Marine Birds and Mammals Evaluation for the North Central Coast Regional Stakeholder Group Marine Protected Area Proposals

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MLPA Master Plan Science Advisory Team
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MLPA Goals
1.) To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
2.) To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
3.) To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbances, and to manage these uses in a manner consistent with protecting biodiversity.

Benefits of MPAs
• Marine birds and mammals require undisturbed coastal habitats for breeding, resting, feeding
• MPAs likely will lead to reduced vessel activity and disturbance to colonies, roosts, haul-outs
• Increase forage for upper level predators
• Reduce bycatch in some fisheries (current and future)
• In some cases, special closures may be helpful to reduce disturbance

Methods – Breeding Colonies
Abundance, diversity, and % of subregional populations within SMRs and some SMCAs:

• Pinnipeds
  – Elephant seals
  – Harbor seals
  – Steller sea lions
  – Northern fur seals
• Seabirds
  – Brandt's Cormorant
  – Pelagic Cormorant
  – Double-crested Cormorant
  – Common Murre
  – Pigeon Guillemot
  – All Species
Methods – Pinniped Haul Outs

- Identify number of pinnipeds at haul outs included in MPAs in proposals
  - Species diversity
  - Size of haul out sites for 4 pinniped species
  - % of subregional numbers

Methods – Seabird Roosts

- Broad-scale data available only for major roosts of Brown Pelican
- Roost categories: >100, >500, >1000 birds
- Identified numbers of major roosts included in MPAs in proposals

Methods – Foraging Areas

Species most likely to benefit have limited foraging ranges and feed on prey that are most likely to benefit
- Brandt's Cormorant
- Pelagic Cormorant
- Pigeon Guillemot
- Harbor seal
- Buffered colonies 3 mi alongshore and 1 mi offshore
- Overlaid colony foraging ranges and proposed MPAs
- Calculated weighted value of foraging area captured

Methods – Winter Waterfowl

- Coastal estuaries: wintering waterfowl
- Evaluated four species and all species (% of regional pop.)
  - Brant
  - Greater Scaup
  - Surf Scoter
  - Bufflehead
Evaluation Results: Marine Mammals

In North Central Coast:
5 Species of pinnipeds
- 31 Colonies
- 76 Haul out sites
  - 9,300 breeding
  - 17,900 resting/molting

Mammals in Rookeries and Haul Outs by Subregion

4 species of pinnipeds breed and/or haul out in study region, but vary by subregion

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Number of Mammals</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>47%</td>
</tr>
<tr>
<td>South</td>
<td>46%</td>
</tr>
<tr>
<td>Farallones</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>45%</td>
</tr>
</tbody>
</table>

No. of Mammals at Haul Outs and Rookeries

% = % of mammals in study region included within MPA proposals

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Haul outs</th>
<th>Colonies</th>
</tr>
</thead>
<tbody>
<tr>
<td>North subregion</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>South subregion</td>
<td>43%</td>
<td>40%</td>
</tr>
<tr>
<td>Farallones subregion</td>
<td>47%</td>
<td>46%</td>
</tr>
</tbody>
</table>

NCCRSG MPA Proposals
Breeding Pinnipeds in Proposed MPAs

- NCC north subregion
- NCC south subregion
- NCC Farallons subregion

Pinnipeds in Haul Outs in Proposed MPAs

- NCC north subregion
- NCC south subregion

Foraging Area for Harbor Seals

- Point Arena
- Black Pt Area
- Russian River
- Bodega Head
- Limantour
- Point Reyes
- Fitzgerald

Marine Mammals in Special Closures

<table>
<thead>
<tr>
<th>Special Closure</th>
<th>Proposal 1-3</th>
<th>Proposal 2-XA</th>
<th>Proposal 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>North subregion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South subregion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point Reyes Rookery</td>
<td>1000 ft</td>
<td>1000 ft</td>
<td></td>
</tr>
<tr>
<td>Stormy Stack Rookery</td>
<td>300 ft 1 spec</td>
<td>300 ft 1 spec</td>
<td>300 ft 1 spec</td>
</tr>
<tr>
<td>Pescadero Rookery</td>
<td>300 ft 1 spec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farallon Is subregion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Farallon Island Rookery</td>
<td>300 &amp; 1000 ft 2 spec</td>
<td>300 ft 2 species</td>
<td>300 &amp; 1000 ft 2 species</td>
</tr>
<tr>
<td>South Farallon Island Rookery</td>
<td>300 ft 5 spec</td>
<td>300 ft 5 species</td>
<td>300 ft 5 species</td>
</tr>
</tbody>
</table>
Summary for Marine Mammals

