model's skill for predicting discharge, sediment, and pollutant concentrations

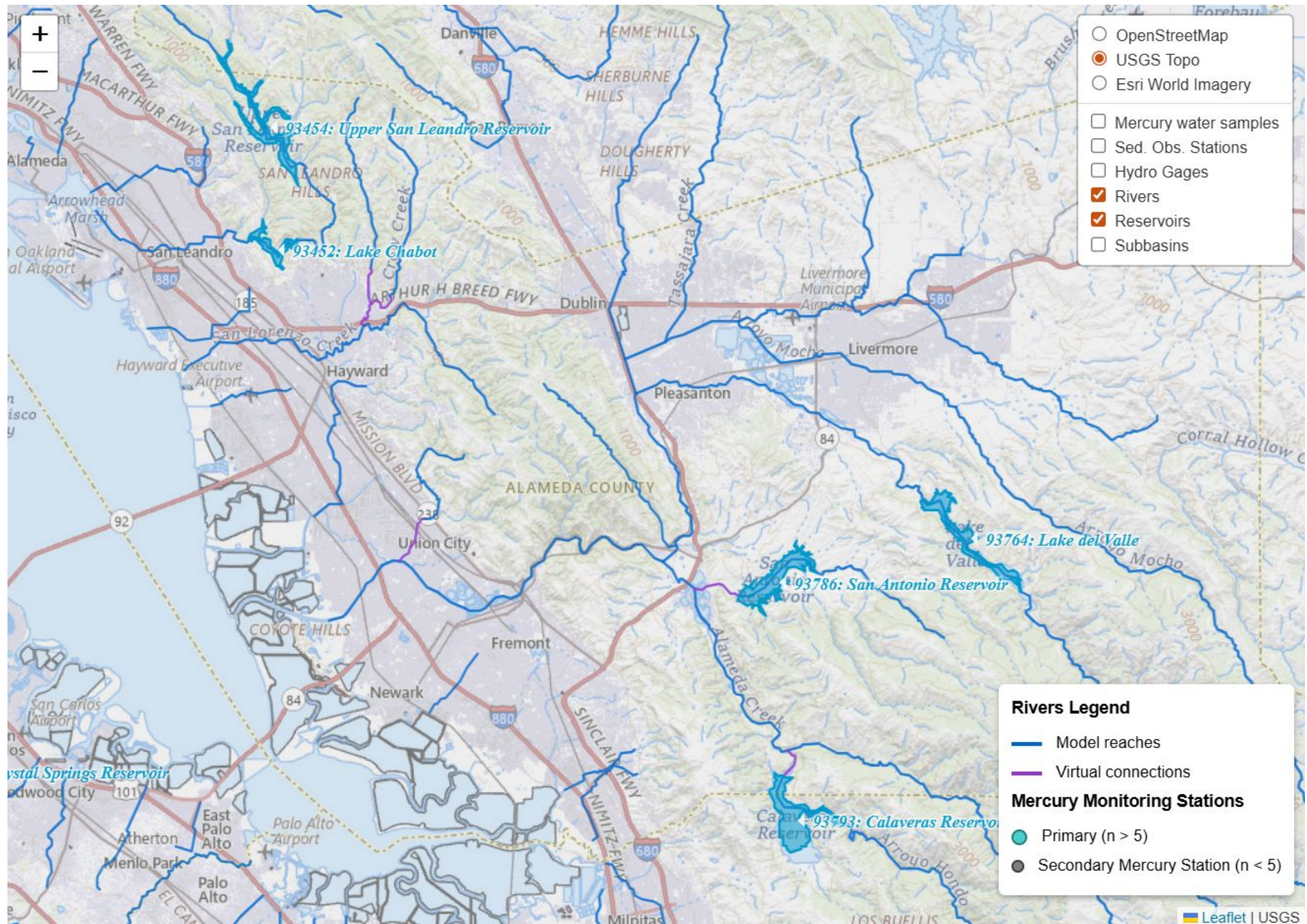
Task 1.B. Update Channel Geometry

- Continuation of work begun in 2026.
- Replacing idealized volume-outflow relationships with real-world measurements of channel geometry
- In 2027, focus on improved representations of **reservoirs**, to improve the model simulation in critical watersheds like Alameda and Coyote Creeks.



Col	1	2	3	4	5	6	7
Row #	Depth	Surface area	Volume	F1 (vol)	F2 (vol)	F3 (vol)	F4 (vol)
1	0	0	0	0	0	0	0
2	1.5	1	8	12	6	10	0
3	10	15	80	12	18	10	0
4	50	100	2500	12	36	20	20

RCHTAB



4000: Coyote Creek above Hwy 237 at Milpitas CA — Daily



Task 1.D. Enhancements to sediment modeling

- Incorporate more local data for calibration and validation, from local watershed reports and USGS data
- Use more RMP continuous turbidity-surrogate SSC observations
- Validate channel water velocity simulation
- Increase focus on the 3 sed. size classes

Why this matters:

- The physics of sediment transport vary between cohesive and non-cohesive sediments.
- PCBs and Mercury bind differently to different grain sizes.





