Bay RMP Steering Committee Meeting

15 April 2024



- Introductions and review goals of the meeting (10 min)
- 2. Approve last meeting summary, confirm future meeting dates (10 min)
- 3. TRC Meeting summary from March 26 (10 min)
- 4. RMP Financial Update for 2024 Quarter 1 (20 min)
- 5. Meet the new watershed modeler (15 min)
- 6. USEPA San Francisco Bay Program Office Funds (20 min)
- 7. Workgroup planning update (30 min)
- 8. Program Management and S&T 2025 Planning Update(30 min)
- 9. Communications (30 min)
- 10. Deliverables and Action Items (10 min)
- 11. Plan Agenda Items (5 min)
- 12. Plus/Delta (5 min)



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



 Decision: Approve Meeting Summary from January 22, 2024 and Confirm Future Meeting Dates (10 minutes)

Desired outcomes:

- Approve meeting summary
- Confirm future SC meeting and Annual Meeting dates

Meeting Schedules

Scheduled Steering Committee meetings:

August 12, 2024

November 4, 2024 (+ MYP Workshop)

Scheduled Technical Review Committee meetings:

June 13, September 24, December 12, 2024

Annual Meeting:

October 16, 2024



3. Information: TRC Meeting Summary from March 26, 2024 (10 minutes)

Desired outcome:

Informed Committee

TRC 3/26 Meeting Summary

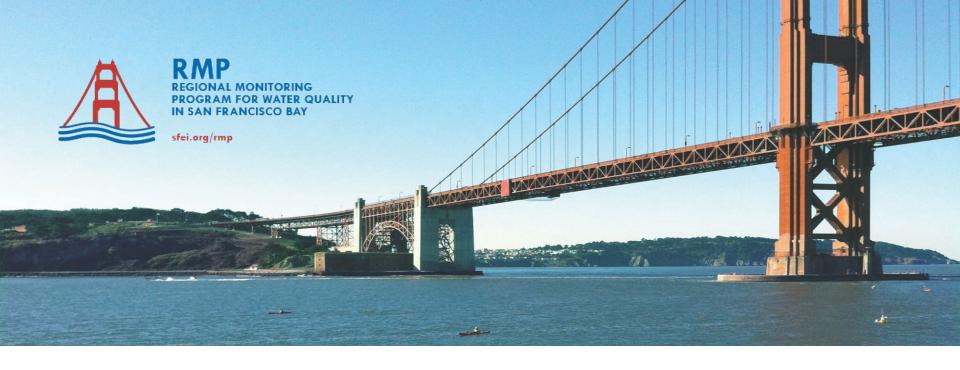
- Information: Wet Season Sampling Update
- Discussion: S&T Monitoring Update
- Information: Introducing Our New Watershed Modeler
- Information: Workgroup Planning Update
- Discussion: S&T and Program Management Planning Update
- Discussion: 2023 Interlaboratory Comparison Study Results and QA Update
- Information: 2021 Cu and CN Rolling Averages Data Update
- Discussion: Communications Update



4. Information: RMP Financial Update for 2024 Q1 (20 minutes)

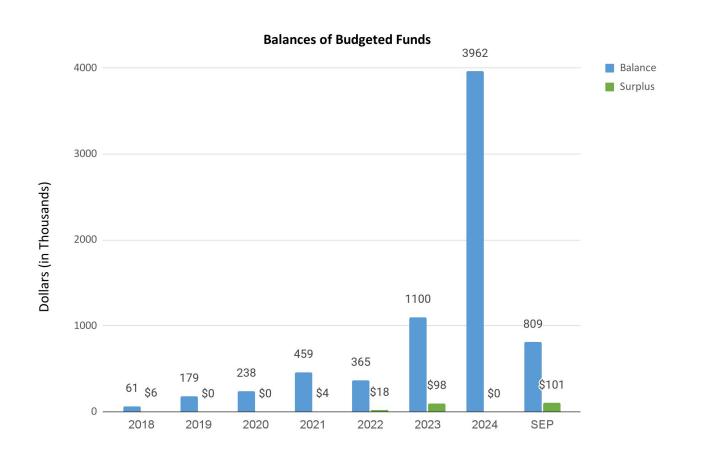
Desired outcome:

