

# California Wetland Monitoring and Assessment

## Outline of the Technical Plan

Version 3  
October 13, 2008

California Wetland Monitoring Workgroup

# Existing Monitoring Efforts

SFEI updates the California Monitoring, Assessment and Research Program (CMARP) of CalFed.

Working Group members participate in national and western state wetland monitoring program planning.

Over 600 California environmental monitoring and research programs or projects have been identified.

These programs include a wide range of federal, state, municipal, and local programs.

## ***California has no wetland monitoring program***

*For wetlands, there is no institutionalized process of standardized data collection, management, analysis, interpretation, and reporting with stable annual funding to assess ambient condition or to compare projects.*

## Looking to the Future

There are many technical tools being developed specifically to increase the capacity of California to monitor wetlands, riparian areas, and related projects.

This technical plan is based on wetland programs from other states, water quality monitoring in California (SWAMP), and detailed USEPA guidance (April 2006).

# The Council's 6 Factors

1. Program strategy, objectives, & design
2. Consistency of indicators, methods, & QA
3. Data management infrastructure & procedures
4. Assessment methods & endpoints
5. Reporting capability
6. Sustainability

# 1. Program strategy, objectives, & design

## Strategy

- Focus on questions arching over all the State wetland policies and programs
- Implement through existing programs
  - state permits, grants, and contracts
  - coordinated regional centers
- Emphasize public access to information

## Overarching Questions

what wetland managers, regulators, scientists, and the concerned public need to know

- *Where are the wetlands and how are they doing?*
- *What about the policies, programs, and projects for protecting wetlands – are they working?*

## Same questions can be translated in terms of existing policies and programs

- *CWA 305b report: what are status and trends of wetlands as surface waters of the State?*
- *Governor's Executive Order W-59-93: What is the net change in the distribution, abundance, and condition of wetlands?*
- *401/WDR: are wetland projects protecting the uses and services of State waters?*
- *CWA 404: are mitigation projects compensating for unavoidable wetland losses?*

## Objectives

- Track ambient wetland and riparian extent and condition
- Support and assess wetland protection policies, programs, and projects
- Increase public access to authoritative data and information
- Build on existing monitoring efforts
- Minimize costs

## Design

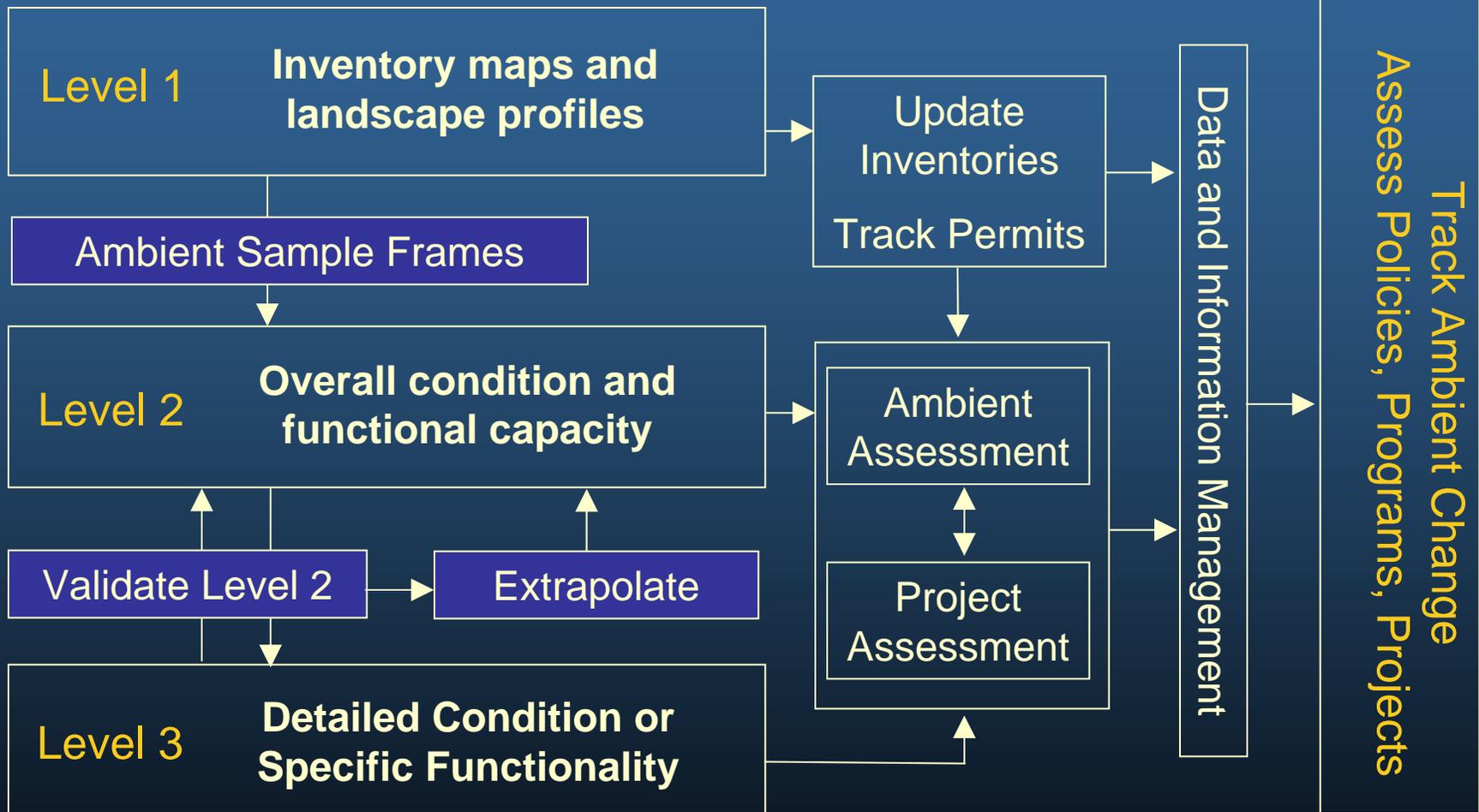
- Conduct probabilistic surveys of ambient condition (watersheds, regions, state)
- Compare projects to ambient condition as well as specific performance measures
- Maintain regional networks of reference sites
- Maintain “Observation Watersheds” to develop tools and test hypotheses