2. Watershed Modeling

Applications

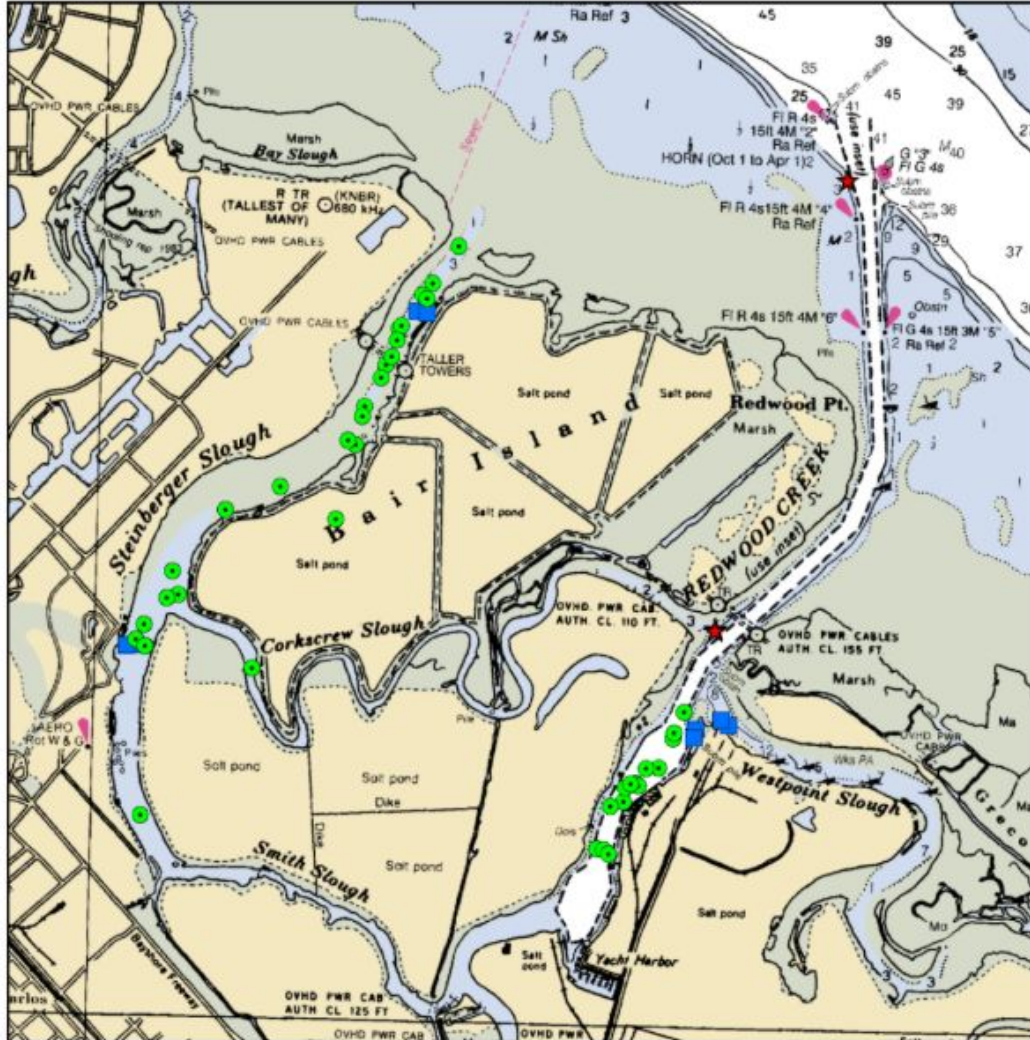
Transforming model skill into management decisions

Task 2.A. Update and recalibrate the RWSM

- The RMP has two main models: The RWSM (simple) and WDM (complex) that were developed separately.
- Simple models remain useful, especially when data are scarce, the case for CECs, microplastics, etc.
- Aligning the watershed boundaries and Hydrologic Response Units (HRUs) in the RWSM will make the models more readily intercomparable.
- HRUs are land areas where combination of land use, soil, slope, geology, etc. give it a unique hydrologic fingerprint.



Task 2.B. PCB Recovery & Control Measure Feasibility



Focus on Priority Margin Units (PMUs)

Evaluating recovery trajectories for sites like San Leandro Bay and Redwood Creek.

Scenario Modeling:

- What happens if we increase street sweeping?
- How long until bed sediment concentrations drop (and fish tissue concentrations) if we implement large-scale GSI?

Goal: Quantify the "pacing" of recovery for water quality management.

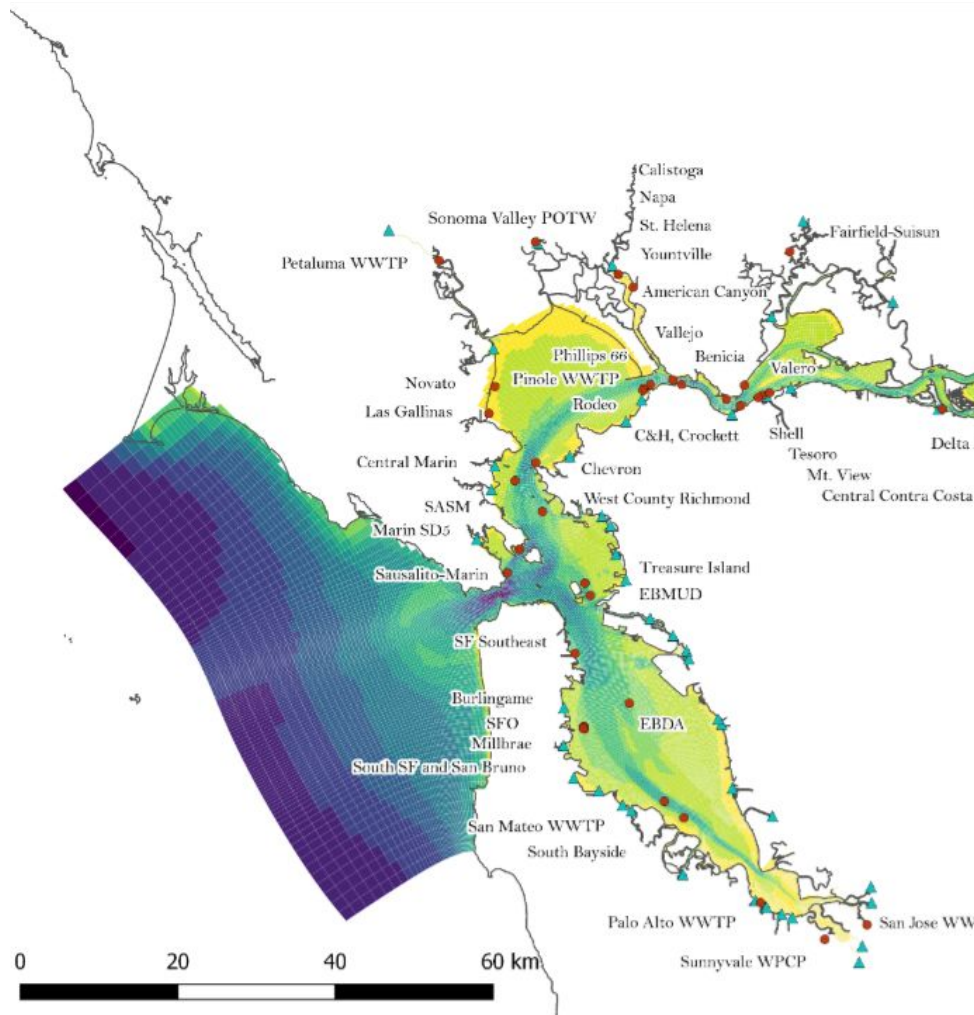
Task 2.C. Microplastics Modeling

Quantifying an emerging threat

- **Objective:** Generate robust, regional-scale microplastic (MP) loading estimates.
- **Method:** Applying MP concentration data to modeled HRU (Hydrologic Response Unit) discharge.
- **Outcome:** Identifying "hotspot" watersheds to prioritize for future monitoring and trash capture.



