

Wetland Regional Monitoring Program (WRMP) Update

SFEP Implementation Committee Meeting August 2024

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Donna Ball (SFEI)

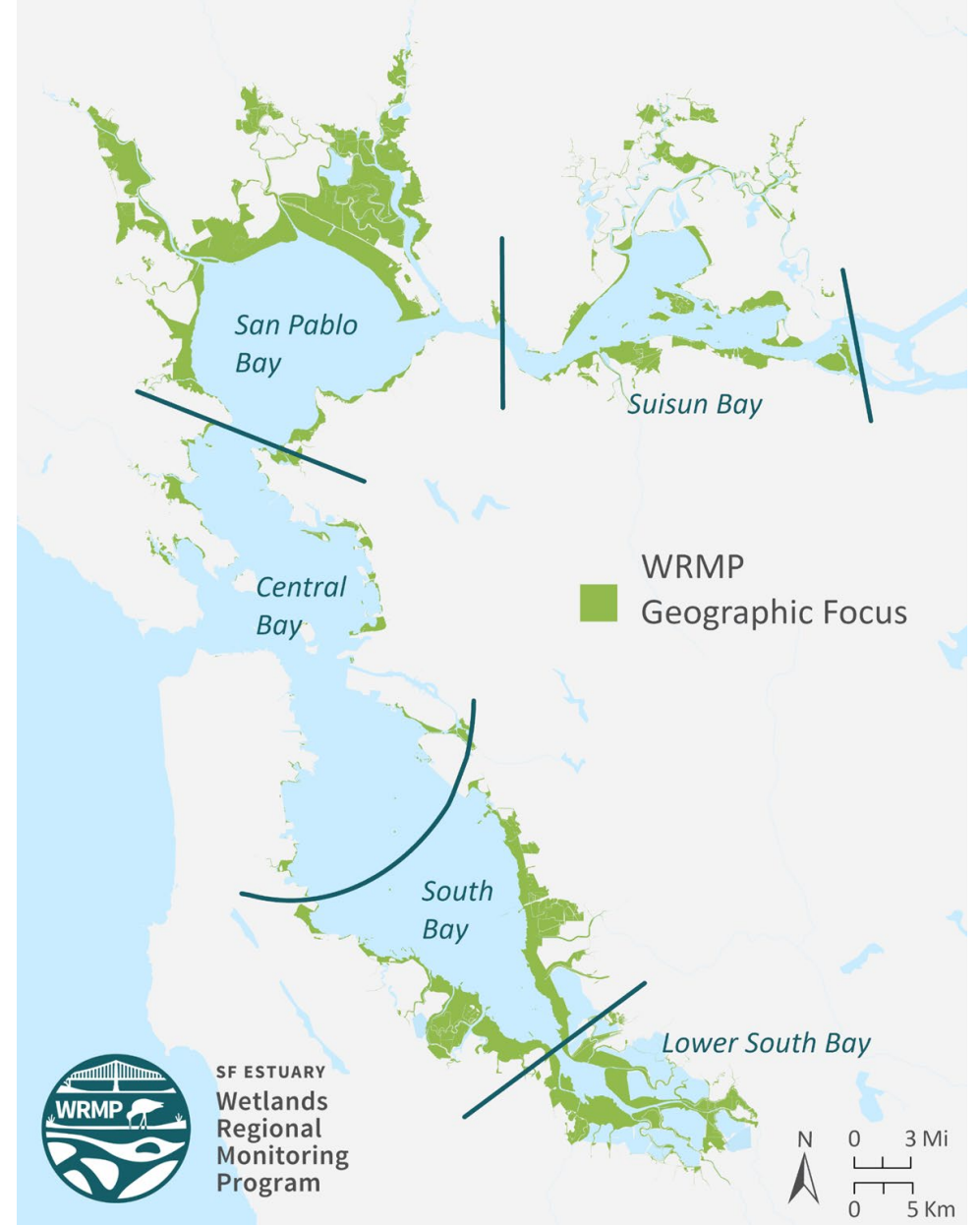
SF ESTUARY
Wetlands
Regional
Monitoring
Program



WRMP Mission

The WRMP delivers coordinated regional monitoring of the San Francisco Estuary's wetlands to:

- 1) Inform science-based decision-making for wetland restoration and adaptive management, and
- 2) Increase the cost-effectiveness of permit-driven monitoring associated with wetland restoration projects.



