More is always better:

Local strategies for increased reuse of flood control channel sediment

San Francisco Estuary Institute

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SFEI San Francisco Estuary Institute

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Sonoma Water

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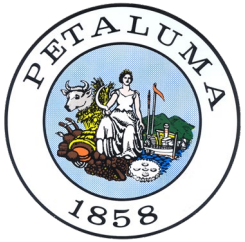
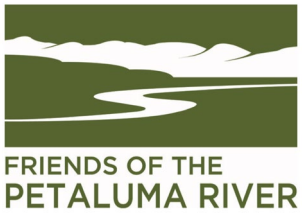
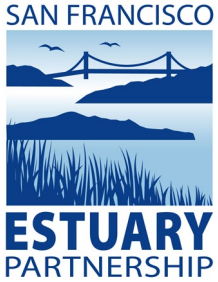
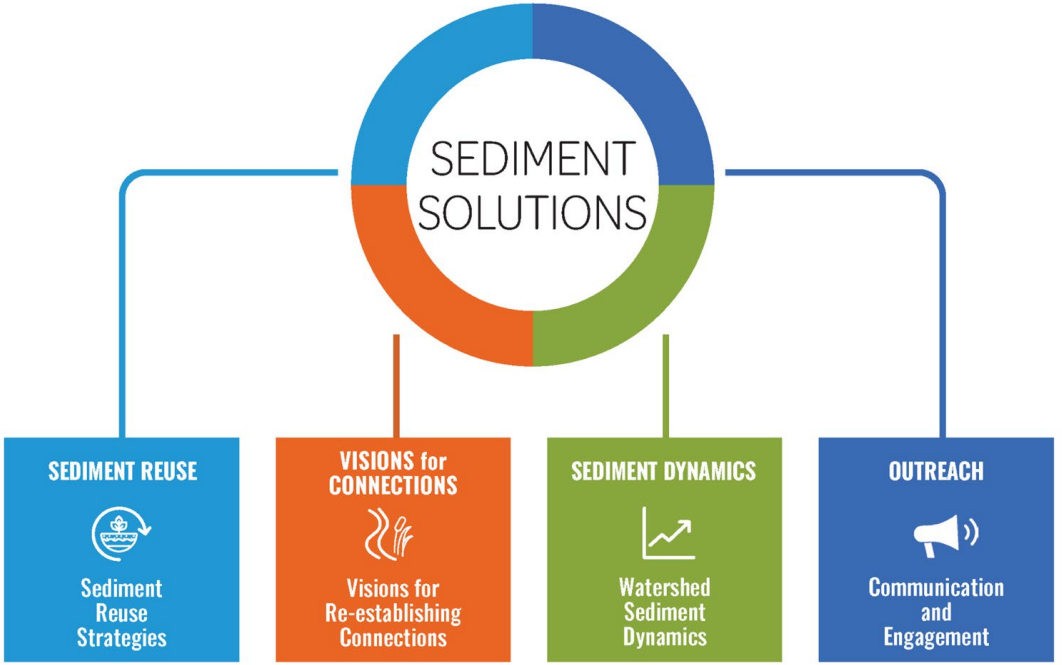






Sediment Beneficial Reuse Strategies

Two local OLU-scale Sediment Beneficial Reuse Strategies that provide tangible guidance to the communities of practice on how they can increase the reuse of watershed-generated sediment, especially that removed from flood control channels.



