San Francisco Bay

Sediment for Wetland Adaptation Project (SWAP)

Sediment and Beneficial Reuse Commissioner Working Group Meeting

July 19, 2024

SF Bay Conservation and Development Commission

Regional Sediment Management Program

Agenda

- **Project Updates**
  - Present recent activities of the Sediment for Wetland Adaptation Project (SWAP)
  - Discuss update to Action Plan timeline
- **Beneficial Reuse Action Plan Rollout**
  - Review tasks outlined in the Action Plan and collect comments
- **Public Comment**
- **Adjourn**

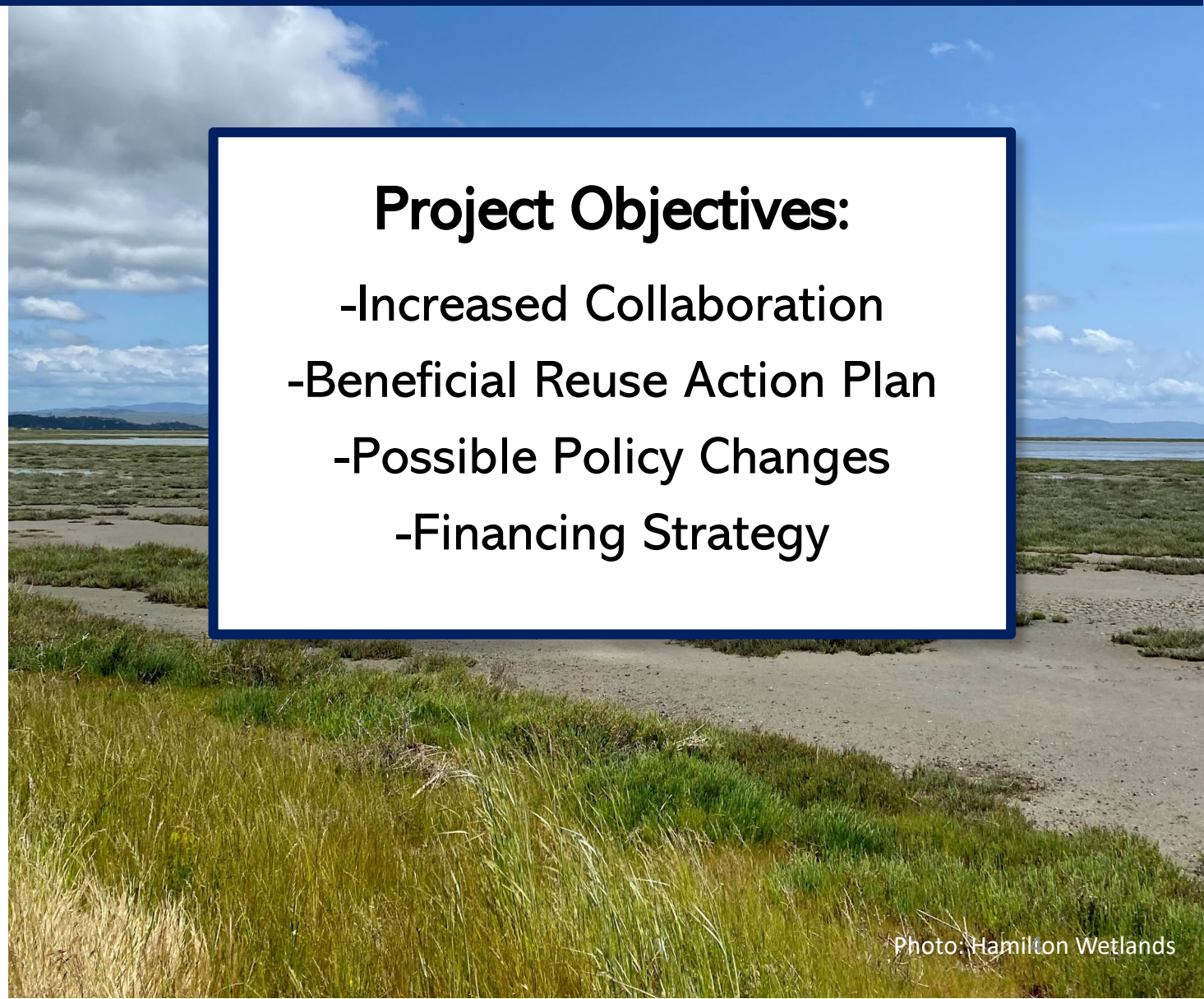
Project Updates

Maya McInerney, BCDC

Sediment for Wetland Adaptation Project

Goal:

"Increase beneficial reuse of sediment and soil for wetland habitat restoration, resilience, and sea level rise adaptation in the San Francisco Bay Area."



