



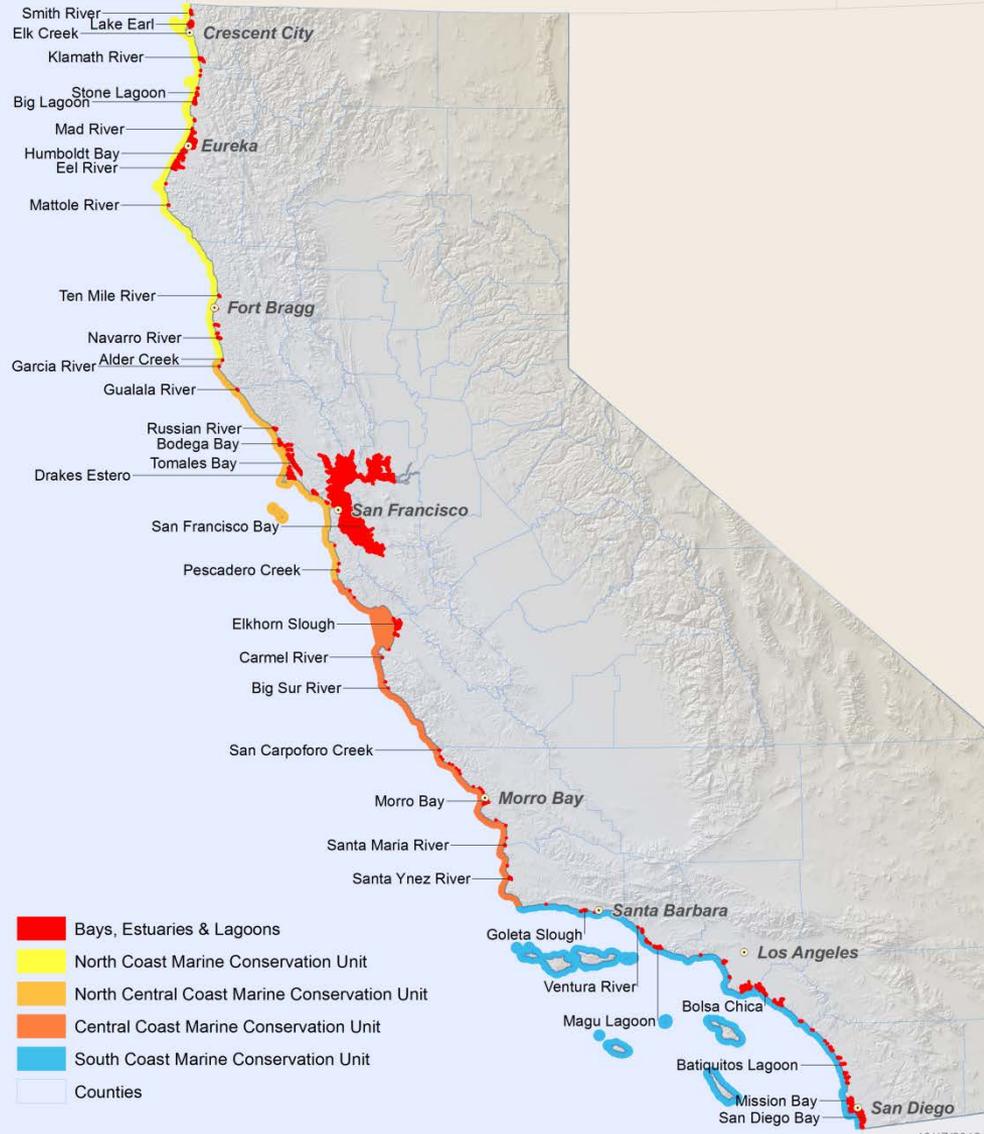
State Wildlife Action Plan 2015 Update

North Coast Marine Conservation Unit
Bays, Estuaries, and Lagoons

Debbie Aseltine-Neilson, CDFW

November 13, 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

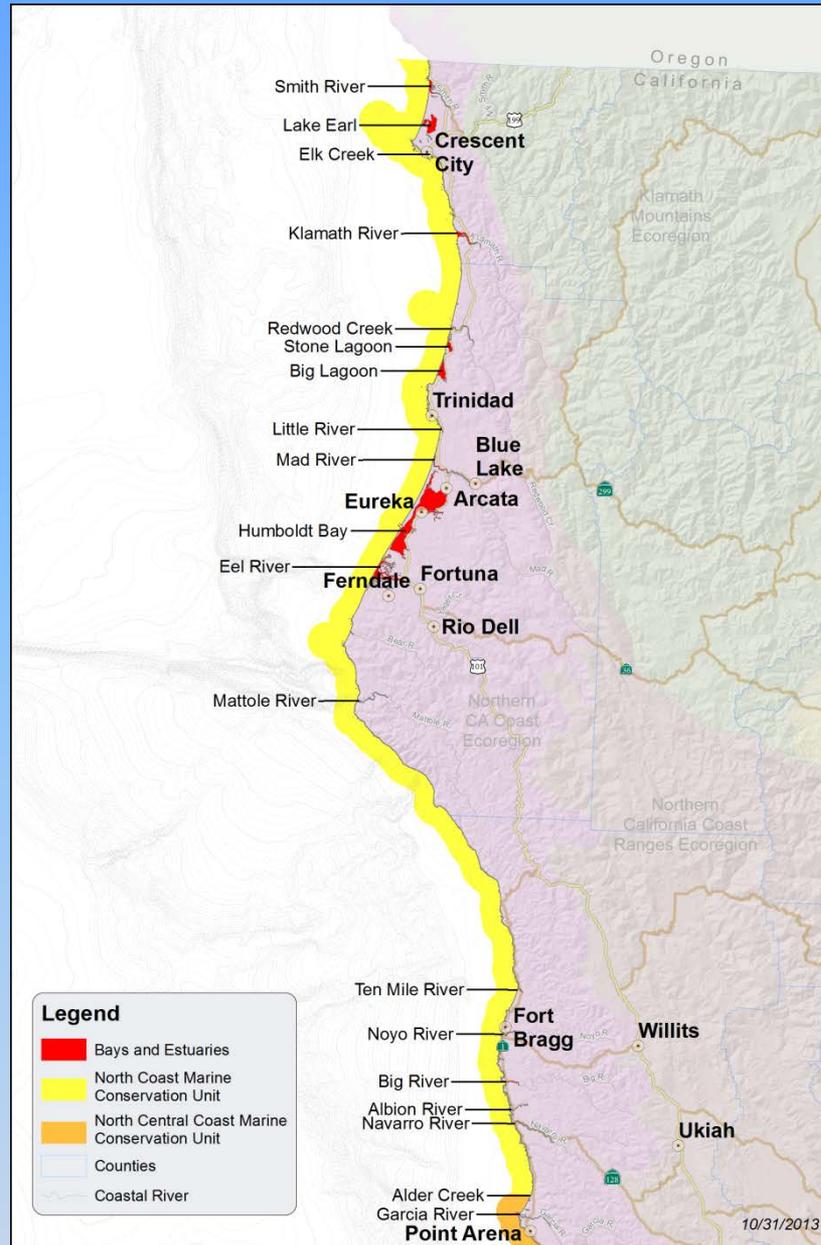
- Bays, Estuaries, & Lagoons



Humboldt Bay. Annie Eicher

North Coast Marine Conservation Unit

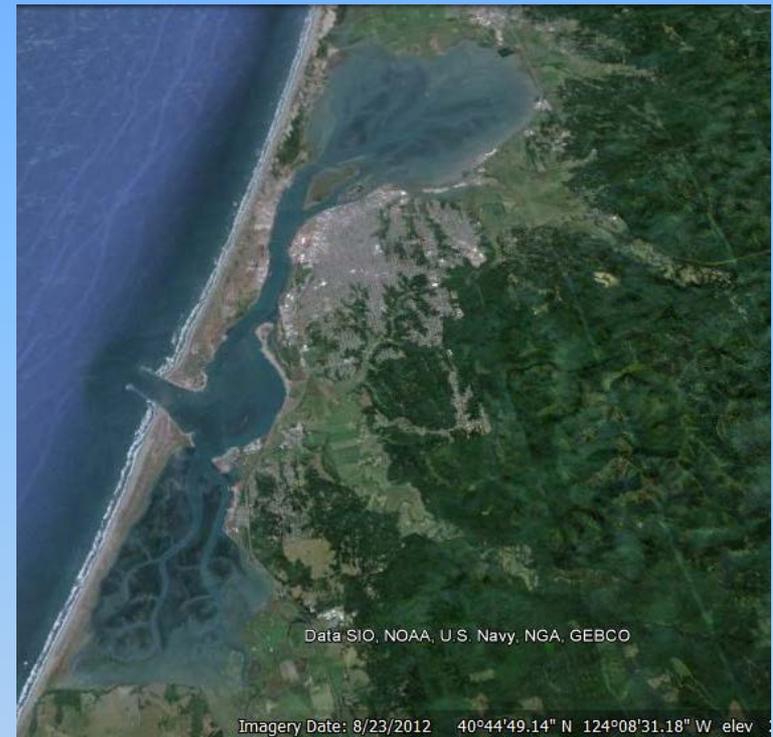
Bays,
Estuaries,
and
Lagoons



Bays, Estuaries, and Lagoons



Tomales Bay – Tidal Bay. Google Earth



Humboldt Bay – Classic Estuary. Google Earth

Bays, Estuaries, and Lagoons



Navarro River – River Mouth. Google Earth



Redwood Creek - Lagoon. Marna Powell



Navarro River – River Mouth. Google Earth

Why Are Bays, Estuaries, & Lagoons Important?



Herring Spawn Event. Ryan Bartling, CDFW

Why Are Bays, Estuaries, & Lagoons Important?



Brown Pelicans. Dave Feliz, CDFW



Snowy Plovers. Jenny Erbes,
Point Blue Conservation Science

