California Marine Life Protection Act Initiative
North Coast Study Region Educational Workshop I
Draft Workshop Agenda
(revised September 26, 2009)

Tuesday, September 29, 2009 at 5:30-8:30 PM

via teleconference and online meeting
Toll-free conference call number: 800.697.5978
Passcode: 6448054

Presentations via GoToWebinar
Make your reservation now at https://www1.gotomeeting.com/register/278465424

Public Participation: Members of the public are invited to participate in the workshop using the toll-free phone number and to watch presentations via the GoToMeeting webinar, or may join MLPA staff at a one of the following three locations:

CV Starr Community Center 300 South Lincoln Street Fort Bragg, CA 95437	Red Lion Inn 1929 Fourth Street Eureka, CA 95501	Best Western Northwoods Inn 655 Highway 101 South Crescent City, CA 95531

All three locations will be staffed. In addition, the meeting is being simultaneously webcast for viewing only; see the MLPA website (http://www.dfg.ca.gov/mlpa/meetings_n.asp) for more information.

Workshop materials will be posted to the MLPA website as soon as they are available. This agenda may be found on the MLPA website at http://www.dfg.ca.gov/mlpa/meetings_n.asp.

Workshop Objectives

- *Provide an introduction to the Marine Life Protection Act (MLPA) and the MLPA Initiative*
- *Review the marine protected area (MPA) planning process for the MLPA North Coast Study Region*
- *Outline the components of an MPA proposal*
- *Describe the science and feasibility guidelines for developing MPA proposals*
- *Provide basic training in using MarineMap, the MLPA Initiative's online mapping tool*

Workshop Agenda

Welcome, Introductions and Review of Agenda

I. An Introduction to the MLPA and MLPA Initiative

II. MPA Planning Process and Timeline for the North Coast Study Region

III. Overview of MLPA Master Plan Science Guidelines

IV. Overview of California Department of Fish and Game Feasibility Guidelines

V. Introduction to MarineMap

VI. Questions

Adjourn

Marine Life Protection Act Initiative

MLPA North Coast Marine Protected Area Planning Process and Timeline

Presented at North Coast Educational Workshop I
September 29, 2009 • Crescent City, Eureka, and Fort Bragg, CA

Melissa Miller-Henson, MLPA Initiative Program Manager

Planning Process 2004 to Present

Marine Protected Area (MPA) Planning Processes in Past Study Regions

- Three iterations to develop MPA proposals
- Regional stakeholder group (RSG) process for all three rounds
- External MPA proposals developed in parallel to RSG proposals in first two rounds

Adaptation Made to MLPA North Coast Study Region in Response to Community Needs

- Process for first round will be to develop external proposed MPA arrays from community groups
- RSG process in second and third rounds informed using the external proposed MPA arrays

Internal Versus External Proposals

- “Internal” proposals are developed through the MLPA North Coast Regional Stakeholder Group (NCRSG)
- External proposed MPA arrays developed external to the NCRSG will be evaluated and shared with the MLPA Blue Ribbon Task Force and NCRSG, informing development of draft and final MPA proposals

External MPA Arrays

Role of External Proposed MPA Arrays in the North Coast Study Region

- “Round 1” of the north coast MPA planning process
- Regional component of a statewide network
- Focus is on complete external proposed MPA arrays for the entire study region
- Individual MPA concepts can be shared, but do not constitute a “complete” regional array for evaluation purposes

Iterative Steps to Process

- **Develop External Proposed MPA Arrays**
  - Community groups and/or individuals, using workshops, MLPA Initiative staff support, online mapping tool, and science and feasibility guidelines
- **Evaluations**
  - Conducted by science advisory team, California Department of Fish and Game, California Department of Parks and Recreation and MLPA Initiative staff
- **Policy Guidance**
  - Blue ribbon task force
- **Inform NCRSG**
  - Using public input, various evaluations, and task force guidance, NCRSG will use external proposed MPA arrays to inform development of draft and final MPA proposals

Developing MPA Arrays

1. **One page cover sheet (array name, contributors, contact information)**
2. **One to two page narrative**
3. **Information for each MPA within the array**
4. **One page document outlining the consideration of existing MPAs**

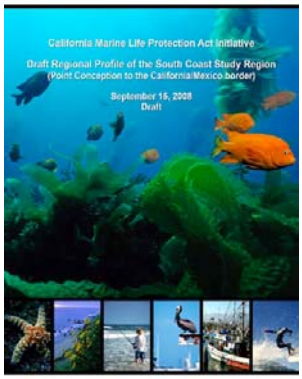
Considerations

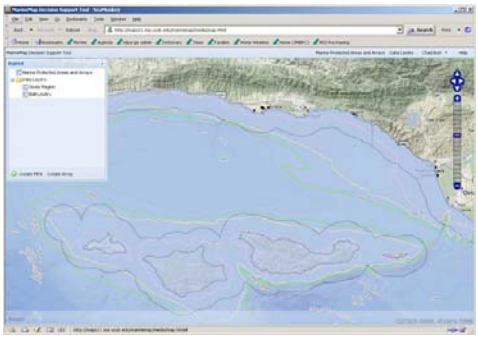
- External proposed MPA arrays should be designed consistent with the Marine Life Protection Act and guidelines in the *California Marine Life Protection Act Master Plan for Marine Protected Areas*
- External proposed MPA arrays should consider additional guidance provided by the science advisory team, blue ribbon task force, California Department of Fish and Game, California Department of Parks and Recreation, and MLPA Initiative staff