Project Objectives:

-Increased Collaboration

-Beneficial Reuse Action Plan

-Possible Policy Changes

-Financing Strategy

Photo: Hamilton Wetlands

SWAP Timeline

2023	2024	2025
Phase 1 – Stakeholder Engagement • Beneficial Reuse Action Plan • Coalition building	***Phase 2*** – Potential Bay Plan Amendment	
	Phase 3 – Financing Strategy	
Commissioner Working Group meetings		
Core Team meetings		

California Water Boards

SFEI AQUATIC SCIENCE CENTER
San Francisco Estuary Institute & the Aquatic Science Center

San Francisco Bay Joint Venture

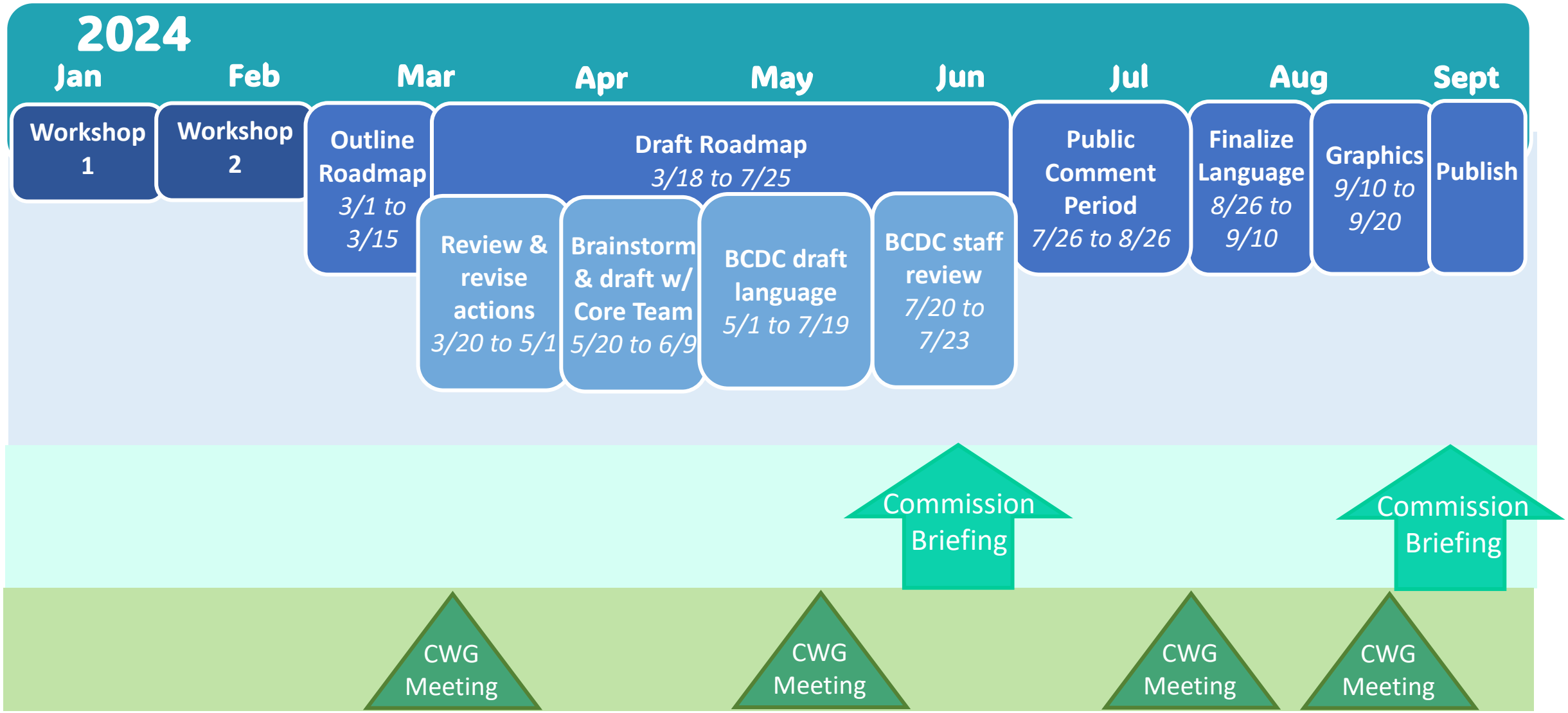
Coastal Conservancy

EPA

Steps to Release Action Plan

- Draft Action Plan language and actions ✓
- Meet with Core Team members to shape actions ✓
- Meet with integral partners / action leads ✓
- Internal review and formatting
- Post to BCDC website for public comment
- Meetings with integral partners / action leads
- Finalize Action Plan graphics and language
- Post finalized Action Plan to BCDC website

Updated Action Plan Timeline



Questions / Discussion

Photo: King Tides Project (N San Mateo Road, Marin)

Draft Beneficial Reuse Action Plan

Maya McInerney, BCDC

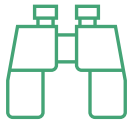
Brenda Goeden, BCDC

Action Plan Structure

- **Statement of Purpose**
  - Bay Area's sediment challenge
  - Shared understandings
- **Background**
  - Roadmap development process
- **Goals and Principles**
  - Goals: help organize actions
  - Principles: define how we will work with others to implement Roadmap
- **Sediment to Wetlands Pathways**
  - Source to placement pathways
  - Identify common features and highest priority barriers and opportunities
- **Focus Areas (8)**
  - Each contains a list of activities that are *potentially* achievable in the next 5 years
  - 76 actions total

