

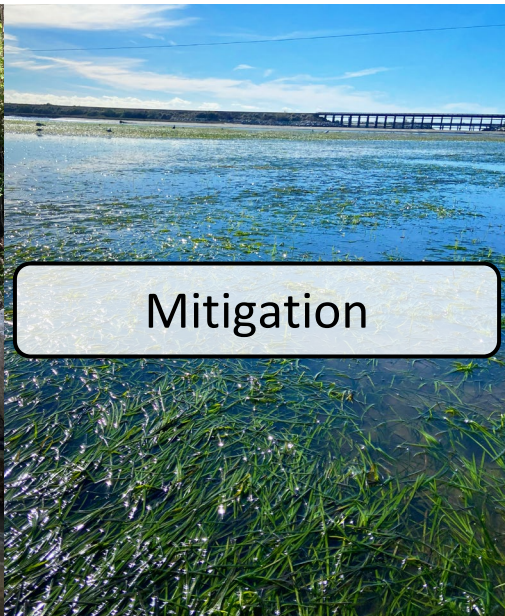
# Statewide and Regional Estuary Monitoring Program

Dr. Jan Walker  
Commission  
December 6, 2024



Estuaries are the receiving waters for both riverine and marine systems.

**Many management decisions affect what happens in estuaries.**



We currently have no way to evaluate the effects of those decisions on estuaries.

No consistent assessment framework

No standard operating procedures

No ability to contextualize one system

No ability to understand regional patterns

No mechanism to understand the bigger picture



We built upon our core mission of regional monitoring to develop an **Estuary Monitoring Program**.

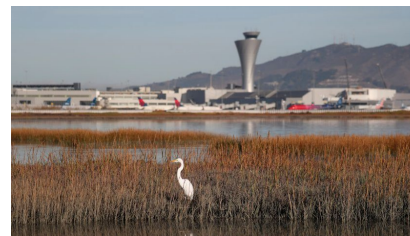
State



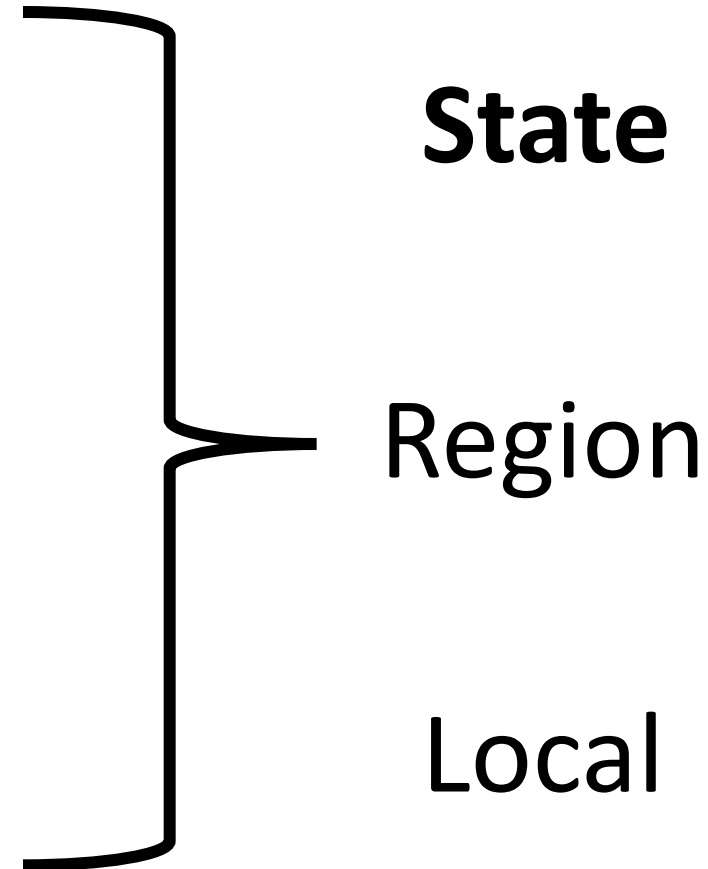
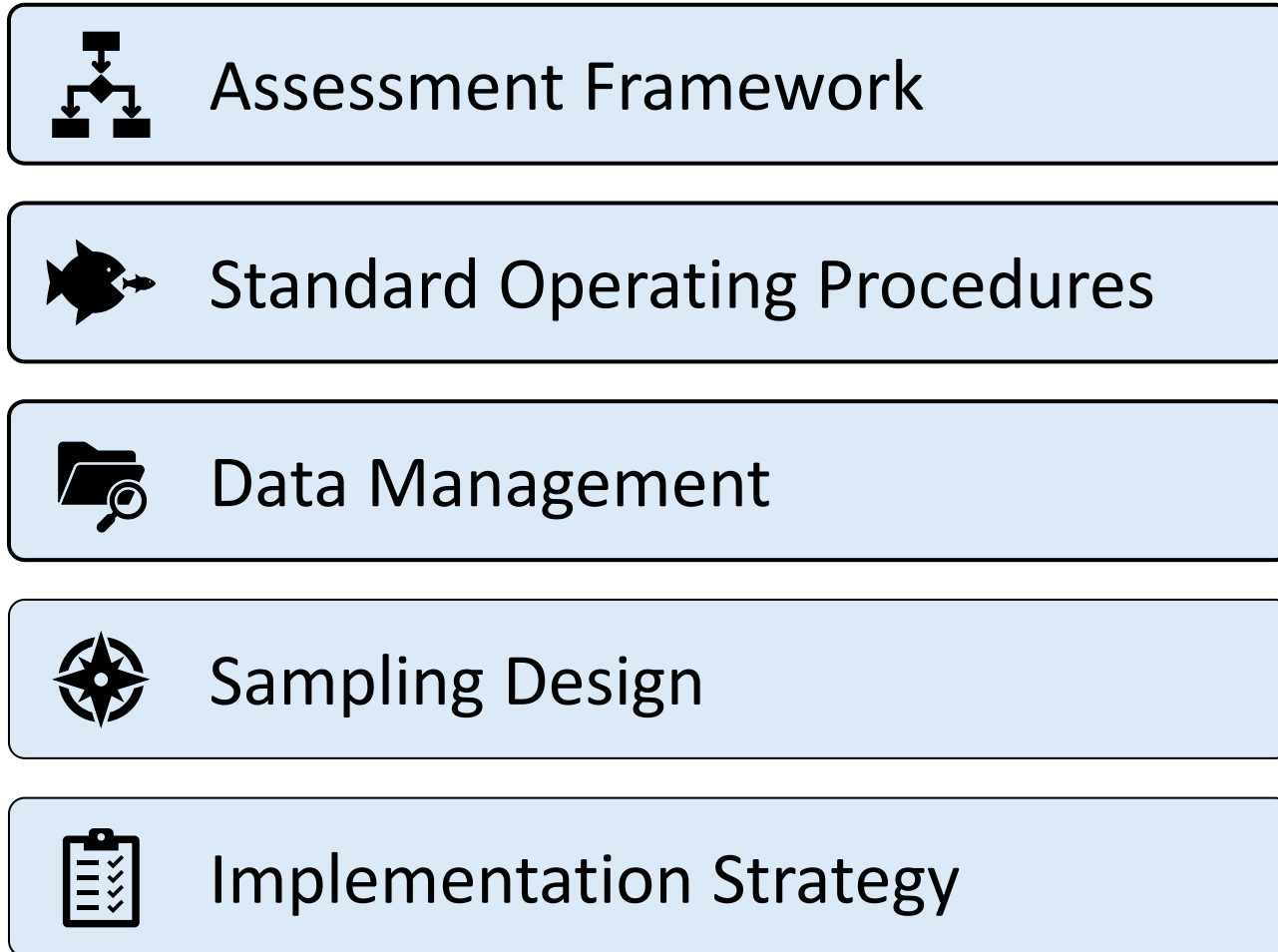
Regional