Task 2.D: Integration with Bay Modeling



- **Boundary conditions:** The WDM provides the essential input data for Bay hydrodynamic models.
- **Coupled Systems:** Simulating the full lifecycle of a pollutant—from its source in the atmosphere or land surface to its accumulation in Bay fish.
- **Scale:** Moving from broad regional averages to site-specific subwatershed precision.

A Community Modeling Approach



Open Access

Creation of a permanent watershed modeling web portal on SFEI.org to share all files and documentation.



Transparency

Quarterly model update meetings for stakeholders and science advisors.



Engagement

Collaborative feedback loops ensure results are scientifically defensible.



2027 Deliverables & Timeline

			
Q1 - Q4 2027	March 2028	April 2028	May 2028
Technical Tasks Model Calibration	Annual Report Submission	SPL Workgroup Presentation	Web Portal Updates

Task Group	2027 Budget	Key Deliverable
1. Configuration & Calibration	\$200,000	Precipitation Dataset & F-Tables
2. Modeling Applications	\$240,000	PCB Feasibility & MP Estimates
3. Reporting & Management	\$140,000	Web Dashboard & Final Report



Questions & Discussion

Desired outcome:

Committee approval to proceed with 2027 workplan

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8. Information/Decision: PCB TMDL Studies 2027 (30 min)

Desired Outcomes:

- Informed Committee
- Committee approval to proceed with 2027 study proposal

TMDL Revision Timeline

- Deadline for revised TMDL: 2030
- Cutoff for new science to inform the TMDL: **July 2028**
- Urgent need to plan how to use the \$2M between now and July 2028
 - Goal: use these funds in the most effective way possible to support the TMDL revision
 - One wet season to work with – need to plan wet season work ASAP
- (Side note: similar situation for mercury - cutoff of July 2026)

Draft Allocation of the TBH \$2M for PCBs

Study	2026	2027	2028	2029	
Strategy	10	10	10		
General empirical data	44				Archived sediment
PMU General Empirical Data	600	400			\$1M for OPTICS Part 2
Stormwater	210				
In-Bay Fate Model	200	200	200		Integral modeling
Synthesis, PMU Conceptual Models		100			San Rafael Creek
Food Web Model ?					



Water Year 2027 Stormwater Monitoring to Support PCB Watershed Modeling



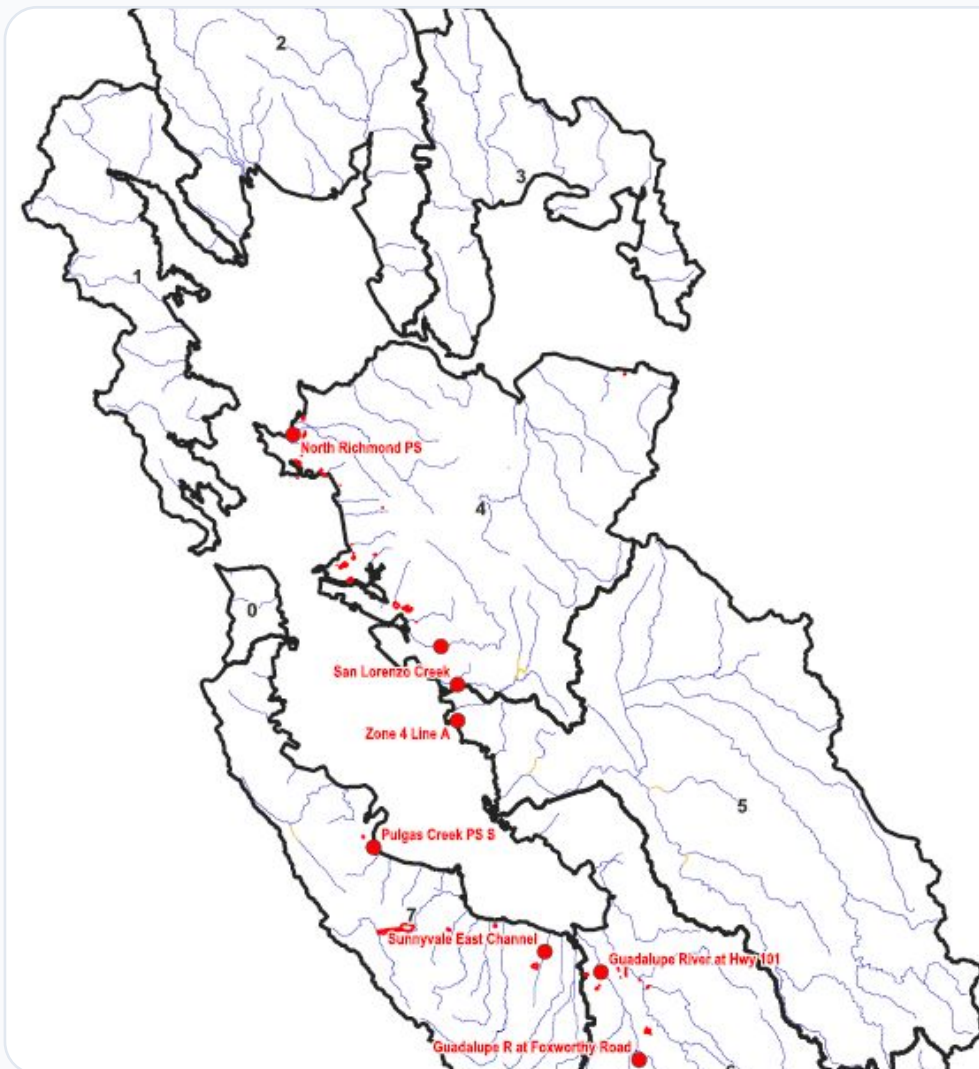
Background

Motivation

High quality, long-term intensive PCB data is necessary for calibration and validation of the Watershed Dynamic Model Load estimates of PCBs from the watersheds to the Bay are fundamental for modeling recovery trajectories.