Informed Committee



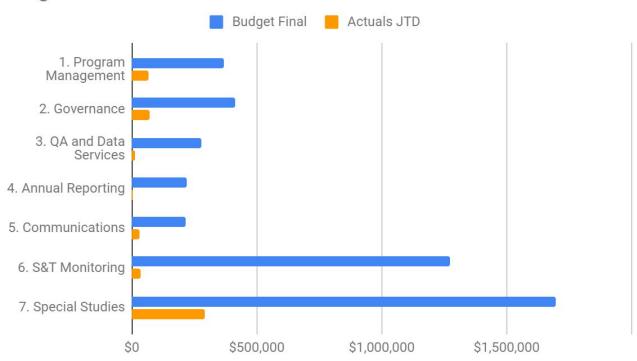
Steering Committee Meeting April 15, 2024

The Big Picture



2024 Budget and Expenses

Budget Final and Actuals JTD



- 11% expended
- Fees not yet invoiced
- Surplus of \$56

- 70% expended
- 99% of invoiced fees received (2 invoices remain)
- Surplus of \$98k due to \$118,250 in SEP funds supporting part of task 45 Sediment Delivery to Marshes in C&N Bays

- 87% expended
- 100% of invoiced fees received
- Surplus of \$18k (reduced from \$138k in previous quarters)

- 87% expended
- 100% of invoiced fees received
- Surplus of \$3.5k

- 94% expended
- 100% of fees have been collected

- 95% expended
- 100% of fees have been collected

- 98% expended
- 100% of fees have been collected
- Year is ready to unencumber

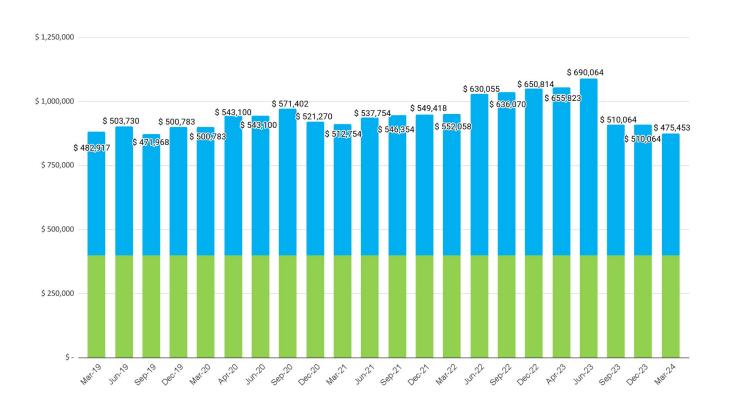
Unencumbrances

We request that a total of \$60,731 will be unencumbered from the 2018 Budget and added to the Undesignated Funds. This amount consists of the following components:

- \$61,149 surplus from closed Programmatic and S&T Tasks
- -\$418 deficit from closed Special Studies Tasks



Undesignated Funds Balance



Undesignated Funds Changes

2023

- Q1 LAIF interest of \$34,081 (2.74% rate)
- Q2 LAIF interest of \$38,160 (3.15% rate)
- Q3 LAIF interest of \$55,146 (3.59% rate)
- Q4 LAIF interest of \$61,057 (4% rate)

