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Marine Life Protection Act Initiative

Overview of Marine Life Protection Act Science Guidance and Evaluation Methods

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Sources of Science Guidance

- **California Marine Life Protection Act (MLPA)**
  - Provides some specific and mandated requirements
  - Requires development of additional guidance
- **California MLPA Master Plan for Marine Protected Areas (MPAs)**
  - Mandated by the MLPA
  - Provides guidance on MPA size, MPA spacing, habitat representation and habitat replication
  - Describes key habitats and levels of protection
- **MLPA Master Plan Science Advisory Team (SAT)**
  - Further specifics for each study region
  - Science evaluations of MPA proposals

MLPA Science Guidance

- Inclusion of “marine life reserves”
- Use of “best readily available science”
- Key habitats to be represented
- General guidance for MPA design:
  - “…encompass a representative variety of marine habitat types and communities, across a range of depths and environmental conditions”
  - “…MPAs shall be of adequate size, number, type of protection, and location to ensure that each MPA meets its objectives and that the network as a whole meets the goals and guidelines…”

Summary of MLPA Goals

1. **To protect the natural diversity and function of marine ecosystems**
2. **To help sustain and restore marine life populations, including those of economic value**
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**

California Master Plan for MPAs

- Adopted by California Fish and Game Commission after significant public review and input
- Provides more specific guidelines for how to implement broad guidance in the MLPA
- Updated as new information becomes available and MPAs adopted for each of five study regions
- Living document with additional public input sought as revisions are made

Master Plan Science Guidance

Master Plan Section 3: Considerations in the Design of Marine Protected Areas

- Specific size and spacing guidelines at “minimum” and “preferred” levels
- Replication guidelines
- Description of “key habitats”
- Description of levels of protection

Science Advisory Team Guidance

SAT Provides Science Guidance to the MPA Planning Process

- Applies science guidance from the master plan for MPAs
- Assembles and reviews relevant data for MPA planning and evaluation
- Determines levels of protection (LOPs) for proposed allowed uses
- Answers science related questions
- Evaluates potential ecological and economic impacts of alternative MPA proposals

Purpose of SAT Evaluations

- Provide evaluation of MPA proposals generated in an iterative process of design, evaluation and refinement
- *How well do MPA proposals meet the scientific goals of the Marine Life Protection Act?*

BRTF Guidance Regarding Science

- Utilize the best readily available science and information as directed by the MLPA
- Place strong emphasis on MPAs that meet the science guidelines for preferred size and spacing
- MPA proposals should include "backbone" of MPAs with "very high" or "high" levels of protection
- Place great weight on the results of the SAT evaluations of MPA proposals

SAT Evaluation Steps

- SAT develops and approves evaluation methods based on guidance in the MLPA and master plan for MPAs
- MLPA staff and SAT work groups generate statistics, figures, etc. for MPA proposals
- SAT members present results to the SAT, regional stakeholder group, and MLPA Blue Ribbon Task Force (BRTF)

Evaluation Methods Document

Contents

Levels of Protection

Levels of protection (LOPs) distinguish between MPAs that are "no-take" and those that allow different types of uses

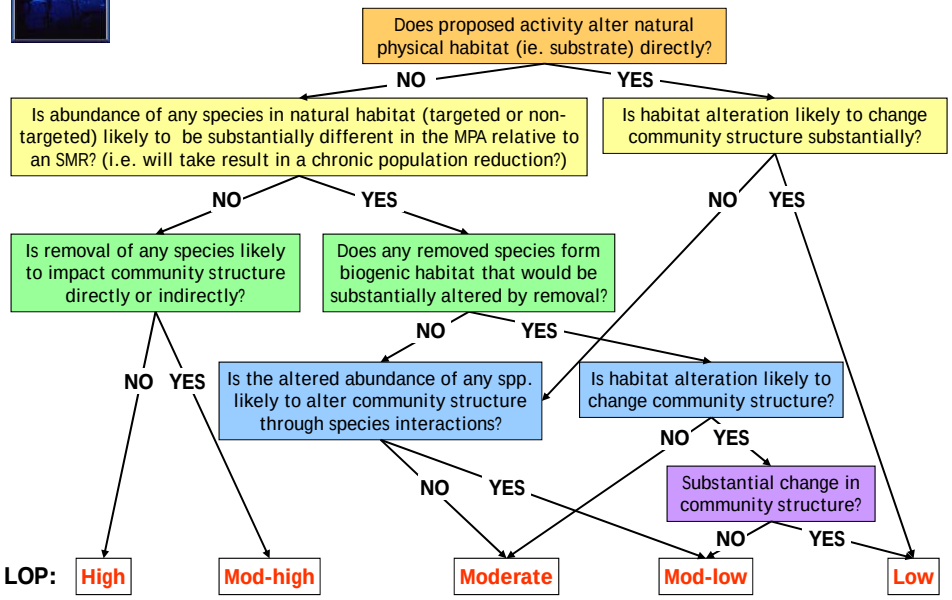
- **State marine reserves (SMRs)** are no-take areas that have a very high level of protection
- **State marine conservation areas (SMCAs)** allow some kinds of commercial and/or recreational fishing
- **State marine parks (SMPs)** allow some kinds of recreational fishing