8 stations intensively monitored for PCBs are being used for calibration of the WDM.

Additional data at these stations could extend the monitoring timescale to the present, providing a longer time series.



Study Approach



01

Site Selection & Optimization

Work with modeling team to determine sites providing maximum benefit to WDM regional loads estimates.

02

Storm Monitoring (WY 2027)

Collect PCBs and SSC composites during 12 storm monitoring efforts across 4 locations (3 storms per location). Focus on first flush, large storm, mid-season storm.

03

Flow Verification

Where appropriate, measure stage to verify WDM flow.

Year 1 Tasks and Budget

Task/Item	Budget
Task 1. Collaborate with modeling team to create sampling plan	\$1,000
Task 2. Stormwater Monitor 12 storm monitoring events	\$110,000
Task 3. Data Management and QA	\$25,000
Task 4. Reporting	\$20,000
Task 5. Project Management	\$20,000
Shipping and Travel	\$4,000
Supplies	\$1,500
PCB Laboratory Analysis	\$23,500
SSC Laboratory Analysis	\$2,000
Permits	\$3,000
Project Total	\$210,000

Timeline and Deliverables

July 2026

Site Selection

Aug/Sep 2026

Permitting

Oct 2026 - Apr 2027

Stormwater Monitoring
12 monitoring efforts

Summer 2027

Laboratory Analysis

Fall 2027

Quality Assurance

Spring 2028

Data Transfer, Report and Workgroup Presentation



9. Information/Decision: Fixed Monitoring Station Network Update (30 min)

Desired Outcomes:

- Informed Committee
- Committee approval to proceed with plans for the FMSN

FMSN 4.0: The Vision

To collaboratively build a network of monitoring stations that together generally represent the region's local watersheds, to produce robust, quality-assured, publicly available long-term data on stormwater flow and pollutant concentrations to address evolving management questions.

Each station will include:



Facilities for automated and manual collection of creek water samples



Gauges and sensors for ancillary data (flow, rainfall, turbidity, conductivity)



Potential instrumentation for capturing rainfall and air samples



Hardware for data storage and communications for remote access.

A Past Example: Sunnyvale East



FMSN Schedule

TRACK 1: PILOT STATION DEPLOYMENT (2025 - 2026)

OCT 2025

Project Kickoff

Conduct monthly management meetings.

LATE 2025 - EARLY 2026

Station Selection

Conduct monitoring location reconnaissance and mapping.

MAY 2026

Final Selection

Finalize pilot station selection with input from Science Advisors and Stakeholders.

SUMMER 2026

Final Equipment Decision

Confirm station equipment requirements.

SUMMER 2026

Design & Prep

Complete pilot design and secure necessary equipment for pilot operation.

OCT 2026

Go Live

Pilot station is operational.

TRACK 2: REST OF NETWORK PLANNING & CONSTRUCTION

NOV 2026

SPLWG Mtg #2

Perform technical review of the expanded network design.

WINTER 2026 - SPRING 2027

Station Selection

Validate final station locations based on technical reviews.

APRIL 2027

SPLWG Mtg #3

Confirm network design and finalize equipment requirements.

FALL 2027 - 2029

Full Launch

Complete construction and go live with monitoring for all stations.



Pilot Station Selection Process

- Group agreed to locate pilot station in Alameda County
- Began with a broad list of candidate stations previously sampled, collaboratively reviewed to narrow the list
- Reconned 9 stations (-> 6 kept)
- Evaluated information on station feasibility, e.g., past PCB and PFAS contamination & data, likely future management actions, monitoring accessibility

Feasible and Safe

- For automated and manual sampling

Reliability

- Power (wired versus solar)
- Internet (wired versus telecom)
- Stream stability, trash, debris

Alameda County Site: Ettie St. Pump Station

- Safe - behind locked gate
- Suitable space for samplers
- Reasonable head height
- Ground level access to incoming pipe
- Safe and feasible to collect grab samples
- Flow measurement system
- Open sky for placement of rain gage and solar panel