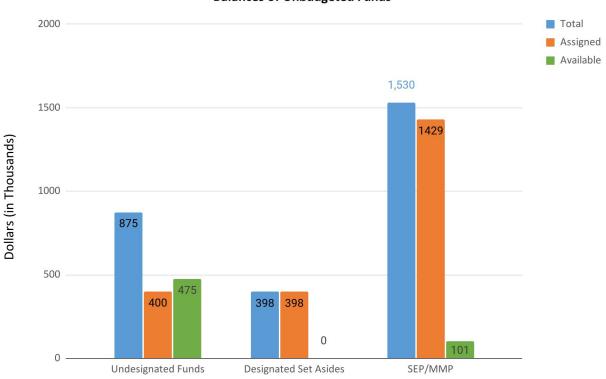
2024

Q1 LAIF interest rates have not yet been posted



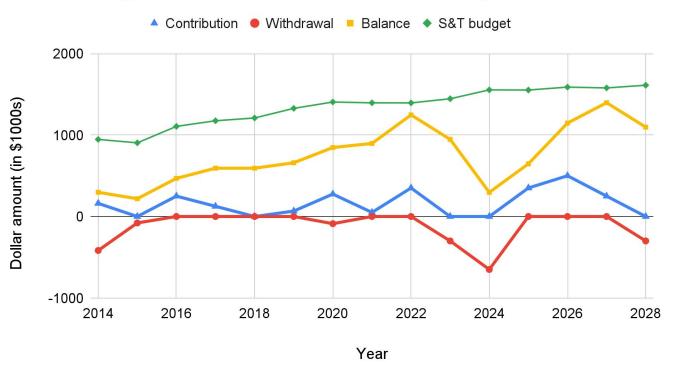
Unbudgeted Funds Summary





S&T Set Aside Funds

S&T Monitoring Dedicated Set-Aside Funds and S&T Budget





Information for Steering Committee

Unallocated SEP Funds

 By the end of April 2024, \$179,289 in unallocated SEP funds (\$19.5k remaining to be received)



5. Information: Introducing Our New Watershed Modeler (15 minutes)

Desired outcome:

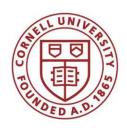
Informed committee

Introducing myself... Matt Heberger



Education

- 1996 BS in Agricultural and Biological Engineering, Cornell University
- 2003 MS in Civil and Environmental Engineering, Tufts University
- 2024 PhD in Earth Science, Sorbonne University







My MS thesis I created watershed models for bacteria loading on the Mystic River in eastern Massachusetts

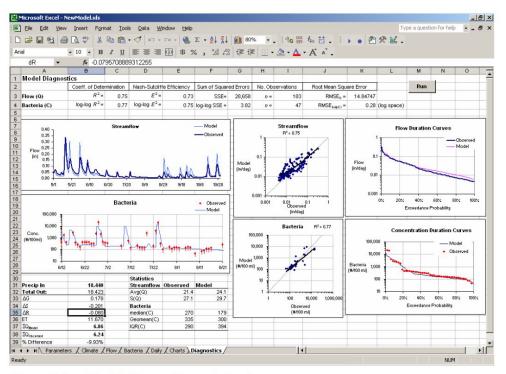


Figure 4.3 Model diagnostic worksheet

I worked as a consulting engineer in Cambridge, MA from 2004 – 2007

- Mostly doing H&H modeling hydrology and hydraulics
- HSPF
- SWMM
- HEC-RAS



I spent 10 years as a researcher at the Pacific Institute in Oakland, CA

- Sea level rise
- Fracking
- Groundwater sustainability
- Desalination
- Water efficiency
- Stormwater capture
- Water and conflict
- Water and sanitation

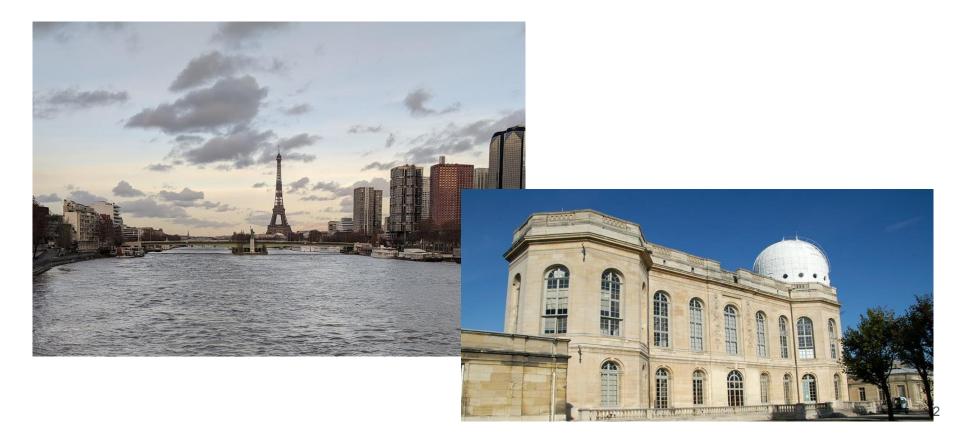


At SFEI, managed the Delta RMP 2017-2020

- Tremendous learning experience in stakeholder-driven science
- Important water quality drivers were pesticides from agriculture and stormwater, nutrients, mercury
- Large program of aquatic toxicity testing
- Method development and intercomparison studies



In 2021, fulfilled 2 lifelong dreams...