## 2. Consistency of indicators, methods, QA

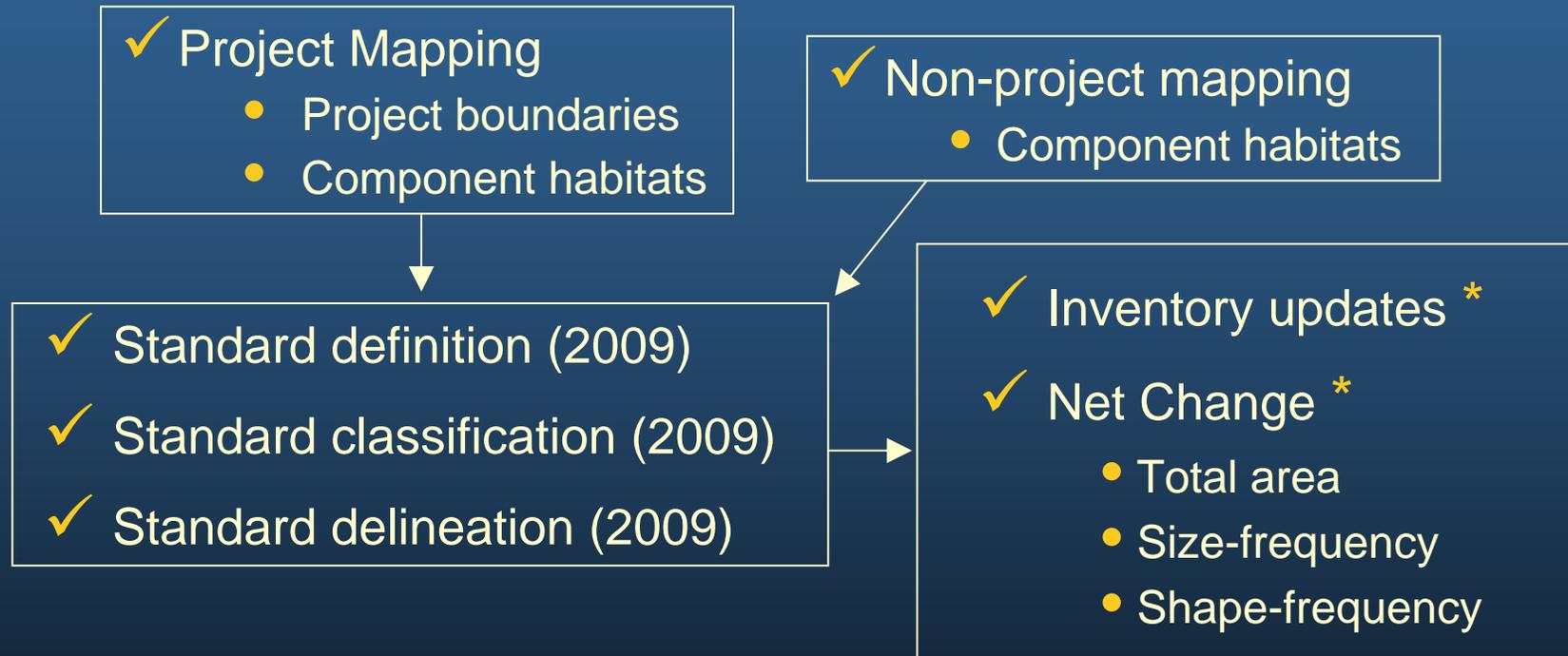
### Consistency of indicators

- USEPA 3-Level Framework

# USEPA Assessment Framework

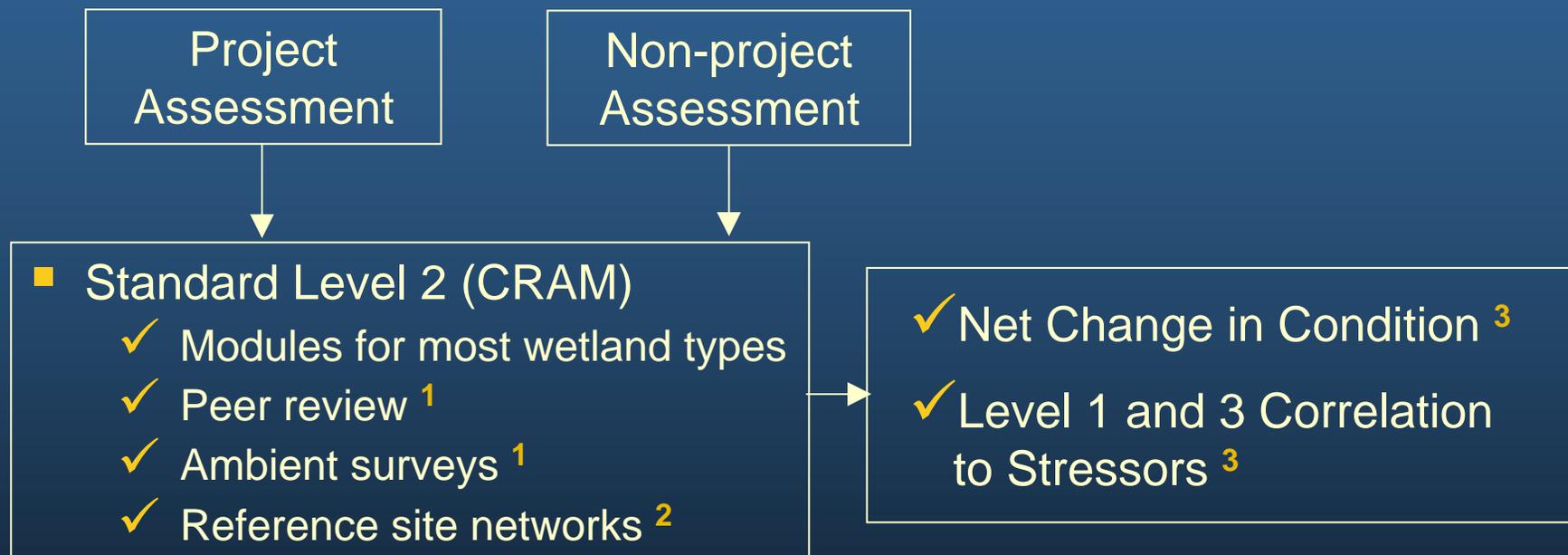


# Consistency of Level 1 methods: mapping and landscape profile



\* estuarine wetlands

# Consistency of Level 2 methods: assessing overall condition or