Evaluation of Levels of Protection

- BRTF directed the SAT to present evaluations of MPAs at three highest levels of protection:
  - **Very High** (SMRs)
  - **High** (SMCAs and SMPs)
  - **Moderate-high** (SMCAs and SMPs)
- Proposed MPAs also considered in evaluations of:
  - Potential impacts to fisheries
  - Water quality
  - Bioeconomic models

	Level of Protection	MPA Type
	Very high	SMR
	High	SMCA SMP
	Moderate-high	SMCA SMP
	Moderate	SMCA SMP
	Moderate-low	SMCA SMP
	Low	SMCA SMP

Conceptual Model for Determining LOP

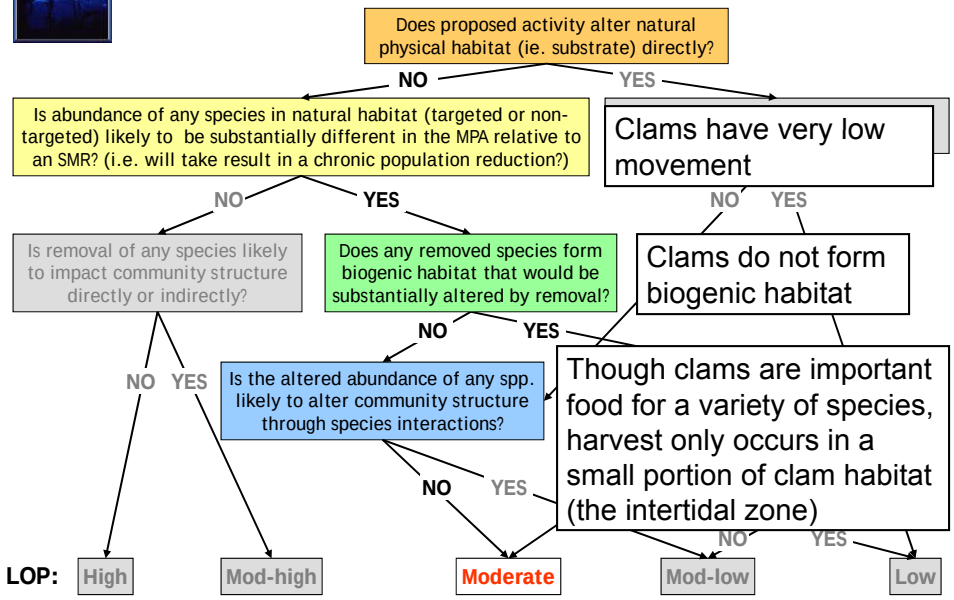


Assumptions Used in LOP Designations

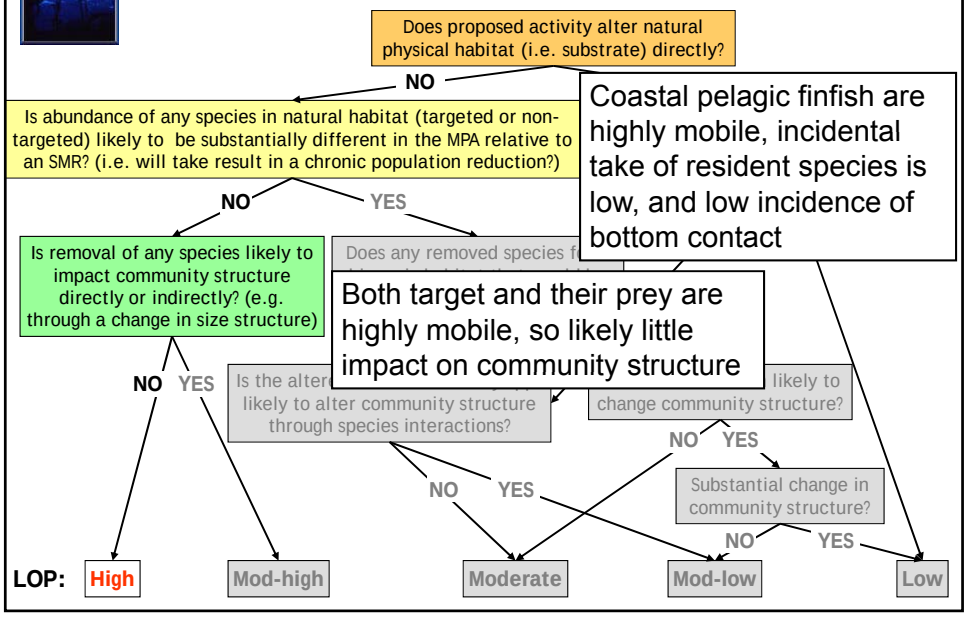
In applying the LOP conceptual model, SAT makes three important assumptions:

- Any extractive activity can occur locally to maximum extent allowable under current state and federal regulations
- For purpose of comparison, an un-harvested system is a marine reserve that is successful in eliminating fishing and other extractive uses within the MPA
- The proposed activity is occurring in isolation from other activities, without cumulative effects of multiple allowed activities; assumption is based upon limitations in the SAT's ability to assess cumulative impacts of multiple activities, not a belief that cumulative impacts do not occur

Example: Clams by Intertidal Hand Harvest



Example: Coastal Pelagic Finfish by Net



North Coast Levels of Protection

	Level of Protection	MPA Types	Activities Associated with this Protection Level
	Very high	**SMR**	**No take**
	High	**SMCA SMP**	**Salmon** (H&L or troll in waters >50m depth); **coastal pelagic finfish**[1] (H&L, round-haul net, dip net);
	Mod-high	**SMCA SMP**	**Dungeness crab** (trap, hoop-net, diving)**; salmon** (troll in water <50m depth); **surf and night smelts** (dip net, a-frame net, cast net)