My PhD research focused on optimizing estimates of the water cycle globally, at the pixel scale



Improved observation of the global water cycle with satellite remote sensing and neural network modeling

Une thèse présentée pour l'obtention du grade de Docteur

Sorbonne Université École Doctorale des Sciences de l'Environnement d'Île de France (N° 129)

Matthew G. Heberger

Laboratoire d'Etudes du Rayonnement et de la Matière en Astrophysique et Atmosphères, UMR 8112 Observatoire de Paris

> Présentée et soutenue publiquement le 12 janvier 2024 devant un jury composé de:

Hélène CHEPFER Aaron BOONE Ming PAN Fabrice PAPA Filipe AIRES

Sorbonne Université Météo France, Toulouse Frédéric FRAPPART INRAE, Villenave d'Ornon Hélène BROGNIEZ Université Paris-Saclay Univ. of California at San Diego IRD, Brasilia, Brazil LERMA/CNRS, Paris

Présidente du jury Rapporteur Rapporteur Examinatrice Examinateur Examinateur Directeur de thèse







I also served in the US Peace Corps in Mali, West Africa from 1996-98



Today, I volunteer for nonprofits involved in health and education in Mali...





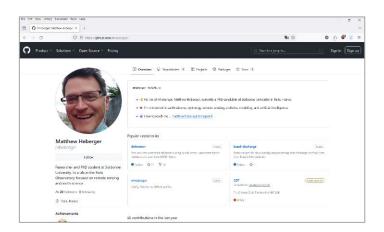


Build a School in Africa

A volunteer-run, non-profit organization, since 2005 we have built over 30 schools in deserving communities in Mali, West Africa. Explore our website to learn more about the schools and how you can help us build more!



I love open source and science that is FAIR*



*findable, accessible, interoperable, and reusable





https://mghydro.com

What I hope to contribute to the Bay RMP

- Hydrologic science and watershed modeling
- Statistics and machine learning
- Project management and facilitation
- And of course, my love of the environment and San Francisco Bay!



6. Information: USEPA San Francisco Bay Program Office Funds (20 minutes)

Desired Outcome:

- Informed Committee
- Decision on amount of funding request

Subtidal eelgrass and oyster reef restoration

Wetlands Regional Monitoring Program Beneficial Reuse of Dredged Material Support

In-Bay Monitoring of Pollutants, including trash, and algal species under the Regional Monitoring Program

> Nutrient Management Strategy

EPA Region 9
San Francisco Bay Program Office
FY24 Draft Annual Priority List

Large scale shoreline resilience, multi-benefit projects including horizontal levees and wastewater treatment/reuse

Special studies/projects for addressing PFAS in SF Bay

Large scale tidal wetlands restoration

Special studies/projects for addressing PCBs under TMDL implementation plan

Large scale
implementation of
urban green
stormwater
infrastructure

BRRIT
(Bay Restoration
Regulatory
Integration Team)

Getting the RMP Bucket Ready

- \$5-7 million could be available for RMP from FY23/24 funds
 - Step 1 (April): Exception memo
 - General list of work areas
 - \$ amounts for FY24 and total for a 5 year period
 - Step 2 (June): Workplan
 - Step 3 (September): Agreement in place
- FY24/25 and beyond
 - \$54 M per year
 - Agreement can be added to
- Specific items for RMP expansion Items 7 and 8



Getting the RMP Bucket Ready

Other notes

- Important to include EJ and climate adaptation
- Match requirement of 25%
- SC guidance in January to Workgroups and staff: aim for 50% funding increase in 2025, eventual 100% increase over the next few years



Getting the RMP Bucket Ready

- Decision today: amount of funding request
- Staff proposal

FY24	\$2M
FY25	\$4M
FY26	\$4M
FY27	\$4M
FY28	\$4M
5 Year Total	\$18M

\$6M initial request





Break





7. Information: Workgroup Planning Update (30 minutes)

Desired outcome:

- Informed Committee
- Guidance for Workgroups
- Approve WG strategy fund allocations for 2025

