

**California Marine Life Protection Act Initiative**  
**Summary of Key Points from SAT Round 1 Evaluations of**  
**Draft MPA Arrays and Draft External MPA Proposals**  
*Revised April 25, 2009*

Several acronyms are used in this document:

*SAT = MLPA Maser Plan Science Advisory Team*

*MPA = marine protected area*

*SMR = state marine reserve*

*LOP = level of protection*

*CPFV = commercial passenger fishing vessel*

*m = meters*

### **Key Points for Draft MPA Array Lapis A**

#### ***Habitat Representation***

- Beaches represented in very high and moderate-low protection, high proportion of sand in SMRs, but overall amount is low in relation to other proposals
- Small amount of rocky shores in very high protection
- Rock and kelp habitats representation is comparable to some proposals, but not as high as others
- Deep rocky reef (200-3000m - rare) not represented in SMRs
- Estuary, coastal marsh and tidal flats mostly represented in moderate-low protection
- All eelgrass protection is mod-low; high area compared to other proposals

#### ***Habitat Replication***

- Deep rock and sand not well replicated (rare habitats)
- 3 replicates of estuary and marsh at very high (but meet guidelines at low LOP), no eelgrass at very high protection
- Kelp, rock (0-30m and 30-100m) represented in 3 out of 5 bioregions
- Rocky shores and most soft habitats represented in 4 out of 5 bioregions
- Deep rock represented in 2 out of 4 bioregions

#### ***MPA Size***

- Most very high protection clusters are in minimum size range or below
- 2 clusters in preferred size range

#### ***MPA Spacing***

- Significant gaps for rocky shores, kelp and rock habitat
- Largest gaps for kelp and rock 0-30m
- Similar maximum gaps for beaches and soft habitat
- All habitats have gaps greater than SAT spacing guidelines

***Benefits to Marine Birds and Mammals***

- No bird breeding colonies in north mainland or east Channel Islands
- Minimum amount of roosts represented compared to other proposals
- No mammal haul outs on south mainland or east Channel Islands
- Bird and harbor seal foraging area comparable to most other proposals

***Bioeconomic Models***

- Ranks near the bottom for conservation value in relation to other proposals
- Ranks near the top for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Lower relative commercial impacts for most ports, though higher for Oceanside
- Economic impacts generally lower than in other proposals for commercial, CPFV, and recreational fisheries
- Highest commercial impacts are for sablefish, thornyhead and sea cucumber (diving) fisheries
- Higher recreational impacts to kayak fishing in Ventura County and dive fishing in Los Angeles and Orange counties

**Key Points for Draft MPA Array Lapis B**

***Habitat Representation***

- High proportion of beaches in very high protection, overall high proportion of sand in SMRs, but half deep sand (200-3000m) represented in mod-low
- High proportion of rocky shores in very high protection
- Kelp representation at very high protection is higher than most proposals
- Rock representation at very high protection is high in relation to other proposals
- At the high end for amount of estuary, coastal marsh, tidal flats, and eelgrass represented in very high protection in relation to other proposals

***Habitat Replication***

- Deep rock represented in 2 out of 4 bioregions (rare habitat)
- Meets replication guidelines for all other habitats

***MPA Size***

- 8 MPA clusters are preferred size range, 5 in minimum size range
- 5 MPA clusters are below minimum size range

***MPA Spacing***

- Largest gaps in kelp, shallow rock and deep rock and sand (rare)
- Along with 2 other proposals, comes closest to meeting spacing guidelines

***Benefits to Marine Birds and Mammals***

- No bird breeding colonies in east Channel Islands
- High number of roosts in relation to other proposals
- High amount of foraging area in relation to other proposals
- In general, ranks near top for benefit provided to marine birds and mammals

***Bioeconomic Models***

- Ranks near the top for conservation value in relation to other proposals
- Ranks in the middle for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Higher relative commercial impacts for all ports, highest at Oceanside
- Economic impacts generally higher than in other proposals for commercial, CPFV, and recreational fisheries
- Highest commercial impacts are for sablefish, thornyhead, sea cucumber (diving), and lobster fisheries
- Higher recreational impacts to dive and kayak fishing in Ventura, Los Angeles and San Diego counties

**Key Points for Draft MPA Array Opal A**

***Habitat Representation***

- High proportion of beaches and soft habitats represented in low LOP MPAs
- Rock and kelp habitats representation is comparable to some proposals, but not as high as others
- Deep rock habitat (rare) not represented in SMRs
- Eelgrass not well represented
- Coastal marsh mostly represented in moderate-low LOP MPAs

