



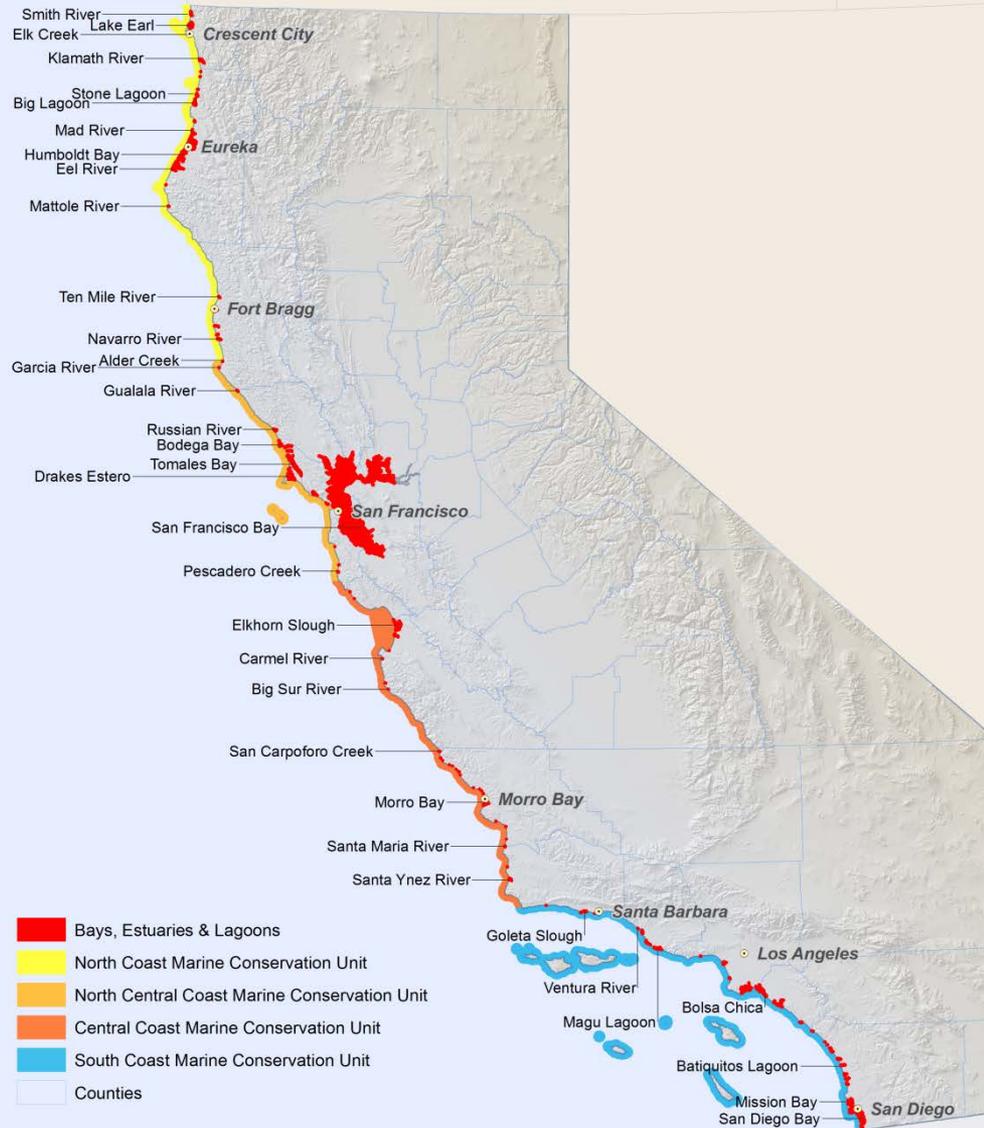
# State Wildlife Action Plan 2015 Update

Central Coast Marine Conservation Unit  
Bays, Estuaries, and Lagoons

Debbie Aseltine-Neilson, CDFW

October 25, 2013

# Bays, Estuaries & Lagoons



## Marine Region:

- North Coast
- N-C Coast
- Central Coast
- South Coast

# Marine Region

## Broad Ecosystems:

- Bays, Estuaries, & Lagoons
- Intertidal (rocky, beaches)
- Nearshore Zone (0-30 m)
- Mid-Depth Zone (30-100 m)
- Deep Zone (>100 m)



# Marine Region

- Bays, Estuaries, & Lagoons
- Intertidal (rocky, beaches)
- Nearshore Zone (0-30 m)