Emerging Contaminants Workgroup

Tier 1 Proposals

- Strategy \$70k
- Stormwater CECs \$300k
- Plastic Additives in Water, Sediment -\$173k or \$235k
- QACs in Water, Sediment \$106k or \$164k
- Synthetic Dyes in Sediment, Water,
 Wastewater, Stormwater \$171k
- NTA of Bay Fish (year 2) \$76k
- NTA of Fibers, Stormwater \$124k
- Stormwater In Vitro Toxicity Screening \$26k

- Stormwater CECs (augmented) \$150k
- PFAS NMR Analysis in Wastewater,
 Stormwater, and Bay Matrices \$380k
- Tire Wear Emissions and Washoff
 Estimates Journal Paper \$15k
- Tire Rubber Marker Analysis \$105k
- PFAS Analysis Add-on to Stormwater
 Depth Monitoring Pilot \$55k
- PFAS Wet Deposition Pathway* \$185k
 or \$320k

Sediment Workgroup: May 16

Tier 1 Proposals

- Strategy and coordination (\$50k)
- Updated sediment conceptual model (~\$50k)
- Workplan for studies to support hydrodynamic model calibration assess bed erodibility and impacts of flocculation on settling velocity (~\$75k)
- Pilot project for using satellite imagery to determine suspended sediment concentration (~\$125k)

- Shoreline change analysis (≥\$75k)
- Tributary sediment load monitoring (~\$100k)
- Fixed flux station on Richmond Br (~\$100k)
- Flux and deposition monitoring at key mudflat-marsh location (~\$100k)
- Monitoring at Bay shallows stations established by USACE (TBD)

SPLWG: May 20

BAMSC Fixed station watershed monitoring network (SPLWG, ECWG, SedWG, PCBWG)

Tier 1 Proposals

- Strategy and Coordination - \$65k
- Tidal Area Remote Sampler - \$10k
- PCB/Hg monitoring and modeling to support load and trend assessment -\$167k

- GIS improvements in watershed delineation and land use integration to support modeling, data interpretation and site selection decision-making (\$60k - \$100k)
- Stormwater systems management and equipment upgrades (\$60k \$100k)
- Large storm event contingency funds planning and implementation (\$175k)
- Discharge rating curve sampling (\$90k)
- Loads/Trends monitoring at Mallard Island (\$150-\$200k)
- Trend analysis update for Guadalupe River (\$60k)

Microplastics Workgroup: April 30

Tier 1 Proposals

- Strategy \$20K
- MP in Stormwater Pilot Year 2 \$100K
- MP size distribution ambient water -\$202K

- Sport fish \$130K
- (ECWG) Tire Rubber Marker Analysis -\$105k

PCB Workgroup: end of May or first week of June

Tier 1 Proposals

Strategy and coordination -\$10K

Tier 2 Proposals

Contaminant Flux Field
 Sampling in San Leandro
 Bay, Integral - \$285K

Related Non-RMP Proposals

• BAMSC PCB Project



8. Discussion: Program Management and S&T 2025 Planning Update (30 minutes)

Desired outcome:

- Informed committee
- Input on prioritization of ideas for using USEPA funds towards tasks 1-6

Ideas for use of USEPA Bay Program Funds for Program Management (Tasks 1-5)

Internal and External Coordination

 More coordination between workgroups, external partners, developing analysis plans with labs etc.

Technical Oversight

Internal and external review of deliverables.

Contract and Financial Management

More projects = more contracts and budgets to manage

Governance

Funds to support proposal development, literature review

QA & Data services

- Increase DS team and budgets to allow datasets to be processed and uploaded more frequently
- o Database maintenance, archive database edits as use of archived samples increase

NEW: Equipment maintenance budget (RMP funds)

To purchase and maintain field and lab equipment

Status & Trends 2025 Plan

- USGS Moored Sensors \$400k
- USGS Nutrient Cruises \$283k
- Toxic Contaminants in Dry Season Water \$265k
 - CTR & Organics \$88k
 - NTA \$12k
 - Passives \$51k
- Archives \$85k
- Reporting \$14k
- Lab Intercomparison Studies \$30k
- GRAND TOTAL \$1,228,000

Ideas for use of USEPA Bay Program Funds for Status & Trends Monitoring (Task 6)