Local



This program consists of several elements that together can address key management issues.



The **EMPA Monitoring Program** is an ongoing effort to assess the quality and condition of estuaries in California.

1. Monitor estuaries with a standard, comprehensive **function-based assessment**
2. Create an assessment framework that is **modular, flexible, and adaptable**
3. Develop an **integrated, user-friendly data management system**



**EMPA**  
Monitoring Program



**OCEAN  
PROTECTION  
COUNCIL**

1. Monitor estuaries with a standard, comprehensive **function-based assessment** to determine the health of California's estuaries.

- The underlying principle is that all estuaries should provide a variety of ecological functions at some ideal rate in the absence of anthropogenic disturbance and alteration.

Primary Production	Bird Habitat Provision
Secondary Production	Shellfish Support
Nutrient Cycling	Support of Vascular Plants
Nekton Habitat Provision	SLR Amelioration
Nursery Habitat Provision	

## 2. Create an assessment framework that is **modular, flexible,** and **adaptable** to accommodate different programmatic needs.

- **Modular:** Programs or agencies can prioritize functions for inclusion based on program needs and estuary type.
- **Flexible:** Multiple indicators can be used to assess a given ecological function.
- **Adaptable:** Functions can be added over time.

		Indicators		
		Water quality	Sediment nutrient concentration	General community composition (eDNA)
Functions	Nekton Habitat	■		■
	Primary Production	■	■	
	Secondary Production	■	■	■

Green squares represent the indicators that can be used to evaluate function

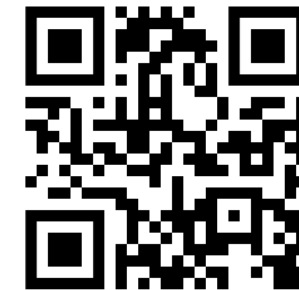


<b>SOP</b>	<b>Indicator</b>	<b>Collection Method</b>
1/2	Water quality: PH, temperature, DO, salinity Water Elevation	Continuous data sensors YSI
3	Sediment nutrient concentration	Sediment cores – TOC/TN
4	General community composition (eDNA)	Water grabs - eDNA Sediment grabs
5	Sediment characteristics	Sediment cores - grainsize
6	Benthic infauna community (small and large)	Sediment cores
7	SAV and Macroalgae surveys	Transects
8/9	Fish community	BRUVs Fish seines
10	Mobile invertebrate community	Traps
11	Marshplain vegetation community	Transects
12	Topographic complexity	RTK surveys
13	Sediment accretion	Feldspar plots
	General habitat condition	CRAM

# 3. Develop an integrated, user-friendly data management system to increase transparency, accessibility, and quality control.

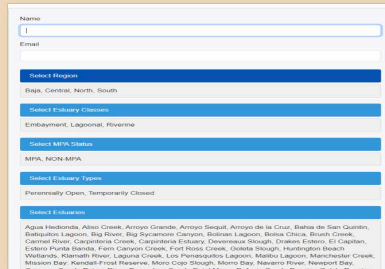


<https://empa.sccwrp.org>



## Data Download

Use the *Advanced Data Retrieval Tool* to filter and download data

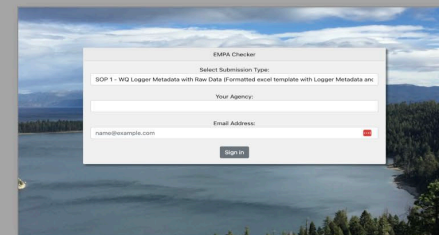


### Advanced Data Retrieval

Filter your data download with the EMPA Advanced Data Retrieval Tool. According to SCCWRP's data protocol, this tool is undergoing a QAQC process and is therefore password-protected. If you need access to this tool, please email Jan Walker at [janw@sccwrp.org](mailto:janw@sccwrp.org). When the process is complete, this tool will be released to the public.