Tools for Developing Arrays

Available Tools and Other Information

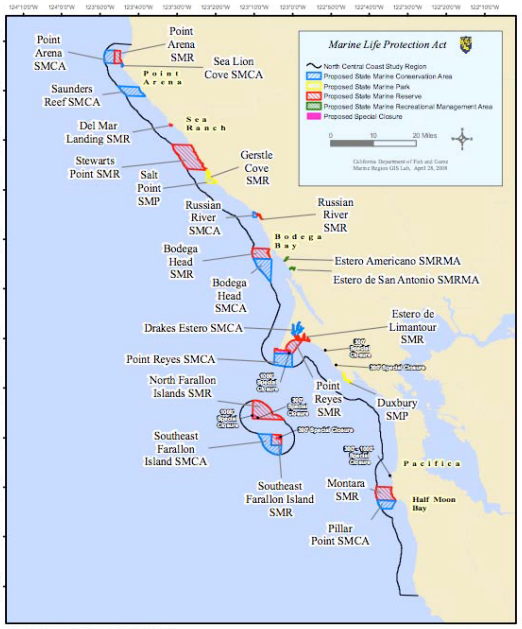
- Regional profile
- Public workshops
- Software (MarineMap)
- Paper charts
- Technical assistance from staff





MPA Proposal Example

North Central Coast Study Region
Integrated Preferred Alternative



North Central Coast Study Region
Integrated Preferred Alternative
This marine protected area (MPA) proposal was unanimously selected on April 23, 2008 by the MLPA Blue Ribbon Task Force (BRTF) as its preferred alternative and is being submitted to the California Fish and Game Commission (CFGC) for consideration. This proposal integrates elements from three proposals developed by the North Central Coast Regional Stakeholder Group (NCCSRG) (proposals 1-3, 2-XA, and 4). These NCCRSG proposals will also be forwarded in their entirety to the CFGC for consideration. Further information on each MPA proposal can be found in the associated text document with the same MPA proposal name.

North Coast Timeline

- September 2009: First educational workshop (Sept. 29) and begin process of developing external proposed MPA arrays
- October 2009: Request for nominations to the NCRSG and second educational workshop (Oct. 28)
- November 2009: Intent to prepare an MPA proposal, brief presentation to the MLPA Blue Ribbon Task Force, third workshop (Nov. 17), and submit nominations for the NCRSG
- December 2009: Submit external proposed MPA arrays

North Coast Timeline, Part 2

- January 2010: Evaluations conducted for external proposed MPA arrays
- February 2010: First meeting of the NCRSG
- March-September 2010: MPA proposals developed by the NCRSG
- October 2010: Task force selects preferred alternative
- December 2010: Recommendations to the state

Marine Life Protection Act Initiative

Science Guidelines for Marine Protected Area Design

North Coast Educational Workshop 1
September 29, 2009 - Crescent City, Eureka and Fort Bragg, CA
Dr. Satie Airame, Science and Planning Advisor

Summary of MLPA Goals

1. To protect the natural diversity and function of marine ecosystems.

2. To help sustain and restore marine life populations.

3. To improve recreational, educational, and study opportunities in areas with minimal human disturbance.

4. To protect representative and unique marine habitats.

5. Clear objectives, effective management, adequate enforcement, and sound science.

6. To ensure that MPAs are designed and managed as a network.

Scientific Guidance in the Master Plan

- From the ***California MLPA Master Plan for Marine Protected Areas***
  - Flexibility
  - Biogeographical regions (Goals 1, 2, and 4)
  - Species likely to benefit (Goals 1 and 2)
  - Levels of protection (Goals 1, 2, 4 and 6)
  - Habitat representation (Goals 1 and 4)
  - Habitat replication (Goals 1, 2, 3, 4 and 6)
  - MPA Size (Goals 2 and 6)
  - MPA Spacing (Goals 2 and 6)
  - Monitoring (Goals 3 and 5)

Flexibility in MPA Design

*The diversity of species and habitats to be protected, and the diversity of human uses of marine environments, **prevents a single optimum network design** in all environments.

*Science guidance from Master Plan for Marine Protected Areas

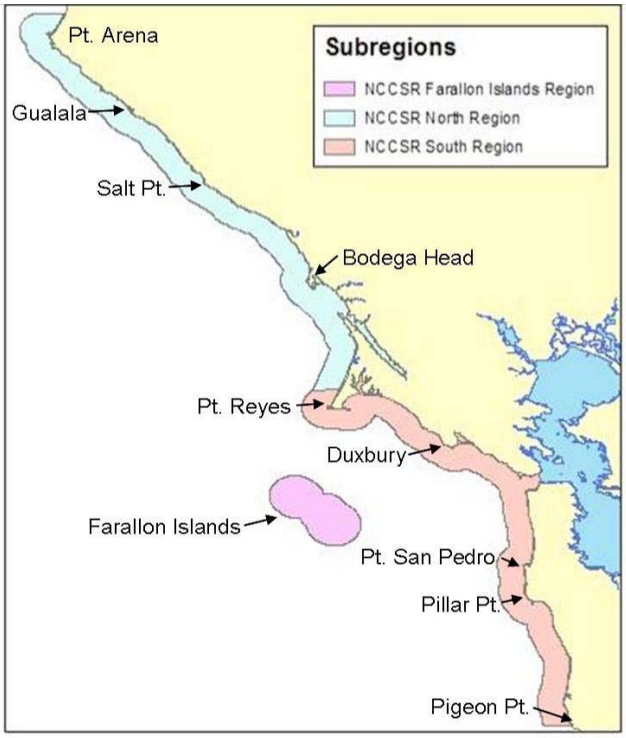
Biogeographical Regions

- The MLPA requires marine reserves in each **biogeographical region** of California.
- Two biogeographical regions were identified:
  - California-Oregon border to Point Conception
  - Point Conception to U.S.-Mexico border

Bioregions

- The **north coast study region** falls entirely within the northern biogeographical region of California.
- Within the north coast study region, the Science Advisory Team will identify any unique bioregions.
- A **bioregion** is a biogeographically relevant subregion within the large-scale biogeographical region.