- > NTA current budgets for 2025-6 as listed in the MYP is insufficient
- > Sport fish support for SWAMP Realignment-related work
 - Community fish collection
 - Additional locations ex. Hunters Point
- Continuation of S&T pilot studies
 - Wet season water sampling
 - Increase sampling stations to include more regions of the Bay
 - Increase the number of storm events sampled
 - Harbor seals
 - Targeted sampling (not currently feasible)
- > Selenium
 - Increased frequency of sampling (Annual, monthly)
 - South Bay stations
- Sediment
- Funds for more reporting and analysis, manuscript writing
- > Systems upgrades sample tracking, sites databases, field apps



9. Discussion: Communications (30 minutes)

Desired outcomes:

- Approval of rough outline for Annual Meeting agenda
- Update on plan for Pulse in 2024

Pulse 2024

- Theme: CECs
- Similar to the 2013 Pulse
- An updated go-to guide to CECs in the Bay
- Will start early in 2024





MANAGEMENT UPDATE

8 MANAGEMENT OF CECs IN SAN FRANCISCO BAY

Article

- Water Board
- DTSC

Sidebars

- Tiered Risk-Based
 Framework
- EPA and PFAS: Sources to Solutions
- DPR and pesticides
- State Board CEC
 Strategy
- Essential Use
 Approach

3 California Safer Consumer Products Regulations

- 4 Treating CECs in Municipal Wastewater
- 5 Pesticide Management
- 6 Target Organisms and Application Sites of Pesticides with Pathways to San Francisco Bay
- 8 Cradle to Cradle Certified^{CM} Products
- 9 REACH for Safer Chemicals in Europe
- 10 Biomonitoring California Measures Contaminants in Californians
- 2 The Turning Tide
- 3 The 303(d) List and Regulatory Status of Pollutants of Concern

ATUS AND ENDS UPDATE

LATEST MONITORING RESULTS

- 26 Nutrients 28 Mercury 31 Selenium
- 32 PCBs 34 PAHs 36 PBDEs

WATER QUALITY TRENDS AT A GLANCE

- 38 Toxics and Bacteria 39 Chlorophyll and Dissolved Oxygen
- 40 Nutrients and Sediment 41 Flows and Loads
- 42 Human Presence 43 Climate and Habitat
- 44 Populations 45 Graph Details

46 CEC MONITORING

48 MONITORING CONTAMINANTS OF EN CONCERN IN SAN FRANCISCO BAY

51 The RMP Emerging Contaminants Workgroup

54 A GUIDE TO CECS IN THE BAY

- 54 Introduction 55 Perfluorooctane Sulfonate
- 59 Alkylphenols and Alkylphenol Ethoxylates
- 63 Polybrominated Diphenyl Ethers
- 67 Alternative Flame Retardants
- 71 Pharmaceuticals and Personal Care Products
- 75 Triclosan 79 Pyrethroids 83 Fipronil
- 87 Currently Used Pesticides
- 91 Nanoparticles or Nanomaterials
- 92 Chlorinated Paraffins
- 93 Polybrominated Dioxins and Furans
- 94 On the Lookout for New CECs

Article

 Summary of RMP CEC Strategy

Sidebars

- Challenges of analytical methods
- Microplastics



- 95 REFERENCES
- 97 RMP COMMITTEE MEMBERS AND PARTICIPANTS
- 98 CREDITS AND ACKNOWLEDGEMENTS

Comments or questions regarding *The Pulse* or the RMP can be addressed to Dr. Jay Davis, RMP Lead Scientist, (510) 746-7368, jay@sfei.org

Annual Meeting Early Draft Agenda

2023 RMP ANNUAL MEETING AGENDA

October 12, 2023; 9:00AM – 4:00PM Hybrid meeting: Register to obtain information

- General
 - o RMP Highlights (EPA funding, ...)
- CECs Block 1: ECWG advisor perspectives
 - Derek Muir
 - o Bill Arnold: QACs in wastewater
 - Third advisor
- CECs Block 2?
 - CEC strategy revision
 - Ethoxylated surfactants?
 - PFAS Sources to Solutions project intro
- PCBs +
 - In-Bay modeling
 - Pedro's watershed modeling
- Sediment
 - Sediment talk
- Nutrients
 - NMS highlights (NMS "Pulse", ...)
- SPL
 - SPL talk
- Microplastic
 - o MP talk