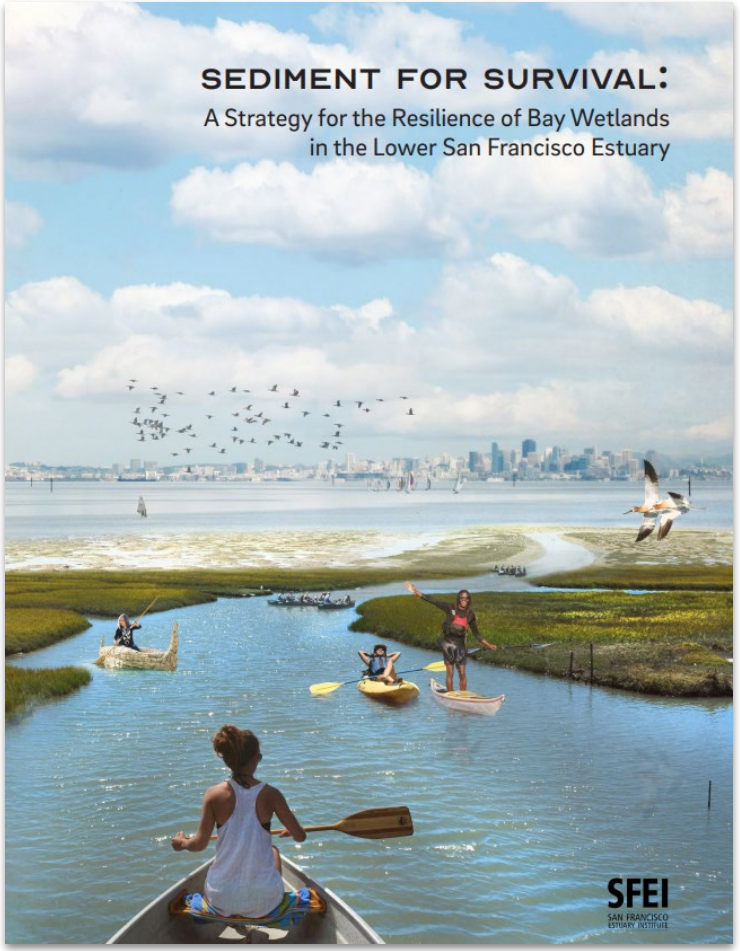
Why OLU-scale strategies?

> *The OLU-scale unit is small enough to be manageable, but large enough to be meaningful.*

Strategy Motivation

How can we encourage sediment beneficial reuse of **watershed-generated sediment** to become a part of routine management?

Our goal: harness additional reusable sediment to support bayland and watershed habitats, and build long-term resilience.



Building upon regional actions

The strategies build from previous EPA-funded regional efforts:

- SFEI's *Towards A Coarse Sediment Strategy for the Bay Area (2021)*

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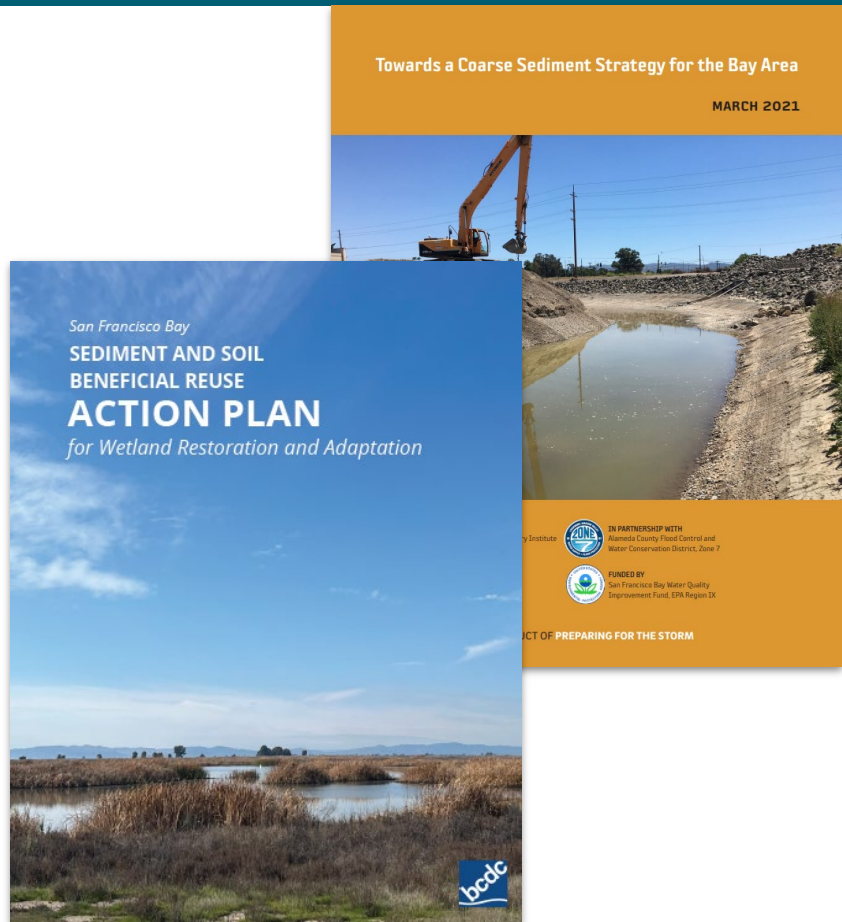
- SFEI's *Towards A Coarse Sediment Strategy for the Bay Area (2021)*
- BCDC's *Sediment and Soil Beneficial Reuse Action Plan (2024)*