A Past Example: North Richmond Pump Station



Ettie St Pump Station

Legend

- ★ Candidate Monitoring Location
- ▭ Candidate Watershed

▭ GSI Treatment Project

Old Industrial Baseline

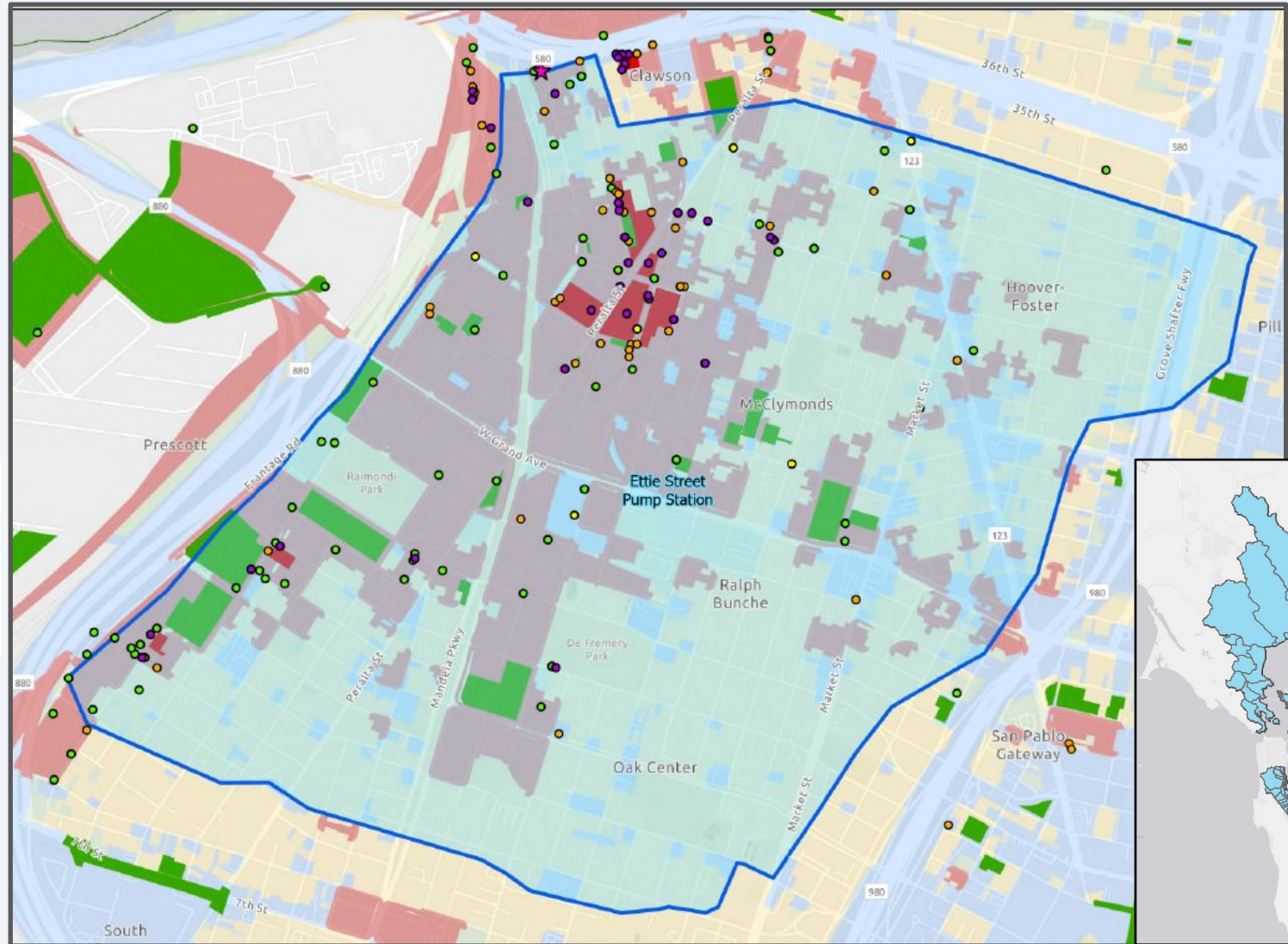
- ▭ Old Industrial Baseline
- ▭ Source Properties

Other Baseline Category

- ▭ Old Commercial & Old Transportation
- ▭ Old Residential
- ▭ New Urban & Open Space

Sediment Samples (through WY 2025)

- <0.2 mg/kg PCBs & <0.3 mg/kg Hg
- <0.2 mg/kg PCBs & >0.3 mg/kg Hg
- 0.2 - 1.0 mg/kg PCBs
- >1.0 mg/kg PCBs



FMSN Schedule

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LATE 2025 - EARLY 2026

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SUMMER 2026

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SUMMER 2026

Design & Prep

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OCT 2026

Go Live

Pilot station is operational. IF FUNDED, monitoring WY 2027

TRACK 2: REST OF NETWORK PLANNING & CONSTRUCTION

NOV 2026

SPLWG Mtg #2

Perform technical review of the expanded network design.

WINTER 2026 - SPRING 2027

Station Selection

Validate final station locations based on technical reviews.

APRIL 2027

SPLWG Mtg #3

Confirm network design and finalize equipment requirements.

FALL 2027 - 2029

Full Launch

Complete construction and go live with monitoring for all stations.



Task	Budget Proportion
Site Selection and Implementation	15%
External Meetings	23%
Research & Reporting	3%
Internal Meetings	3%
Equipment and Programming	25%
Contingency	18%
Project Management	13%





Short Break





10. Discussion: Plus/Delta on 2026 Workgroup Meetings (15 min)



Desired Outcome:

- Feedback on 2026 workgroup meetings



11. Discussion: Communications Update (40 min)



Desired Outcome:

- Feedback and input from Committee

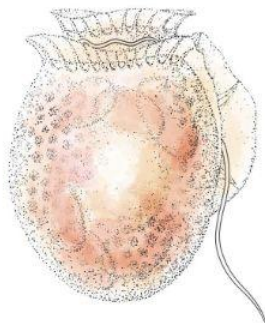
Pulse 2026 - Nutrients in the Bay



Acatenella



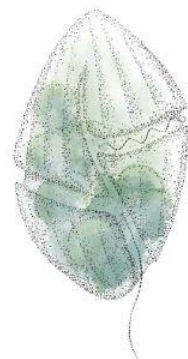
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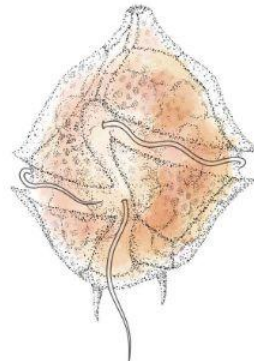
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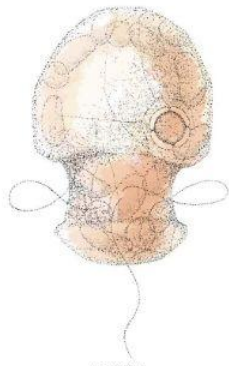
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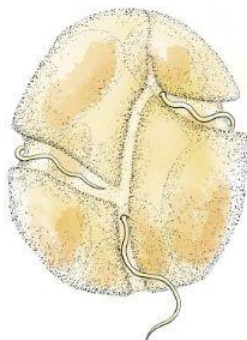
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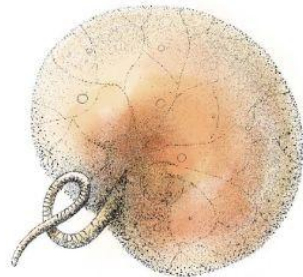
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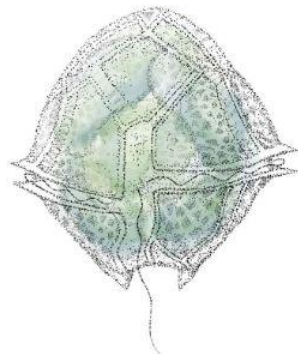
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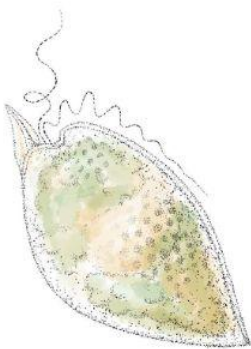
Mfulvescens



NScitillans



Phipes



Pmicans

Pulse 2026: Timeline Highlights

- January: line up authors
- February
 - Article outlines developed and shared
 - Hire illustrator(s)
- May 1: draft articles (Word) to Jay
- **May 11: draft articles (Word) to SC/TRC - 3 wks for review**
- **Aug 7: laid-out draft to SC/TRC - 3 wks for review**
- Aug 28: report to printer
- ~Oct 5: distribute reports at Annual Meeting!

