Marine Life Protection Act Initiative

Marine Birds and Mammals of the MLPA South Coast Study Region

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Presentation to the MLPA South Coast Regional Stakeholder Group
January 14, 2009 • San Diego, CA

Marine Birds and Marine Mammals

- Long-lived, often >20 years
- Produce few offspring, but provide high amount of parental care
- Feed at the top of marine food webs

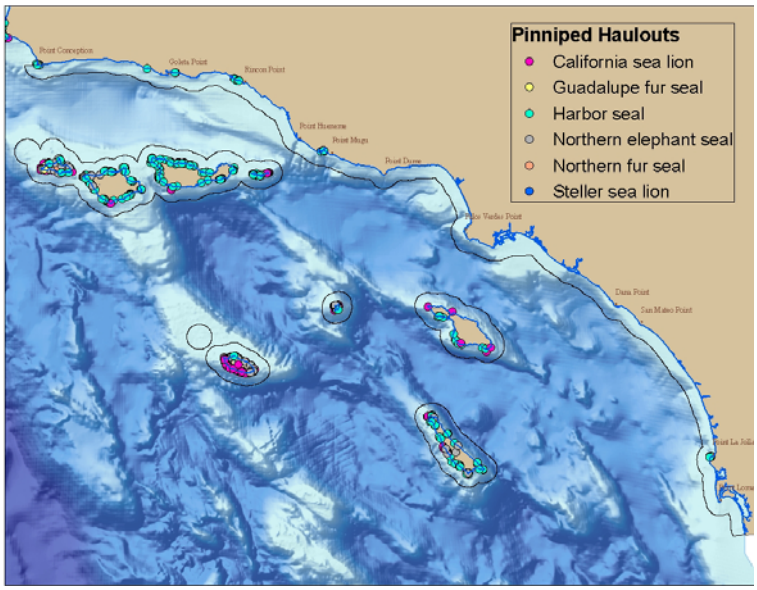
Threats

- Human disturbance (e.g. boats & shoreline recreation)
  - loss of young-of-the-year
  - loss of breeding and resting sites
- Fisheries bycatch
- Prey availability
  - Change due to anthropogenic or ecological activities
  - Disturbance at foraging sites

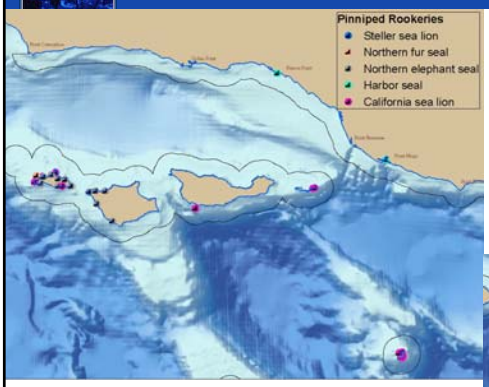
Marine Mammals and Sea Turtles

- 5 species of pinniped
- > 30 species of cetacean
- 1 species of fissiped
- 2 species of sea turtle