WRMP Team Introductions



SF Estuary Partnership



SFEI

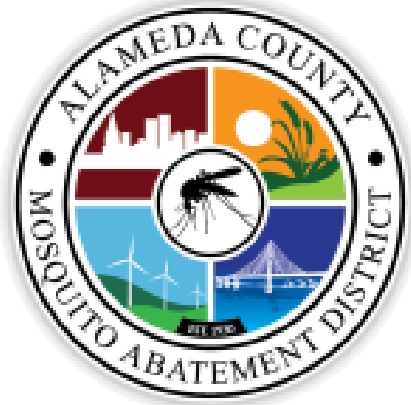
Funding Updates: Grants awarded

- Program development
- Pilot monitoring
- Data management
- Communicating information to decision-makers



**Wetland Program
Development Grant**

In-kind and matching fund support



Funding from new EPA San Francisco Bay Program Office!

Granted non-competitive
exception for \$17M over 5
years

- Data collection, analysis and management
- Equity and engagement
- Results communication
- Program management



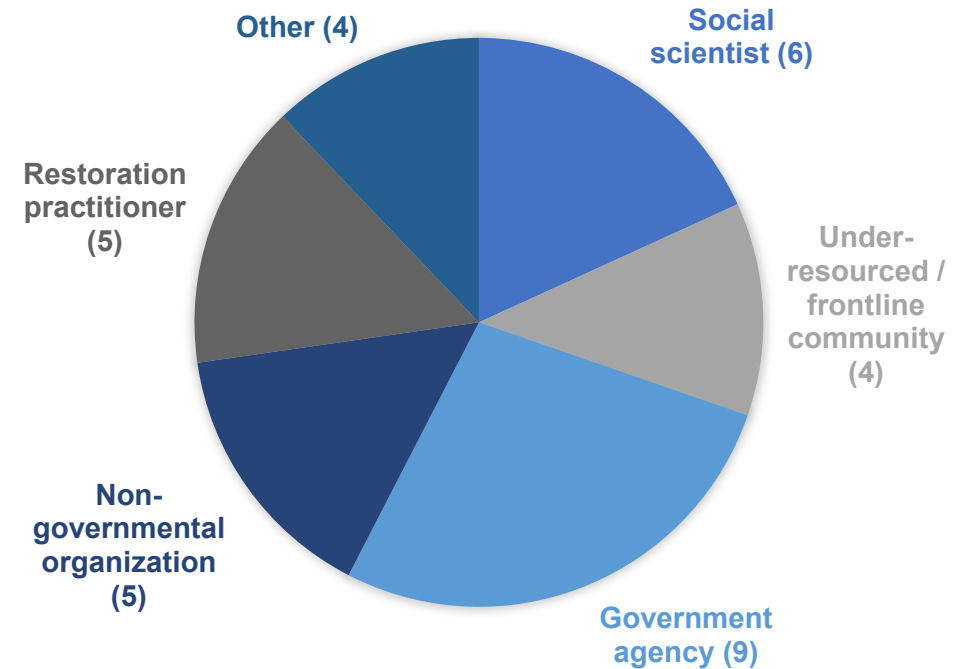
Photo: Taylor Pantiga

Equity and Engagement

- Integral part of workplan for EPA San Francisco Bay Program Office funding
- Co-develop programming with community-based organizations, Tribes, and Estuary Youth Council
 - Workforce development opportunities
 - Youth leadership educational experiences
 - Community-engaged monitoring

People and Wetlands Workgroup

- Workgroup of experts in environmental justice, social science, wetland restoration and adaptive management, and more
- Developing indicators, metrics, and protocols for monitoring human dimensions of wetlands



Other:
Architect & urban designer;
Wetland scientist & estuarine ecologist (2);
Culture keeper & community consultant

Human dimensions indicators can...