functional capacity

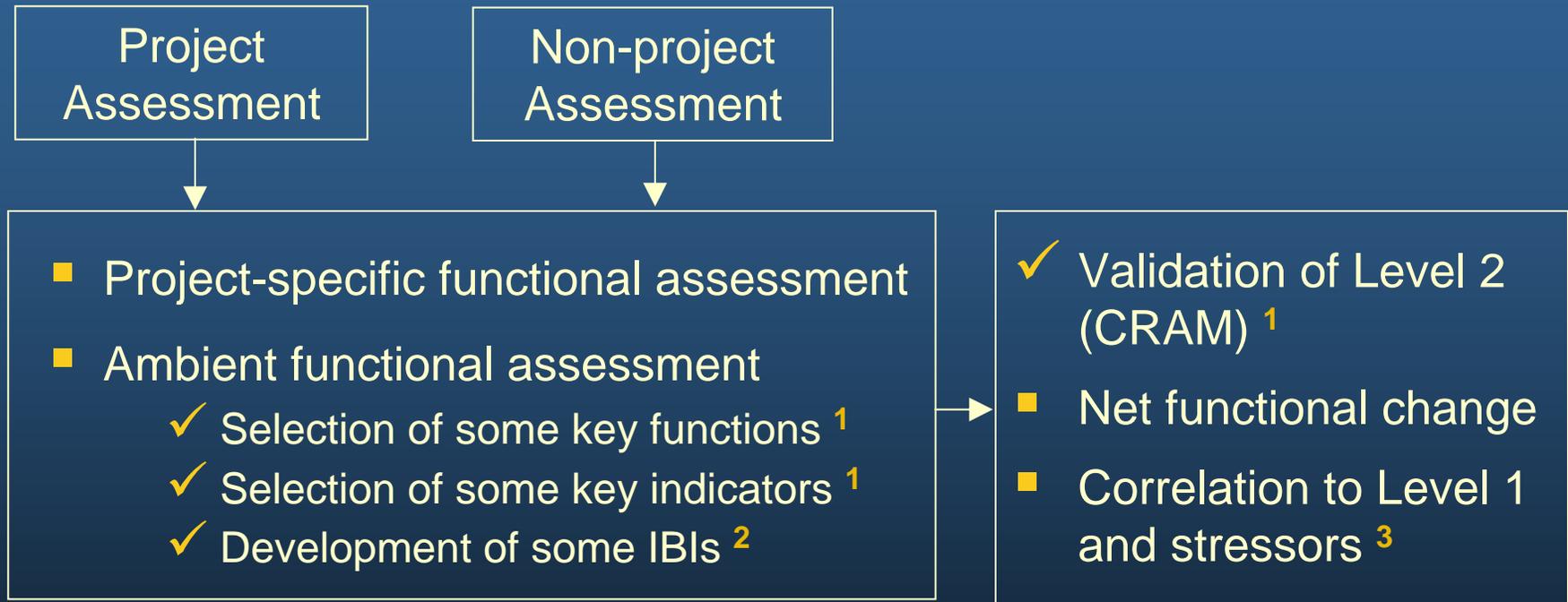


<sup>1</sup> estuarine and riverine wetlands (2009)

<sup>2</sup> estuarine, riverine, depressional wetlands, vernal pool systems (2010)

<sup>3</sup> estuarine wetlands (2008)

# Consistency of Level 3 methods: Assessing function or specific condition



<sup>1</sup> estuarine and riverine wetlands (2007-8)