North Central Coast Bioregions



Species Likely to Benefit

- The Master Plan identifies "select species or groups of **species likely to benefit** from MPAs."
- Species likely to benefit include those:
  - directly **targeted** by fisheries
  - caught incidentally (**bycatch**)
  - **indirectly** affected through ecological changes within MPAs
- Species that **move long distances** likely will not benefit significantly from MPAs


Photo: Tom McHugh


Photo: Gus Van Vliet, USFWS

Species Likely to Benefit

- The list of **species likely to benefit from MPAs in the north coast study region** will be developed by the science advisory team.

- To view the list of species likely to benefit from the Master Plan for Marine Protected Areas: http://www.dfg.ca.gov/mlpa/pdfs/revisedmp0108g.pdf


Photo: Rick Heiser

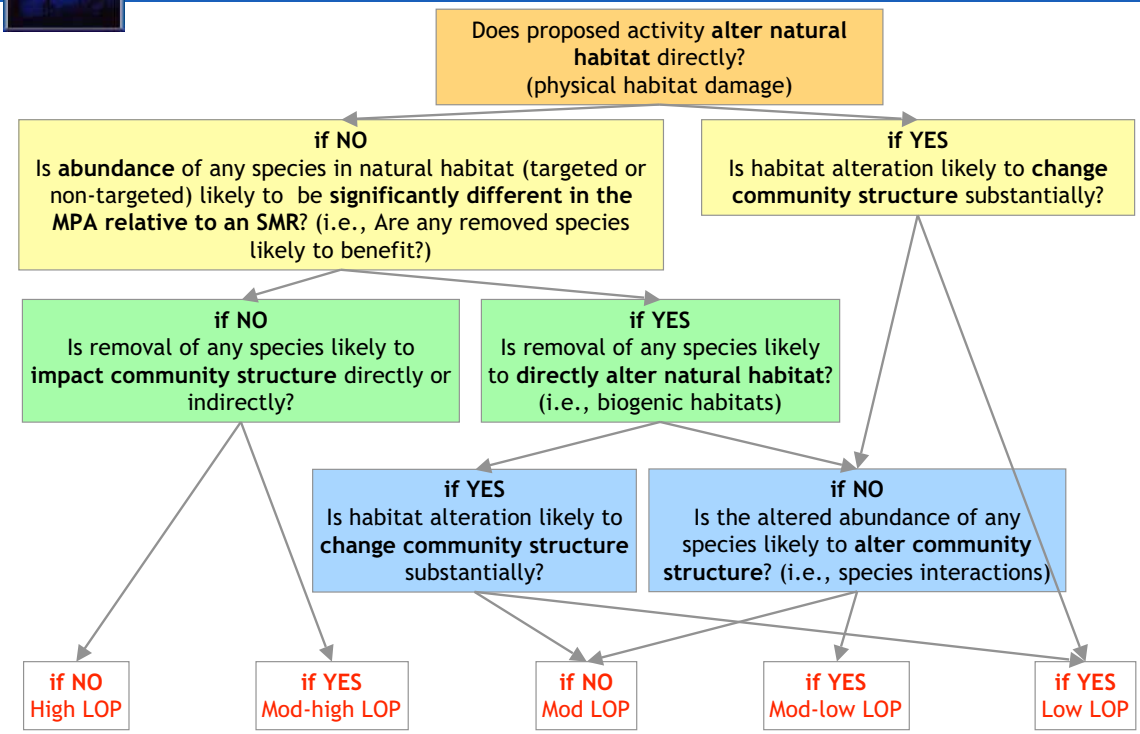

Photo: Terrance J. Fidler

Marine Protected Areas

- **State Marine Conservation Area (SMCA)**
  - Limits recreational and/or commercial extractive activities
- **State Marine Park (SMP)**
  - Prohibits all commercial extractive activities and potentially some recreational activities.
- **State Marine Reserve (SMR)**
  - Prohibits all extractive activities


Photo Credit: iStockphoto/Amy Dala

Conceptual Model for Determining LOP



*Levels of Protection

	Level of Protection	MPA Type	Activities Associated with a Protection Level for the North Central Coast Study Region (NCCSR)
	Very high	**SMR**	No take
	High	**SMCA SMP**	In water depth > 50m: pelagic finfish by hook and line (salmon by troll only); coastal pelagic finfish by seine
	Moderate-high	**SMCA SMP**	In water depth < 50m: pelagic finfish by hook and line (salmon by troll only); coastal pelagic finfish by seine; Dungeness crab (traps/pots), squid (pelagic seine)
	Moderate	**SMCA SMP**	Salmon (non-troll H&L); abalone (diving); halibut, white seabass, shore-based finfish, croaker, and flatfishes (H&L); smelt (H&L and hand/dip nets); clams (hand harvest); giant kelp (hand harvest)
	Moderate-low	**SMCA SMP**	Urchin (diving); lingcod, cabezon, greenling, rockfish, and other reef fish (H&L); surfperches (H&L)
	Low	**SMCA SMP**	Bull kelp and mussels (any method); all trawling; giant kelp (mechanical harvest); mariculture (existing methods)

*Levels of protection from the north central coast study region

Habitat Representation

"*For an objective of protecting the diversity of species that live in different habitats and those that move among different habitats over their lifetime, every "key" marine habitat should be represented in the MPA network."