Important Pinniped Haul-outs

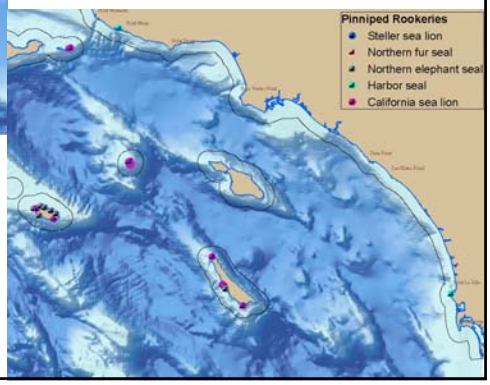


Important Pinniped Rookeries



Harbor seals

- Mainland, northern Channel Islands, Santa Barbara Island, San Clemente Island



California sea lions

- San Miguel, San Nicholas, Santa Barbara and San Clemente islands

Coastal Bottlenose Dolphins

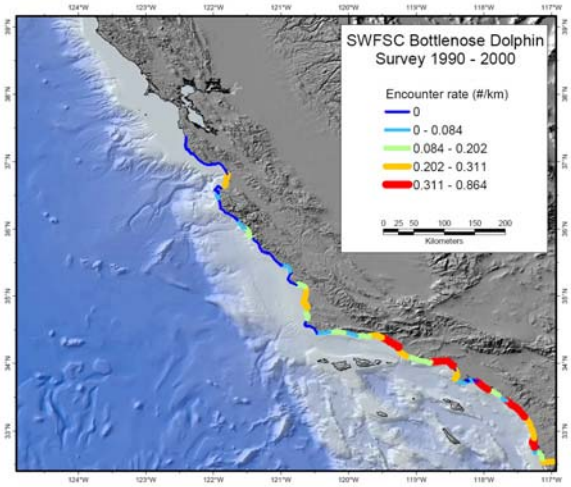


Figure: NCCOS A biogeographic assessment of the Channel Islands NMS web site

Data from 15 aerial surveys

Marine Mammals to Benefit

Pinnipeds

- Harbor seal
- California sea lion

Cetaceans

Coastal Bottlenose Dolphin

Long-beaked Common Dolphin

Marine Birds

- Seabirds – >40 species
- Shorebirds – >25 species
- Waterfowl – >25 species
- Marsh Birds – 6 species

Terrestrial Birds in Marine Food Webs

Fish Predators
- Bald eagle
- Osprey

Seabird/Shorebird Predators
- Peregrine falcon
- Northern harrier
- White-tailed kite

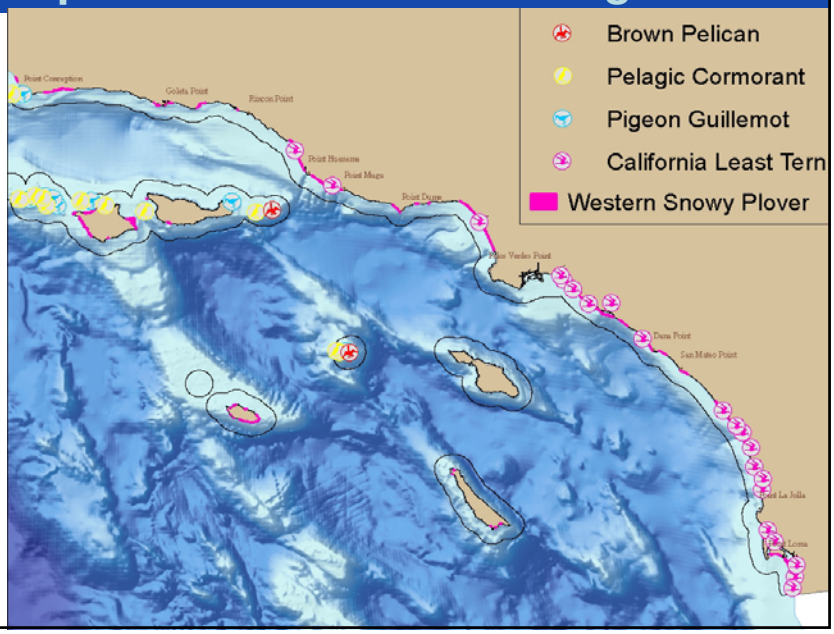
Protection of Breeding Sites

Disturbance at Breeding Sites

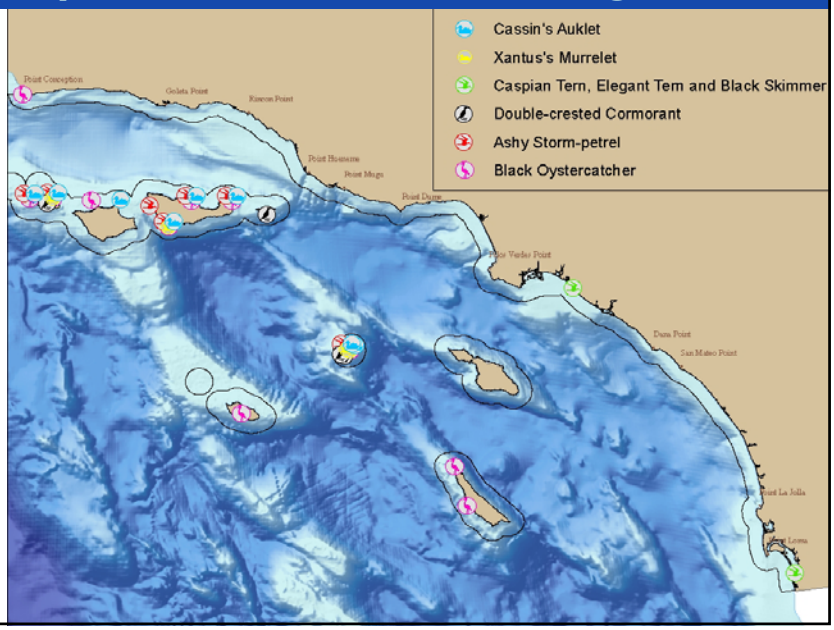
- Exposes young to predation
- Exposes young to solar radiation.
- Can lead to short-term and long-term abandonment of breeding site