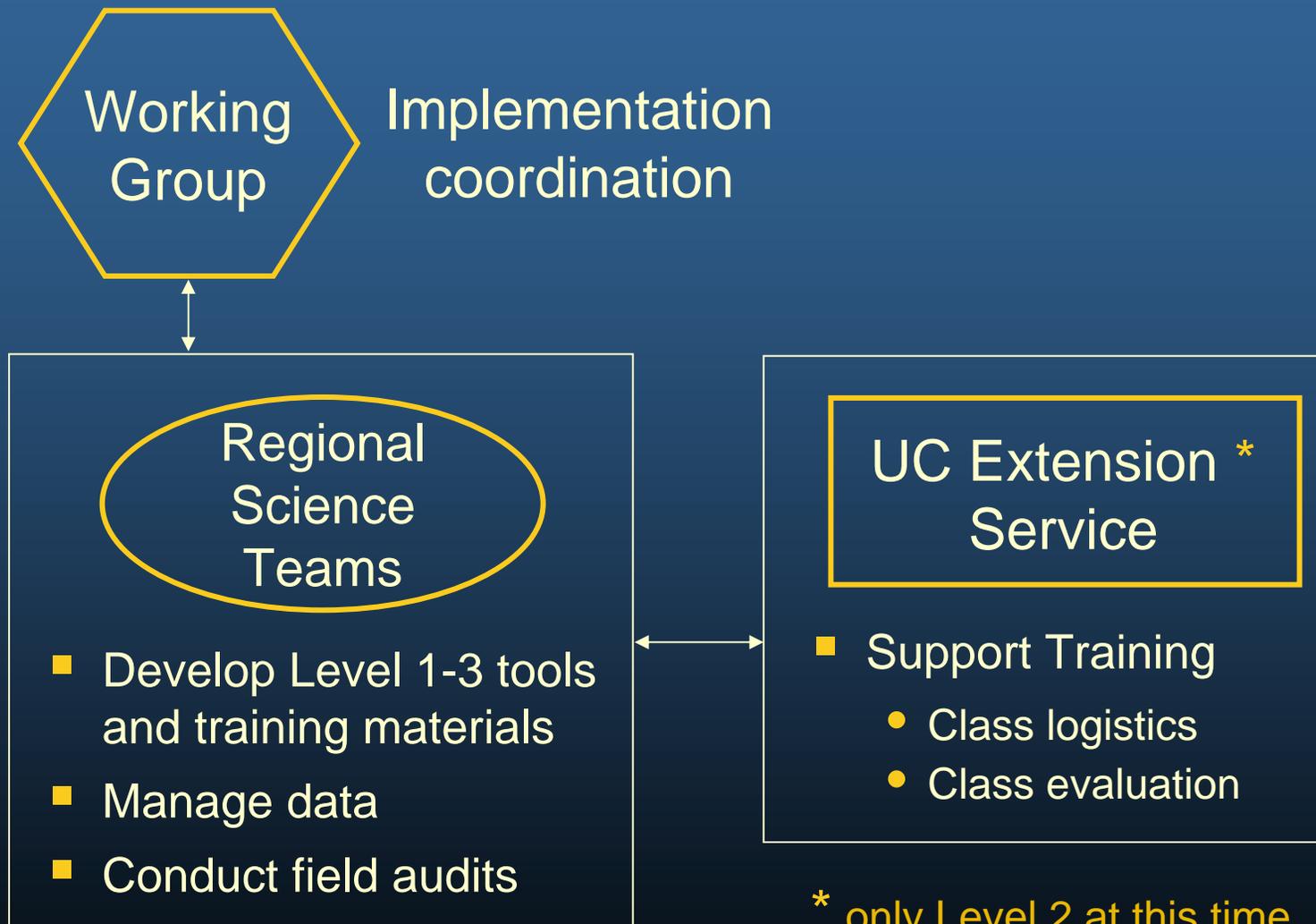
<sup>2</sup> riverine wetlands (PSA)

<sup>3</sup> estuarine wetlands (2008)

## QA

- Precision for ambient surveys and projects
  - ✓ Level 1 (all wetland types)
  - ✓ Level 2 (most wetland types)
  - ✓ Level 3 (a few methods)
- Regional networks of reference sites
  - ✓ Level 2 (half of wetland types 2009)
- Training curriculum and materials
  - ✓ Level 1 and Level 2 (most wetland types)
- Regional Audit Teams
  - ✓ Level 2 (half the coastal wetland types 2009)