Goals

1. Strengthen Partnerships

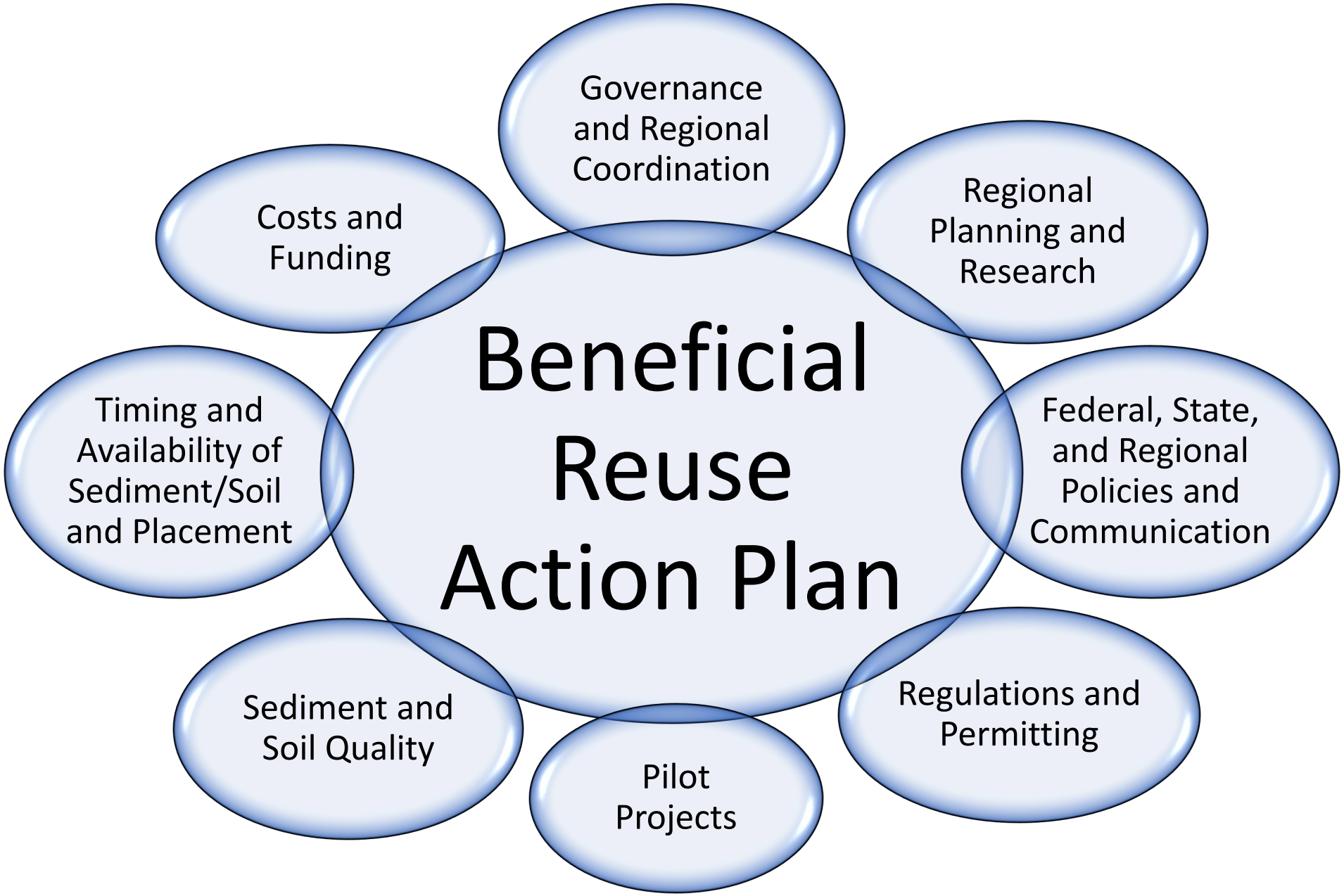


2. Identify and Prepare Sites for Beneficial Reuse

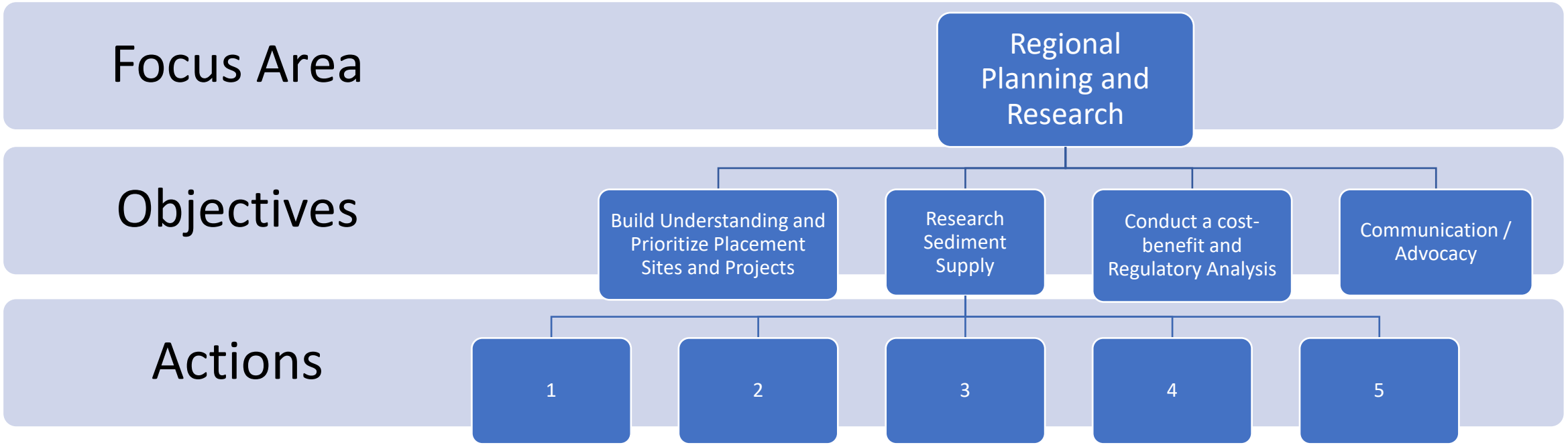
3. Coordinate Sediment & Soil Supply with Restoration Needs