- Highlight why wetlands are important to people.
- Help wetland managers understand what physical elements or outreach & engagement efforts lead to increased benefits to people.
- Help evaluate progress on agency mandates about environmental equity.



Upcoming People and Wetlands Indicators and Products

- Monitoring people's participation in:
 - Decision-making about restoration projects
 - Visitation
 - Stewardship and education events/programs

- Developing products evaluating equity in the distribution of:
 - Restoration projects and their benefits
 - Wetland wave attenuation benefits

- And more!

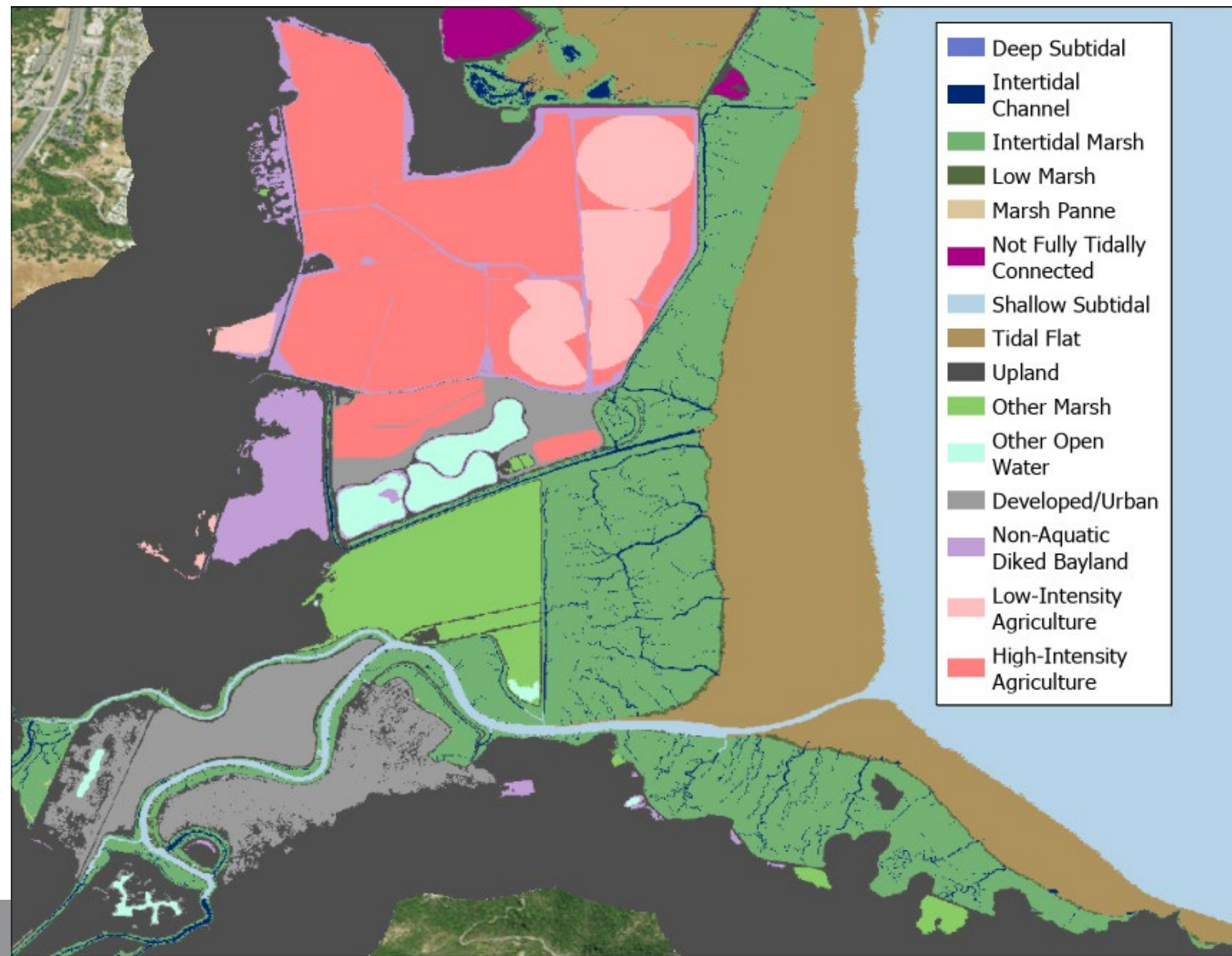
Biophysical Monitoring

- Near-Term Monitoring (SFBRA and EPA)
- EPA-Funded Monitoring

Regional Mapping

(2020 Baylands Habitat Map)