# QA Organization: Coordinated Regional Teams

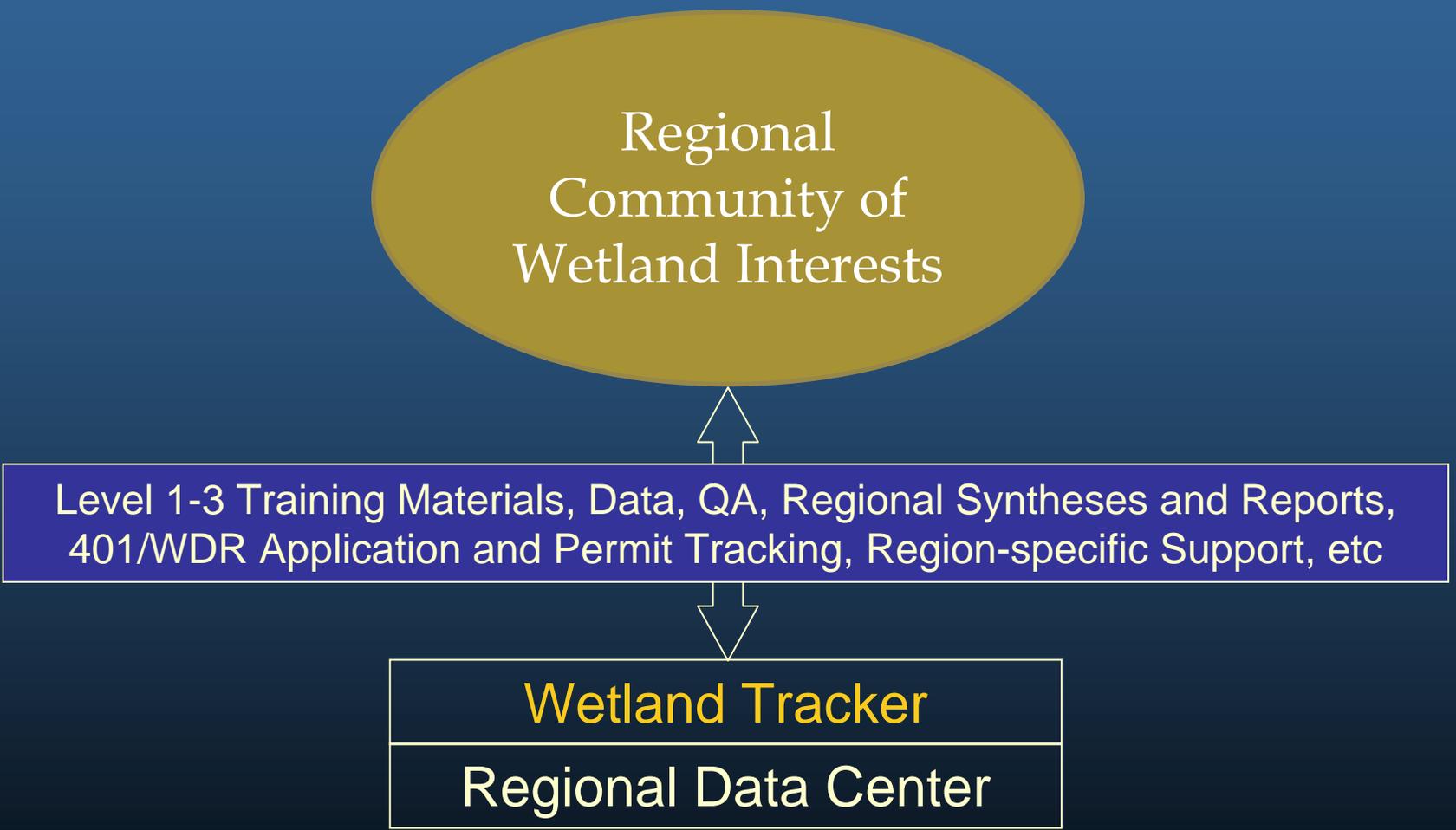


\* only Level 2 at this time

### 3. Data management infrastructure & procedures

- Regionalize monitoring and assessment
  - Regional expertise
  - QA close to data authors
  - SWAMP Data Centers
- Wetland Tracker as wetland “data portal”
  - ✓ Much invested already
  - ✓ Linked to 401/WDR, NWI, NHD, maybe ORM
  - ✓ Designed for 1-2-3 framework

# Regional Data Management Organization



```
graph TD; A([Regional Community of Wetland Interests]) <--> B[Level 1-3 Training Materials, Data, QA, Regional Syntheses and Reports, 401/WDR Application and Permit Tracking, Region-specific Support, etc]; B <--> C[Wetland Tracker]; C <--> D[Regional Data Center];
```

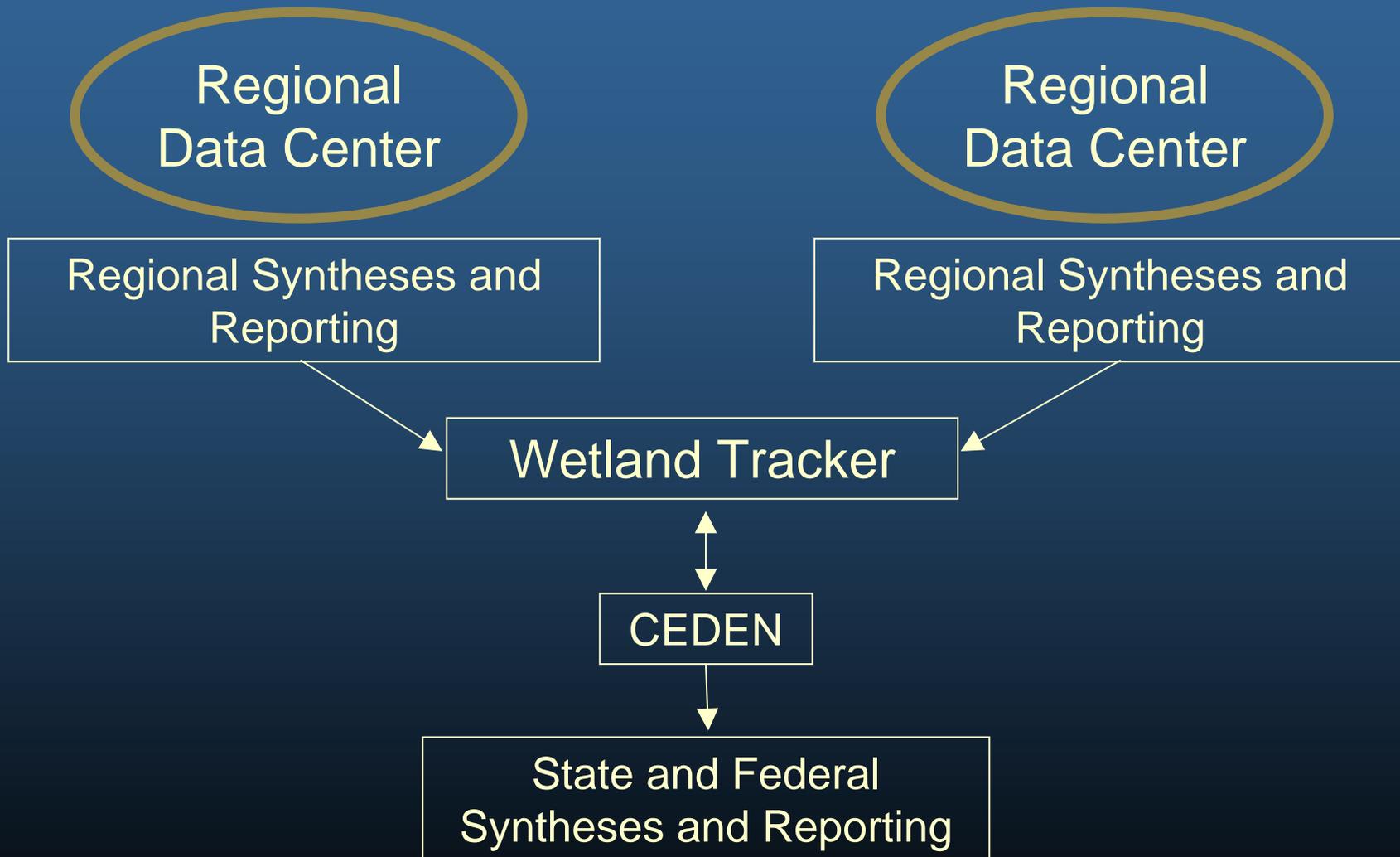
Regional  
Community of  
Wetland Interests

