Draft Evaluation of Ecological Contributions of Pending Military Closures

Presentation to the MLPA Blue Ribbon Task Force
May 18, 2009 • Conference Call

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Pending Military Closures

Pending military closures are included in:
- Lapis A
- Opal A
- Topaz B
- External B

Example map from Draft MPA Array Topaz B
MLPA South Coast Study Region: Subregion 7 - Santa Catalina and Santa Barbara Islands

Round 1 Draft External Proposal A

Legend
- Proposed State Marine Conservation Area (SMCA)
- Proposed Sub Marine Park (SMP)
- Proposed State Marine Reserve (SMR)
- Pending Military Closures
- South Coast Study Region Boundary
- Control Areas

This map represents a marine protected area (MPA) proposal that has been submitted external from the Southern California Regional Stakeholder Group MPA planning process. This external proposal is under review; it is NOT a recommendation to the California Fish and Game Commission.
Draft MPA Array Topaz A

MLPA South Coast Study Region: Subregion 7 - Santa Catalina and Santa Barbara Islands

Round 1
Topaz A Draft MPA Array

Legend:
- Proposed State Marine Conservation Area (SMCA)
- Proposed State Marine Park (SMP)
- Topo-assisted State Marine Reserve (SMR) + Ric Talk
- South Coast Study Region Boundary
- Coastal Access

This map represents a draft marine protected area (MPA) array generated by a users-interest work group within the MLPA South Coast Regional Stakeholder Group. This draft MPA array is for review; it is not a recommendation to the California Fish and Game Commission.
MLPA South Coast Study Region: Subregion 7 - Santa Catalina and Santa Barbara Islands

Draft MPA Array Opal B

MLPA South Coast Study Region: Subregion 7 - Santa Catalina and Santa Barbara Islands

California Marine Life Protection Act (MLPA) Initiative

Round 1
Opal B Draft MPA Array

Legend
- Proposed State Marine Conservation Area (SMCA)
- Proposed State Marine Park (SMP)
- High [sic] State Marine Reserve (SMR) + No Take
- South Coast Study Region Boundary
- Coastal Access

This map represents a draft marine protected area (MPA) array generated by a stakeholder work group within the MLPA South Coast Regional Stakeholder Group. This draft MPA array is for review only; it is not a recommendation to the California Fish and Game Commission.
Ecology of Military Islands

- San Clemente and San Nicolas islands are the most isolated and remote islands in the Southern California Bight
- Less accessible to various interest groups
  - Larger kelp bass, sheephead and lobsters
  - Abundant giant seabass
- Less likely to be affected by mainland pollution
- Least impacted by invasive species
  - E.g., Sargassum filicinum
Ecology of Military Islands

- More rocky reef habitat and kelp beds
  - Less pollution and sedimentation, and presence of large predators contribute to abundant kelp

- Significantly deeper kelp habitat
  - Due to water clarity

- Unusually large stands of surfgrass

- Largest populations of purple hydrocoral
  - Excluding Farnsworth Bank (Santa Catalina)

- Critical and substantial marine mammal haulouts and bird roosting areas
Ecological Features of San Clemente

• Northern range extensions of Panamic species
  – Panamic arrow crab (*Stenorhynchus debilis*)
  – Warty sea slug (*Pleurobranchus areolatus*)
  – Arbacia sea urchin (*Arbacia incisa*)
  – Guadalupe cardinalfish (*Apogon guadalupensis*)
  – Pink cardinalfish (*A. pacificus*)
  – Swallow damselfish (*Azurina hirundo*)
  – Purple brotula (*Oligopus diagrammus*)

• Only rock-based morph of elk kelp (*Pelagophycus porra*) at the islands

• Remnant population of endangered white abalone (*Haliotis sorenseni*)
Marine Birds/Mammals at San Clemente

- **San Clemente Island**
  - Supports majority of marine birds and mammals in bioregion
  - Supports all California sea lion and Northern elephant seal rookeries in bioregion

- **Proposed Military Closures at San Clemente Island**
  - Include sites used by 26% of Pacific harbor seals on the island (0.4% of study region population)
  - Include known Northern elephant seal rookery and haulout used by 2% of island population (0.8% of study region population)
Ecological Features of San Nicolas

• **Significantly deeper eelgrass habitat**
  – Due to water clarity

• **Largest remaining remnant populations of endangered black abalone**

• **Presence of large predators enhances ecosystem function**
  – Larger predatory fish (e.g. kelp bass, sheephead, giant seabass) and invertebrates (e.g., lobster)
  – Resident southern sea otter population
• San Nicolas Island
  – Supports large proportion of marine birds and mammals in West Channel Islands Bioregion
  – Supports large proportion of California sea lion and Northern elephant seal in study region
  – Supports only resident breeding population of the southern sea otter in the study region