[View Data Retrieval Tool](#)

## Data Submission

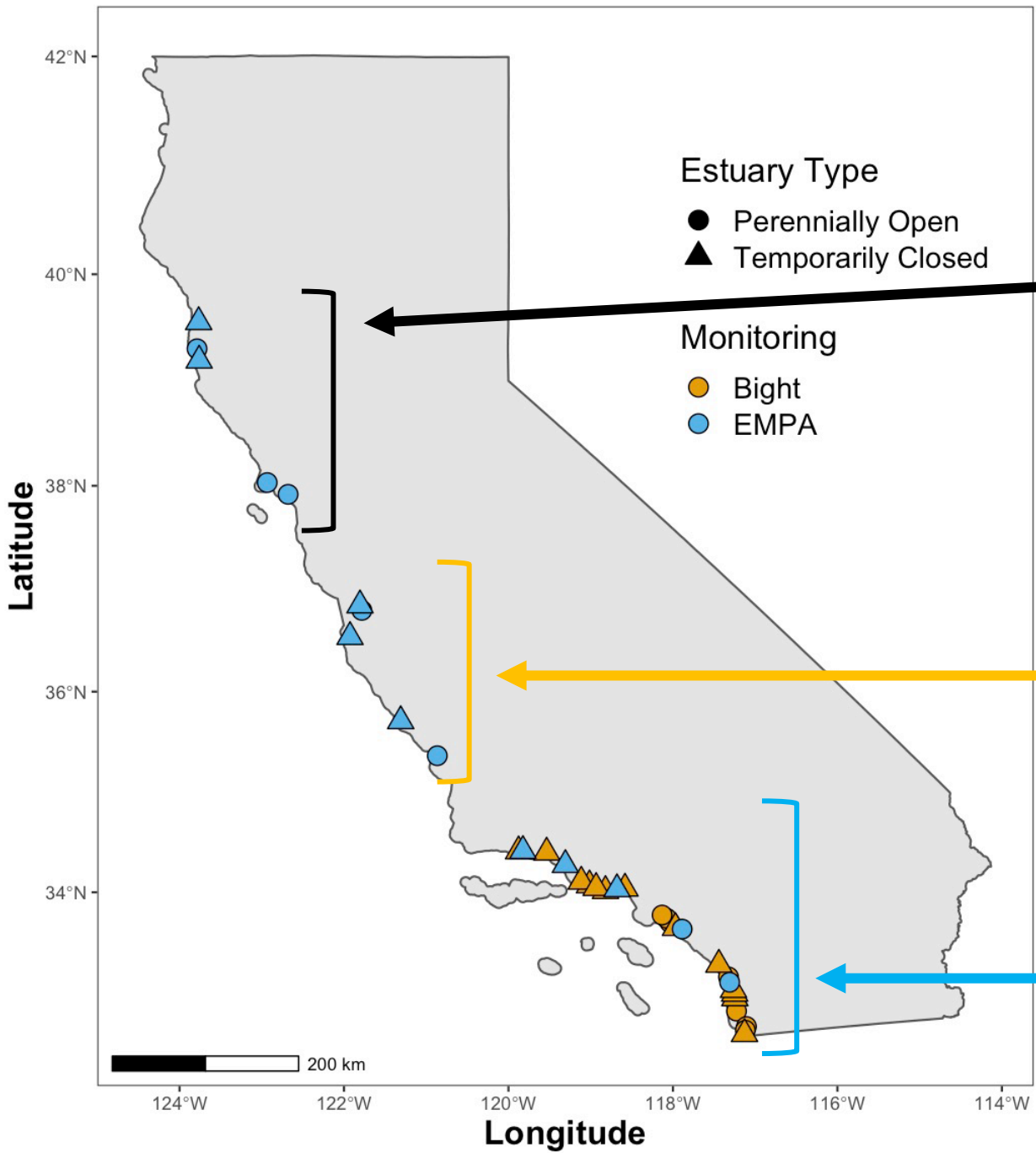


### Data Submission Checker

Check your data with the Data Submission Checker tool to ensure that your filled-out template file matches out database structure.

[View Checker Tool](#)