Level 1-3 Training Materials, Data, QA, Regional Syntheses and Reports, 401/WDR Application and Permit Tracking, Region-specific Support, etc

**Wetland Tracker**

Regional Data Center

# Inter-regional Coordination



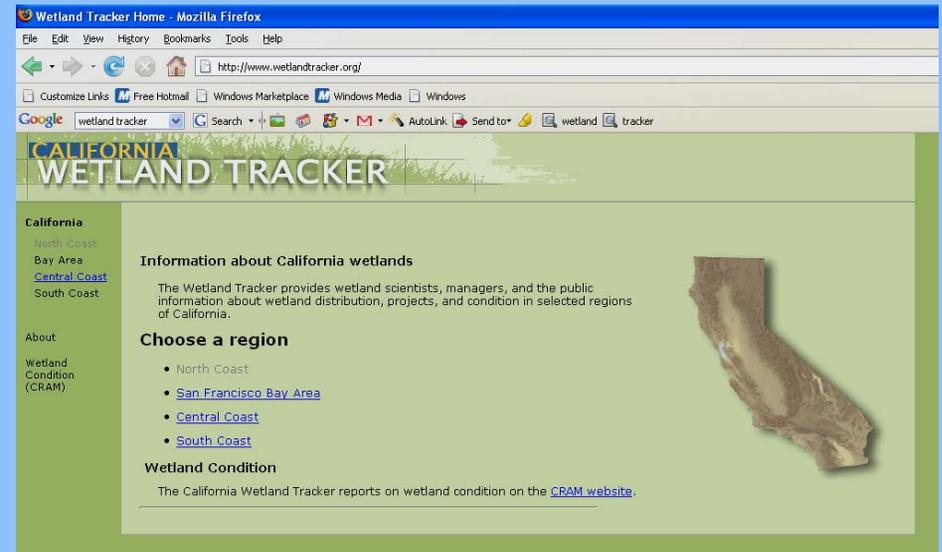
# Existing SWAMP Data Centers

UC Davis: *Grants Information*

SFEI: *RWQCB 1,2*

MLML: *RWQCB 3*

SCCWRP: *RWQCB 4,8,9*



# Wetland Tracker Content and Functionality

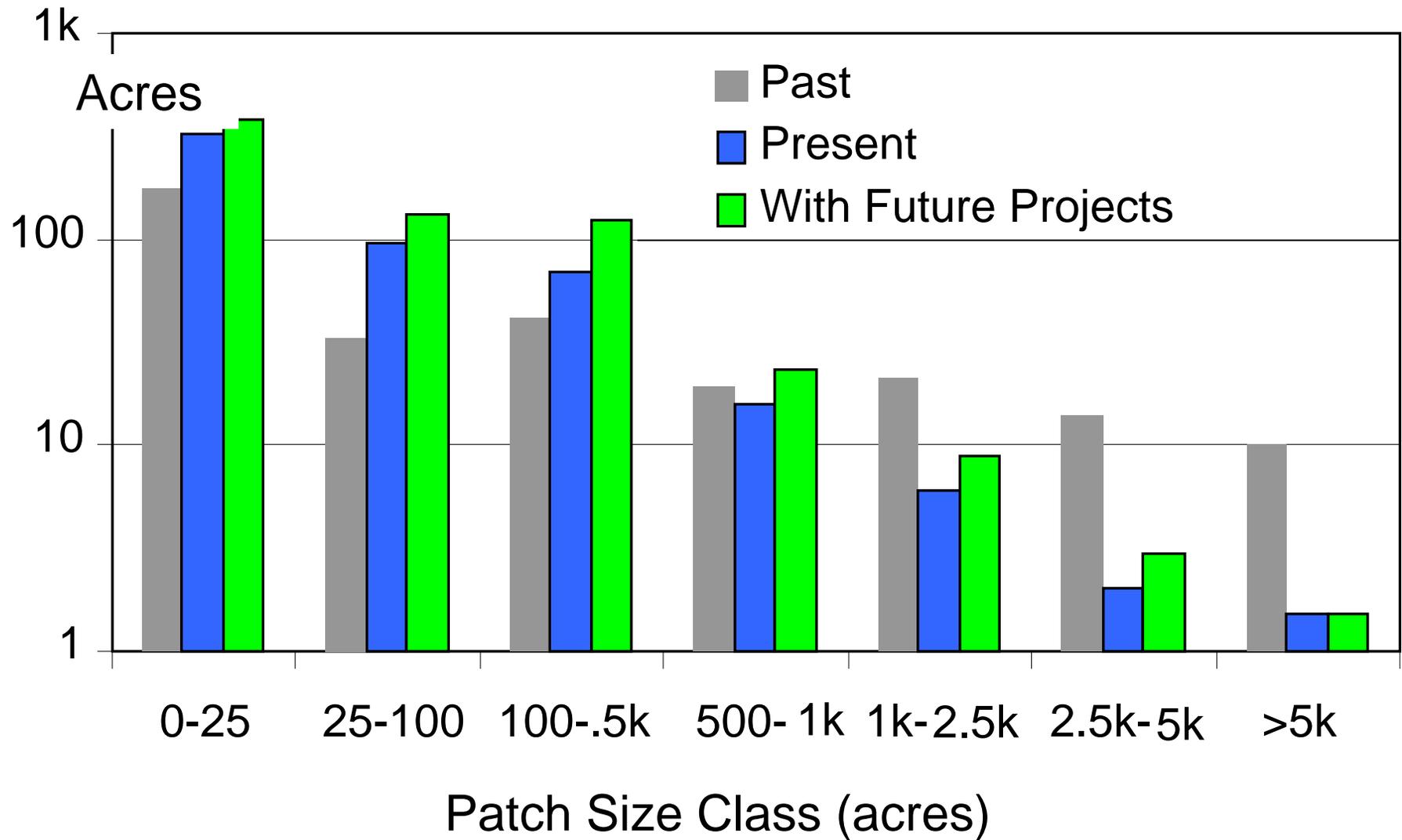
[www.wetlandtracker.org](http://www.wetlandtracker.org)