4. Improve Policies and Regulations

5. Develop Funding Opportunities

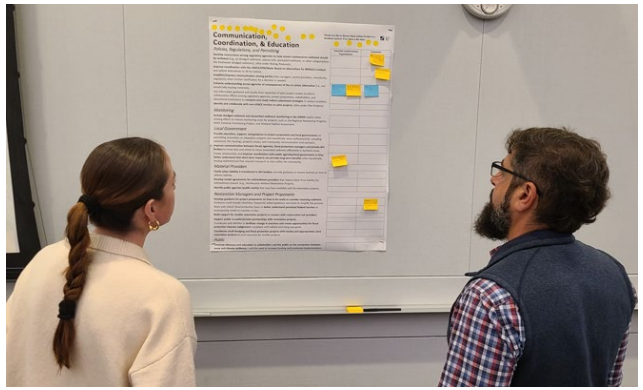

Governance and Regional Coordination
Regional Planning and Research
Federal, State, and Regional Policies and Communication
Regulations and Permitting
Pilot Projects
Sediment and Soil Quality
Timing and Availability of Sediment/Soil and Placement
Costs and Funding
Beneficial Reuse Action Plan

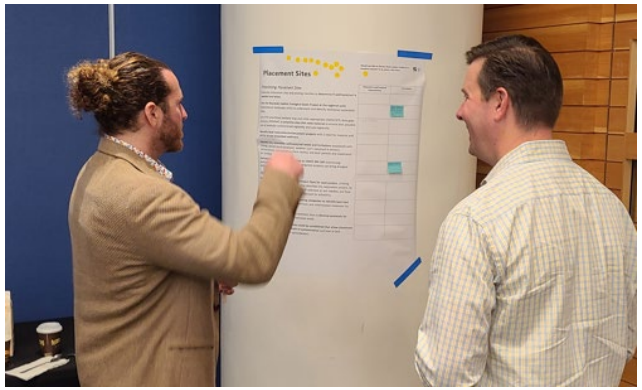
Action Plan Structure

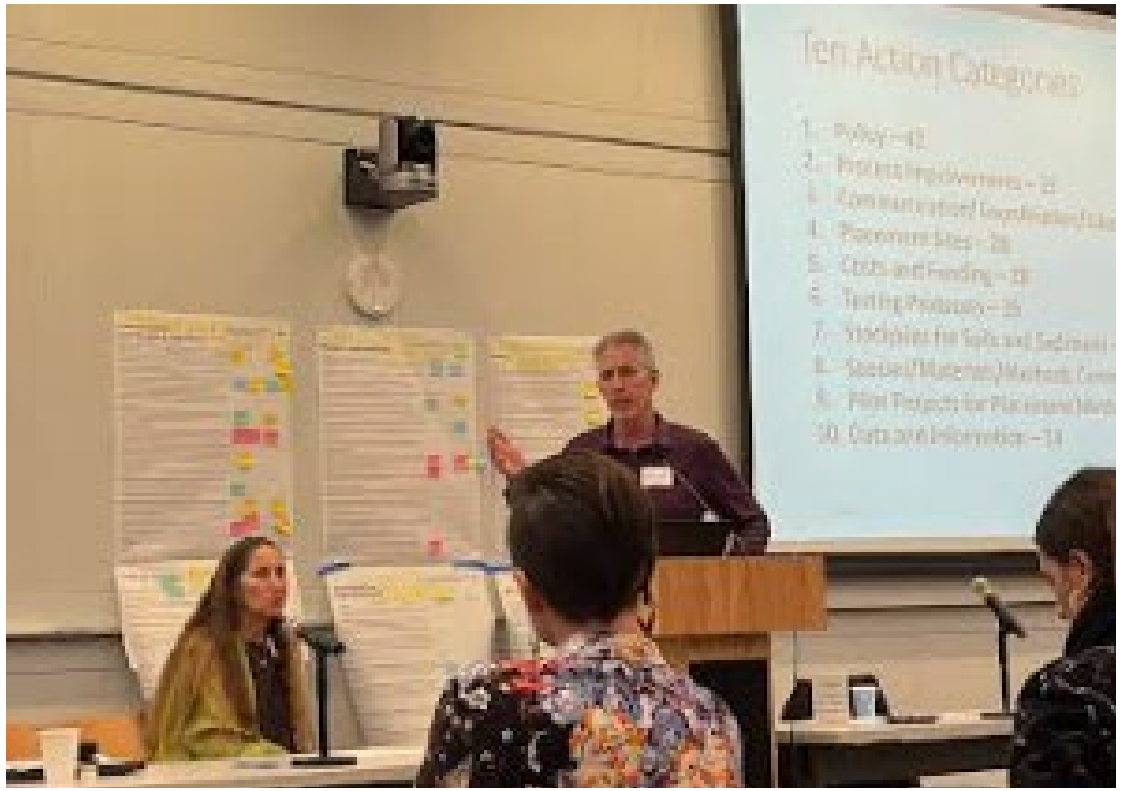


Action Development Process

1. Expert interviews
2. Core Team brainstorming
3. Initial matrix of issues and actions
4. 2-day workshop with breakout sessions
5. Sifting, sorting, and consolidating potential solutions