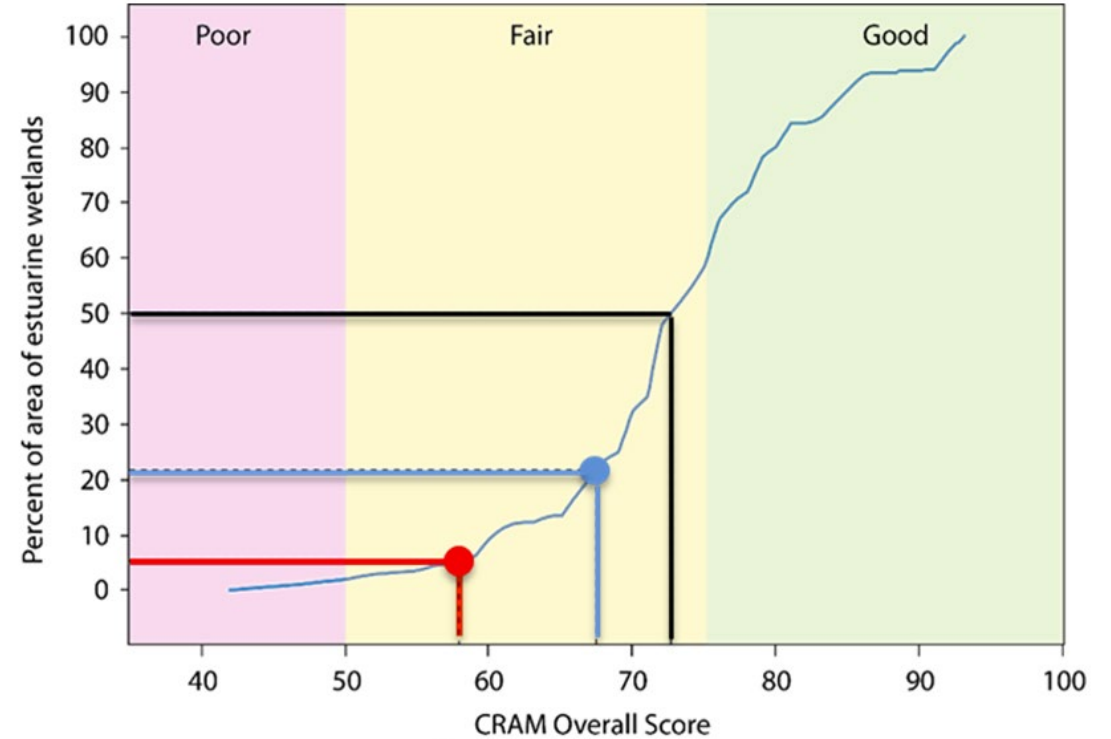
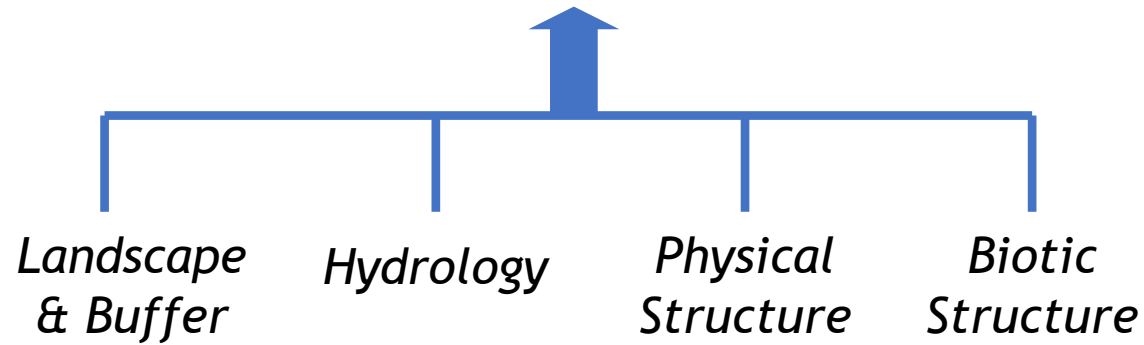
- Tidal marsh acreages
- Track restoration progress
- Marsh gain and loss
- Patch size and configuration
- Connectivity
- Shoreline Change