Encourage and operationalize reuse at the local scale

Petaluma River Watershed

SEDIMENT BENEFICIAL REUSE STRATEGY

FUNDED BY U.S. EPA

A PRODUCT OF SEDIMENT SOLUTIONS

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Two strategies:

1) Petaluma River OLU
2) Santa Clara County OLU

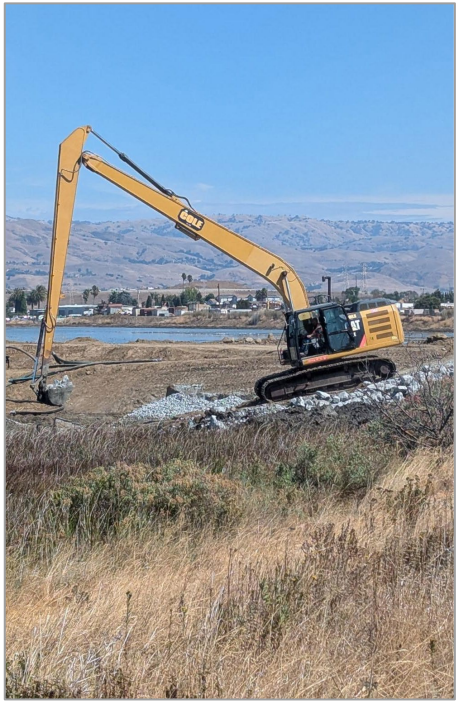
Not as planning documents, but springboards for sediment producers and potential sediment receivers to begin the work of making appropriate reuse matches.

Work through the logistics of transport and be creative in how reuse can be funded.

Flood Control Channel Sediment

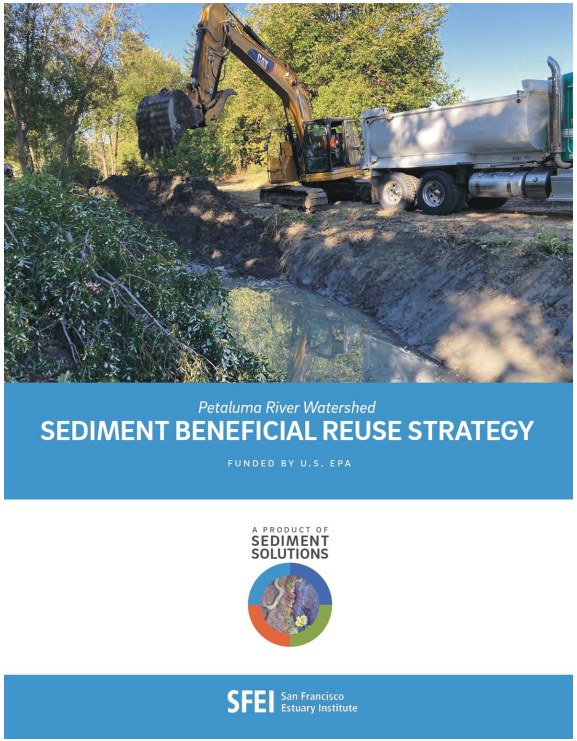
Local flood control agencies spend significant resources on the annual removal of sediment, to reduce local flood hazard risks.