Consistent monitoring:  
15 sites since 2021



North



Central



Biological Sciences



South

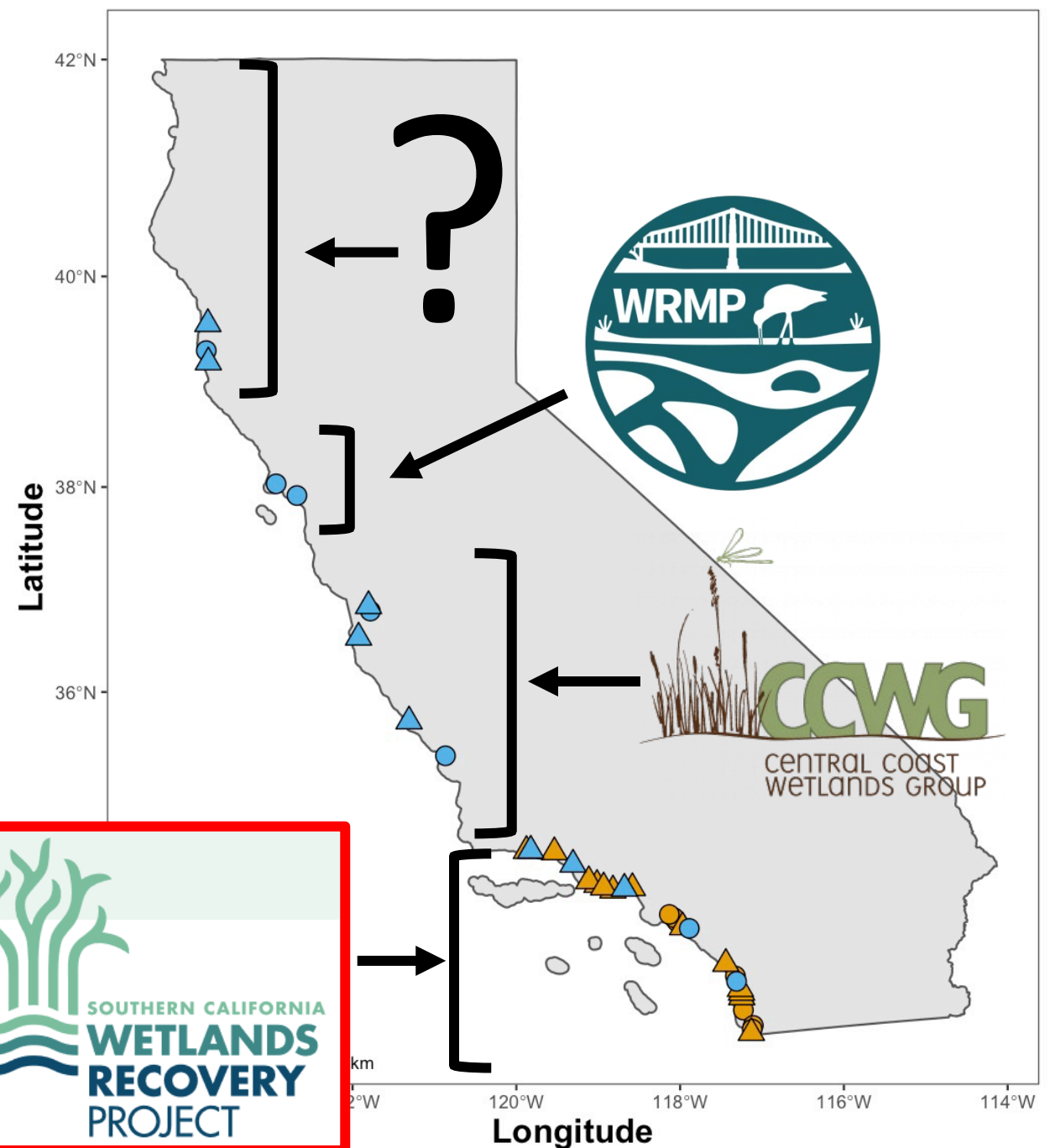
Our vision for implementation is via state-regional-local partnerships.

1. State coordination via the California Estuary Monitoring Workgroup

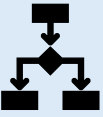




2. Program management via a single entity (e.g., SCCWRP, SFEI, CCWG)

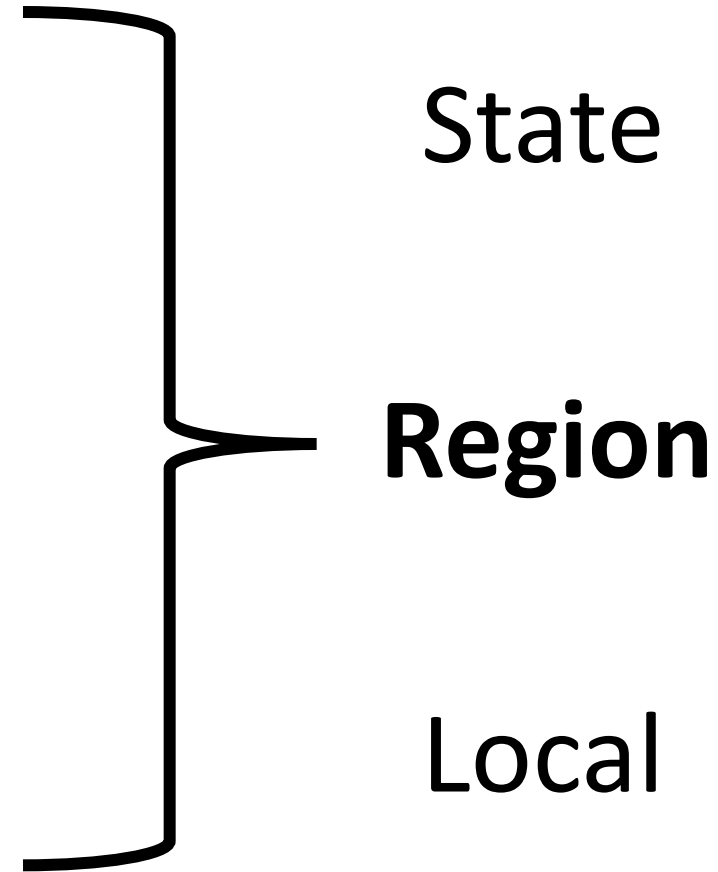
3. Regional science management and monitoring