	Moderate	**SMCA SMP**	**Redtail surfperch** (H&L from shore); **surfperch** (H&L from shore) **California halibut** (H&L); **coonstripe shrimp and spot prawn** (trap)**; clams** (intertidal hand harvest); **turf-forming and foliose algae**[2] (intertidal hand harvest); **salmon** (H&L in waters <50m depth)
	Mod-low	**SMCA SMP**	**Pacific halibut** (H&L); **lingcod, cabezon, and rockfishes, and greenlings** (H&L, spearfishing, trap); **red abalone** (free-diving); **urchin** (diving), **surfperch** (H&L)
	Low	**SMCA SMP**	**Rock scallop** (diving); **mussels** (hand harvest); **bull kelp** (hand harvest); **ghost shrimp** (hand harvest); **sea palm** (intertidal hand harvest); **canopy-forming algae**[3] (intertidal hand harvest)

1 The grouping "coastal pelagic finfish" includes: Northern anchovy (*Engraulis mordax*), Pacific herring (*Clupea pallasi*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), and Pacific sardine (*Sardinops sagax*).

2 The grouping "turf-forming and foliose algae" includes the following harvested groups: *Porphyra* spp. (Nori, Laver), *Ulva* spp. (Sea Lettuce), *Chondrocanthus/Gigartina exasperata* (Turkish Towel), and *Mastocarpus* spp. (Mendocino Grapestone).

3 The grouping "canopy-forming algae" includes the following harvested groups: *Alaria* spp. (Wakame), *Lessonioposis littoralis* (Ocean Ribbons), *Laminaria* spp. (Kombu), *Saccharina/Hedophyllum sessile* ('Sweet' Kombu), *Egregia menzeisii* (Feather Boa), and *Fucus* spp. (Bladder wrack or Rockweed).

For More Information

- California Marine Life Protection Act Master Plan for Marine Protected Areas http://www.dfg.ca.gov/mlpa/masterplan.asp
- Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA North Coast Study Region (Document H.3 at http://www.dfg.ca.gov/mlpa/meeting_050310.asp)