*Science guidance from Master Plan for Marine Protected Areas

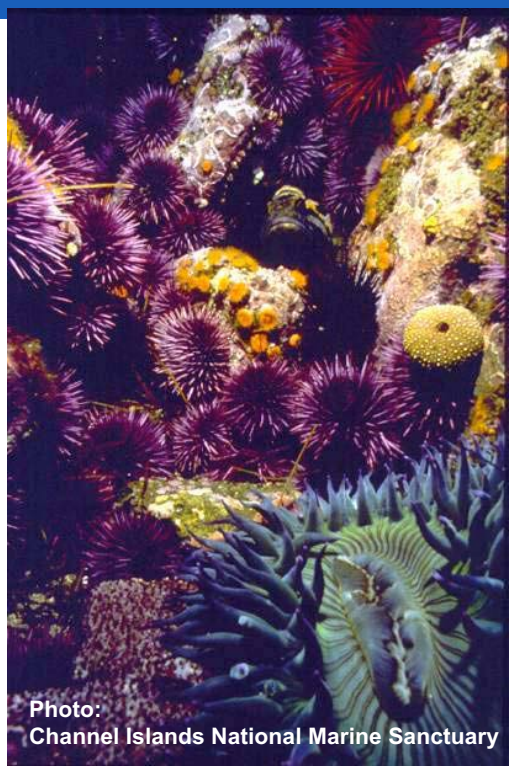


Photo:
Channel Islands National Marine Sanctuary

Key Habitats

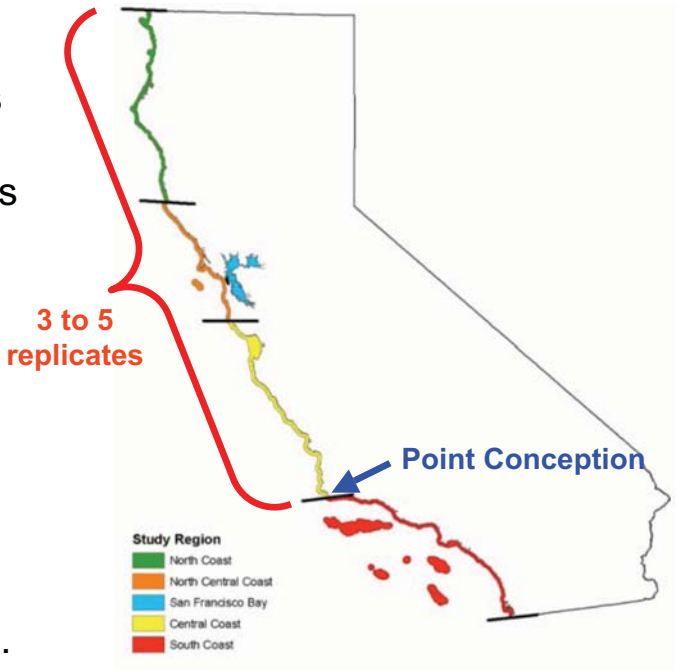
Intertidal/Nearshore
- Rocky Shore
- Sandy Beach
- Coastal Marsh
- Tidal Flats
- Estuary
- Eelgrass
- Surfgrass

Oceanographic
- Upwelling centers
- Retention areas
- Freshwater plumes

Subtidal
- Hard/Soft Bottom
  - 0-30 m
  - 30-100 m
  - 100-200 m
  - >200 m
- Kelp forest
- Canyons
- Seamounts

Habitat Replication

- Science guidance in the Master Plan recommends **3 to 5 replicates** of each key habitat within reserves in each **biogeographical region** (Point Conception to California-Oregon border)
- For the south coast study region, scientists recommended at least **1 replicate** of each key habitat in each **bioregion**.



Habitat Replication

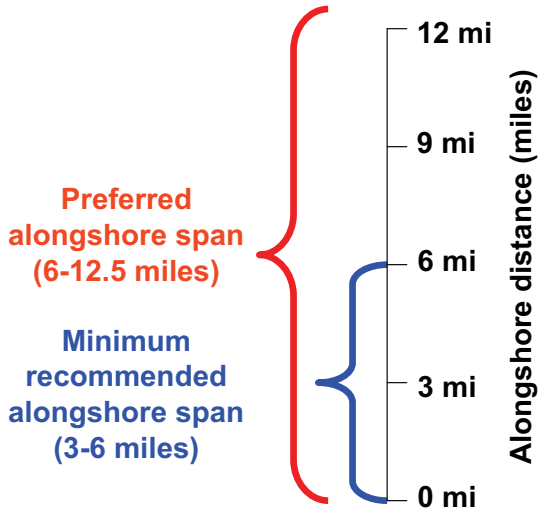
*90% threshold for different habitats

Habitat	Area or Length of a Replicate	Data Source
Rocky Intertidal	**~0.5 linear miles**	PISCO Biodiversity
Shallow Rocky Reefs/Kelp Forests (0-30 m)	**~1 linear miles**	PISCO Subtidal Surveys
Deep Rocky Reefs (30-100 m)	**~0.1 square miles**	Starr Surveys
Sandy Beaches *	**~1 linear miles**	
Soft-Bottom Habitat (0-30 m)	**~1 linear miles**	Based on shallow rocky reefs
Soft-Bottom Habitat (30-100 m)	**~10 square miles**	NMFS Triennial Trawl Surveys (1977-2007)
Estuary	**0.12 square miles (77 acres)**	

*Estimates for the north central coast study region

Guideline for MPA Size

"*For an objective of protecting adult populations, based on adult neighborhood sizes and movement patterns, MPAs should have a minimum alongshore span of 5-10 km (3-6 miles) of coastline, and preferably 10-20 km (6-12.5 miles)."



