



# State Wildlife Action Plan 2015 Update

South Coast Marine Conservation Unit  
Bays, Estuaries, and Lagoons

Debbie Aseltine-Neilson, CDFW

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# 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

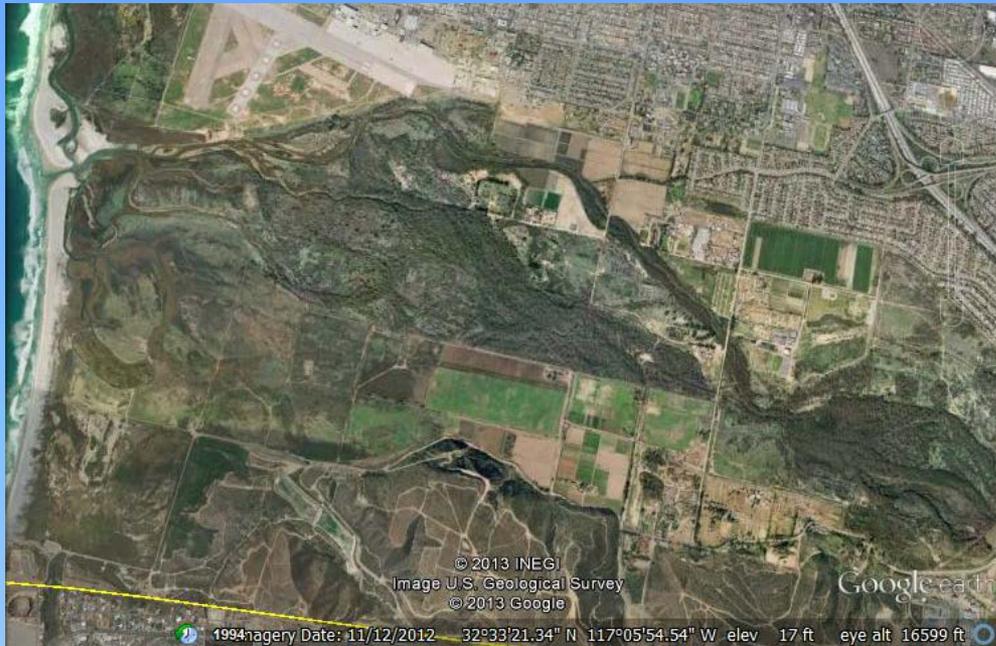
- **Bays, Estuaries, & Lagoons**



# South Coast Marine Region, Bays, Estuaries, and Lagoons



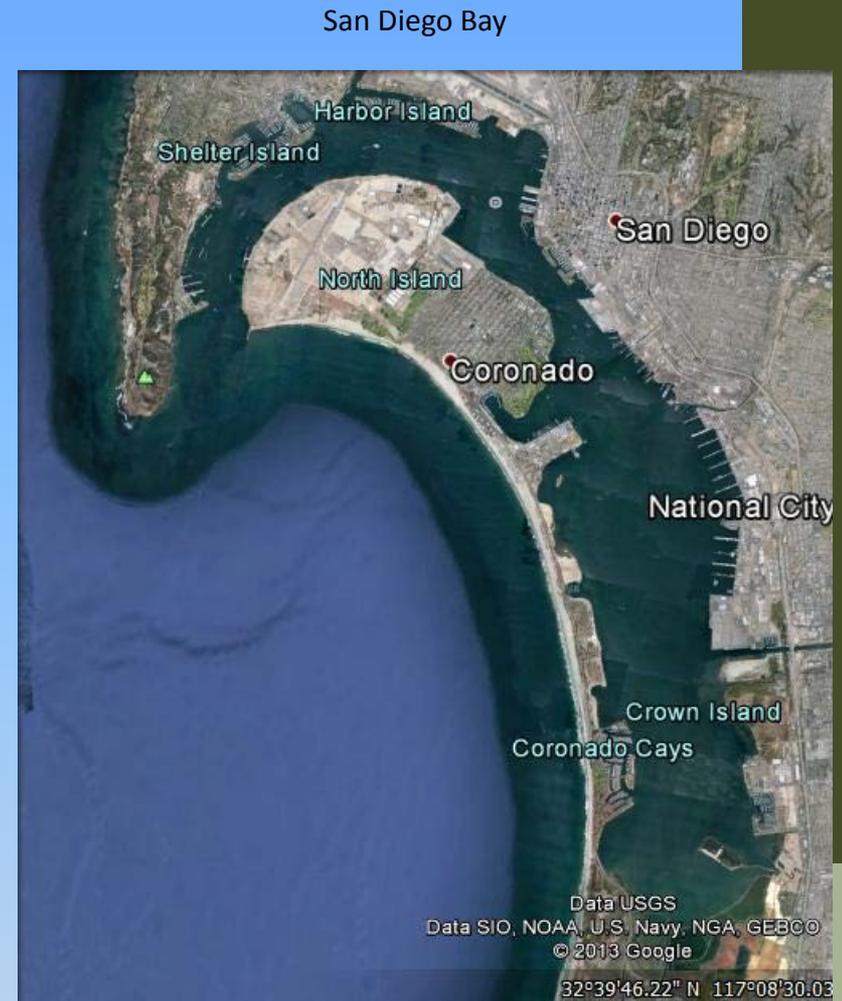
# Bays, Estuaries, and Lagoons



Tijuana River Estuary/ Tijuana River National Estuarine Research Reserve



Los Peñasquitos Lagoon. Tim Dillingham, CDFW



# Why Are Bays, Estuaries, & Lagoons Important?



Herring spawn event. Ryan Bartling, CDFW

# Why Are Bays, Estuaries, & Lagoons Important?



Tim Dillingham, CDFW

# Why Are Bays, Estuaries, & Lagoons Important?



Seagrass Beds, Morro Bay. Kirsten Ramey, CDFW

# Why Are Bays, Estuaries, & Lagoons Important?



Los Peñasquitos Lagoon. Tim Dillingham, 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



San Luis Rey River. Tim Dillingham, CDFW

# 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



Batiquitos Lagoon. Tim Dillingham, CDFW

# Bays, Estuaries, and Lagoons

## Key Attributes

- Water quality
- Quality of sediments
- Biogenic habitat



Batiquitos Lagoon. Warren Wong, CDFW

## Stressors

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



Buena Vista Lagoon. Tim Dillingham, 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



Light-footed Clapper Rail. Robin Madrid, CDFW

# Species of Interest



Seagrasses. Kirsten Ramey, CDFW



Native Oysters. Kirsten Ramey, CDFW

# Species of Interest



California Halibut. Travis Tanaka, CDFW



Soupfin Shark, Ed Roberts., CDFW

# Human-related Activities

- Diversion/Control of Freshwater
- Agricultural Runoff



Aqua Hedionda Lagoon. Tim Dillingham, CDFW

- Shoreline Development
- Urban Runoff



San Luis Rey River. Tim Dillingham, CDFW

# Human-related Activities

- Hazardous Spills
- Invasive Species



Batiquitos Lagoon. Tim Dillingham, CDFW



Calerpa. Bill Paznokas, CDFW

# Human-related Activities

- Modification of Mouth/Channels



Buena Vista 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



Upper Newport Bay. Robin Madrid, 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



San Dieguito Lagoon. Tim Dillingham, CDFW

# Funding

- Fish and Game Preservation Fund
- Project mitigation funds



Batiquitos Lagoon. Tim Dillingham, CDFW