Marine Protected Areas and Fisheries Integration Workshop

Overview of the Marine Life Protection Act Planning Process and MPA Design Guidelines

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Presentation Topics

- Marine protected areas (MPAs) adopted pursuant to the Marine Life Protection Act (MLPA)
- Goals and objectives of the MLPA
- Science guidelines developed in the MLPA planning process

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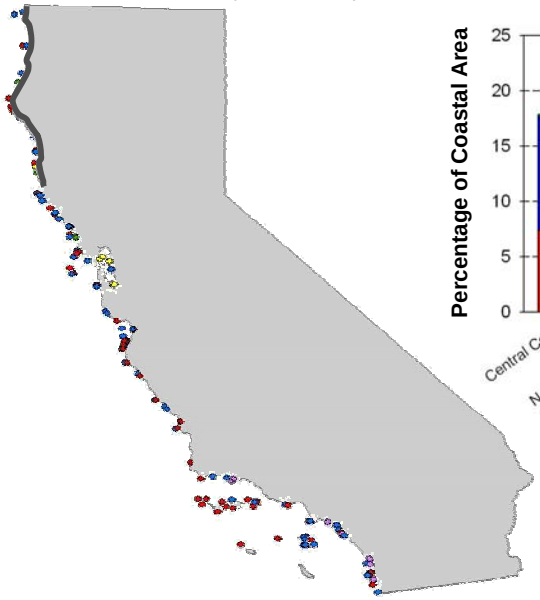
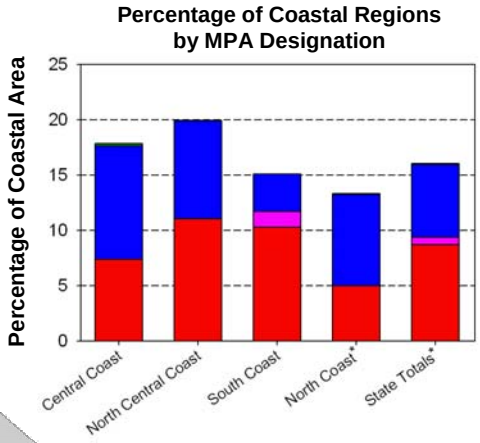
MPAs Adopted Pursuant to the MLPA

** MPAs proposed on the north coast have not yet been adopted*





- State Marine Reserve (SMR)
- State Marine Conservation Area (SMCA)
- State Marine Conservation Area (no-take)
- State Marine Park (SMP)
- State Marine Recreational Management Area (SMRMA)

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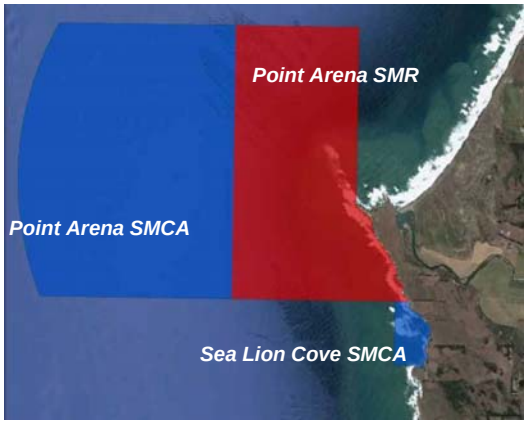
Individual MPA Objectives

- Each MPA has objectives focused on MLPA goals, however only a few have specific fishery resource objectives despite the implications of the MPA network on marine fisheries

- Point Arena SMR objectives:

"Improve fish productivity in SMR to benefit local rockfish fishing outside"

"Restore declining yelloweye, canary, & china rockfish populations"



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MLPA Science Advisory Team Evaluations

MPA proposals were evaluated for:

- **Levels of protection**
- **Habitat representation**
- **Habitat replication**
- **MPA size**
- **MPA spacing**
- Potential impacts to fisheries
- Bioeconomic modeling*
- Marine birds and mammals
- Water quality

** May be used to investigate MPAs and fisheries interactions*

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Levels of Protection

Key question:

"How much might an ecosystem differ from an unfished ecosystem if one or more activities are allowed?"

➢ Each harvest method was designated, and only the three highest levels of protection contributed towards habitat replication, MPA size and MPA spacing evaluations

- *Outcome: Of 16% of state waters now in MPAs, 12.3% is designated at the three highest levels of protection**

** Includes Channel Islands MPAs (adopted in 2003) and MPAs from the Revised North Coast Regional Stakeholder Group Proposal; does not include MPAs in the San Francisco Bay or special closures.*

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Habitat Representation *(Goals 1 and 4)*

Guideline: Every "key habitat" should be represented in each bioregion in the MPA network

- Identify key habitats and their availability
  - Beaches, rocky shores, kelp, hard bottom (0-30m, 30-100m, 100-3000m), soft bottom (0-30m, 30-100m, 100-3000m), and several estuarine habitats
- Evaluation metrics: Percentage of each key habitat and the associated levels of protection in MPA proposals

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Habitat Replication *(Goals 1 and 4)*

Guideline: 3-5 replicates of each key habitat per biogeographic region (1 replicate per bioregion)

- Protect the greater diversity of species/communities, and protect species from environmental fluctuations
- Provide analytical power for comparisons

Table: Example thresholds for habitat replication in the south coast region

Habitat	Required amount
Kelp, rock 0-30m, soft 0-30m, beaches	1.14 linear miles
Soft bottom 30-100	2.24 square miles
Deep rock 0-1000m	0.2 linear miles
Rocky shores, surfgrass	0.48 linear miles
Estuary	0.12 square miles

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MPA Size *(Goals 2 and 6)*

Guideline: MPA alongshore span = 3-6 square miles, and MPAs should extend from intertidal out to 3 miles

- Yields that MPAs should have a minimum area of 9-18 square miles (preferred = 18-36 square miles)
- Developed to provide for persistence of bottom-dwelling fish and invertebrates within MPAs
- *Outcome: Average MPA size**
  - *Pre-MLPA process (1999) = **1.4** sq mi*
  - *Current redesigned network = **7.0** sq mi*

** The current figure includes Channel Islands MPAs (adopted in 2003) and MPAs from the Revised North Coast Regional Stakeholder Group Proposal; and neither figure includes MPAs in the San Francisco Bay or special closures.*

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MPA Spacing *(Goals 2 and 6)*

Guideline: MPAs should be placed within 31-62 miles (50-100 km) of each other

- Provide for larval dispersal between MPAs and promote connectivity
- Spacing evaluation was conducted for **each** key habitat since marine populations are generally habitat specific
- *Outcome: Some open coast habitats met the guideline or came close, but highly variable across regions and habitats*