Examples of breeders:
California least tern, pelagic cormorant, harbor seal, California sea lion

Important Seabird Breeding Sites



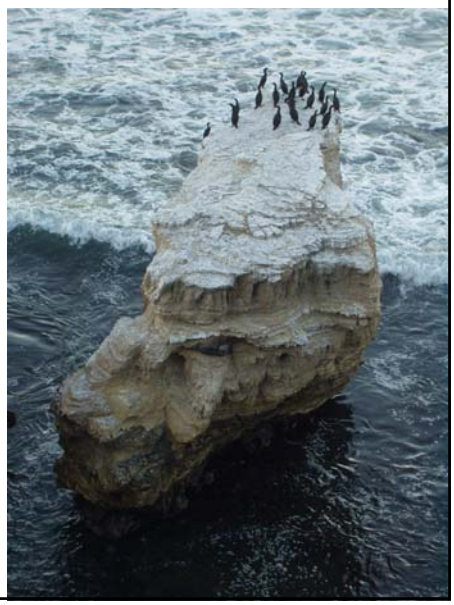
Important Seabird Breeding Sites



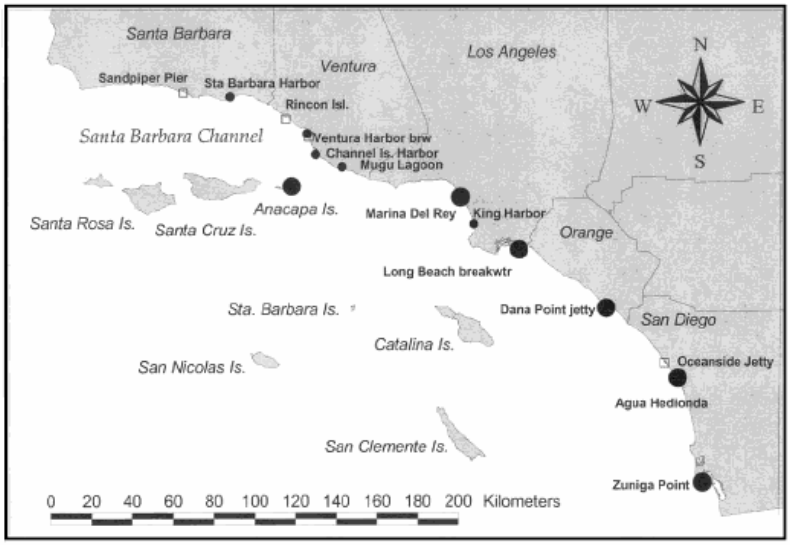
Protection at Roost/Haul-out Sites

Many seabirds and marine mammals require areas to rest for energetic and thermoregulatory purposes

Examples: California brown pelican, Brandt's cormorant, Pelagic cormorant, harbor seal, California sea lion



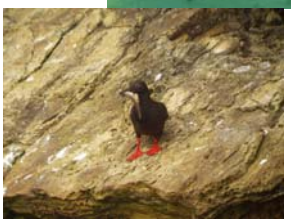
Important Brown Pelican Roost Sites



Protection at Foraging Sites

Nearshore and Near-Colony Foraging

- While breeding, birds and mammals are central place foragers.
- Some species forage mostly within three miles of breeding sites
- Examples: pigeon guillemot, Brandt's cormorant, pelagic cormorant, California least tern, harbor seal