Annual Meeting

- Primary topic: Nutrients



Session 1: Nutrients

1. Keynote: Jim Hagy, USEPA ORD
2. Water Board
3. BACWA
4. Discussion

Session 2: Nutrients

1. NMS Science Update: Ian
2. HAB Update: Dave
3. Accessing NMS/HAB data: Dan
4. Discussion

Session 3: Legacy Contaminants and Sediment

1. Bay sediment science: Dave Schoellhamer
2. Watershed modeling: Matt or Pedro
3. In-Bay modeling: Craig
4. Discussion

Session 4: General

1. RMP Sport Fish: Jennifer Sun
2. Mercury Synthesis: Jay
3. PFAS Synthesis and Strategy: Diana
4. Discussion

Annual Meeting: Potential Presentations (Non-Nutrient)

- **PFAS Synthesis and Strategy - Diana or other**
- Statewide Plastic and Microplastic Monitoring Strategy - Diana and Tony (though don't want Diana to have to give two talks)
- **2024 Sport Fish - Jennifer Sun**
- Recent harbor seal findings - Ezra, or maybe Jennifer Sun
- (maybe) Diana's dryers study (not RMP) - Diana or Kayli
- (maybe) Next Generation Rain Gardens study (not RMP) - Alicia and Jennifer D, though we've used all the funds so this might not be practical
- (maybe) Co-benefits of nutrient treatment on CECs removal (lit review) - Miguel and/or Noah. We haven't even started this project so it might be premature to offer this, it just has a nice tie-in to nutrients.
- **Mercury Synthesis - Jay et al**
- San Leandro Bay PCB studies - Craig Jones
- Selenium - Amy

2024 RMP ANNUAL MEETING AGENDA

October 16, 2024; 9:00AM – 4:30PM

Hybrid meeting: [Register](#) to obtain information

	Welcome and Introduction
9:00	Welcome and Introduction - <i>Tom Mumley, San Francisco Bay Water Board (Retired), RMP Steering Committee Chair</i>
	Session 1: General RMP Highlights/Nutrients
9:10	Introduction – <i>Gerardo Martinez, SFBRWQCB</i>
9:15	2024 RMP Highlights - <i>Amy Kleckner, RMP Manager, San Francisco Estuary Institute</i>
9:35	Nutrient Watershed Permit for San Francisco Bay - <i>Robert Schlupf, San Francisco Bay Water Board</i>
9:55	Overview and emerging understanding of the 2022 Heterosigma bloom in San Francisco Bay - <i>Dave Senn, San Francisco Estuary Institute</i>
10:15	Discussion - <i>Gerardo Martinez, SFBRWQCB</i>
10:35	BREAK (20 minutes)
	Session 2: CECs
10:55	Introduction – <i>Andria Ventura, Clean Water Action</i>
11:00	A Global Perspective on CEC Monitoring - <i>Derek Muir, Environment and Climate Change Canada</i>
11:25	“New Approach Methodologies” in Ecotoxicology and Environmental Monitoring - <i>Dan Villeneuve, US Environmental Protection Agency</i>
11:45	PFAS Sources to Solutions - <i>Kelly Moran, San Francisco Estuary Institute</i>
12:00	Discussion - <i>Moderated by Andria Ventura, Clean Water Action</i>
12:20	LUNCH BREAK (60 minutes)
	Session 3: CECs
1:20	Introduction – <i>Bridgette DeShields, Integral Consulting</i>
1:25	A Bold Strategy for Bay Science: Contaminants of Emerging Concern - <i>Rebecca Sutton, San Francisco Estuary Institute</i>
1:45	The Soap Opera of Ethoxylated Surfactants: A Drama in Every Drop - <i>Jennifer Dougherty, San Francisco Estuary Institute</i>
2:05	QACs in Bay Area Wastewater (and Other Bay Matrices) - <i>Ezra Miller, San Francisco Estuary Institute</i>
2:25	Discussion - <i>Moderated by Bridgette DeShields, Integral Consulting</i>
2:45	BREAK (20 minutes)
	Session 4: CECs and Microplastics
3:05	Introduction – <i>Karin North, City of Palo Alto</i>
3:10	California’s Safer Consumer Products Program Updates: Advancing Chemically Safer Products for People and the Environment - <i>Alyssa Demko, California Department of Toxic Substances Control</i>
3:30	Water Board Management of CECs - <i>Maggie Monahan, San Francisco Bay Water Board</i>
3:50	RMP Microplastics Strategy: Providing Statewide Scientific Leadership - <i>Diana Lin, San Francisco Estuary Institute</i>
4:10	Discussion - <i>Moderated by Karin North, City of Palo Alto</i>
4:30	Adjourn