- ✓ Open source portal for information access and exchange among regional user communities
  - Place-based communication engenders public support
- ✓ 401/WDR Program IT support (2009)
  - Online application and permit tracking engenders agency support
- Map-based, user-defined queries (funds pending)
  - Level 1-3 data for projects and ambient surveys
  - Automated reports on status and trends
  - Data archive function engenders private sector support

## 4. Assessment methods & endpoints

- Standardized approaches to data analyses, interpretation, and reporting
  - ✓ Level 1 and Level 2 Guidance Documents (2009)
  - ✓ Regional Science Teams (So. Cal, Bay Area)
  - ✓ Draft Level 2 (CRAM) reporting format (2009)
- Wetland Standards (2011)

# Effect of Projects on Estuarine Wetland Size



**Analyzing Habitat  
Fragmentation**

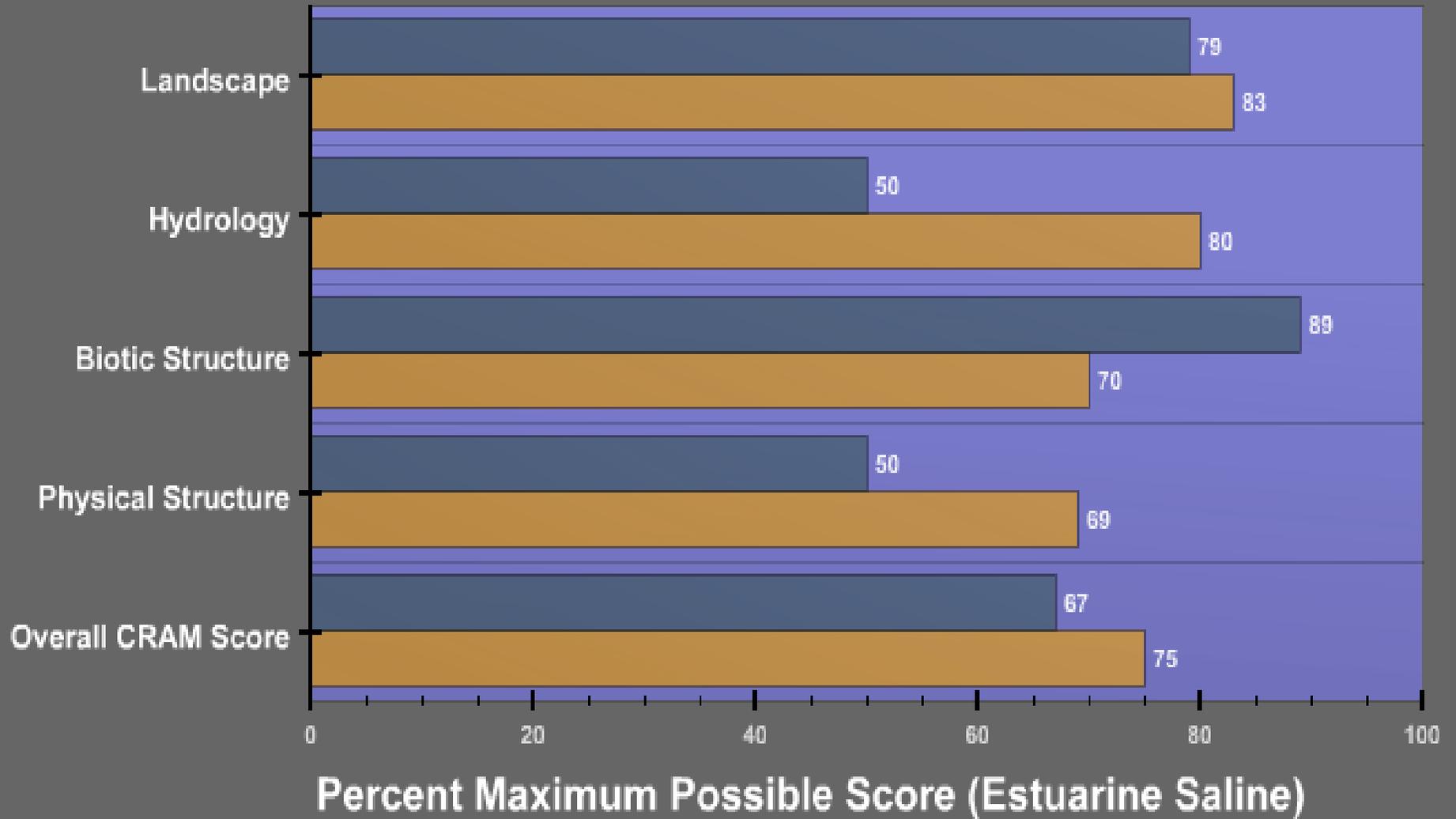
**Forecasting  
Climate Change  
Effects**