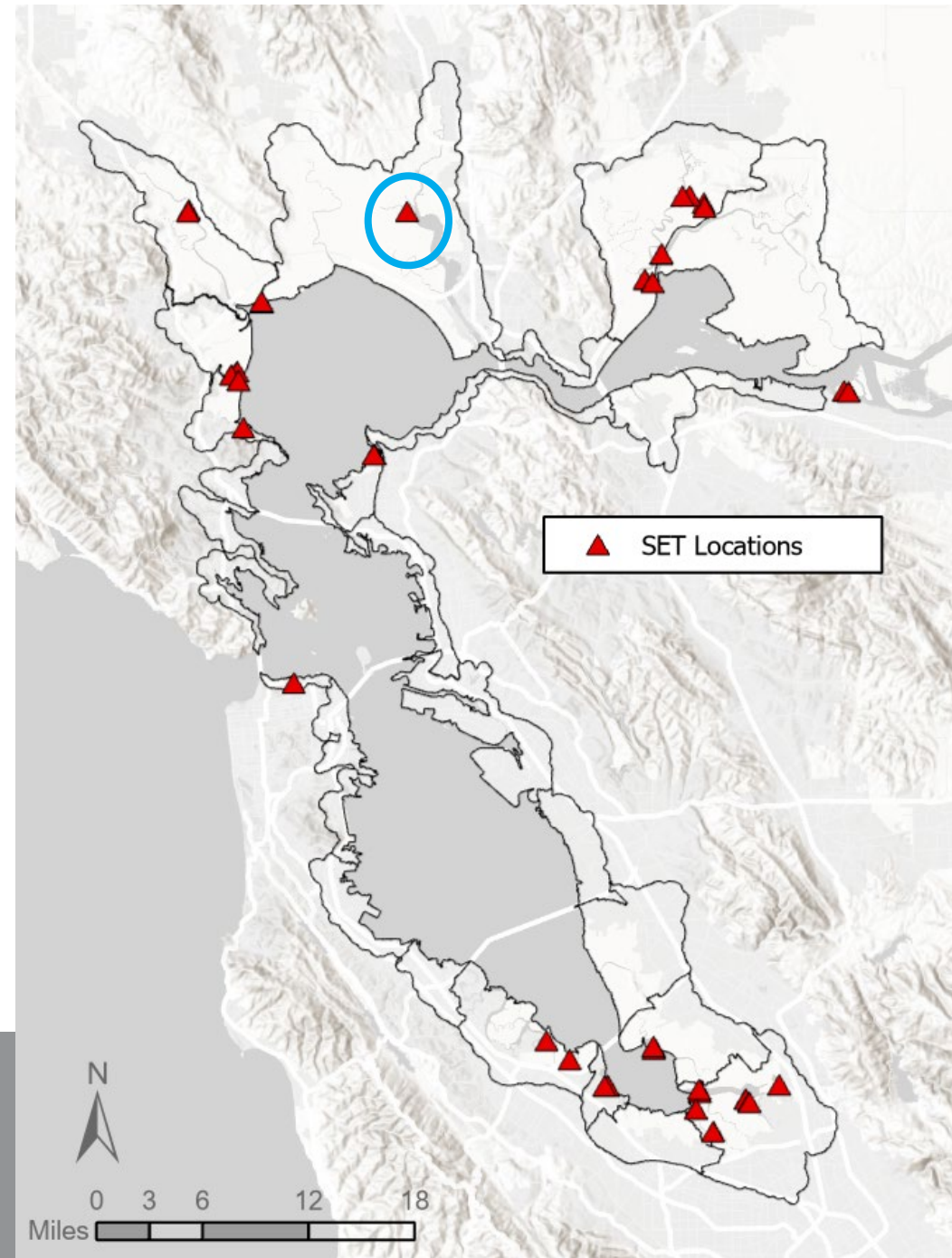
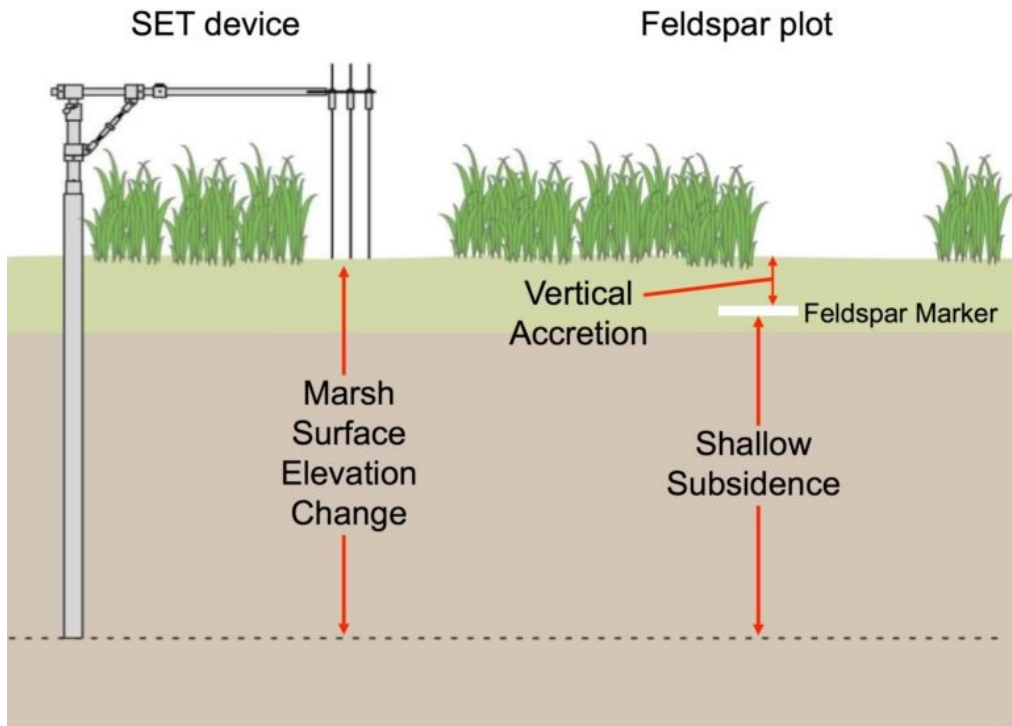
California Rapid Assessment Method (CRAM):