*Science guidance from Master Plan for Marine Protected Areas

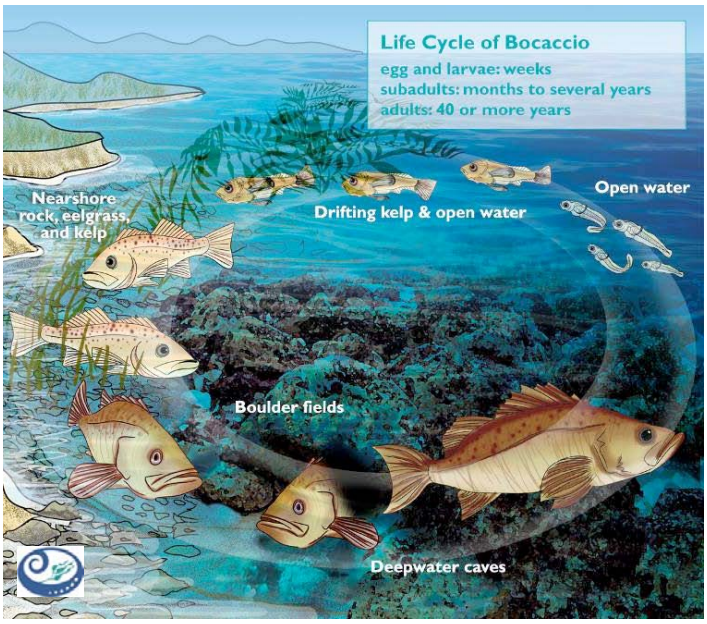
Scales of Adult Movement

0-1 km	1-10 km	10-100 km	100-1000 km	>1000 km
Invertebrates: abalone, mussel, octopus, sea star, snail, urchin **Rockfishes:** black & yellow, brown, copper, gopher, grass*, kelp, quillback, starry, treefish, vermilion **Other Fishes:** cabezon, eels, greenlings, giant seabass, black, striped and pile perch, pricklebacks	**Rockfishes:** black, China, greenspotted*, olive, yelloweye **Other Fishes:** walleye perch* 	**Invertebrates:** Dungeness crab** **Rockfishes:** blue, bocaccio, yellowtail **Other Fishes:** California halibut, lingcod, starry flounder **Birds:** gulls, cormorants **Mammals:** harbor seal, otter	**Rockfishes:** canary **Other Fishes:** anchovy, big skate, herring, Pacific halibut, sablefish**, salmonids**, sole, sturgeon **Birds:** gulls** **Mammals:** porpoise, sea lion**	**Invertebrates:** jumbo squid** **Other Fishes:** sardine, shark**, tunas**, whiting** **Reptiles:** turtles** **Birds:** albatross**, pelican**, shearwater**, shorebirds**, terns** **Mammals:** dolphins, sea lion**, whales**

** Studies of this species included fewer than 10 individuals*
*** Seasonal migration*

Guideline for MPA Size

*To protect species at different depths and ontogenetic movements, MPAs should extend from the intertidal zone to deep waters offshore.



Art by Ryan Kleiner

*Science guidance from Master Plan for Marine Protected Areas

Guideline for MPA Size

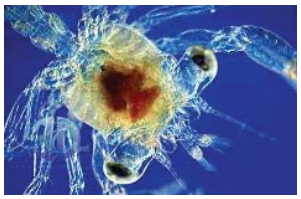
*Taking into account these two guidelines, the science advisory team recommended a minimum area of 9–18 square miles for each MPA, and preferably 18–36 square miles.

Photo: Gretchen Hofmann

*Science guidance from Master Plan for Marine Protected Areas

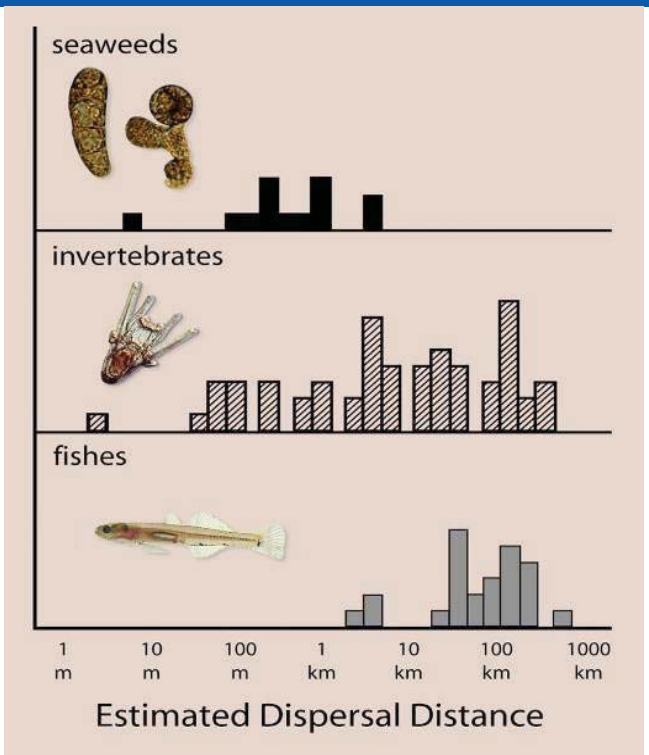
Guideline for MPA Spacing

"*For an objective of facilitating dispersal of important bottom-dwelling fish and invertebrate groups among MPAs, based on currently known scales of larval dispersal, MPAs should be placed within 50-100 km (31-62 miles) of each other."



*Science guidance from Master Plan for Marine Protected Areas

Scales of Larval Dispersal



Other Science Guidance

Scientific evaluation of proposed MPAs also considers:

- Locations of marine mammal haulouts, bird colonies and rookeries
- Water and sediment quality


Photo: Jeffrey Slovin

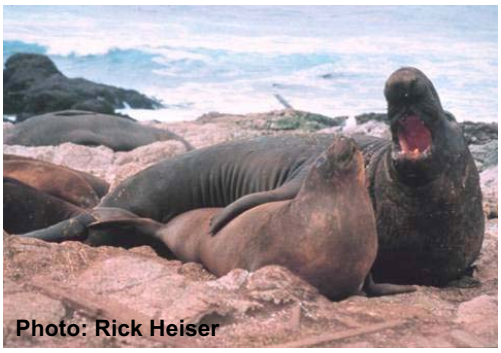


Photo: Rick Heiser

Summary

Summary of science guidance for MPA design:

- Include all key habitats.
- Minimum size is no less than **9 square miles**, preferred is no less than **18 square miles**.
- Each key habitat should be replicated in **3-5 MPAs** in a *biogeographical region* with at least **1 MPA** in a *bioregion* (subregion).
- Minimum spacing is no more than **62 miles** between MPAs, preferred is no more than **31 miles**.