To be an action it had to…

- ***Be focused on increasing beneficial reuse of sediment and soil,***
- ***Be achievable in 1-5 years,***
- ***Have an Identifiable champion(s), and***
- ***Have regional support***

Action Plan: Objectives and Actions

1. Governance and Regional Coordination

Objective 1 of 1: **Align Regional Coordination and Action Plan Oversight.**			
Index #	**Action Description**	**Target Lead**	**Partners**
1.1.1	Convene a working group of agencies, restoration project sponsors, and core stakeholders in beneficial reuse to explore and ultimately select a preferred governance model and entity. The working group will provide direction to identify and create authority for entity to oversee this work and establish regular check-ins to track progress.	BCDC	SFBJV
1.1.2	Explore the potential for a regional beneficial reuse coordinator to develop a better system to work with sediment and soil source providers and sites.	BCDC	

2. Regional Planning and Research

Objective 1 of 3: **Solidify Regional Priorities and Strategy.**			
Index #	**Action Description**	**Target Lead**	**Partners**
2.1.1	Evaluate restoration sites and existing marshes to determine if sediment and/or soil is needed and when.	SFEI/Site Managers	SFBJV, BCDC, SFEP, SCC
2.1.2	Use the Baylands Habitat Ecological Goals Project at the regional scale (operational landscape units) to understand and identify additional restoration sites.	USACE, SFEI, BCDC, Bay Adapt, SFBJV	
2.1.3	Identify sites with ability to use streambed sediment.	SFEI, Land owners/Site Managers	
2.1.4	Prioritize restoration or existing marshes that need sediment/soil to ensure best possible use of available sediment/soil regionally and sub-regionally.	SBSPRP, SCC, USFWS, Land owners/site managers	
2.1.5	Identify site restoration limitations and needs associated with species, weather, transportation, and local permits.		

2. Regional Planning and Research

***Objective 2 of 3*: Assess Implications of Elevated Levels of Contamination in Sediment/Soil and at Placement Sites.**			
Index #	**Action Description**	**Target Lead**	**Partners**
2.2.1	Consider developing a protocol for placement site condition assessment (including contaminants or other parameters) to determine whether placement of sediment/soil would result in sufficient improvement of site conditions.		
2.2.2	Investigate and determine appropriate uses for sediment/soils with elevated levels of contaminants to ensure resulting site conditions would be satisfactory to all agencies and surface water and groundwater would be unimpaired.		

2. Regional Planning and Research

Objective 3 of 3: **Foster Outreach and Advocacy.**			
Index #	**Action Description**	**Target Lead**	**Partners**
2.3.1	Create an outreach program for sediment/soil source managers to educate regarding the need for excess sediment or soil, sites with needs, and quality and quantities.	BCDC (RSAP)	USACE, EPA, WB
2.3.2	Continue advocacy and education to stakeholders and the public on the connection between reuse and climate resiliency – and the need to increase funding and accelerate implementation.		SFBJV
2.3.3	Create relationships by providing education, support, and guidance to project proponents and local governments on permitting restoration/adaptation that beneficially reuse sediment/soils.		
2.3.4	Improve communication and coordination between (local) agencies, flood protection managers and private-dirt brokers to create feedback opportunities and incentivize beneficial reuse of sediment and soils over landfill.		

3. Federal, State, Regional Policy and Communication

Objective 1 of 4: Align Federal Standard with Maximizing Beneficial Reuse.			
Index #	**Action Description**	**Target Lead**	**Partners**
3.1.1	Identify the elements of the federal standard that encourage or impede beneficial reuse. Consider and support changes to the USACE federal standard regulation to allow beneficial reuse of dredged sediment to be selected as the federal standard for a project or region, even if it is not the least cost alternative.	BCDC, WB, EPA, BPC, Save the Bay, SCC	USACE, Save the Bay, SCC, SFBJV, SFEP
3.1.2	Further evaluate and implement the WRDA 2020 Section 125 guidance and General Spellmon's directive to beneficially reuse 70% of dredged sediment by 2035.	USACE	SCC, BCDC, WB, EPA, BPC
3.1.3	Incorporate beneficial use into the federal standard by analyzing the Federal O&M program as a regional approach, such as is being done in the current USACE RDMMP effort. Use benefits analysis (regional resilience metrics) through the RDMMP, and other ways to quantify benefits to complete section 125a BUDDI documents.	USACE	WB

