

RMP Sediment Workgroup 2024 Meeting #1

March 21, 2024



Goals for Today

- Provide input to Karen and Jessie on site selection for their 2024 marsh sediment accretion study
- Decide on 2025 Special Study proposals and who will be the proposal leads

to do...



Agenda

Item	Time
1. Introduction & Meeting Overview	1:00 – 1:20 pm
2. Discussion of Study Site Selection for Jessie and Karen's 2024 Special Study	1:20 – 2:20 pm
BREAK	2:20 - 2:30 pm
3. Discussion of 2025 Special Study Proposal Ideas	2:30 – 3:30 pm
4. Discussion of Proposal Logistics and Timing	3:30 – 3:50 pm
5. Wrap Up	3:50 – 4:00 pm

Introductions

(please raise your virtual hand)



Workgroup Advisors



Dr. Patricia Wiberg

Professor, University of Virginia, Dept. of Envi. Sci.

Expertise: sediment erosion, transport, and deposition in coastal and tidal wetland environments; numerical modeling



Dr. David Schoellhamer

Research Hydrologist Emeritus, USGS CA Water Science Center

Expertise: estuarine and cohesive sediment transport; watershed sediment supply to estuaries



RMP Sediment Workgroup

Mission

To provide technical oversight and stakeholder guidance on RMP studies addressing questions about ***sediment delivery, sediment transport, dredging, and beneficial reuse of sediment.***



RMP Sediment Workgroup

Guiding Management Questions

1. What are acceptable levels of chemicals in sediment for placement in the Bay, baylands, or restoration projects?
2. Are there effects on fish, benthic species, and submerged habitats from dredging or placement of sediment?
3. What are the sources, sinks, pathways and loadings of sediment and sediment-bound contaminants to and within the Bay and subembayments?
4. How much sediment is passively reaching tidal marshes and restoration projects and how could the amounts be increased by management actions?
5. What are the concentrations of suspended sediment in the Estuary and its segments?



Current Workgroup Efforts

- Update and enhance the DMMO database
- Measure the temporal variability in sediment delivery to Whale's Tail marsh (2021-2022) and North Bay and Central Bay marshes (2022-2023)
- Monitor suspended sediment and wave monitoring in South and Lower South Bay (2022-2024)
- Monitor sediment flux at Richmond/San Rafael Bridge (will begin in 2025)
- Spatial variability of sediment accretion in San Francisco Bay restorations



Study Site Selection

Jessie Lacy & Karen Thorne
USGS



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BREAK (10 mins)



A photograph of the Golden Gate Bridge in San Francisco, viewed from a low angle across the water. The bridge's massive red-orange towers and suspension cables are prominent against a cloudy sky. The water in the foreground is dark and choppy. A semi-transparent white horizontal band is overlaid across the middle of the image, containing the main title text.

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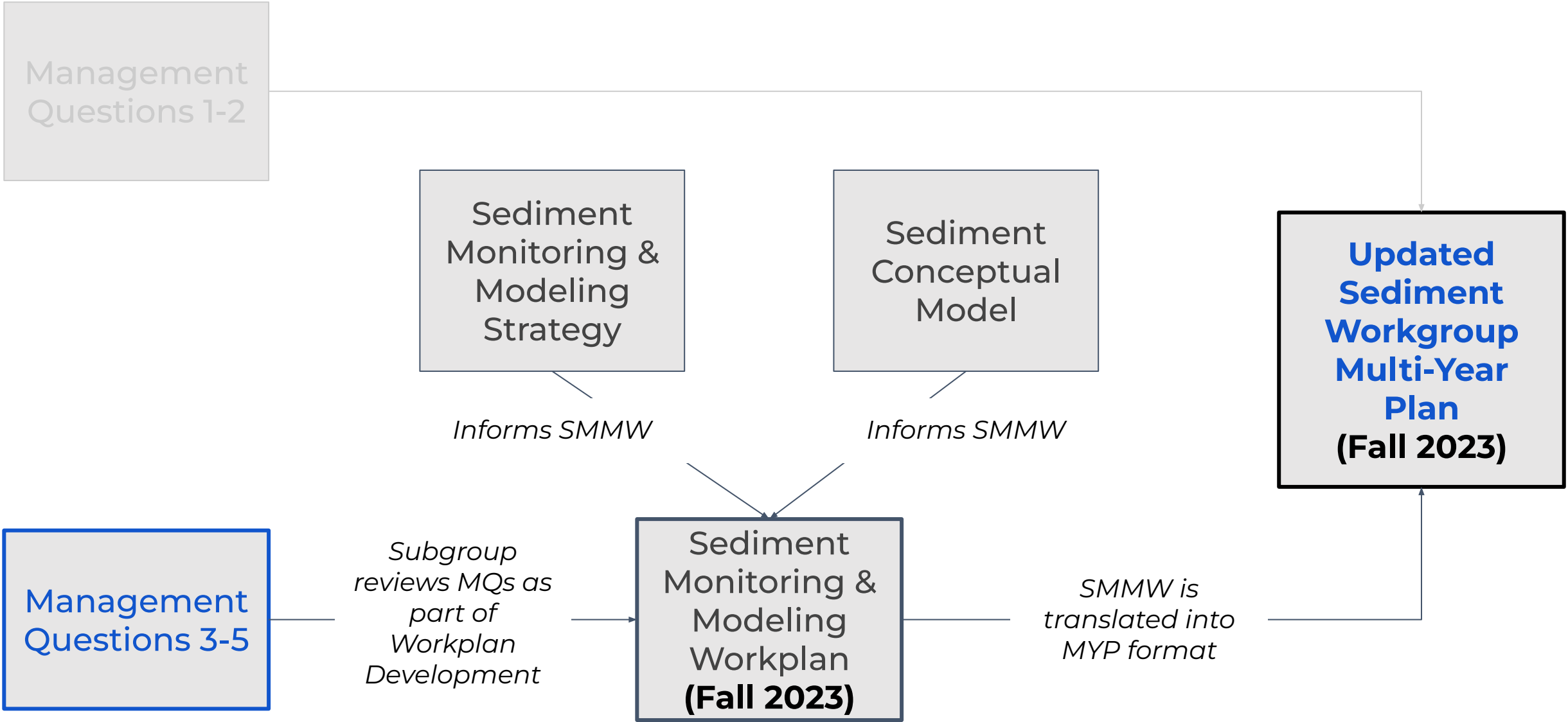
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2025 Special Study Proposal Discussion

