



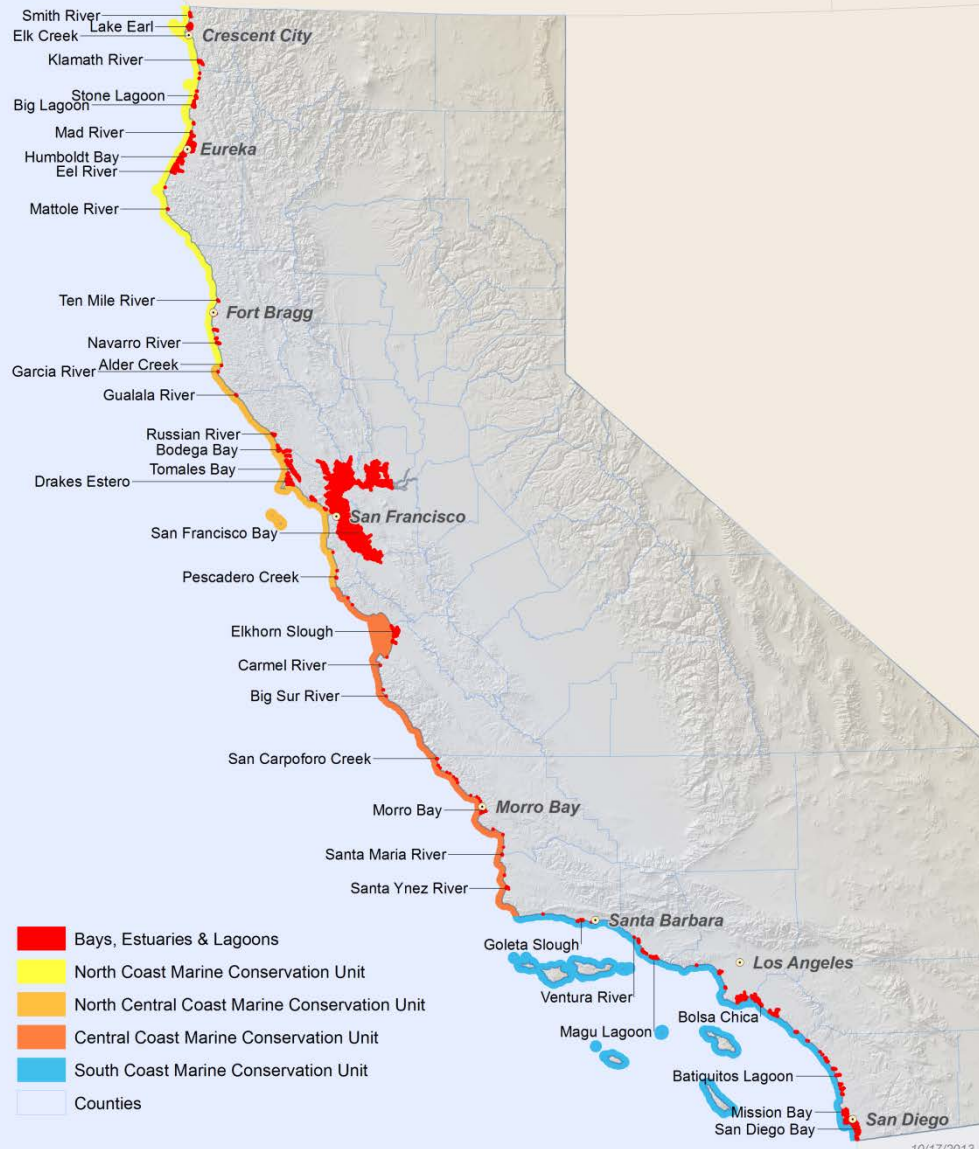
State Wildlife Action Plan 2015 Update

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**



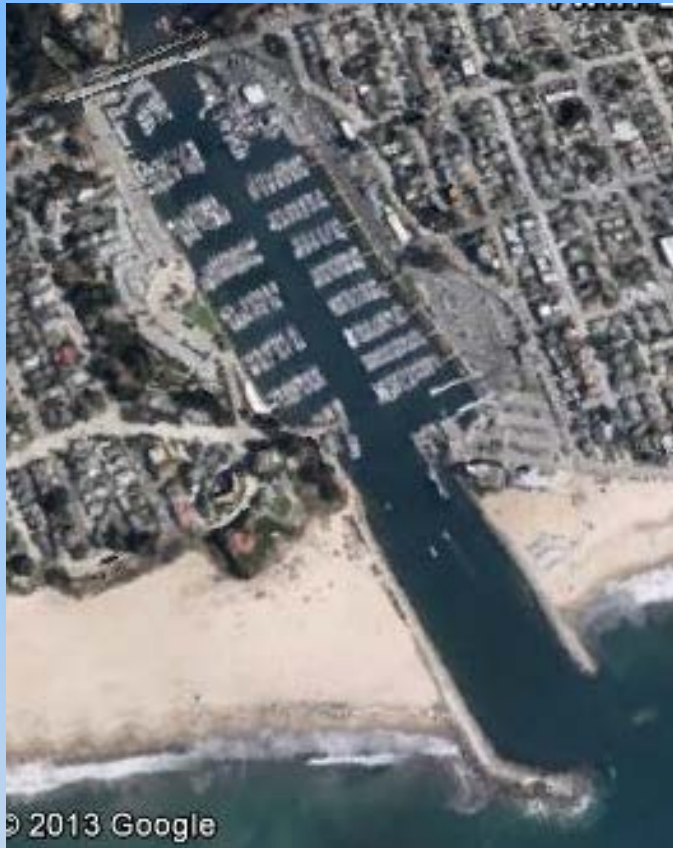
Morro Bay. Kirsten Ramey, CDFW

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