3. Federal, State, Regional Policy and Communication

Objective 2 of 4: **Support RDMMP and USACE Beneficial Reuse Programming.**			
Index #	**Action Description**	**Target Lead**	**Partners**
3.2.1	Work with the USACE in its Regional Dredged Material Management Plan to increase beneficial reuse options and methods and reduce ocean disposal.	Water Board, BCDC, EPA, SCC	USACE
3.2.2	Work with USACE as a whole, and Engineering with Nature team to demonstrate areas of streamlining USACE processes within legal limits for indirect and direct placement pilots and actions. Develop information and guidance on different tools to fund USACE beneficial use such as (a) RDMMP yearly re-evaluation, (b) Section 125a BUDDI requests, (c) 204 program, and (d) other policy tools and funding models.	USACE Water Board, BCDC, EPA, SCC	
3.2.3	Work with the Bay Area Delegation to identify and promote federal actions through WRDA to support restoration and enhancement of marshes, including pilot projects, through increased beneficial reuse and decrease ocean disposal and appropriate funding.	SFBJV, Save the Bay, SCC, BCDC, Bay Institute, BPC	WB, USACE, EPA

3. Federal, State, Regional Policy and Communication

Objective 3 of 4: **Improve State and Regional Coordination.**			
Index #	**Action Description**	**Target Lead**	**Partners**
3.3.1	1. In coordination with the OPC/NR agency and Cal EPA, develop regional recommendations on a state beneficial use policy and implementation structure. Work with other regions and state agencies to establish these beneficial reuse recommendations.	USACE, site owners, OPC	SCC, EPA, USACE, BCDC, WB, Save the Bay
3.3.2	2. Work with the CA Natural Resources Agency, Cal EPA, and other state agencies and state legislators to develop and advocate for state-wide legislation and funding supporting beneficial reuse of sediment/soil for rising seas adaptation, habitat benefits, and recreation. Formalize the established coalition to pursue potential legislative approaches/ opportunities and act in the interest of the SF Bay region.	BCDC Financing the Future Working Group	USACE, Save the Bay, Power in Nature Coalition, SFBJV

3. Federal, State, Regional Policy and Communication

Objective 4 of 4: **Update Regional Policies.**			
Index #	**Action Description**	**Target Lead**	**Partners**
3.4.1	Evaluate whether programmatic permits would simplify the process for restoration projects to address needs for available sediment and construction soils and the urgency of sea level rise.	BCDC	
3.4.2	Require restoration project proponents to meaningfully consider beneficial reuse of dredged sediment during the project design and permitting process. Simplify process for restoration site to be ready to consider receiving sediment.	BCDC Financing the Future Working Group	
3.4.3	Enhance understanding across agencies of consequences of the no action alternative (i.e., not beneficially reusing materials).	DMMO	
3.4.4	Develop concurrence among regulatory agencies on how stream maintenance sediment should be reviewed (e.g., as dredged sediment, upland soils, stockpiled sediment, or other categorization like freshwater dredged sediment).	DMMO	
3.4.5	Create a coarse-grained sediment reuse strategy to addresses upper watershed flood protection maintenance needs.	BAFPAA	

4. Regulations and Permitting

Objective 1 of 1: Evolve Permitting Practices.			
Index #	**Action Description**	**Target Lead**	**Partners**
4.1.1	Evaluate whether programmatic permits would simplify the process for restoration projects to address needs for available sediment and construction soils and the urgency of sea level rise.		
4.1.2	Require restoration project proponents to meaningfully consider beneficial reuse of dredged sediment during the project design and permitting process. Simplify process for restoration site to be ready to consider receiving sediment.		
4.1.3	Develop guidance for permittees and regulators to understand the flexibility allowed within the beneficial reuse permitting process and what it means to be ready to receive sediment and soil for beneficial use.		
4.1.4	Consider whether beneficial reuse of sediment at wetland restoration sites can be considered mitigation for impacts.		
4.1.5	Improve inter-agency coordination (with the USACE/BCDC/EPA/Water Board) on alternative disposal or placement site analysis.	USACE, WB, BCDC, EPA	

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4. Regulations and Permitting

Objective 1 of 1: Evolve Permitting Practices.			
Index #	**Action Description**	**Target Lead**	**Partners**
4.1.6	Evaluate dredge placement methods, including hydraulic and clamshell methods, that could result in better outcomes than existing placement or dredging methods. Work with federal and state resources agencies to study and develop conditions for use of hydraulic dredges.	LTMS/DMMO	
4.1.7	Evaluate whether monitoring for discharge requirements at restoration sites to allow for treatment by design could be protective enough, while reducing monitoring burden on the project proponent.	Water Board, BRRIT	
4.1.8	Create informational requirements to improve visibility of available sediment and soils as a permit condition (e.g., EcoAtlas). Permittees would be required to input information about available or required sediment into a database.	Water Board, BRRIT	
4.1.9	Require development of a QAPP (Quality Assurance Project Plan) for each project.	Valley Water, SBSP	
4.1.10	Consider applicability of toxicity thresholds and testing protocols for indirect placement as its use expands.	DMMO	