	Hybrid meeting: Register to obtain information	
	Welcome and Introduction	
9:00	Welcome and Introduction - Tom Mumley, San Francisco Bay Water Board, RMP Steering Committee Chair	
	Session 1: General RMP Highlights	
9:10	Introduction - Karin North, City of Palo Alto	
9:15	Reflections on 30+ Years of Regional Monitoring - Tom Mumley, San Francisco Bay Water Board	
9:45	RMP Highlights - Amy Kleckner, RMP Manager, San Francisco Estuary Institute	
10:10	Discussion - Moderated by Karin North, City of Palo Alto	
10:35	BREAK (20 minutes)	
	Session 2: Nutrients and Sediment	
10:55	Introduction - Ian Wren, Baykeeper	
11:00	Harmful Algal Bloom Update - Dave Senn, San Francisco Estuary Institute	
11:20	Dissolved Oxygen Studies - Ariella Chelsky, San Francisco Estuary Institute	
11:40	Sediment Loads from Creeks in Drought and Flood Years - Alicia Gilbreath, San Francisco Estuary Institute	
12:00	Discussion - Moderated by Ian Wren, Baykeeper	
12:20	LUNCH BREAK (60 minutes)	
	Session 3: PFAS	
1:20	Introduction - Maggie Monahan, San Francisco Bay Water Board	
1:25	PFAS in Bay Fish - Jay Davis and Miguel Mendez, San Francisco Estuary Institute	
1:45	Investigation of PFAS Sources to Municipal Wastewater - Diana Lin, San Francisco Estuary Institute and Lorien Fono, Bay Area Clean Water Agencies	
2:05	Cosmetics Contribute to the PFAS Load at Wastewater Treatment Plants in California - Simona Balan, California Department of Toxic Substances Control	
2:25	Discussion - Moderated by Maggie Monahan, San Francisco Bay Water Board	
2:45	BREAK (20 minutes)	
	Session 4: Contaminants of Emerging Concern in Stormwater	
3:05	Introduction - Chris Sommers, EOA, Inc.	
3:10	CECs in Stormwater - Rebecca Sutton, San Francisco Estuary Institute	
3:30	CECs from Tires - Ezra Miller, San Francisco Estuary Institute	
3:50	DTSC Actions on CECs and Microplastics - Jen Jackson, California Department of Toxic Substances Control	
4:10	Discussion - Moderated by Chris Sommers, EOA, Inc.	
4:30	Adjourn	



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

Desired outcomes:

- Informed committee
- Feedback on progress and due dates

Deliverables - completed!

- S&T WY24 wet season water sampling
- Technical Memo: Development of Semi-Empirical Light Extinction Estimates for Biogeochemical Modeling Applications in SFB. SFEI Cont. #1177
- 2024 RMP QAPP Update SFEI Cont. #1169
- © CEC Modeling Exploration Report SFEI Cont. #1131
- Stormwater CECs manuscript submitted!
- NB Se clam and water data report (2019-2020) SFEI Cont. # 1116
- SS: Suspended Sed in LSB Year 2; 15 min SSC time series data from 8 stations.
- Ambient Sediment Thresholds Update

Deliverables – Overdue...

- MTC Bay area land use update (SEP)
- STLS regional model development
- 2020 S&T design report
- RWSM update and technical report

Deliverables – delayed

- STLS WY21 POC Recon. Monit. Update data for the Advanced Data Analysis (ADA)
- NB Se in clams and water report (2021-2023)
- NTA Sediment Data Manuscript and Fact Sheet
- PFAS in Archived Sport Fish Manuscript
- Action Item: Schedule Council of Wisdom meeting to discuss event based monitoring.

Deliverables – due before next SC meeting (8/12)

- Impact of Remediation Actions on San Leandro Bay Recovery from PCB Contamination technical report
- Final Margins Report
- 2021 QA Summary Report for S&T Activities
- 2020 S&T Design Report
- Sediment Deposition on SB Marsh (Whales Tail) report
- Integrated Watershed monitoring and modeling strategy report
- PFAS in Archived Sport fish



11. Discussion: Plan Agenda Items for Future Meetings (5 minutes)

Desired outcome:

Identify future agenda items, including science updates



12. Discussion: Plus/Delta (5 minutes)



Thank you!