Areas of similarity amongst the proposals
- North & South Farallon Islands for breeding and haul out sites
- Point Reyes Headland SMR for breeding and haul out sites
- Limantour Estero SMR for breeding and haul out sites
- All covered 43-48% of rookeries in south region

Areas of difference
Proposal 2-XA included 14% of rookeries in north region versus 34% - 29% for proposals 1-3 and 4

Other observations
- No proposals included the Steller sea lion rookery at Fort Ross
- Special closures only benefited Farallon Islands & Point Reyes
- Half of marine mammal hot spots fall within SMRs or SMCAs
- Harbor seal foraging area only significant for Point Reyes and Fitzgerald for all proposals

All Seabird Colonies in NCCSR
- 66 colonies
- 12 species
- > 335,000 birds

No. Breeding Seabirds NCC Study Region

Breeding Seabirds in Proposed MPAs

- NCC north subregion
- NCC south subregion
- NCC Farallons subregion
- NCCSR total
Major Brown Pelican Roosts

23 roosts

Pelican hot spots
- South Farallon Islands
- Devil’s Slide / San Pedro Rock
- Seal Rocks
- “Drakes Bay” area
- Point Reyes
- Bird Rock (off Tomales Point)
- Dillon Beach Rocks
- Bodega Rock / harbor
- Russian River area
- Gualala Point Island

Seabird Foraging Areas in NCC Study Region

Wintering Waterfowl in NCC Study Region
### Top 20 Seabird Colonies in NCCSR

- 99% of regional population
- Hot spots:
  - Farallon Islands
  - Devil’s Slide
  - Point Reyes
  - “Drakes Bay” colonies
  - Bird Rock (off Tomales Point)
  - Bodega Rock
  - Russian River area
  - Gualala Point Island
  - Fish Rocks

### Proposed Special Closures

<table>
<thead>
<tr>
<th>Site Name</th>
<th>1-3</th>
<th>2-XA</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arched Rock</td>
<td></td>
<td></td>
<td>300’</td>
</tr>
<tr>
<td>Gull Rock</td>
<td></td>
<td></td>
<td>300’</td>
</tr>
<tr>
<td>Point Reyes</td>
<td>1000’(part)</td>
<td>1000’(part)</td>
<td></td>
</tr>
<tr>
<td>Point Resistance</td>
<td>500’</td>
<td>300’</td>
<td></td>
</tr>
<tr>
<td>Stormy Stack (Double Point)</td>
<td>300’</td>
<td>300’</td>
<td>300’</td>
</tr>
<tr>
<td>Devil’s Slide Rock</td>
<td>1000’</td>
<td>300’</td>
<td>1000’</td>
</tr>
<tr>
<td>Pescadero</td>
<td>300’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Farallon Islands</td>
<td>1000’(part)</td>
<td>300’</td>
<td>1000’(part)</td>
</tr>
<tr>
<td></td>
<td>300’ (part)</td>
<td>300’</td>
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</tr>
<tr>
<td>South Farallon Islands</td>
<td>300’ (part)</td>
<td>300’ (part)</td>
<td>300’ (part)</td>
</tr>
</tbody>
</table>

* Little benefit to seabirds.

### Summary for Marine Birds

- **Breeding colonies**
  - North subregion: Relatively little coverage (4 > 1-3 > 2-XA).
  - South subregion: Greater coverage (4 > 1-3 > 2-XA).
  - Farallon Islands subregion: Greatest coverage (all =)
- **Seabird roosts**: Few roosts covered.
- **Seabird foraging areas**: Same as breeding colonies.
- **Waterfowl**
  -- (4 > 1-3 > 2-XA).
  -- Lack of coverage in Tomales Bay = largest concentrations
- **Special closures**: Largest colonies in NCCSR covered between all proposals. North subregion under-represented.