# Marine Region

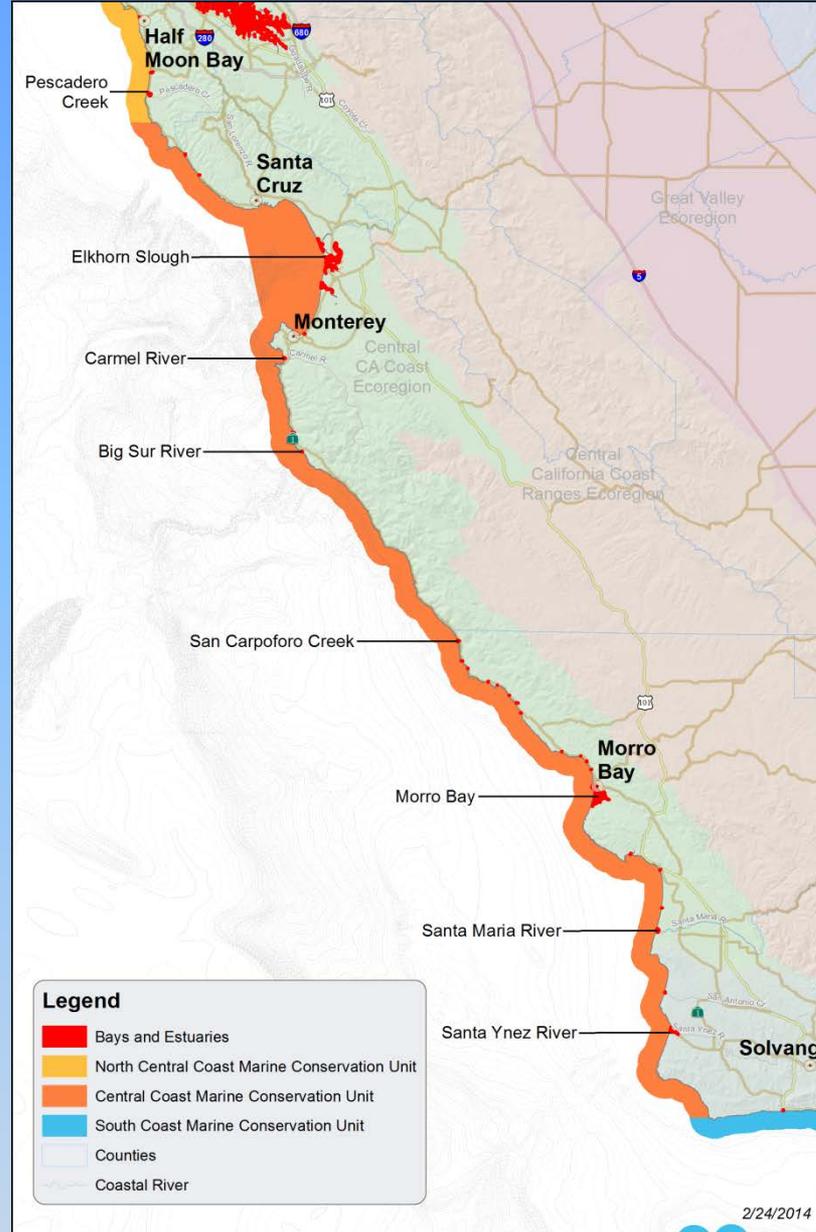
- **Bays, Estuaries, & Lagoons**



Morro Bay. Kirsten Ramey, CDFW

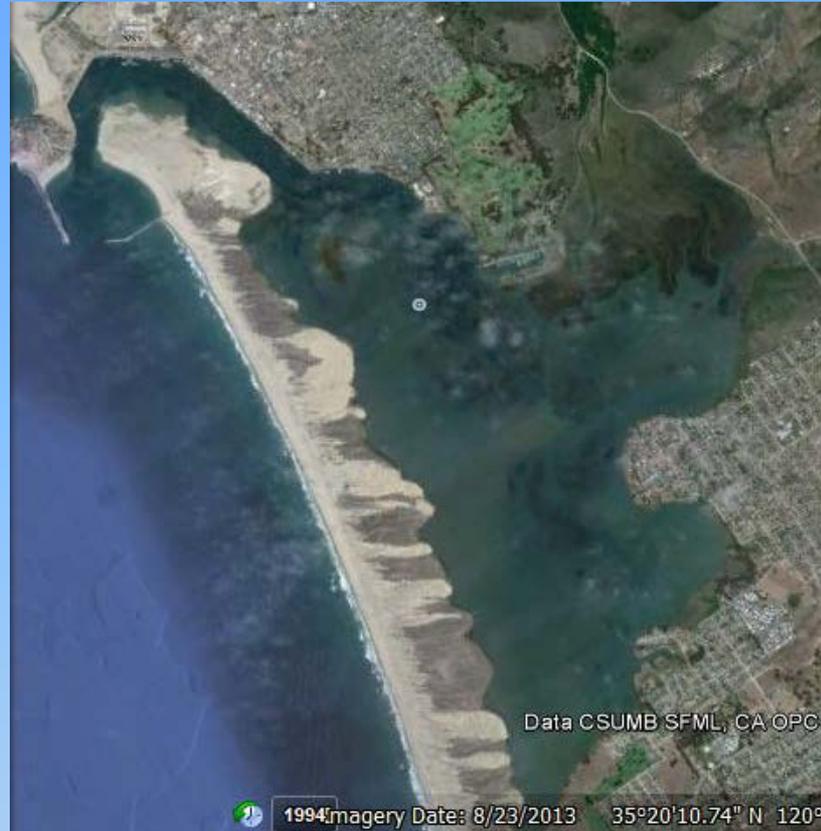
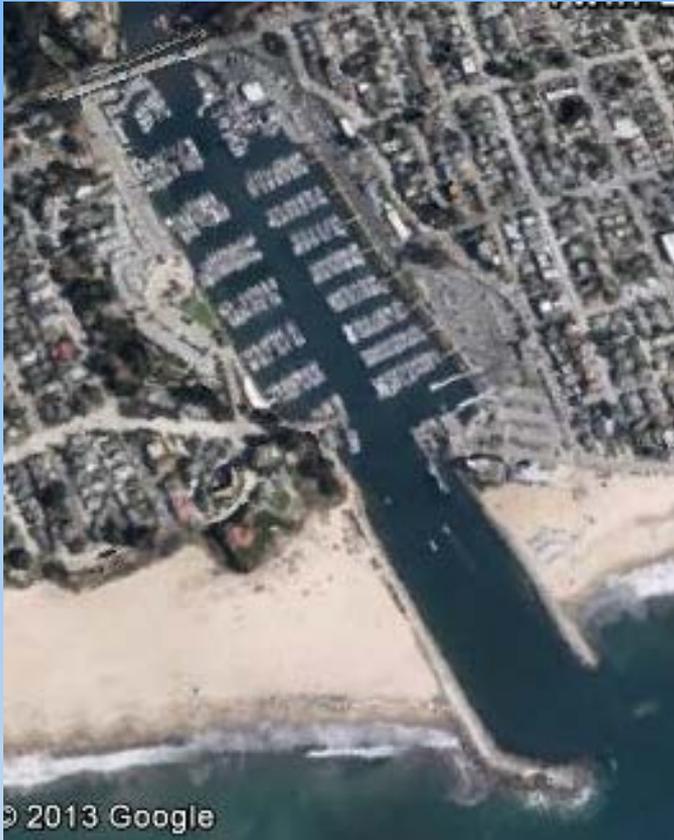
# Central Coast Marine Region

## Bays, Estuaries, and Lagoons



# Bays, Estuaries, and Lagoons

Santa Cruz Harbor – Tidal Bay. Google Earth



Morro Bay – Classic Estuary. Google Earth

# Bays, Estuaries, and Lagoons



Salinas River – River Mouth. Google Earth



Big Sur River – River Mouth. Google Earth

San Luis Obispo Creek - Lagoon



# Why Are Bays, Estuaries, & Lagoons Important?



Herring Spawn Event. Ryan Bartling, CDFW

# Why Are Bays, Estuaries, & Lagoons Important?



Dave Feliz, CDFW



Snowy Plovers. Jenny Erbes,  
Point Blue Conservation Science

# Why Are Bays, Estuaries, & Lagoons Important?



Morro Bay. Kirsten Ramey, CDFW

# Why Are Bays, Estuaries, & Lagoons Important?



Morro Bay. Bob Stafford, CDFW

# Bays, Estuaries, and Lagoons

## Key Attributes

- Surface water flow regime
- Freshwater input – water quality

## Stressors

- Changes in freshwater input
- Changes in quality of freshwater input



Salinas River. Google Earth

# Bays, Estuaries, and Lagoons

## Key Attributes

- Area/extent
- Circulation
- Connectivity

## Stressors

- Reduction in area
- Changes in circulation patterns
- Change/loss in connectivity
- Altered tidal mixing



Morro Bay. Bob Stafford, CDFW

# Bays, Estuaries, and Lagoons

## Key Attributes

- Water quality
- Quality of sediments
- Biogenic habitat



Dave Feliz, CDFW

## Stressors

- Decrease in quality of water and sediments within water bodies
- Decrease in seagrass (eelgrass) beds