4. Local implementation via project-based monitoring

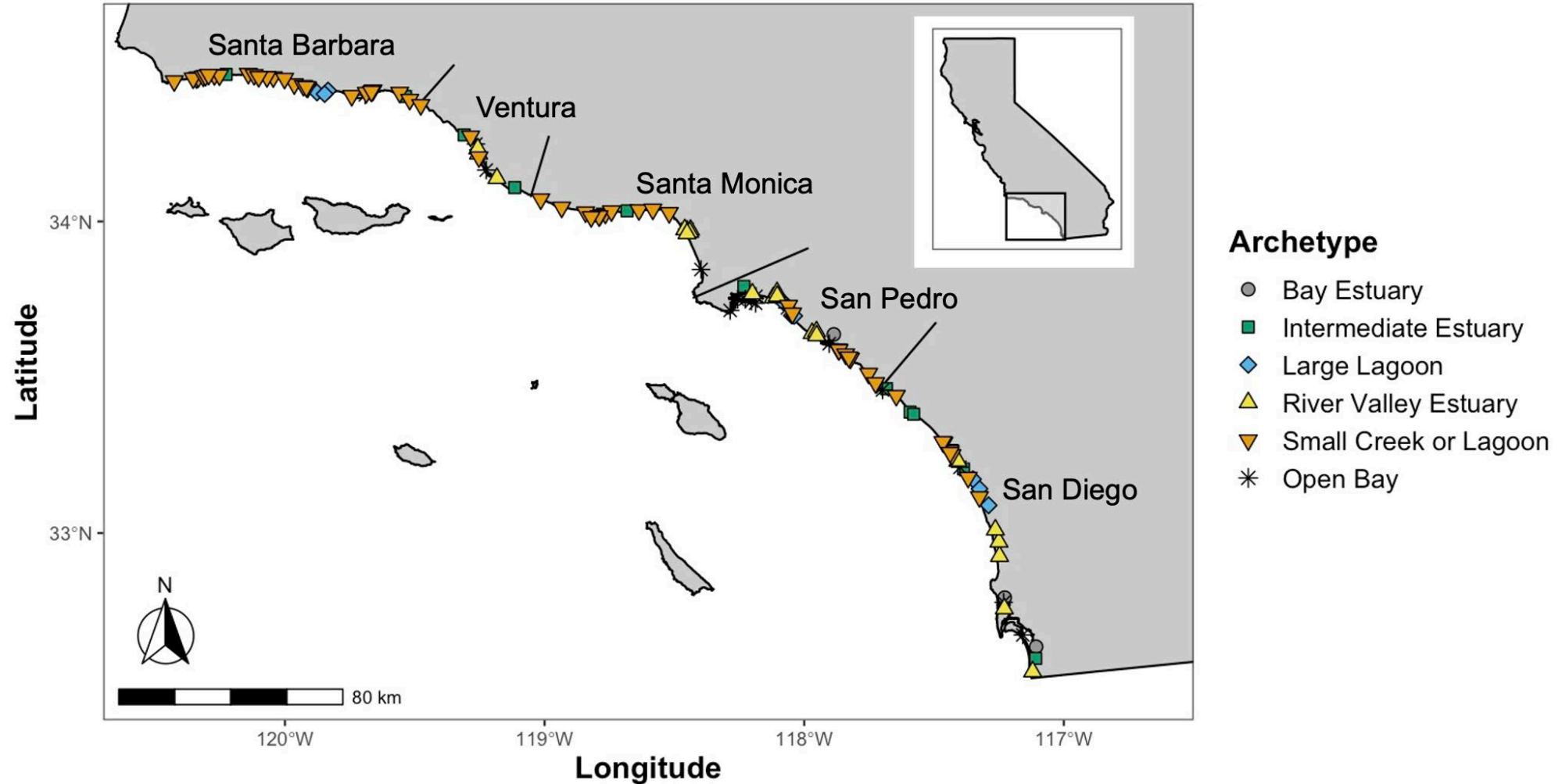


This program consists of several elements that together can address key management issues.

-  Assessment Framework
-  Standard Operating Procedures
-  Data Management
-  Sampling Design
-  Implementation Strategy



The **WRP Regional Monitoring Program** is an ongoing effort to assess southern CA coastal wetlands.

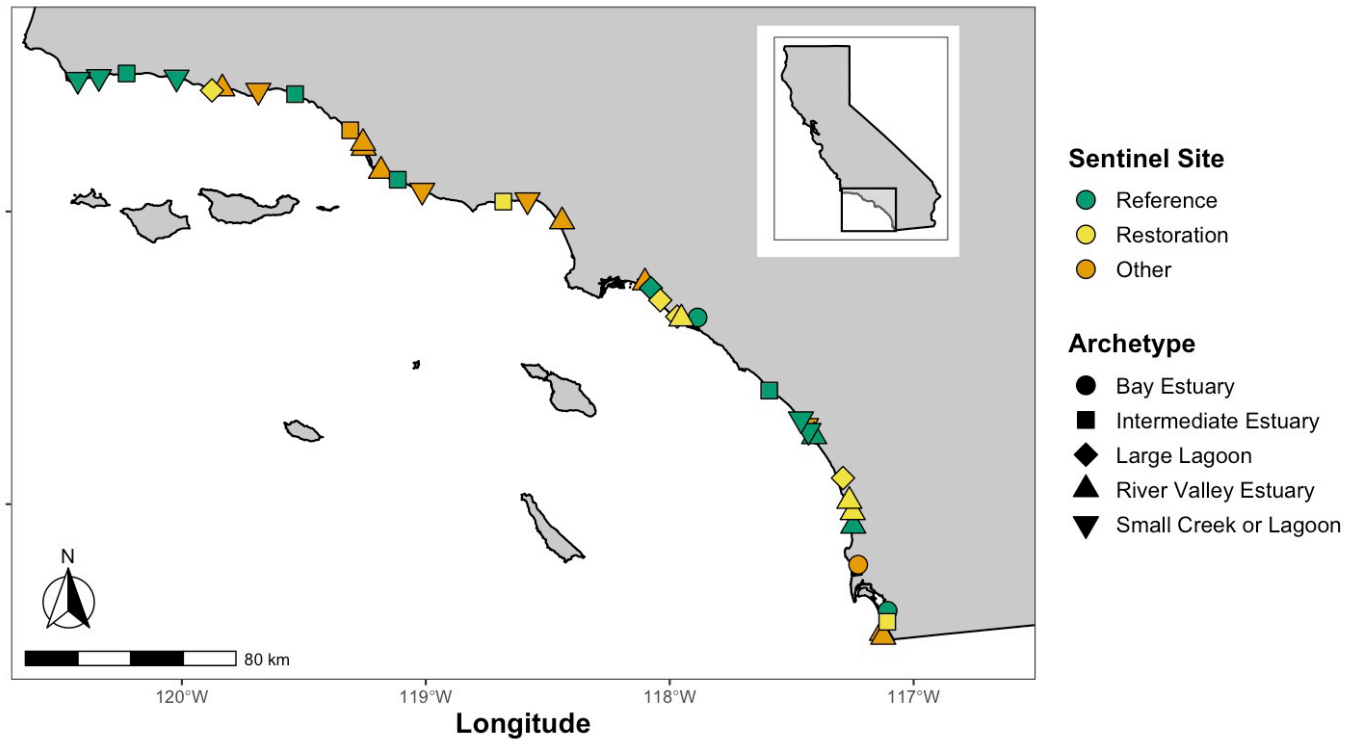


The WRP RMP will **leverage the statewide tools** to address regional goals and questions.