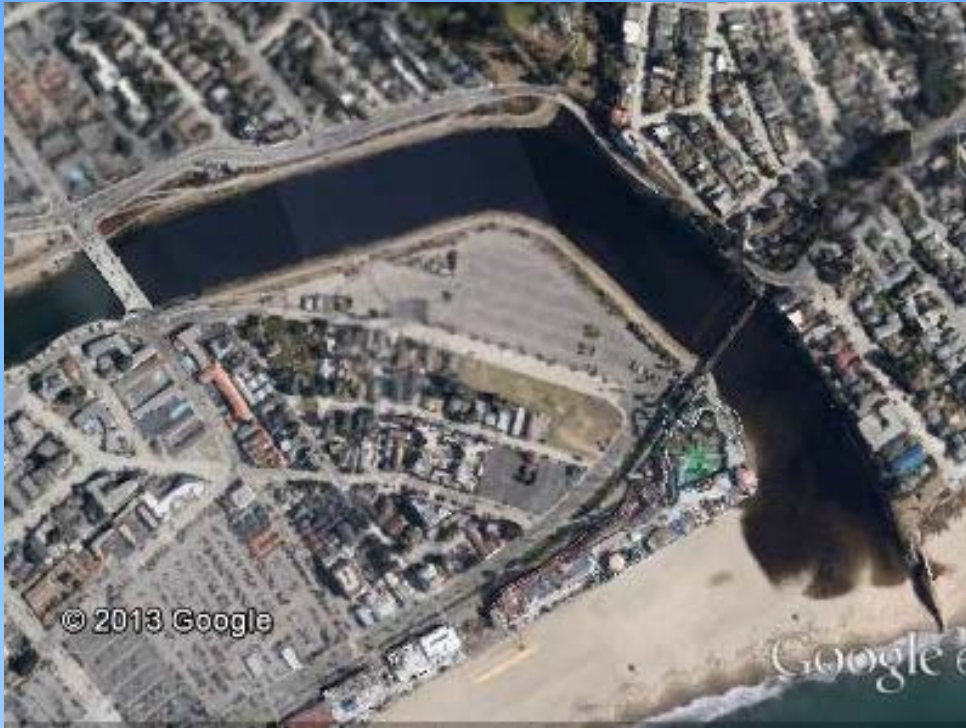
California Halibut. Travis Tanaka, CDFW



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



Batiquitos Lagoon. Tim Dillingham, CDFW



Calerpa. Bill Paznokas, 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