Condition across sites and over time

*Attributes for
Wetland Condition*



Site-level monitoring: accretion and elevation change



EPA-Funded Biological Monitoring (Beginning Fall 2024)

Regional

- 2024 Baylands Habitat Map/Lidar Collection (SFEI)

Sub-Regional

- Horizontal/Vertical Control (USGS)
- Water Surface Elevations (SFBNERR)

Site Scale

- SET-Marker Horizons (USGS)
- Vegetation/Marker Horizon Transects/Porewater Salinity (OSU)
- Transition Zone Transects (SFBNERR)
- Elevation Transects (OSU)
- Bird and Mammal Workgroups

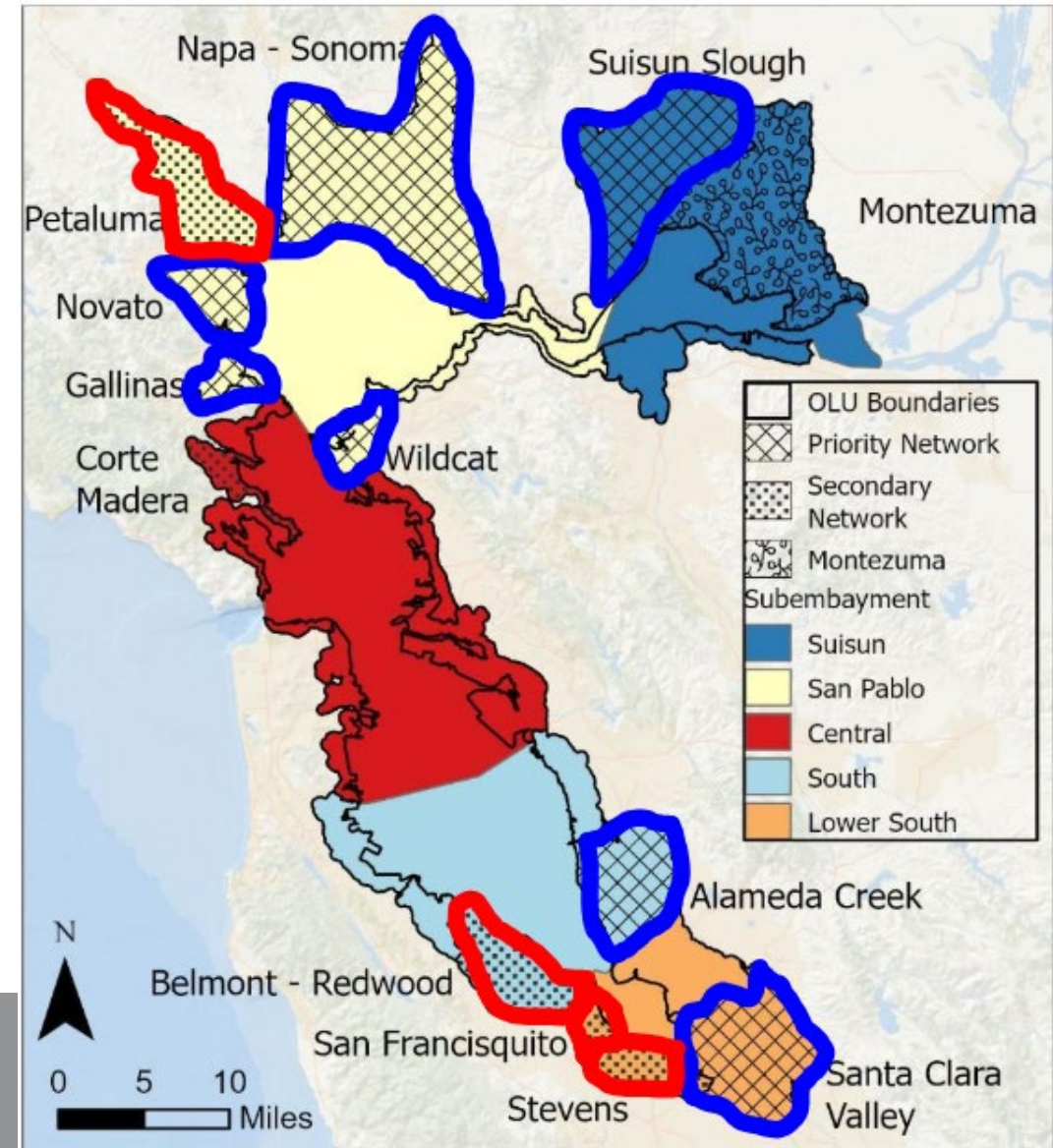


Regional Fish Monitoring (EPA + SFBRA)

Fish and Fish Habitat SOP

- Establish long-term fish monitoring in wetlands bay-wide
- Monitor the use of wetland habitats by ESA/CESA listed fish species
- Provide context and guidance regarding fish responses to individual projects