1. Assess progress toward reaching WRP goals for coastal wetland recovery
2. Track the collective condition of coastal wetlands in the region
3. Support implementation of permitting and grant funding program



A **sentinel site network** will be used to provide a consistent frame of reference.



## Development of a Coastal Wetland Sentinel Site Network

*Assessing Wetland Recovery: Building Capacity to Understand and Support Regional Wetland Health and Resilience*



Product of  
The Wetland Recovery Project Scientific Advisory Panel

September 2024  
Technical Report #1393.A





Implementation of the WRP RMP will consist of...

## Leveraging the state program



## Agency Programs



## Bight Regional Monitoring



Guidance documents will be provided on suggestions for how to incorporate RMP elements into permit and grant monitoring.

How to select appropriate comparator sites

Using sentinel site network

Support development of monitoring plans

Consistent with regional plan and associated tools

Support development of performance criteria

Leveraging data compiled through the regional program

Improve access to data

Use already established regional data portal

✓ Lower Cost

✓ Increase Efficiency

✓ Improve Decision Making

Implementation of the WRP RMP will consist of...

## Leveraging the state program



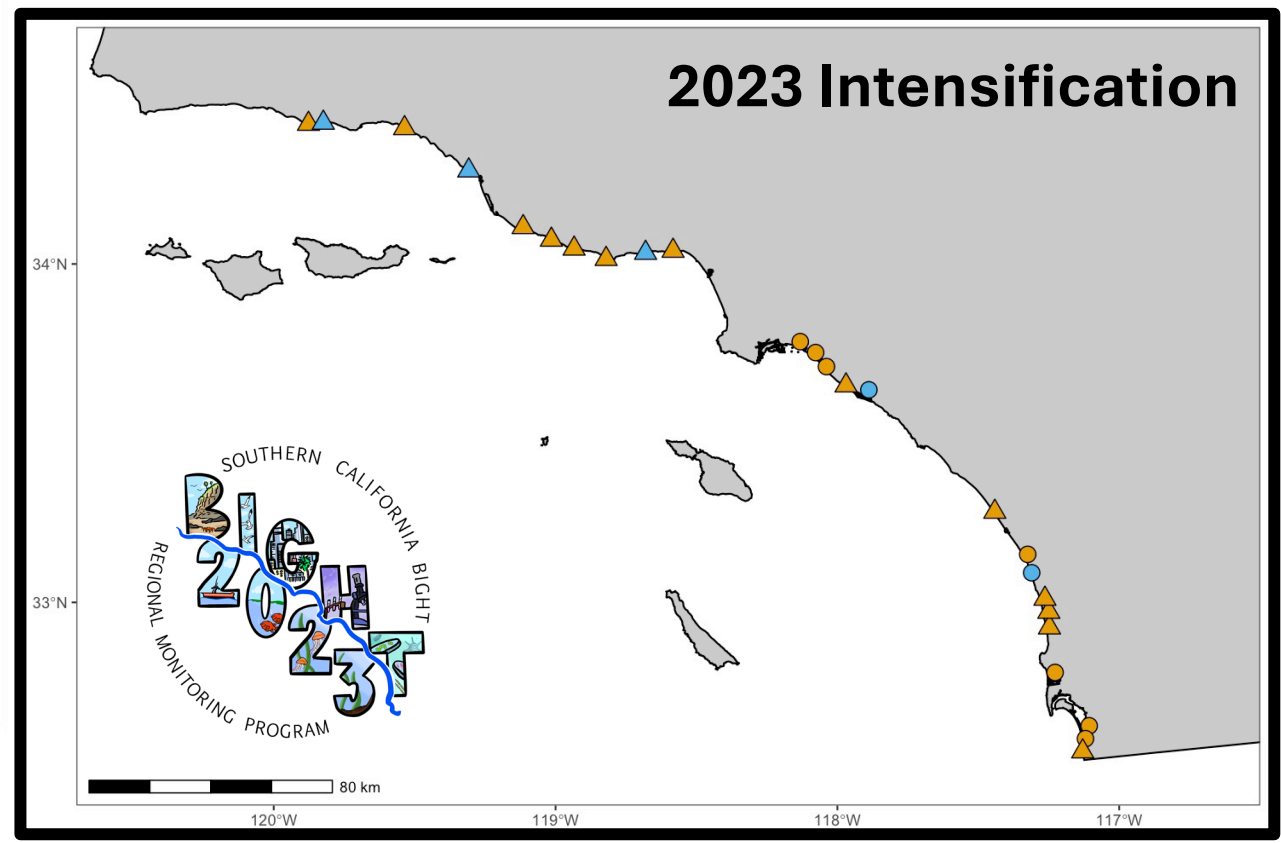
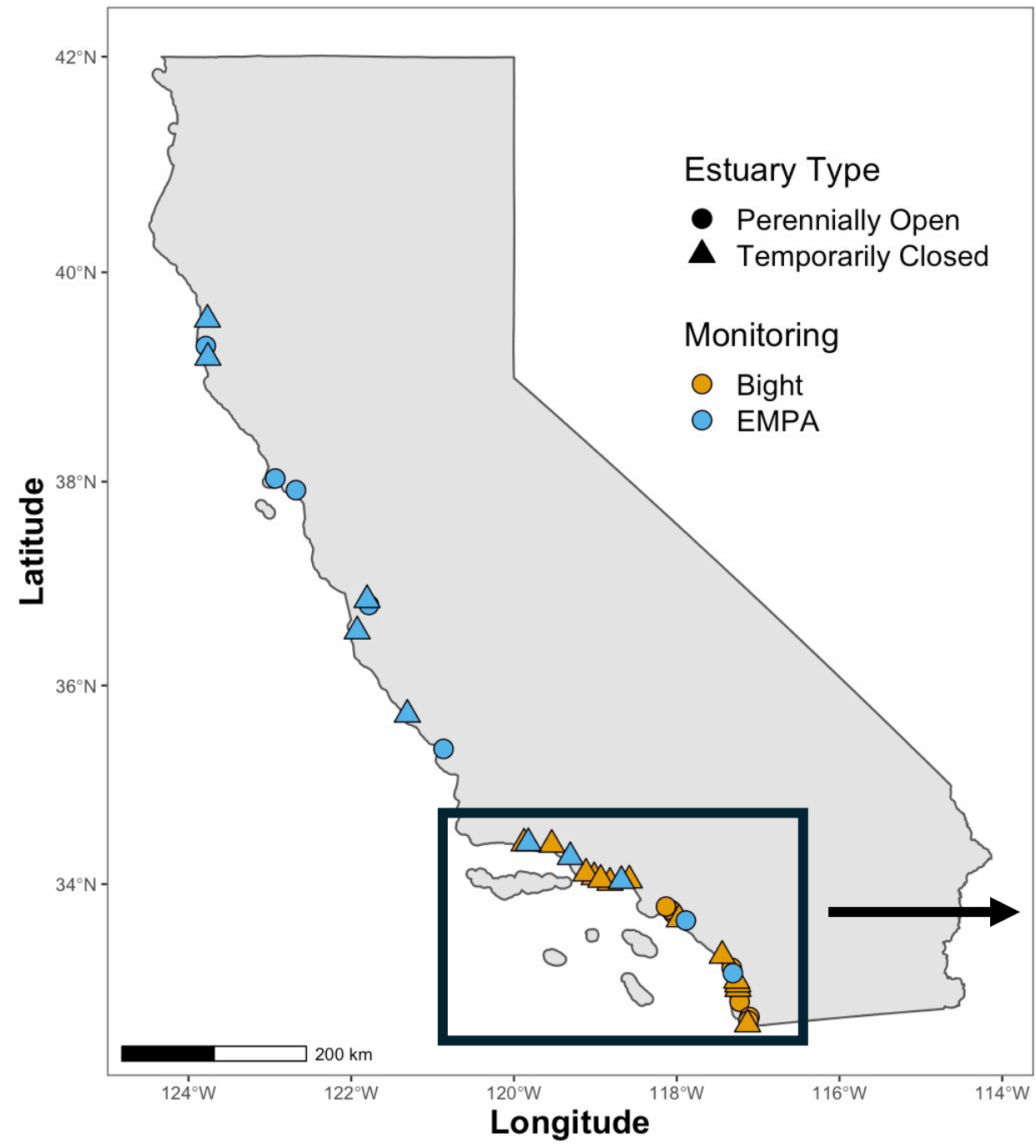
## Agency Programs