- Sediment disposal: reliable, nearby, low hassle, and inexpensive
- Don’t often use the sediment for environmental benefit.
- Local nursery company- cleaned, sorted, used for growing ornamental plants or resold
- Agencies want to make this sediment available, but within their constraints



Strategy Content

- Sediment State of Play in Petaluma
- Current Cost of Reuse
- A Decision-making process for identifying matches
- Priority near-term and long-term actions



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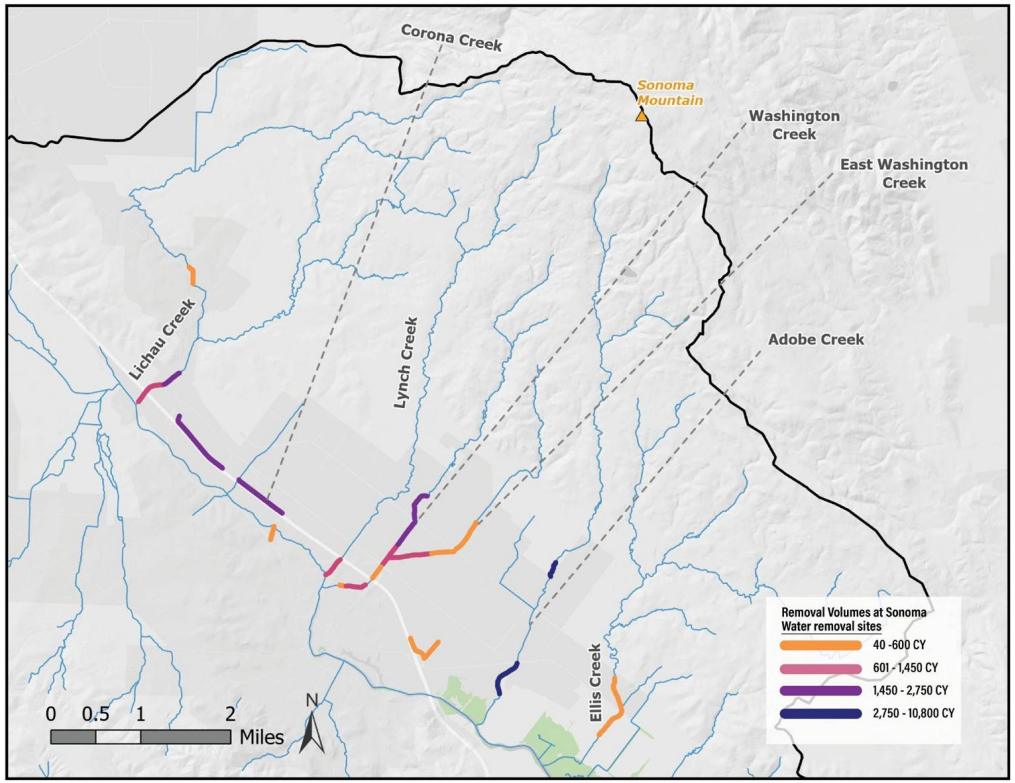
Sediment State of Play

Sediment is available:

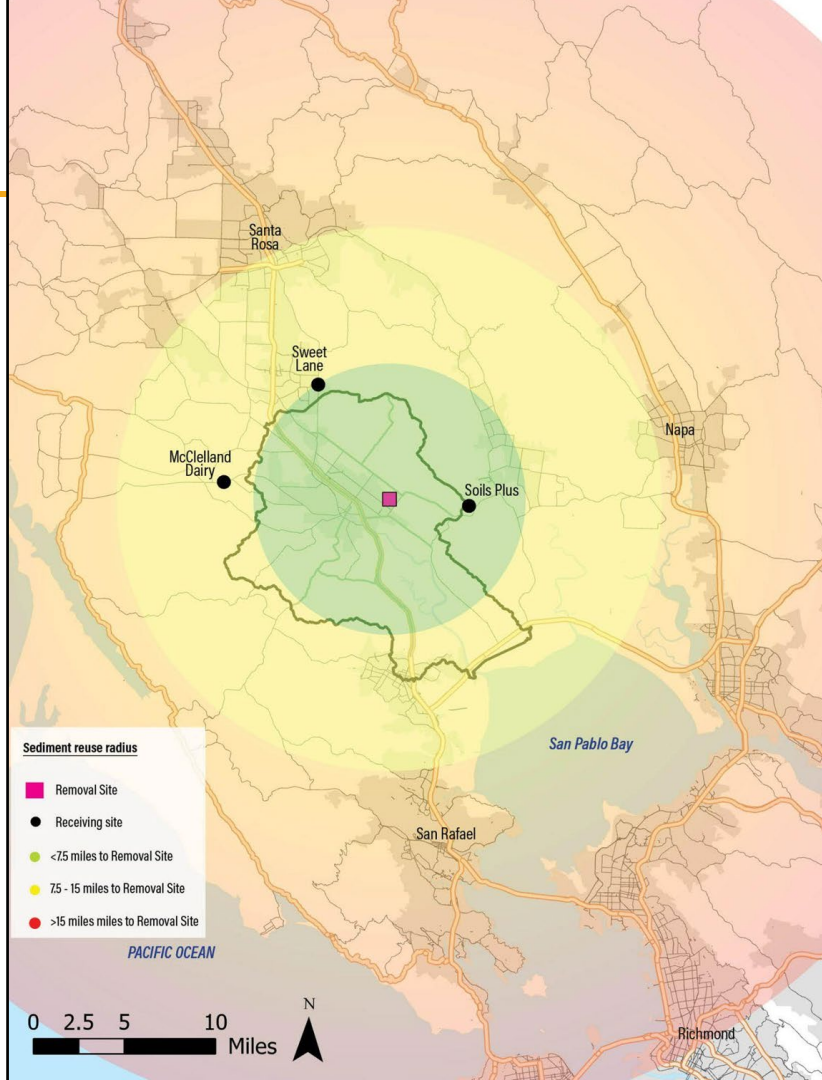
- ~50,000 CY removed from 2008-2024, and is tested
- Other sources
- A small, but consistent volume ready for reuse