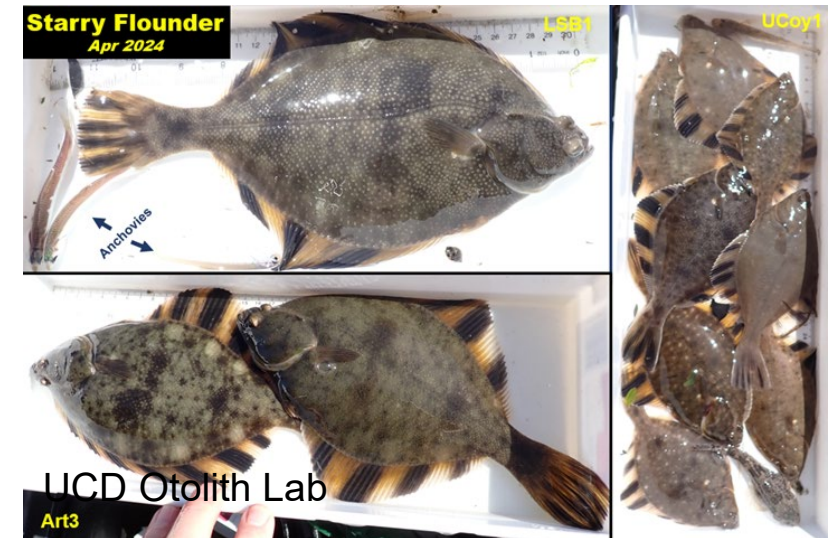
Quantitatively evaluate multiple sampling strategies and establish baseline data at multiple sites within the [WRMP Sites Network](#).



Workgroups

(Fish, Vegetation, Hydrogeomorphology, Geospatial, People and Wetlands)

- Establish bird and mammal workgroups and develop SOPs



Summary of Progress: Estuary Blueprint Action 8

Task	Percent Complete	Accomplishments since 2022	Ongoing Work
8-1: Monitoring Implementation	50%	Monitoring plan & implementation workplan complete	Landowner outreach, contracting, data collection!
8-2: Restoration effects on plants & animals	90%	Methods (SOPs) for monitoring fish, vegetation, hydrogeomorphology	Coordination with State of the Birds, continued development of SOPs
8-3: Funding	80%	New funding from EPA Program Office & Wetland Program Development Grant, SF Bay Restoration Authority, monitoring cost assessment	Upcoming funding request to SF Bay Restoration Authority, strategizing local funding options
8-4: Human dimensions & equity	70%	Equity & engagement strategy*, community-engaged monitoring report*, People & Wetlands indicators identified	People & Wetlands survey, StoryMap, EcoAtlas dashboard
8-5: Bay-Delta coordination	50%	Coordination with Interagency Ecological Program	Sea Grant fellowship project (Hannah Kempf), Bay-Delta restoration synthesis project

*Publication pending

Thank you!

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Extra slides

WRMP Monitoring Program Envisioned

Restoration Authority Funding

- Through June 2025

EPA Funding

- \$5M - Two Years
- \$17M - Five Years

Sept. 2024

Regional-Scale	Habitat Map	New imagery for habitat map and change detection
	Elevation Map	New LiDAR (elevation and habitat map)
	Vegetation Alliance Map	
	Shoreline Change Map	Shoreline change going forward
Subregional-Scale	Horizontal/Vertical Control	Establish H/V control at Benchmark and Reference Sites
	Water Surface Elevations	Targeted special studies
	Surface Water Salinity	
	Suspended Sediment Concentrations	Coordinate with Bay RMP
	Dissolved Oxygen	
Site-Scale	CRAM	CRAM Surveys to Build Network
	Photopoint Monitoring	Photopoint monitoring stations
		Community-engaged photo point monitoring
	SET-MHs	Monitor regional SET Network and add a site per year
	MH Transects	Transect monitoring at Priority Benchmark, Reference, and Project Sites (1 per network = 18) - Veg cover, Elevation (RTK or Total Station), MH (establish first year and monitor biannually)
	Elevation Transects	
	Vegetation Transects	
	Transition Zone vegetation transects	Transition zone Veg monitoring at Benchmark Sites
	Porewater Salinity	Collected at vegetation transect locations
	Fish and Fish Habitat Monitoring	Fill gaps in regional fish monitoring; pilot FFH SOP at project site
	Bird Monitoring	Support Workgroup and possible future monitoring
	Mammal Monitoring	Support Workgroup and possible future monitoring
	Human Dimensions Monitoring	Human dimensions monitoring identified by the People & Wetlands Workgroup (visitation & belonging, stewardship)
Community-Engaged Monitoring	Community-engaged monitoring identified through the WRMP Equity & Engagement Strategy (natural history stewards program, others TBD: options include community-engaged water quality sampling, CRAM workforce development)	
Any	Special studies	Special Study and Workgroup Funds -TBD



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