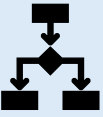




## Bight Regional Monitoring

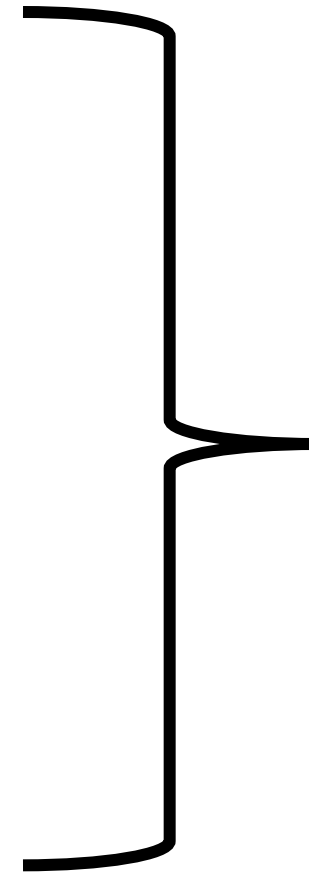


The Bight program will monitor the sentinel site network every 5 years.



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State



EMPA  
Monitoring Program

Region



Local



The **Los Cerritos Wetlands Restoration** will utilize the WRP RMP to demonstrate project-specific application.

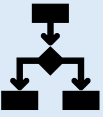



1. Comparator site selection
2. Monitoring approach
3. Core indicators and SOPs
4. Data analysis framework
5. Data management tools