• Proposed Military Closures at San Nicolas Island
  – Includes a haulout used by 6% of California sea lions on the island (0.4% of study region population)
Ecological Features of Begg Rock

• Emergent sheer pinnacle reef 10 miles west of San Nicolas

• Unique invertebrate assemblage, including:
  – Purple hydrocoral
  – Shallow aggregations of *Metridium* and other anemones
<table>
<thead>
<tr>
<th>MPA/Closure Name</th>
<th>Proposed By</th>
<th>Area (sq miles)</th>
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<tbody>
<tr>
<td>San Nicolas Island Pending Military Closure</td>
<td>LA, LB, OA, TB, Ext B</td>
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<td>State waters around Begg Rock</td>
<td>LB, OB, Ext C</td>
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<td>Begg Rock SMR</td>
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<td>San Nicolas SMR</td>
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<td>West San Clemente SMR</td>
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Habitats at San Clemente Island

East Channel Islands Bioregion

Percentage of habitat available on San Clemente Island

- Rocky Shores
- Rock 0 - 30m
- Rock 30 - 100m
- Rock 100 - 200m
- Rock 200 - 3000m
- Average kelp
- Persistent kelp
- Beaches
- Soft 0 - 30m
- Soft 30 - 100m
- Soft 100 - 200m
- Soft 200 - 3000m
- Depth 30 - 100m
- Depth 100 - 200m
- Depth 200 - 3000m

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Habitats at San Nicolas Island and Begg Rock

West Channel Islands Bioregion
Evaluation of MPAs at San Clemente

East Channel Islands Bioregion

Draft MPA Arrays and Draft External MPA Proposals

*LA = Lapis A
*OA = Opal A
*TB = Topaz B
*XB = External B
LB = Lapis B
OB = Opal B
TA = Topaz A
XA = External A
XC = External C

*Includes pending military closures
Evaluation of MPAs at San Clemente

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Evaluation of MPAs at San Clemente

East Channel Islands Bioregion

- Proposed Military Closures
- MPAs proposed by the RSG on San Clemente Island

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Produced by the RSG on San Nicolas Island

(a) Rocky shores

(e) Beaches
MPA Evaluation: San Nicolas and Begg Rock

West Channel Islands Bioregion

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MPA Evaluation: San Nicolas and Begg Rock

West Channel Islands Bioregion

- **Proposed Military Closures**
- **MPAs proposed by the RSG on San Nicolas Island**

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MPA Evaluation: San Nicolas and Begg Rock

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*Includes pending military closures

D) Depth 100 - 200m

H) Depth 200 - 3000m
Habitat Replication by Bioregion

<table>
<thead>
<tr>
<th>West Channel Islands Bioregion</th>
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<td>Northern Channel Islands MPAs</td>
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<td>Rocky Shores</td>
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<td>Kelp (linear)</td>
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<td>Tidal Flats</td>
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San Nicolas Island Pending Military Closure

- Located in West Channel Islands Bioregion
- Includes:
  - Some kelp (*Macrocystis pyrifera*)
  - Low relief habitats
  - Abundant purple urchins
  - One subtidal monitoring site and one biodiversity monitoring site
- Does not include:
  - Large persistent kelp beds (to the northwest)
  - Resident breeding southern sea otter (*Enhydra lutris nereis*) population (to the northwest)
San Clemente Island Pending Military Closure 1

• Located in East Channel Islands Bioregion

• Includes:
  – Castle Rock and 9-Fathom Bank
  – Submerged rocky pinnacles
  – Abundant giant kelp (*Macrocystis pyrifera*), deeper than other areas due to water clarity
  – Large populations of purple coral (*Stylaster*)
  – Rare rock morph of elk kelp (*Pelagophycus porra*)

• Does not include:
  – Sandy beach habitat at West Cove (to the south)
  – Open coast habitat along west side of San Clemente
San Clemente Island Pending Military Closure 2

- Located in East Channel Islands Bioregion
- Includes:
  - Narrow rocky shore with intermittent surfgrass beds and a few patches of eelgrass
  - Narrow band of kelp parallel to the shoreline
  - Seafloor drops rapidly to deeper sand
- Does not include:
  - Deep water corals (*Stylaster*), which are abundant on the west side of San Clemente and Santa Catalina islands