2025 RMP ANNUAL MEETING AGENDA
October 15, 2025; 9:00AM – 4:30PM
Hybrid meeting: [Register](#) to obtain information

	Welcome and Introduction
9:00	Welcome and Introduction - <i>Tom Mumley, San Francisco Bay Water Board (Retired), RMP Steering Committee Chair</i>
	Session 1: Stormwater/CECs
9:10	Introduction - <i>Tom Mumley</i>
9:15	Overview of RMP Stormwater Studies - <i>Matt Heberger, San Francisco Estuary Institute</i>
9:35	Remote Stormwater Sampler Development - <i>Don Yee, San Francisco Estuary Institute</i>
9:55	Nontarget Analysis of CECs in Sediment - <i>Ezra Miller, San Francisco Estuary Institute</i>
10:15	Discussion - <i>Moderated by Tom Mumley</i>
10:35	BREAK (20 minutes)
	Session 2: Sediment/PCBs/Communications
10:55	Introduction - <i>Laura Tam, Bay Planning Coalition</i>
11:00	Water Board Update on Beneficial Reuse - <i>Xavier Fernandez, San Francisco Bay Water Board</i>
11:20	Modeling the Recovery of San Leandro Bay from PCB Contamination - <i>Sam McWilliams, Integral Consulting</i>
11:40	RMP Communications Strategy - <i>Sierra Garcia, San Francisco Estuary Institute</i>
12:00	Discussion - <i>Moderated by Laura Tam</i>
12:20	LUNCH BREAK (60 minutes)
	Session 3: Fish Contamination
1:20	Introduction - <i>Jay Davis, San Francisco Estuary Institute</i>
1:25	Carquinez Strait Fish and Preservation Project: Overview - <i>LaDonna Williams, All Positives Possible</i>
1:45	Carquinez Strait Fish and Preservation Project: Consumption Survey - <i>William Ware, Consultant</i>
2:05	Carquinez Strait Fish and Preservation Project: Fish Monitoring Results – <i>Jay Davis, San Francisco Estuary Institute</i>
2:25	Discussion - <i>Moderated by Jay Davis</i>
2:45	BREAK (20 minutes)
	Session 4: CECs/Nutrients
3:05	Introduction - <i>Luisa Valiela, US Environmental Protection Agency</i>
3:10	Wet Season Monitoring of CECs in the Bay - <i>Martin Trinh, San Francisco Estuary Institute</i>
3:30	Updated Nutrient Science Plan for the Bay - <i>Dave Senn, San Francisco Estuary Institute</i>
3:50	Discussion - <i>Moderated by Luisa Valiela</i>
4:20	Adjourn



Comms Strategy

Comms 'Homework'

Share [survey](#) with your stakeholder networks

Suggest stakeholder professional groups/settings to connect with the “less engaged” group (email sierrag@sfei.org)



Meetings with Stakeholder Groups



Feedback in a group setting

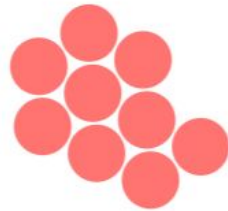
Met with Bay Area Pollution Prevention Group leadership for comms input in January and with full group recently

BAPPG Feedback

How do you usually access information about SF Bay water quality from the RMP? (up to 3)



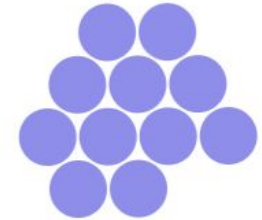
11% RMP e-Updates (quarterly newsletter)



15% RMP Annual Meeting



26% Pulse of the Bay report



18% Website



15% Fact sheets



5% Other



10% I've haven't accessed water quality information from the RMP

BAPPG Feedback

What are the main barriers to you accessing RMP information?

Knowing where to find it.

7

Popular

Knowing when there are updates to information.

6

I didn't know about the website

4

Lots of incredible research papers and data. It would be helpful if we had more laymen friendly language resources in parallel to research to help non-science folks understand.

4

Just time to access and absorb the info

2

Competing time priorities

2

Reminder: Coffee Chats



Opportunity to gain more insight than survey allows

Encouraging less engaged stakeholders to share thoughts on the RMP

You can help by distributing feedback form to your stakeholder group!

Feature & News Articles

Recent & Upcoming

6PPD-quinone

Maven's Notebook;
ABC7



ECWG 20 Years
Coming Soon



Smaller Microplastics
ABC7, SF Gate



On The Website

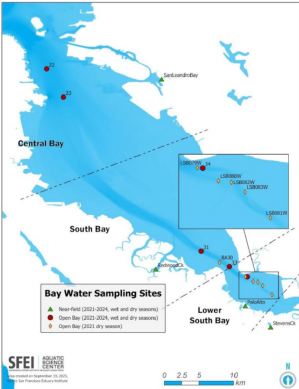


REGIONAL MONITORING
PROGRAM FOR WATER QUALITY
IN SAN FRANCISCO BAY
sfest.org/rmp

Plain
Language
Summary

Emerging Contaminants in
Dry vs. Wet Season Bay Water

Stormwater runoff carries many less commonly studied chemicals (also called “emerging contaminants”) from urban areas to San Francisco Bay. The Regional Monitoring Program for Water Quality in San Francisco Bay (RMP) compared water samples collected from the Bay directly after storms to samples collected during the dry summer to better understand 32 of these chemicals.



Bay Water Sampling Sites

- Near Head (2002-2004, wet and dry seasons)
- Near Bay (2002-2004, wet and dry seasons)
- Open Bay (2002-dry season)

SFEI ESTUARY INSTITUTE
Reviewed in November 15, 2025.
San Francisco Estuary Institute

Key Findings

- Some samples of the **car tire chemical 6PPD-Q** were above levels that might impact threatened steelhead trout and related species. The pesticide imidacloprid and the preservative carbendazim were also above levels set to protect wildlife in some samples.
- Car tire chemicals and several pesticides were at higher levels in the wet season.** This confirms the key role of stormwater carrying these chemicals to the Bay.
- Several chemicals were high enough in the dry season to show that **another pathway, like wastewater, also contributes substantial** amounts of these chemicals to the Bay. These included industrial chemicals commonly used as anticorrosives, personal care and cleaning products, pharmaceuticals, and carbendazim (a fungicide/preservative).