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5. Pilot Projects

***Objective 1 of 2*: Support Additional Indirect Placement Pilot Projects.**			
Index #	**Action Description**	**Target Lead**	**Partners**
5.1.1	Assess regional and national indirect placement pilot project data to assist in determining indirect placement pilot project success criteria. Working with experts outside the region, establish short, medium, and long-term success criteria for indirect placement projects.	USACE, Water Board, NMFS, USGS, Consultants	
5.1.2	Identify and collaborate with interested entities on pilot projects. Conduct modeling studies, including nearshore placement, to evaluate indirect placement strategies across diverse sites, seasons, and tidal cycles in the region. Create a central location for compiling data/information, make it accessible/available, and use it to evaluate what is being learned. Share data from indirect placement modeling scenarios publicly and among scientists, policymakers, and stakeholders to identify optimal strategies for indirect placement projects at existing marshes.	USACE, Water Board, NMFS, USGS, Consultants	
5.1.3	Create a specialized task force/subcommittee within the existing framework of permitting organizations familiar with indirect placement pilot studies and thin-lift data to share information.	USACE, SFEI, WRMP	
5.1.4	Expand research and development efforts, create opportunities for scientists, utilize new technologies, and foster collaboration between regulatory and scientific communities to apply learnings and determine the region's most effective indirect placement restoration strategies.	USACE, USGS, Modelers, universities	

5. Pilot Projects

***Objective 2 of 2*: Support Additional Direct Placement Pilot Projects.**			
Index #	**Action Description**	**Target Lead**	**Partners**
5.2.1	Assess regional and national direct placement project scientific/technical data/findings to assist in determining success criteria. Working with experts inside and outside the region, define short, medium, and long-term success criteria for direct placement projects.	USACE, Water Board, NMFS, USGS, Consultants	
5.2.2	Evaluate and address constraints for dredged sediment direct placement methods. Review the completed projects and consider appropriate application for different types of sediment sources. Use existing information to develop better pilot projects.	USACE, WB, NMFS, USGS, Consultants, Flood Control Agencies	
5.2.3	Conduct thin lift and other direct placement pilot projects at subsided sites based on prioritized site identification, regional data gaps analysis, and modeling that test and evaluate periodic placement at existing marshes.	USACE, SCC, Flood Control Agencies	
5.2.4	Determine appropriate work windows and/or conditions for sediment thin-layer placement to address consistently present species. Identify alternatives for cutting vegetation to the ground, such as control site flooding, for fully-protected species avoidance when doing thin-lift placement.		

6. Sediment and Soil Quality

Objective 1 of 2: Coordinate testing Requirements for Upland/Flood Control Soils and Sediment.			
Index #	**Action Description**	**Target Lead**	**Partners**
6.1.1	Improve characterization of flood control sediment, stockpiled sediment/soil, and proposed sites to determine best uses. Evaluate existing QAPPs for sediment/soil reuse; identify and resolve data or protocol gaps, and use product as examples for other projects. Create standard sampling protocols and acceptance criteria/guidance for BRU of (1) streambed and/or flood channel maintenance sediment, and (2) stockpiled sediment.	Water Board, BCDC, South Bay Salt Pond	
6.1.2	Emulate Dredged Material Management Office process to construct a "tier-testing" system to determine a suitability decision amongst all agencies for flood control and stockpiled sediment. Identify grain size of sediment/soil above which sediment quality tests could be waived (i.e., sand, gravel) and seek agency agreement to pull together and document the known guidance for the region in one document.	Water Board, BCDC, Flood Control Agencies	Caltrans, Valley Water
6.1.3	Formalize coordination between the LTMS/DMMO and the BRRIT and other restoration projects to expand support for beneficial reuse of sediment and soils due to their expertise.	Water Board, BCDC, USACE, EPA	BRRIT, SBSPP/ North Bay Project, SCC, SFEI, BCDC
6.1.4	Establish and improve communication among parties when further clarification of a decision is needed. Develop technical documents that highlight flood control and stockpiled sediment's suitability determination and decision rationale.	Water Board, BCDC, USACE, EPA	

6. Sediment and Soil Quality

***Objective 2 of 2*: Improve Data Management and Use.**			
Index #	**Action Description**	**Target Lead**	**Partners**
6.2.1	Develop a centralized database to collect all sediment characterization and suitability data.		
6.2.2	Leverage existing sediment monitoring data where available.	Water Board, BCDC, USACE, EPA	BRRIT agencies, SBSPP/ North Bay Project, SCC, SFEI, BCDC
6.2.3	Include adaptative dredged sediment and streambed sediment monitoring in restoration and enhancement projects in the WRMP and/or other existing efforts to inform conservation actions and reduce monitoring costs for projects.	Water Board, BCDC, USACE, EPA	

7. Timing and Availability of Materials and Placement

***Objective 1 of 2*: Assess stockpiling feasibility and address management requirements of stockpile applicability.**			
Index #	**Action Description**	**Target Lead**	**Partners**
7.1.1	Evaluate the benefits and detriments of stockpiling compared to the "free dirt" model.		
7.1.2	At the subregional level, identify available and potential stockpiling sites (both for upland and dredged materials) or a network of stockpiling sites near restoration sites that need sediment/soil (review available information) for temporary, one-time, or long-term use. Identify funding for purchasing or leasing sites.		
7.1.3	Identify and analyze material hauling impacts associated with upland soil delivery from source to beneficial reuse site (traffic, air quality, greenhouse gases, road conditions, recreational facilities etc.) and evaluate appropriate haul distances from restoration site to source material.		
7.1.4	Identify willing owners and operators/managers, including public agencies (public works), of stockpiled sediment sites and collaborate with them on the development of "incentives." Consider available land owned/operated by public agencies.		EJ community
7.1.5	Identify public agencies (public works depts) that have available soils for restoration projects.		