Kirsten Ramey, CDFW

# Bays, Estuaries, and Lagoons

## Key Attributes

- Biotic assemblages
- Biotic interactions



Robin Madrid, CDFW

## Stressors

- Decrease in native species populations including shorebirds and bivalves



Kirsten Ramey, CDFW

# Species of Interest



Tidewater Goby. Mike Wallace, CDFW



California Least Terns & Black Skimmer. Robin Madrid, CDFW



Brown Pelicans. Dave Feliz, CDFW

# Species of Interest



Seagrasses. Kirsten Ramey, CDFW



Native Oysters. Kirsten Ramey, CDFW

# Species of Interest



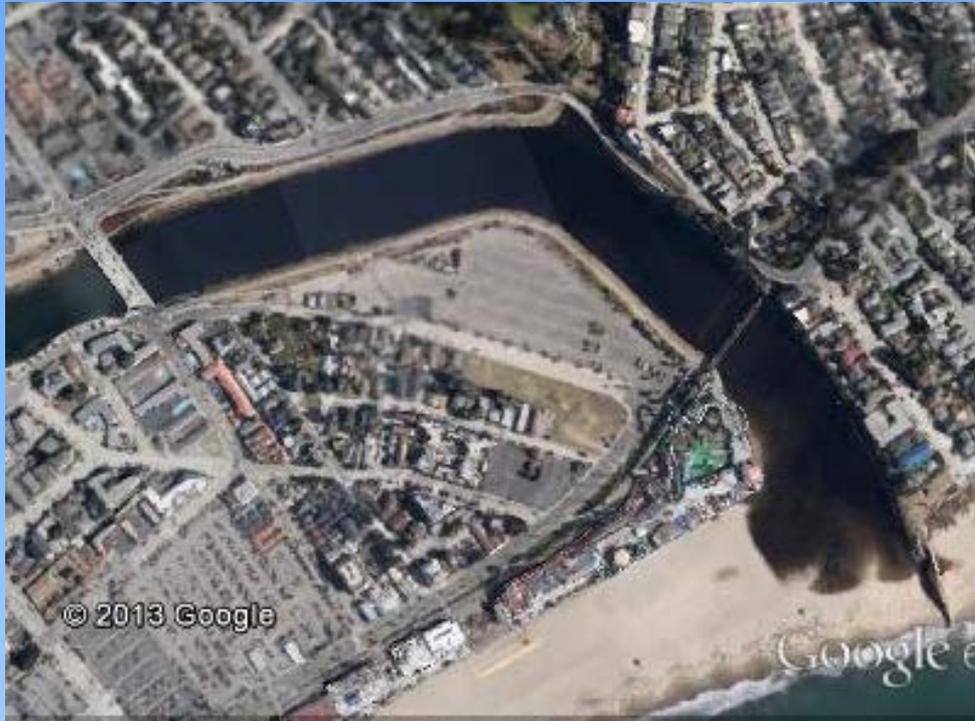
California Halibut. Travis Tanaka, CDFW



Bat Ray. CDFW

# Human-related Activities

- Diversion/Control of Freshwater
- Agricultural Runoff



San Lorenzo River. Google Earth

- Shoreline Development
- Urban Runoff



Salinas River. Google Earth

# Human-related Activities

- Hazardous Spills
- Invasive Species



*Calerpa*. Bill Paznokas,  
CDFW

Batiquitos Lagoon. Tim Dillingham, CDFW

# Human-related Activities

- Modification of Mouth/Channels



Batiquitos Lagoon. Tim Dillingham, CDFW



Batiquitos Lagoon. CDFW Archived Photo

# Human-related Activities

- Climate Change and Ocean Acidification



B. McVeigh, CDFW



Humboldt Bay. Annie Eicher

# Strategies

- Improve engagement in decision-making process
  - Reviewing documents
  - Participating in meetings
  - Collaborating on projects
  - Coordinating management of habitats at the ocean-land interface
- Advocate for policies and practices that minimize impacts on shorelines and wetlands



Elkhorn Slough. Dave Feliz, CDFW

# Strategies

- Improve rapid response capabilities to events that degrade target
- Support development, implementation, and enforcement of effective regulations
- Expand education and outreach activities



Upper Newport Bay. Robin Madrid, CDFW

# Strategies

- Expand restoration activities
- Support monitoring activities and maintenance, compilation, and integration of data for management
- Encourage research that provides information for management
- Incorporate assessment of marine resource vulnerability to climate change and ocean acidification into management



Elkhorn Slough. Dave Feliz, CDFW

# Funding

- Fish and Game Preservation Fund
- Project mitigation funds



Elkhorn Slough. Dave Feliz, CDFW