Stockpiling does not appear to be the most viable option currently



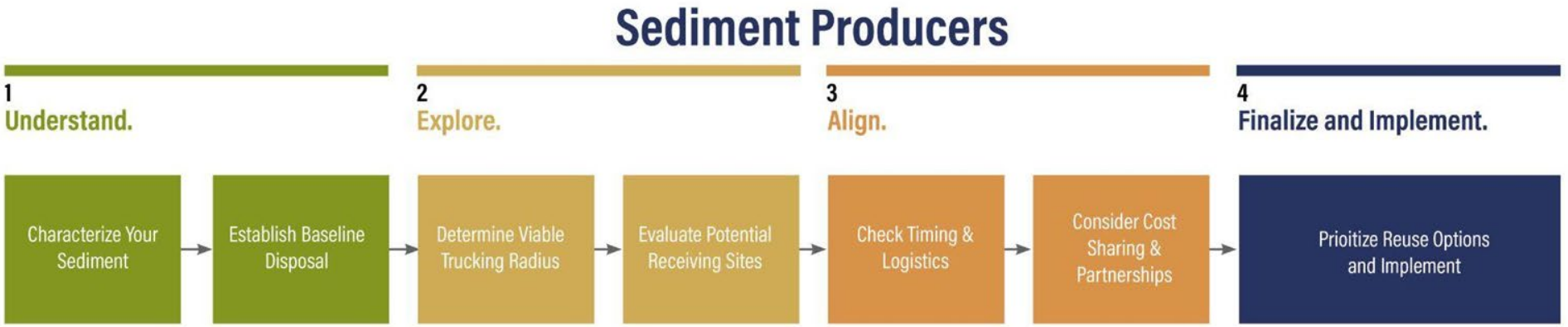
Cost of Reuse

- Sonoma Water estimates trucking costs at $0.72/CY/mile. Trucking is 7-47% of a removal project budget
- Trucking costs for the 2024 removal of 1,350 CY from the Adobe 5 Basin were $17,500
- Trucking conceptual model: over 30 *potential* receiving locations
- **Currently no sites are ready to or able to receive this type of sediment**
- Trucking to Skaggs Island: an addl. $14,000



Decision-Making Process for Identifying Matches

- Establishing a common process for producers and receivers to utilize when making reuse decisions can increase the total amount of reuse
- Characterize the sediment; Distance, characteristics, and logistics matter; Be financially creative; Prioritizing reuse locations