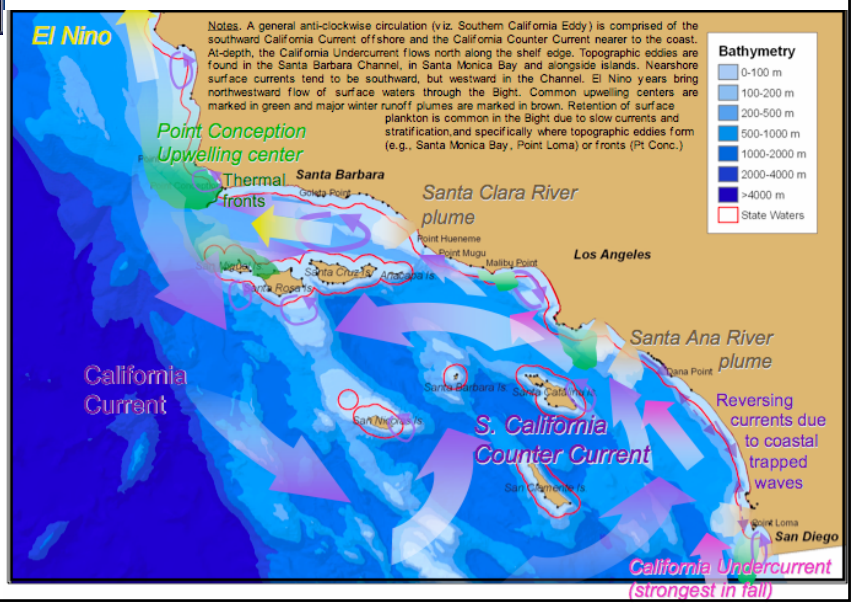
Protection at Foraging Sites

Aggregations at 'Hot Spots'

- Many hydrographic features within Southern California Bight can serve to concentrate prey
- Though prey tend to be highly mobile (e.g., anchovies), they have greater probability of being found at 'hot spots'

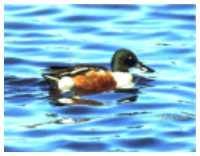
Examples of hot spot predators: California brown pelicans, sooty shearwaters, California sea lions, common bottlenose dolphin

Circulation in the Southern CA Bight



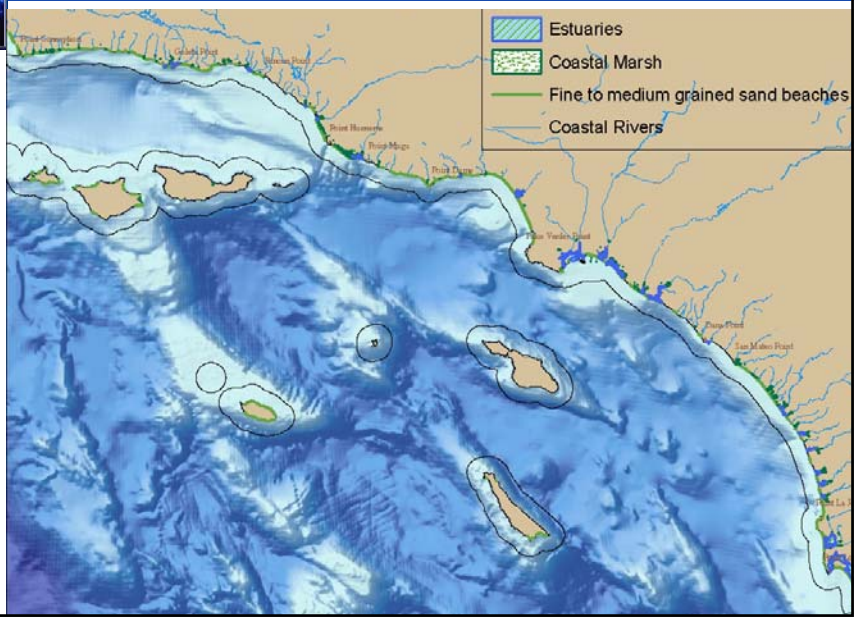
Protection - Bays, Estuaries, Beaches

- Bays and estuaries provide critical resting and foraging habitat for many resident and migrant marine birds
- Threats at estuaries include loss of habitat, disturbance at resting and foraging areas, and hunting of waterfowl
- Threats at beaches include loss of habitat and disturbance at resting and foraging areas



Examples of Bay/Estuary Residents: western snowy plover, great blue heron, northern shoveler

Bays, Estuaries, Beaches in Southern CA



Conclusions – Marine Birds/Mammals

- Direct and indirect benefits from MPAs:
  - **Direct: Decreased disturbance at breeding, resting and foraging sites**
  - **Indirect: Protection of prey populations**
- Study region contains regionally and globally important breeding, roosting and foraging areas
- Northern Channel Islands have among largest concentration and highest diversity of marine birds/mammals in California.
- Southern California mainland also contains vital breeding habitat for several seabird species
- Several species would benefit from protection of nearshore foraging areas within state waters

Thank you!

Any questions?