For More Information

For more information about science guidelines:

- Master Plan for Marine Protected Areas
  http://www.dfg.ca.gov/mlpa/masterplan.asp
- Draft Methods Used to Evaluate Marine Protected Area Proposals
  www.dfg.ca.gov/mlpa/pdfs/agenda_061809c1.pdf

Marine Life Protection Act

Overview of Department of Fish and Game Feasibility Criteria for MPA Proposals

North Coast Workshop I
September 29, 2009 • Crescent City, Eureka and Fort Bragg, CA

Susan Ashcraft
California Department of Fish and Game

Overview of Department Role

The MLPA Initiative *Memorandum of Understanding (MOU)* explains the Department's role:

- The Department *will not*
  - Create it's own alternative;
  - Recommend a preferred alternative;
  - Support any individual stakeholder proposal

Overview of Department Role, cont.

- The Department *will*
  - Provide comments to Commission on MPA proposals;
  - Provide a Statement of Feasibility Criteria; and
  - Give advice on feasibility aspects of draft MPA proposals

- The Department provides its advice
  - During work group sessions; and
  - Through a formal evaluation of each submitted MPA proposal

Categories of Department Advice

- Department advice and feedback will cover:

  1. **Feasibility of MPAs**: enforceability, MPA design, boundaries, take regulations
  2. **Stated goals and objectives**
  3. **Likelihood** of proposals **to meet the MLPA goals**

- Department guidelines outlined in document: "*Feasibility Criteria and Evaluation Components for Marine Protected Area Proposals*"

Why Feasibility Criteria?

- Purpose of DFG Feasibility criteria & feedback:
  - Create MPAs easy for public to understand;
  - Create MPAs that are enforceable;
  - Help avoid design qualities that may pose a risk to MPA success;
  - Help avoid creating a management burden (enforcement, monitoring, public expectations)

Feasibility of MPAs

MPA design and regulations must be:

simple, easily understood & enforceable

- Categories of Feasibility Criteria:
  - MPA Names
  - Boundaries
  - Take Regulations
  - Design Considerations
  - Other Guidance

MPA Names

Names should:

- Be simple, reasonably short, & reflect the geographic area designated
- Include the MPA designation type *(e.g., Bodega Head State Marine Conservation Area)*
- Not be named after individuals or groups

Boundaries

Boundaries should not:

- Use depth contours or distance offshore
- Use curving or undulating lines

Boundaries should:

- Use straight due N/S, E/ W lines; and
- Be placed at **readily determinable lines** of lat. and long.; or
- Placed at **easily recognizable landmarks**.

Boundaries: Readily Determined Lines

Examples of Readily Determinable Lines of Lat. & Long.:

- Preferred: Whole minutes (36° 50’ N; 121° 46’ W)
- Less Desirable: Half minutes (36° 50.5’ N; 121° 46.5’ W)
- Least Preferred: 1/10th Minutes (36° 50.3’ N; 121° 46.7’ W)

Boundaries: Corners and Diagonals

Corners should:

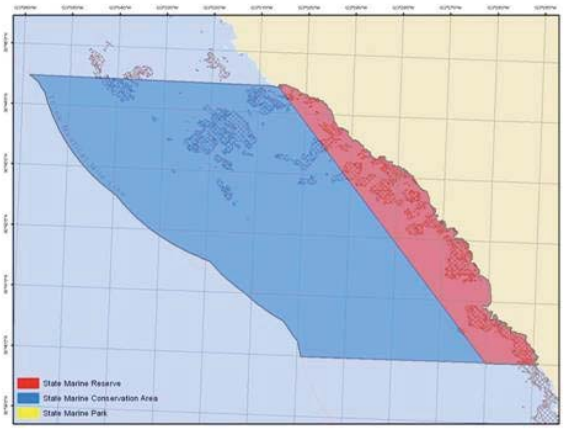
- Be at 90° angles; and
- Be at readily determinable lines of lat. and long.

Diagonal Lines (IF used):

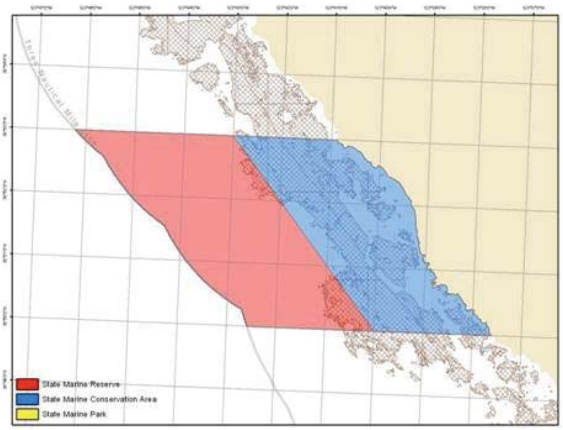
- Should be used sparingly
- Must follow the angle of the coastline
- Should be placed sufficiently offshore to accommodate nearshore users w/o GPS
- Must be “anchored” at whole minutes of latitude and longitude with