Implications and Future Directions

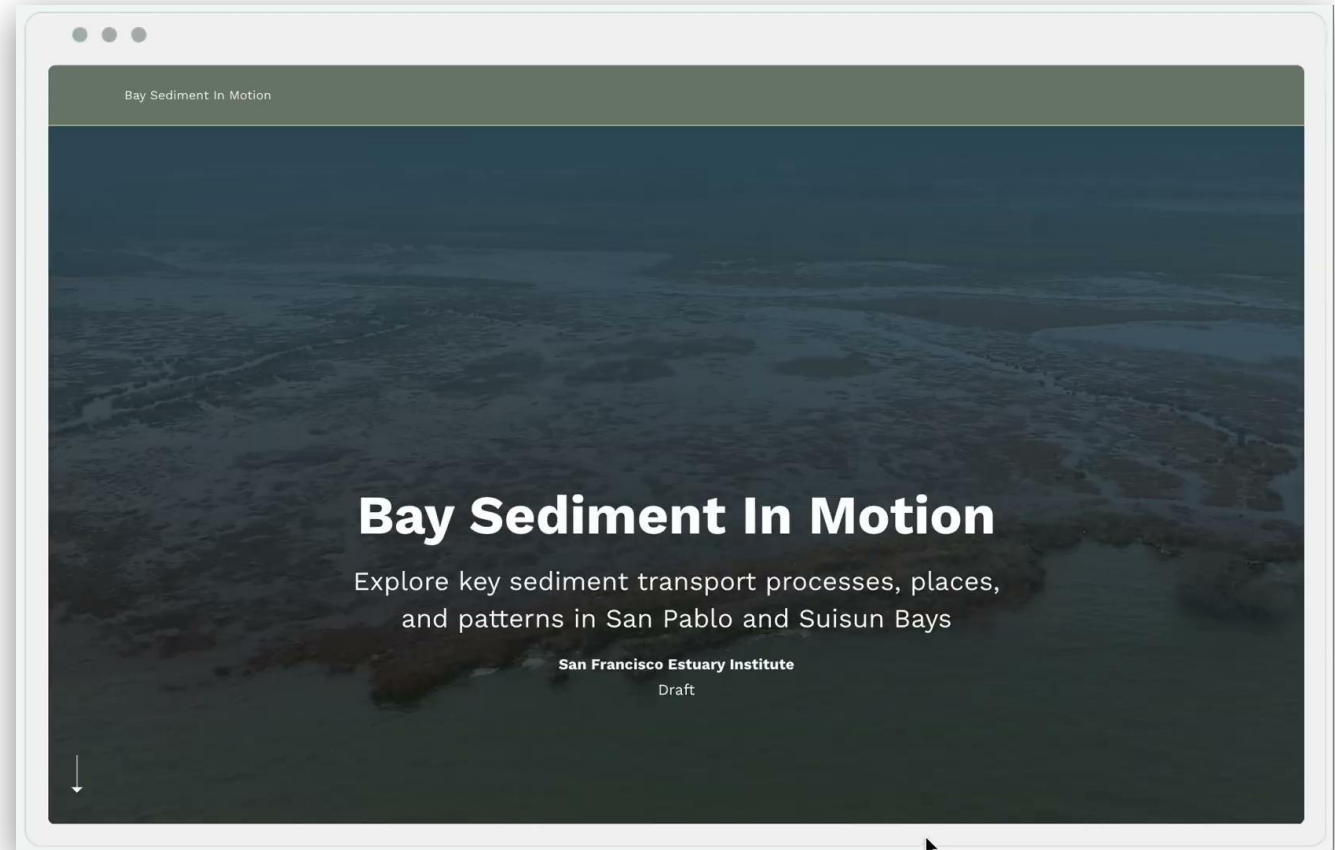
6PPD-Q, imidacloprid, and carbendazim are in the RMP’s **“moderate” concern tier** for monitoring. This study reinforces that ranking. Everything else sampled was below levels of concern for Bay wildlife where enough hazard information is available to assess risk.

For the full report, see: “Miller, E; Moran, KD; Sutton, R; Kolodziej, EP. 2026. Tire- and Vehicle-derived Contaminants, Current Use Pesticides, Pharmaceuticals, and other Emerging Contaminants in Dry vs. Wet Season Bay Water. SFEI Contribution No. 1271. San Francisco Estuary Institute: Richmond, CA.”

Waiting on a couple more reports to publish to establish plain language summary portal

Collaboration: Sediment StoryMap

- Supervised Lilia Mourier (former SFEI staff) in creating a StoryMap as her master's capstone
- Interest in more of this type of science communication?





Restore America's Estuaries 2026 Coastal & Estuarine Summit



September 22 - 25, 2026 | San Francisco, CA



12. Information: Status of Deliverables and Action Items (10 min)



Desired Outcomes:

- Informed Committee
- Feedback on progress and due dates

Deliverables - completed!

- 😊 2021 Bird Egg Data Management and upload to CEDEN
- 😊 TBH Semi-Annual Progress Report Submitted
- 😊 NB Se Spring Sturgeon Muscle Plug Sampling
- 😊 Mercury Analysis and Data Management of Archived 2023 Bay Sediment Samples
- 😊 Small Microplastic Particles in Bay Water Study Design and Sampling
- 😊 Workgroup Meetings and Science Update Presentations
- 😊 Wet Season 2026 Stormwater Sample Collections Completed
- 😊 Tire Rubber Marker Analysis - Study Design
- 😊 Stormwater CECs Monitoring Approach Report

Deliverables – Overdue...

- 2023 S&T Dry Season Water Cruise - Data Management
- 2023 S&T Nearfield and Margins sediment & prey fish - Data Mgmt
- 2022-2024 S&T Wet Season Water Pilot Study - Data Management
- 2023 S&T Bay Sediment - Data Management
- 2025 SW CECs Add-On - Data Management & CEDEN Upload
- PFAS Stormwater depth monitoring pilot - Data management
- Suspended Sediment Flux at Richmond-San Rafael Bridge
- STLS WY21 POC Recon Monit - Advanced Data Analysis Update & Final Report

Deliverables – delayed

- PFAS NMR Analysis in SW - sample collection
- PCBs in Sediment and Fish SS/RC - Draft Report
- OPEs, BPs, and Other Plastic Additives in Wastewater
- Monitoring of Sediment Deposition in SLB Intertidal Areas - Draft Report

Requesting Review Comments

- ★ Investigating HABs in SF Bay - Draft Technical Report
- ★ Draft Pulse Articles

Coming Soon for review - Watch your inbox

- ★ Mercury Synthesis - First Draft
- ★ MYP Management Priorities Table
- ★ SEP List

Completed:

2021 Bird Egg data processed and uploaded?

1. Completed data sets now available on CEDEN and or CD3
2. COndensed stoplight report of all overdue DS projects
3. What is being prioritized before next quarterly meeting (Sept)

Slide for Adam's Dataset Upload Priority Tracking Sheet
column for Target completion/Publically available



13. Discussion: Plan Agenda Items for Future Meetings (5 min)



Desired Outcome:

- Identify future agenda items

On the Agenda for September



Review S&T Monitoring Design



Review S&T target analyte list,
CEC tiers



Review MYP Management Drivers
Table



2027 S&T Planning Update



Review SEP Project List



Other ideas?



Prepare for the Annual Meeting



Other ideas?



14. Discussion: Plus/Delta (5 min)





Adjourn - Thank you!

Please remember to return your visitor badges