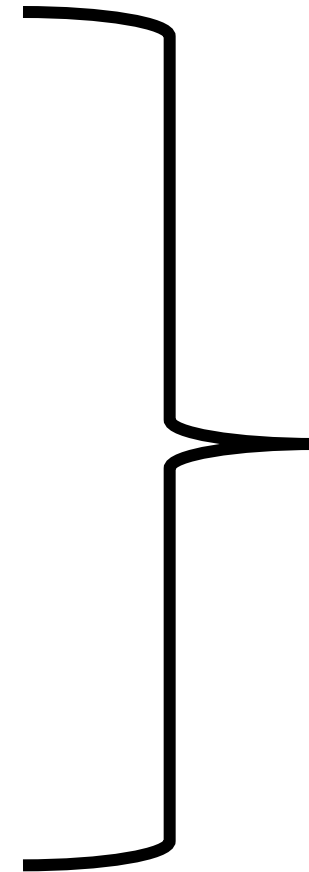


EILEEN DELROSARIO



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State



EMPA  
Monitoring Program

Region



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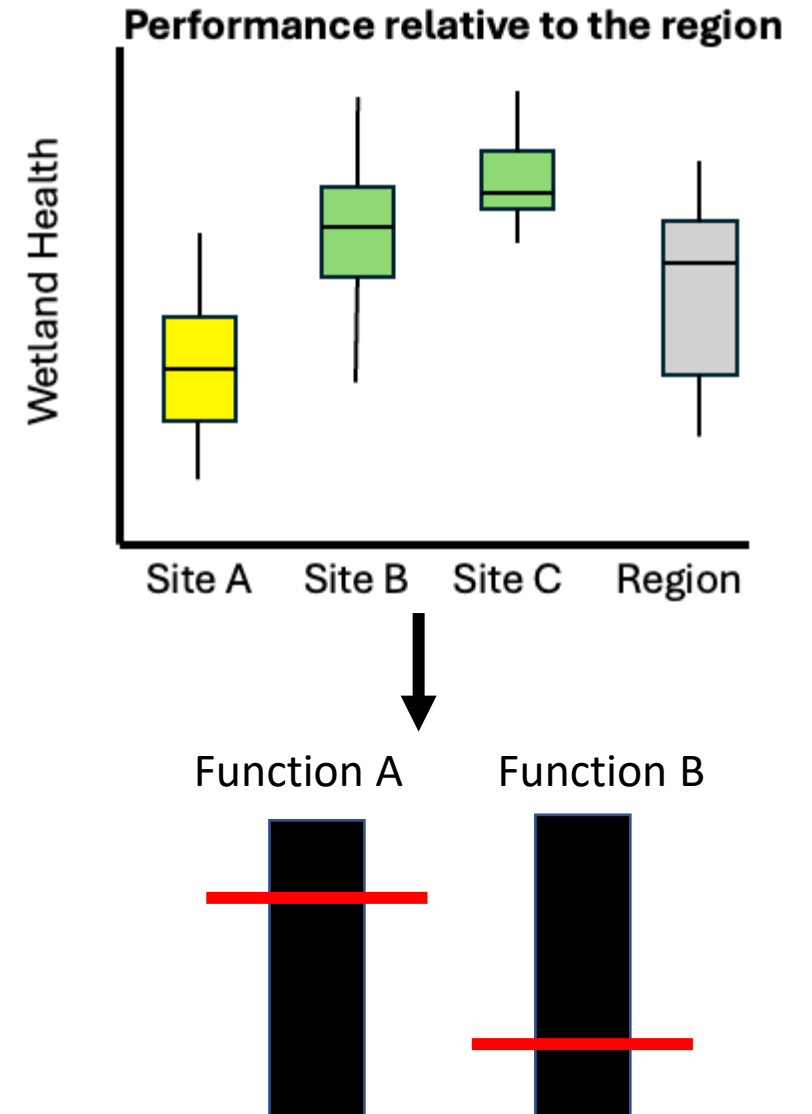


# Where are we going to next?

1. Functional assessment dashboard and toolkit

2. Index development

3. Training and outreach



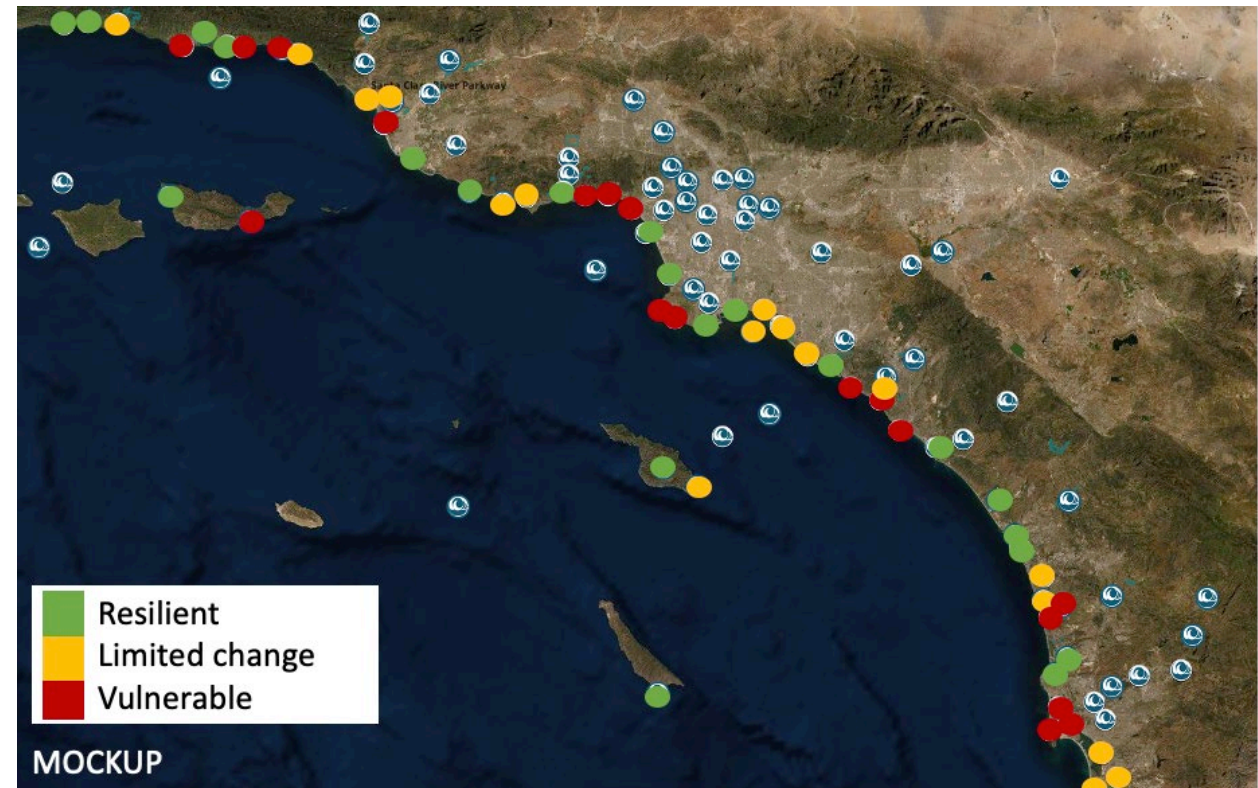


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