Why Are Bays, Estuaries, & Lagoons Important?



Humboldt Bay. Kirsten Ramey, CDFW

Why Are Bays, Estuaries, & Lagoons Important?



Big Lagoon. Google Earth

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



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



Eel River. Google Earth

Bays, Estuaries, and Lagoons

Key Attributes

- Water quality
- Quality of sediments
- Biogenic habitat



Klamath River. Mike Wallace, 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 native bivalves



Kirsten Ramey, CDFW

Species of Interest



Brown Pelicans. Dave Feliz, CDFW



Snowy Plover. Media.photobucket.com



Green Sturgeon. Ed Roberts, CDFW



Tidewater Goby. Mike Wallace, CDFW



Eulachon. Seth Ricker, CDFW



Longfin Smelt. CDFW

Species of Interest



Seagrasses. Kirsten Ramey, CDFW



Native Oysters. Kirsten Ramey, CDFW

Species of Interest



California Halibut. Travis Tanaka, CDFW



Juvenile Dungeness Crabs. Steve Cannata, CDFW

Human-related Activities



Mad River. Google Earth

- Shoreline Development
- Urban Runoff

- Diversion/Control of Freshwater
- Agricultural Runoff



Smith River. Google Earth

Human-related Activities

- Hazardous Spills
- Invasive Species



Humboldt Bay. Jeff Dayton, CDFW



Zostera japonica.
Vicki Frey, CDFW

Human-related Activities

- Modification of
- Mouth/Channels



Redwood Creek. Steve Cannata, 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



Ten-mile River. U.S. Fish and Wildlife Service

Strategies

- Improve rapid response capabilities to events that degrade target
- Support effective regulations
- Expand education and outreach activities



Upper Newport Bay. Robin Madrid, CDFW

Strategies

- Expand restoration activities
- Support monitoring activities and data integration into management
- Encourage research
- Perform vulnerability assessment of marine resources to climate change and ocean acidification



Elkhorn Slough. Dave Feliz, CDFW



Klamath River. Jeff Dayton, CDFW