Example: Diagonals

Boundaries: Diagonal Lines

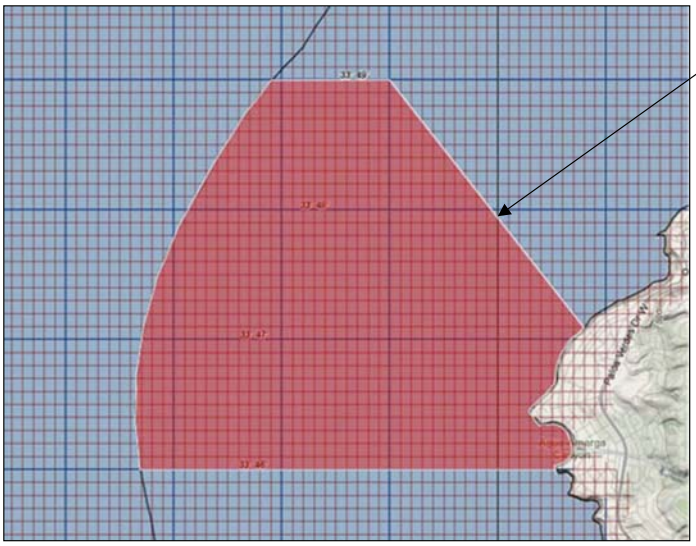


Incorrect



Correct

Example: Diagonals



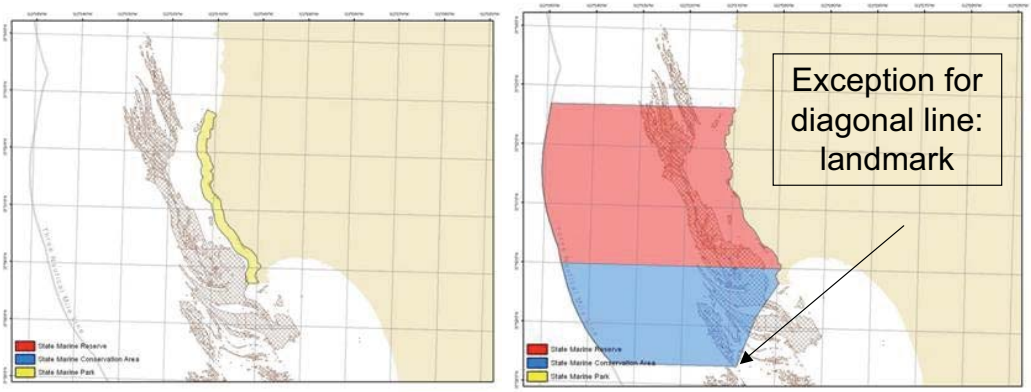
Incorrect use of diagonal lines

Incorrect

Feasibility Criteria: MPA Design

Intertidal MPAs:

- Not Recommended
- MPAs should extend to adjacent subtidal waters



Existing MPA

Improved MPA

Boundaries: Landmarks

Landmarks should:

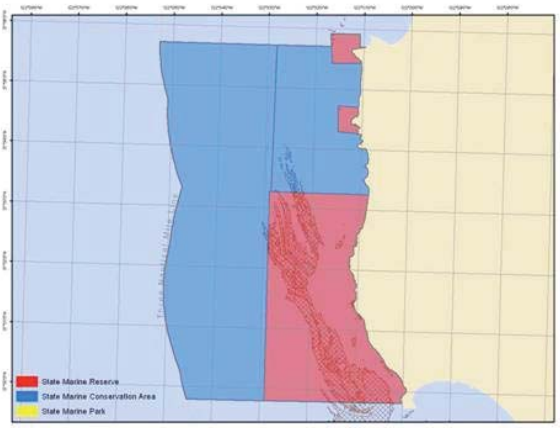
- Be easily recognizable
- Be permanent & readily observable
  - E.g., rocks, points, headlands, navigational buoys, etc.
- Have coordinates assigned

*If landmarks are utilized, include both landmark and coordinates in the proposal.

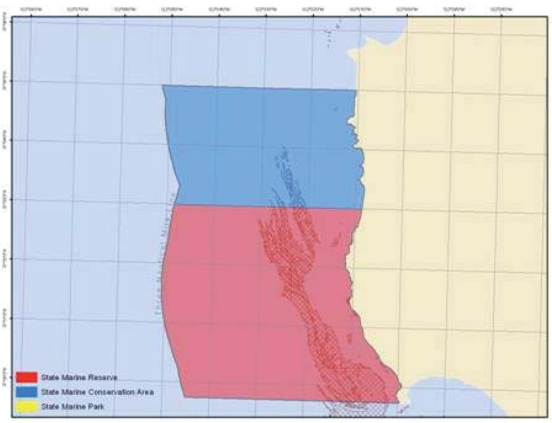
Feasibility Criteria: MPA Design

Multiple Zoning:

- Occurs when an area is split to allow for different uses in multiple portions of the area.

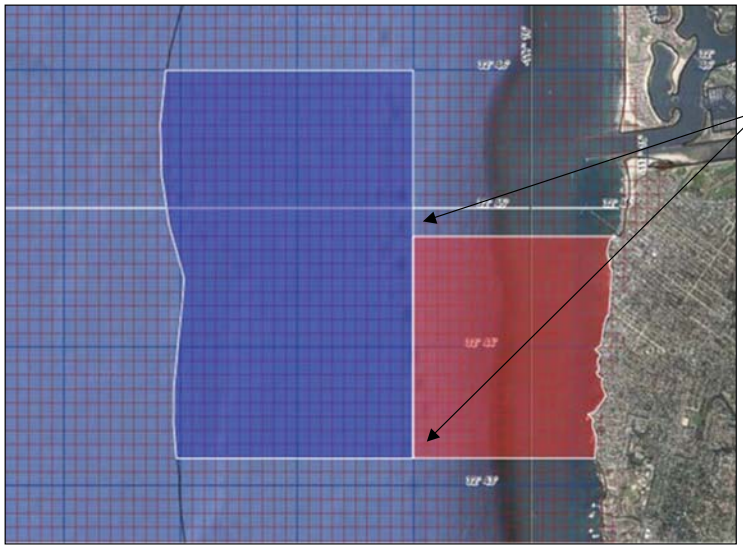


Not Consistent with Guidelines, Doughnut and L-Shapes



Consistent with Guidelines

Feasibility: MPA Design, Boundaries



Hanging Corners and “L” Shapes

Feasibility Criteria: Take Regulations

Take regulations should:

- Be simple and easily understood
  - E.g., “using categories like pelagic finfish”
- Avoid conflict with existing regulations
- Not create new fishery management regulations (i.e., different bag limits, size limits, or seasons).