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7. Timing and Availability of Materials and Placement

Objective 1 of 2: Assess stockpiling feasibility and address management requirements of stockpile applicability.			
Index #	**Action Description**	**Target Lead**	**Partners**
7.1.6	Create a sediment/soil trading hub that addresses geographic constraints of hauling and helps project proponents recruit sediment/soils from within appropriate haul distances. Match restoration sites and project sponsors with construction and/or flood protection projects within appropriate haul distance to reduce long haul routes with GHG, traffic, and community impacts.		
7.1.7	Work with local communities and trucking companies to identify best haul routes that minimally impact neighborhood & utilize minimization measures for impacted communities.	SFEI, SFBJV, BCDC	
7.1.8	Develop an adaptive process for working with construction soil providers that supports testing, screening, and hauling of dirt to stockpiles or restoration sites. Investigate, document (via guidance), and share successful model agreements and best practices between soil providers and restoration sponsors. Guidance should clarify when liability is transferred to dirt brokers.		
7.1.9	Identify regulatory concerns and document protocols for land-based sediment/soils storage and the permitting process for stockpiling for beneficial reuse so there is a clear understanding of how stockpiled-sediment sites are to be effectively managed.		
7.1.10	Assess feasibility of sorting, and mixing of stockpiles to improve management, quality, and use of sediment/soils. Develop a regional strategy and protocols to support implementation of materials mixing if determined feasible.		

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7. Timing and Availability of Sediment and Soil and Placement

***Objective 2 of 2*: Improve Flood Protection Programming.**			
Index #	**Action Description**	**Target Lead**	**Partners**
7.2.1	Coordinate with BAFPAA to facilitate change in practices and create opportunities for flood protection channel realignment consistent with habitat and rising seas goals.	BAFPAA	
7.2.2	Work with USACE flood protection team to better understand perceived or actual federal barriers to reconnecting creeks to marshes or Bay.	USACE	
7.2.3	Assess appropriate actions in watersheds to identify potential sources of contamination within flood-control channels and determine whether there is potential for sediment/soil reuse.	BAFPAA	
7.2.4	Work with flood protection managers to (1) assess stream conditions using geomorphology, historic conditions, and information. including rate of accretion in high, low, and "normal' years, (2) assess and measure erosion control issues in upper watershed/source areas, and (3) populate Bay Area watershed models with existing and new data.	BAFPAA	Science support for regional database

8. Costs and Funding

Objective 1 of 1: **Address Funding Gaps.**			
Index #	**Action Description**	**Target Lead**	**Partners**
8.1.1	Analyze the funding needed for sediment/soil suppliers and incorporate and control cost for suppliers.	NOAA, FWS, Point Blue, DU	SFBJV
8.1.2	Provide a summary of funding strategies to increase beneficial reuse. Engage BCDC Financing the Future Commissioner Working Group		
8.1.3	Identify potential funding sources, mechanisms, and programs (Feds, State, local, private) for beneficial reuse (dredging, flood and stream maintenance, construction).		
8.1.4	Identify potential incremental cost share partners (fed, state, private) in accord with WRDA 2020, Section 125 and explore procurement of matching grants to fund placement of dredged sediment at beneficial reuse sites.		
8.1.5	Secure commitment to fund beneficial reuse through fact-based advocacy, lobbying, or education efforts.		SFBJV, Save the Bay, SCC
8.1.6	Work towards creation of a San Francisco Bay regional fund source or set aside for beneficial reuse and resilience (like Measure AA). Incorporate and align with BayAdapt and the regional agency sea level rise MOU.		

8. Costs and Funding

Objective 2 of 2: Evaluate Costs and Benefits.			
Index #	**Action Description**	**Target Lead**	**Partners**
8.2.1	Evaluate thin-lift project costs by reviewing USACE and other entities estimates and actual costs for completed thin-lift projects.		
8.2.2	Conduct a cost-benefit analysis of the loss of marsh compared to adapting it through management actions (short-term impacts, long-term gains) to evaluate cost of not placing sediment vs cost of placement of sediment (delays in vegetation establishment as sea levels rise, etc.). Study and assess the net long-term habitat restoration and sea level rise infrastructure gained from the temporary loss of species or habitat from certain methods of sediment placement. Identify tradeoffs and benefits of proposed actions.		
8.2.3	Reassess power supply and emission regulations for hydraulic offloading and truck/train delivery of sediment/soils (diesel/electric).		
8.2.4	Evaluate whether wetland restoration and beneficial reuse can offset greenhouse gases and other emissions impacts over time.		
8.2.5	Provide the cost-benefit analysis to key stakeholders and coalitions to increase support by local, state, and federal entities for beneficial reuse opportunities.	USACE	

Questions / Discussion

Photo: King Tide Project (Marin)

Public Comment

3 minutes per comment

Adjournment

Next meeting scheduled for August 16, 2024

Potential Topics – Sediment 101 Findings, Bay Plan Amendment Process