**Assessing 401/WDR  
Performance**

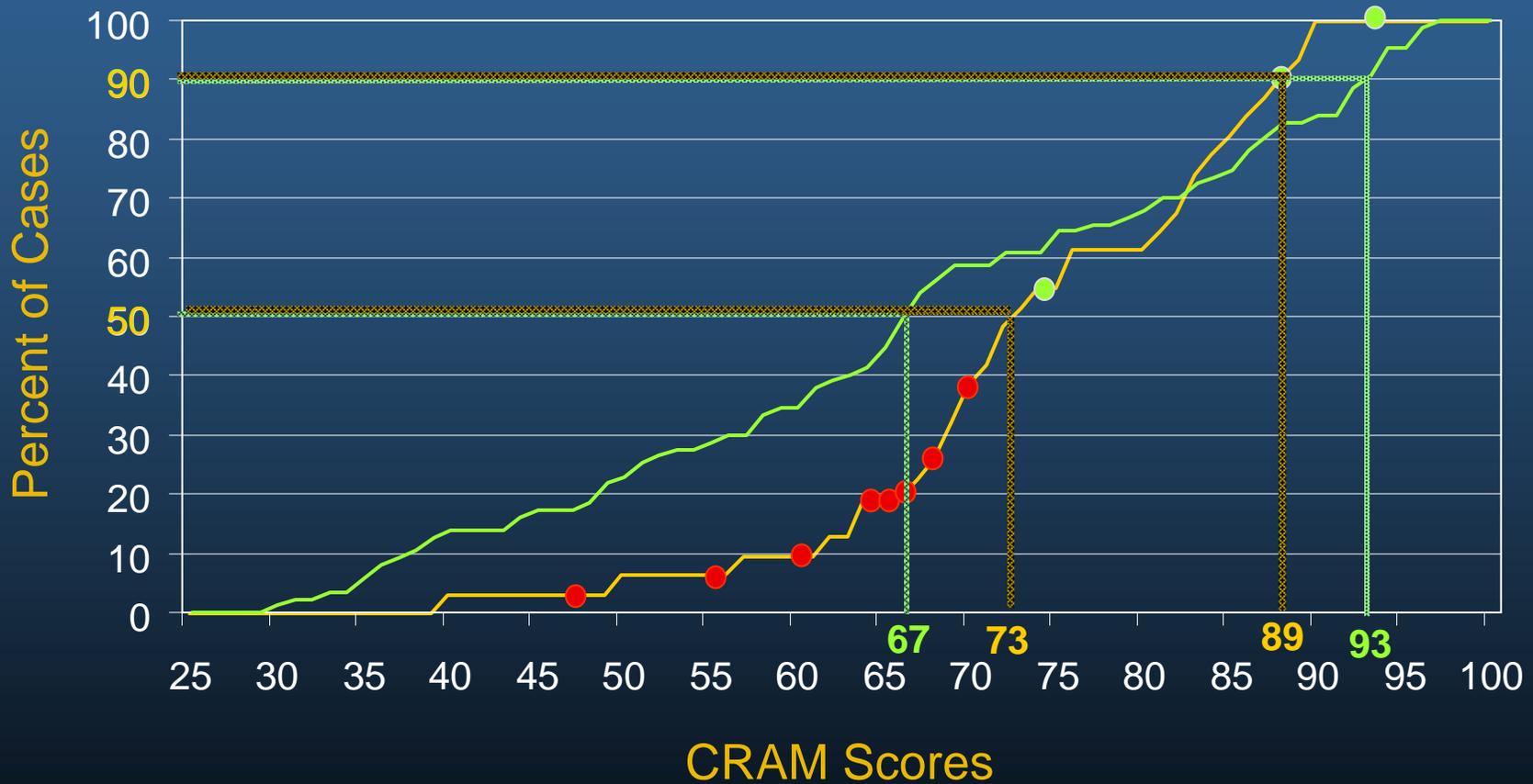
**Designing  
Landscapes**

# Mt View #3

■ Calibration Data Average    ■ This Site



# Level 2 (CRAM) Statewide Assessment Bay of Atlantic River Administrative Condition



## 5. Reporting capability

- ✓ Automated reports on extent and condition
  - ✓ Ambient (watersheds, regions, state) (2009)
  - ✓ Projects compared to ambient (2009)
- ✓ Automated tracking of projects
  - ✓ 401/WDR projects (2009)
- ✓ Regional and statewide 305b reports \*
- User-defined queries (Wetland Tracker 2010)

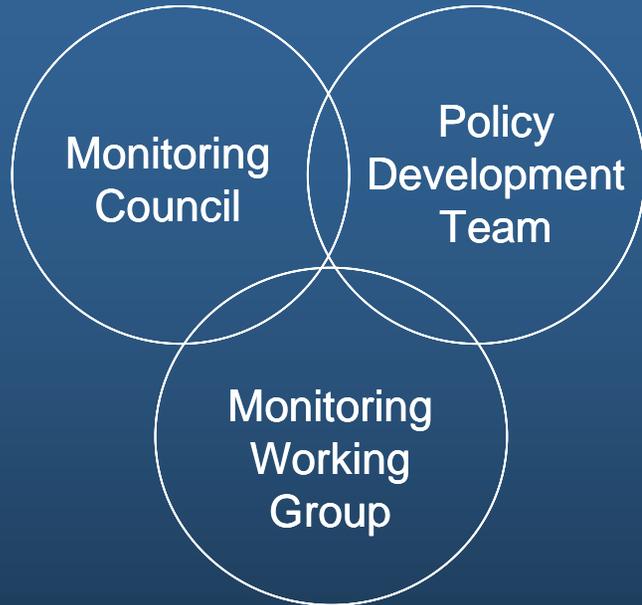
\* estuarine wetlands

## 6. Sustainability

- Future support is subject of Strategic Plan. Some emerging ideas:
- Develop coordinated regional programs
  - RWQCB's as geographic template
  - Coastal regions provide model aspects
  - Build on SWAMP Data Centers
- Implement through existing programs
  - Make standardized tool use a condition of permits, grants, contracts

# Ongoing Oversight

Component of “wetland and riparian area protection policy”



Federal-State-Regional  
Technical Advisory Team

## Technical Plan Jan. 2009

### Factor 2

- Definition
- Delineation
- Classification

### Factor 4

- Level 1
- Level 2
- Level 3

### Factors 3

- Wetland Tracker

### Factor 5

- Reporting

## Monitoring Strategy

### Factor 6

- Objectives Jan. 2009
- Implementation Strategy

Thank You