- The best regulations are those that can be simply stated in one or two sentences without clarifying language.

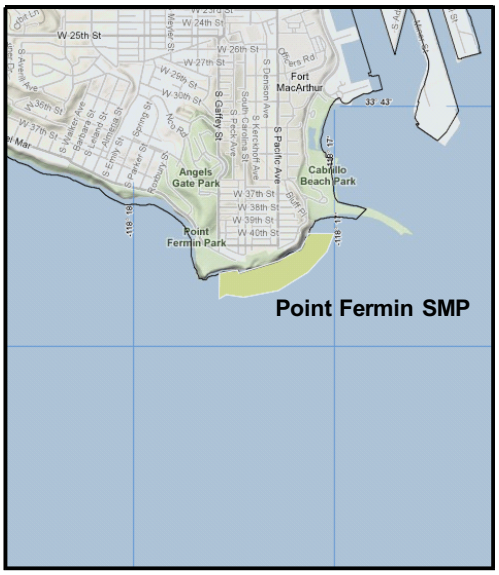
Feasibility: Regulations

Complex regulations

Allowed Take:

• Prohibits all recreational take except lobster; rockfish (family Scorpaenidae), greenling, lingcod, cabezon, yellowtail, mackerel, bluefin tuna, kelp bass, spotted sand bass, barred sand bass, sargo, croaker, queenfish, corbina, white seabass, opaleye, halfmoon, surfperch (family Embiotocidae), blacksmith, barracuda, California sheephead, bonito, California halibut, sole, turbot and sanddab. Finfish shall only be taken by hook and line or spear.

• Prohibits all commercial take.



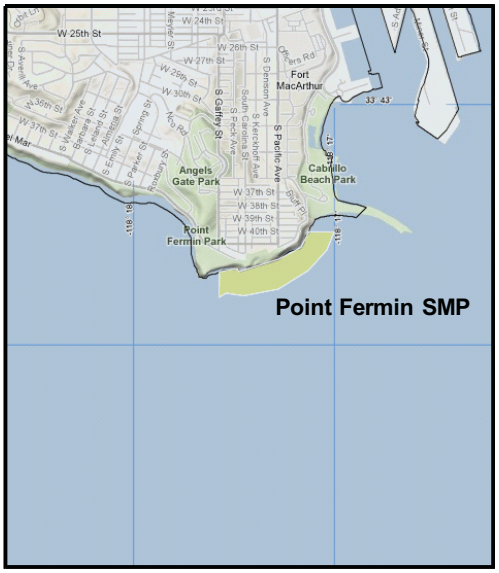
Opal

Feasibility: Regulations

Simplified regulations

Allowed Take

- Prohibits all recreational take except lobster; and finfish by hook and line or spear only.
- Prohibits all commercial take.



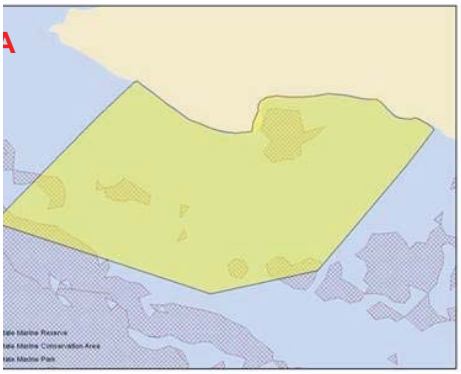
Opal

Feasibility Criteria: Other Guidance

Example of Redesigning Existing MPAs

Existing MPA

- Boundaries do not meet guidelines
- Allows most existing take to continue

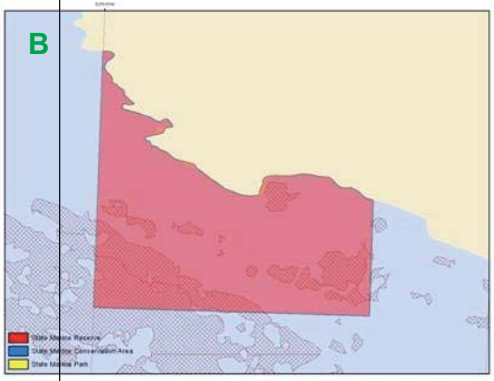


MPA Type: SMP

Take Regulations: prohibited, All marine aquatic plants; All invertebrates EXCEPT red abalone, chiones, clams, cockles, rock scallops, native oysters, crabs, lobsters, ghost shrimp, sea urchins, mussels and worms.

Improved MPA

- Boundaries meet guidelines
- Regulations simplified



MPA Type: SMR

Take Regulations: No take of living marine resources allowed.

Goals and Objectives

- For each MPA proposal, the Department will:
  - Review stated objectives and identified rationale for each MPA
  - Give feedback on alignment of objectives to MPA design
  - Provide options to improve MPA design to meet stated objectives

Prospects of MPAs to Meet MLPA Goals

- The Department will evaluate MPA proposals based on:
  - Guidelines from Master Plan for MPAs
  - SAT guidance, and
  - DFG feasibility criteria
- The Department will advise on improving MPA proposals to better meet MLPA goals

Purpose of DFG Guidelines

DFG Guidelines are intended to ensure that MPAs have:

- Simple regulations, easy to enforce & understand
- Reasonable goals and objectives for each proposed MPA
- Good prospects to meet MLPA goals

DFG Feasibility Evaluation Summary

- Every MPA will be compared to all feasibility categories
- Options to remedy will be provided
- Feedback given on what works well
  - "Elegant solutions" to design challenges;
  - Preferred orientation/design; etc.