Marine Birds and Mammals of the MLPA South Coast Study Region

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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

Pinniped Haulouts
- California sea lion
- Guadalupe fur seal
- Harbor seal
- Northern elephant seal
- Northern fur seal
- Steller sea lion
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

- Brown Pelican
- Pelagic Cormorant
- Pigeon Guillemot
- California Least Tern
- Western Snowy Plover
Important Seabird Breeding Sites

- Cassin's Auklet
- Xantus's Murrelet
- Caspian Tern, Elegant Tern and Black Skimmer
- Double-crested Cormorant
- Ashy Storm-petrel
- Black Oystercatcher
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

Notes: A general anti-clockwise circulation (viz. Southern California Eddy) is comprised of the southward California Current offshore and the California Counter Current nearer to the coast. At-depth, the California Undercurrent flows north along the shelf edge. Topographic eddies are found in the Santa Barbara Channel, in Santa Monica Bay and alongside islands. Nearshore surface currents tend to be southward, but westward in the Channel. El Nino years bring north-westward flow of surface waters through the Bight. Common upwelling centers are marked in green and major winter runoff plumes are marked in brown. Retention of surface plankton is common in the Bight due to slow currents and stratification, and specifically where topographic eddies form (e.g., Santa Monica Bay, Point Loma) or fronts (Pt Conc.).
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?