Management
Questions 1-2

Management
Questions 3-5

**Updated
Sediment
Workgroup
Multi-Year
Plan**



Management Questions 1-2

Will be reviewed in later 2024 with subgroup to determine if they need to be changed, put on hold, or made a priority

Sediment Monitoring & Modeling Strategy

Sediment Conceptual Model

Updated Sediment Workgroup Multi-Year Plan (Fall 2025)

Management Questions 3-5

Subgroup reviews MQs as part of Workplan Development

Sediment Monitoring & Modeling Workplan (Fall 2023)

SMMW is translated into MYP format

Update on EPA Funding



Guidance for 2025 Special Study Proposals

- The Multi-Year Plan identifies several High Priority Special Studies that total ~\$460k
- We can expect to get ~\$280k for 2025 Special Studies (~same as last year)
- We need to develop full proposals (Tier 1 proposals) that total ~\$280k
- We also need to develop brief 1-page proposals (Tier 2 proposals) that total no more than \$200k
- Proposals will be presented and discussed at the May meeting. We will decide which proposals to move forward and rank them for the TRC
- Proposals not moved forward for funding will go on to the SEP list



Proposed Approach for 2025 Special Study Proposals

Tier 1 Proposals (~\$270k)

- Sediment conceptual model update (~\$50k)
- Mapping bed sediment characteristics for model calibration (~\$50k)
- Characterizing impacts of flocculation on settling velocity (~\$50k)
- Using satellite imagery to analyze turbidity and suspended sediment concentration (~\$120K)

Tier 2 Proposals (≤ \$200k)

Need to discuss the bandwidth and appropriate locations for

- monitoring sediment flux at key locations in the the Bay
- monitor sediment flux & deposition at key Bay margin locations



Proposed Approach for 2025 Special Study Proposals

Tier 1 Proposals

Study Type	MQ Addressed	Budget	Overall Summary	Potential Lead
Sediment Conceptual Model Update	3.3	~\$50k	<ul style="list-style-type: none">● For selected subembayment (e.g., San Pablo Bay, South Bay)● Focus on adding new elements (e.g., coarse sed, erodible sediment pool) and incorporating results from recent studies● Coordinate with Destination Clean Bay effort (\$60k)	SFEI

Proposed Approach for 2025 Special Study Proposals

Tier 1 Proposals

Study Type	MQ Addressed	Budget	Overall Summary	Potential Lead
Mapping bed sediment characteristics for model calibration	5.2	~\$50k	<ul style="list-style-type: none">• Development of <u>workplan</u> for bed erodibility study to support model calibration• Sets up doing the study in 2026 or 2027 with the modeling team	?????

Proposed Approach for 2025 Special Study Proposals

Tier 1 Proposals

Study Type	MQ Addressed	Budget	Overall Summary	Potential Lead
Characterizing impacts of flocculation on settling velocity	5.3	~\$50k	<ul style="list-style-type: none">• Development of <u>workplan</u> for settling velocity study to support model calibration• Sets up doing the study in 2026 or 2027 with the modeling team	?????

Proposed Approach for 2025 Special Study Proposals

Tier 1 Proposals

Study Type	MQ Addressed	Budget	Overall Summary	Potential Lead
Using satellite imagery to analyze turbidity and suspended sediment concentration	5.1	~\$120k	<ul style="list-style-type: none">● Pilot effort to develop methods to derive sediment fluxes based on the spatial distribution of surface SSC derived from satellite imagery● Coordinate with Destination Clean Bay effort - turbidity from satellite imagery (\$85k)	Oliver Fringer Lab (Stanford), SFEI

Proposed Approach for 2025 Special Study Proposals

Tier 2 Proposal Options (\leq \$200k)

Study Type	MQ Addressed	Budget	Overall Summary	Potential Lead
Shoreline change study	3.4	~\$75k	<ul style="list-style-type: none">Expanding shoreline change analysis beyond San Pablo Bay	SFEI
Monitor sediment <u>flux</u> at key Bay locations	3.2 3.3	~\$100k ~\$50k	<ul style="list-style-type: none">Monitoring at Golden Gate or at subembayment boundaryMap San Leandro Bay erodible sediment pool	USGS (David Hart)?
Monitor sediment <u>flux & deposition</u> at key Bay margin locations	4.4	~\$120k	<ul style="list-style-type: none">Monitoring at new location or adding to existing monitoring effortConnect with modeling effort	USGS (Karen & Jessie)?

Proposal Logistics and Timing



Proposal Development Timeline

- **March 22 to April 17** – Draft proposals developed
- **April 18 to April 26** – Draft proposals reviewed by Jay, Amy, and Scott
- **April 29 to May 8** – Draft proposals revised
- **May 9** – Final proposals to all Workgroup members in advance of May 16 Workgroup meeting



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Wrap Up



May 16th Meeting Overview

Full Day HYBRID Meeting (10 am – 4 pm)

MORNING

- Brief presentations of completed and in-progress studies

AFTERNOON

- Proposal presentations
- Proposal ranking



Thank you!
See you on May 16th!

