

**California MLPA Master Plan Science Advisory Team
Draft Criteria for List of Species Likely to Benefit from
Marine Protected Areas in the MLPA South Coast Study Region
Revised December 6, 2008**

The Marine Life Protection Act (MLPA) requires that species likely to benefit from marine protected areas (MPAs) be identified; identification of these species will contribute to the identification of habitat areas that will support achieving the goals of the MLPA. The draft *Marine Life Protection Act Master Plan for Marine Protected Areas* (January 2008) includes a broad list of species likely to benefit from protection within MPAs. The master plan also indicates that regional lists will be developed by the MLPA Master Plan Science Advisory Team for each study region of the California coast. Species on each of the regional lists are likely to be prioritized for monitoring in the evaluation of MPAs effectiveness.

Included in Table 1 are potential revisions to the criteria that were used to create the list of species likely to benefit from MPAs in past study regions. These revisions include a ranking scheme using “1” to indicate certain criteria were met or a “0” to indicate criteria that were not met. In addition to a rank, certain criteria are used as an initial filter. Foremost, a species must occur in the appropriate study region. A species must also score a “1” in at least one of the following criteria under “Human Impacts”: 1) removal, 2) discards, or 3) disturbance and must also score a “1” in at least one of the following criteria under “Biological/Life History”: 6) feature association or 7) limited adult home range. Once a species satisfies these initial filters the remaining criteria apply in an additive fashion resulting in a score based on the number of criteria it satisfies. A higher score suggests a species is more apt to benefit from or respond to MPAs. Where there are insufficient data to determine if a criterion is met or not, no score will be given, with new information incorporated as it becomes available over time.

These criteria require SAT discussion before fully populating the list of species likely to benefit from MPAs in the South Coast Study Region. Therefore, only the criteria are presented here.

Table 1. Criteria for selecting species likely to benefit from MPAs in the MLPA South Coast Study Region

Consideration	Criteria	Clarifying Statements	Example Species	Species Descriptions
Human Impact	1* - Removal: Taken directly or indirectly in commercial or recreational fisheries or otherwise targeted for take or collection for other uses (e.g. the aquarium trade, research, and tide pooling).	DIRECTLY targeted for removal from the ecosystem.	Barred surfperch, Kelp bass, Spot prawn	These species are directly targeted by fishermen.
		INDIRECTLY removed from the ecosystem while targeting other species (sometimes termed “bycatch”).	Sheephead	This species is sometimes taken and kept while targeting species such as kelp bass.
Human Impact	2* - Discards: A species that cannot be returned to the water with a high rate of survival.	Returned to the water as a discard in a fishery.	Giant sea bass	It is illegal to keep this species.
		Not expected to have a high rate of survival after being returned to the water.	Olive rockfish	This species suffers from pressure changes when brought to the surface.

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Consideration	Criteria	Clarifying Statements	Example Species	Species Descriptions
Human Impact	3* – Disturbance: Species that suffer reduced survival or reproductive output as a result of human disturbance.	Reduced reproductive success due to human disturbance (e.g. bird and mammal flushes).	Brandt's cormorant, Harbor seal	These species flush easily from nests or haulouts, leaving their young vulnerable.
		Reduced survival due to human disturbance (e.g. tide pool trampling).	California mussel, Rockweeds	These species can be trampled by tidepoolers.
Human Impact	4 - Habitat Degradation: Suffers negative impacts through ecological or habitat changes associated with human activities.	Critical habitat disappearing or being degraded as a result of NON-FISHING human activity (e.g. harbor dredging, wetland draining).	Arrow goby, Ghost shrimp	Gobies suffer from wetland loss, while ghost shrimp lose habitat during harbor dredging.
		Critical habitat disappearing or being degraded as a result of FISHING activities (e.g. kelp harvesting).	Many juvenile rockfishes	Juvenile stages of most rockfish species are dependent on kelp forest habitat.
Human Impact	5 - Depressed population: A special status species or a species with abundance below the range of natural fluctuations.	Special status species.	CA least tern	This is a federally endangered species.
		A species with depressed population abundance as the result of any human activity (such as removal, disturbance, or habitat loss or degradation)	Bocaccio	Considered "overfished" by the Federal Groundfish FMP
Biological/ Life History	6* - Feature Association: Biomass or abundance would increase due to the protection of features species are known to favor.	Forages near specific oceanographic, geographic, or biological features.	Vermilion rockfish, Cassin's Auklets	These species forage near particular features (rockfish, rocky reefs; auklets, thermal fronts).
		Nests at specific features.	Brandt's cormorant	This species nests in established colonies.
		Breeds in specific, definable areas.	Bay pipefish	Pipefish breed in eelgrass beds in bays and estuaries.
		Rests near certain features.	Harbor seals	Harbor seals favor specific beaches for resting.
Biological/ Life History	7* - Limited adult home range	Limited or small ADULT home range.	Pismo clam, Copper rockfish	These species move very little as adults
Biological/Life History	8 - Limited larval dispersal	Limited LARVAL dispersal.	Black abalone, Shiner surfperch	These species have short larval dispersal distances.

Consideration	Criteria	Clarifying Statements	Example Species	Species Descriptions
Biological/ Life History	9 - Other Life History Traits: Has life history traits which would make it a good candidate for protection	Reaches maturity later in life.	Leopard shark, white seabass	These species reach maturity relatively late in life.
		Low fecundity.	Cabezon	Cabezon have low fecundity.
		Long lifespan.	Bat ray, Red sea urchin	These species live relatively long (rays up to 26 yrs, urchins up to 100 yrs).
Biological/ Life History	10 - Limited distribution: A significant portion of its California distribution occurs within the study region.	A SIGNIFICANT PORTION of its California distribution occurs within the study region.	Garibaldi, Spotfin croaker	The majority of the Garibaldi's CA range is in the study region, while all of the Spotfin croaker's CA range is in the study region.
Biological/ Life History	11 - Ecological importance: A species whose removal would cause major ecological change (food chain, diversity, etc), or a key species that defines or characterizes a habitat type.	Its removal would cause major ecological change.	CA spiny lobster	Removing lobsters releases urchins from predation, which could alter community structure.
		A key species that defines or characterizes a habitat type.	Giant kelp, Eelgrass	These species define their habitat types.

Criteria and information were compiled by the Santa Monica Bay Restoration Commission in conjunction with MLPA staff.

*Criteria denoted by an asterisk are an initial filter and a score of "1" must be achieved in one of the Human Impacts categories with an asterisk and one of the Biological/Life History categories with an asterisk.