State Wildlife Action Plan
2015 Update

North Coast Marine Conservation Unit
Bays, Estuaries, and Lagoons

Debbie Aseltine-Neilson, CDFW
November 13, 2013
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
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

Stressors
• Decrease in quality of water and sediments within water bodies
• Decrease in seagrass (eelgrass) beds
Bays, Estuaries, and Lagoons

Key Attributes
• Biotic assemblages
• Biotic interactions

Stressors
• Decrease in native species populations including shorebirds and native bivalves
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

- Shoreline Development
- Urban Runoff
- Diversion/Control of Freshwater
- Agricultural Runoff
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
Klamath River. Jeff Dayton, CDFW