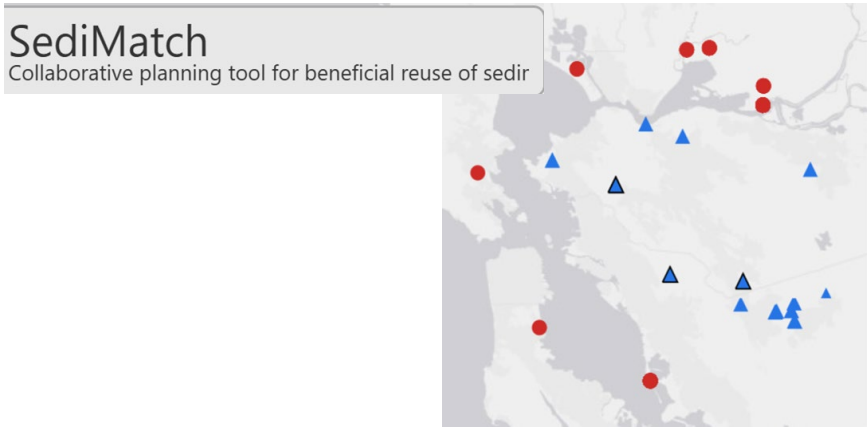


Near and Longer-Term Actions

- Near-Term- 1-2 years: critical for enabling pilot-scale reuse.
- Longer-Term- Next decade: requires more planning and coordination to execute.
- While these actions will require visionary thinking and partnership, they will result in a change in attitude towards beneficial reuse and establishing reuse as the preferred action for every project.

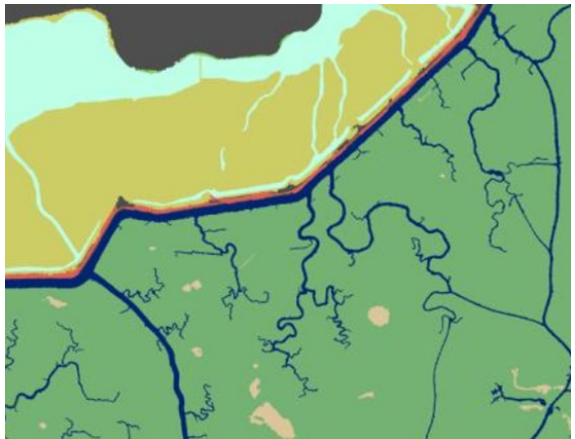
Near-Term Actions

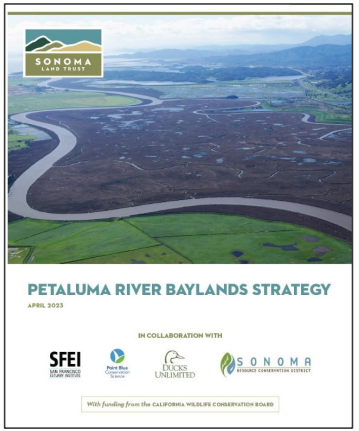
- Develop funding approach for covering incremental trucking costs
- Begin the permitting process for future projects to accept sediment at on-site upland stockpile locations
- Recommit to utilizing the SediMatch web tool to meet the Petaluma OLU's central repository and tracking needs
- Update Project Tracker to help track sediment beneficial reuse within existing projects

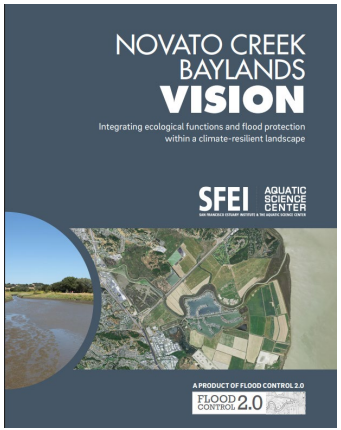


Longer-Term Actions

- Make linkages between stream restoration and bayland restoration projects to increase the pace of restoration of both
- Include beneficial sediment reuse within watershed or OLU-scale adaptation planning
- Develop a long-term reuse fund
- Advocate for a regional sediment coordinator position







Next Steps

Petaluma River OLU Strategy: Support the community of practice in implementing the Strategy through developing innovative partnerships and solutions to make reuse standard practice.

Santa Clara County OLU Strategy: First workshop held May 2025. Continue working with local partners. Draft anticipated Spring 2026.

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How will we get there?

Build enthusiasm

Be flexible and opportunistic

Be pragmatic

Be creative

Commit to the process

Take ownership and implement

SEDIMENT SOLUTIONS

Funded by the San Francisco Bay Regional Water Quality Improvement Fund, EPA Region IX