***Habitat Replication***

- Deep rock and sand not well replicated (rare habitats)
- 0-30 m rock and 30-100 m rock represented in 3 out of 5 bioregions
- Kelp represented and most soft habitats represented in 4 out of 5 bioregions
- Deep rock represented in 2 out of 4 bioregions

- Eelgrass habitat replicated in 1 out of 2 bioregions

### ***MPA Size***

- Most MPA clusters are in the minimum size range
- A few MPA clusters are within the preferred size range

### ***MPA Spacing***

- Significant gaps for kelp, rock at 30-100m, and rock at 100-3000m
- Large gap for rock 0-30m at very high LOP, but reduced at high LOP
- Additional gaps exist for soft bottom habitats

### ***Benefits to Marine Birds and Mammals***

- Does not include any breeding seabird colonies at the mainland or east channel islands
- Does not include any marine mammal haulout sites in the south mainland or east channel islands
- Includes limited foraging habitat for harbor seals and least terns

### ***Bioeconomic Models***

- Ranks near the bottom for conservation value in relation to other proposals
- Ranks near the top for fisheries yield in relation to other proposals

### ***Potential Impacts to Commercial and Recreational Fisheries***

- Lower relative commercial impacts for most ports, though higher for Oceanside
- Economic impacts generally lower than in other proposals for commercial, CPFV, and recreational fisheries
- Highest commercial impacts are for swordfish, sablefish, and sea cucumber fisheries
- Higher recreational impacts to kayak fishing in Ventura county

## **Key Points for Draft MPA Array Opal B**

### ***Habitat Representation***

- Rock and kelp habitats are well-represented in SMRs, particularly rock 30-100m and rock 100-200m
- Soft bottom habitats are well-represented in SMRs; a large amount of deep sand habitat is captured within low LOP MPAs
- Estuarine habitats, especially eelgrass are mostly captured within MPAs of moderate-low or low LOP MPAs

### **Habitat Replication**

- Most habitats have at least one replicate in each bioregion at a very high LOP
- Does not have any replicates for eelgrass habitat
- Deep rock habitat (rare) not well replicated

### **MPA Size**

- Two thirds of the MPA clusters are either in the minimum or preferred size range.
- About half of the MPAs above the minimum size guideline are in the minimum size range and half are in the preferred size range
- Includes three MPAs that are above 36 square miles in size.

### **MPA Spacing**

- Largest gap is for deep rock (100-3000m – rare habitat) at very high LOP, though this gap is smaller at the high LOP
- Next largest gap is for rock in the 30-100m range
- Other gaps exist for soft habitats, including deep (200-3000m) and shallow (0-30m) sand

### **Benefits to Marine Birds and Mammals**

- Does not include any breeding seabird colonies in the north mainland and east channel islands bioregions, but does include Brant's Cormorant and Least Tern colonies in the south mainland
- Includes a harbor seal haulouts in the South Mainland and East Channel Islands bioregions, but not in the North Mainland. Includes some northern elephant seal haulouts in the North Mainland
- Provides significant protection for foraging areas in the South Mainland, and less in the North Mainland areas

### **Bioeconomic Models**

- Ranks near the top for conservation benefit
- Ranks near the bottom for fisheries yield

### **Potential Impacts to Commercial and Recreational Fisheries**

- Has high commercial fishing impacts relative to other arrays/proposals, especially in Dana Point, Oceanside, and San Diego
- Highest commercial impacts are for the nearshore trap fishery and spot prawn fishery
- Significant (87% reduction in profit) impact on San Diego CPFV fisheries
- Highest recreational impacts for San Diego County kayak fishing and Los Angeles County dive fishing. Particularly high impact for kayak fishing of sand bass in Santa Barbara County.

## **Key Points for Draft MPA Array Topaz A**

### ***Habitat Representation***

- Compared to other proposals, Topaz A has some of the highest habitat representation in most habitats
- Most habitats are represented at very high LOP; only a few at high or moderate-high LOP
- Two intertidal habitats, coastal marsh and tidal flats, are less represented compared to other proposals

### ***Habitat Replication***

- At least one replicate for each habitat in each bioregion except for surfgrass, 30-100m rock, 30-100m rock, eelgrass, and tidal flats
- Coastal marsh and estuary habitats have 3 replicates in SMRs, but there are 7 if MPAs at all LOP are included
- Eelgrass has one habitat replicate (South Mainland)
- Shallow rock is not replicated in North Mainland bioregion
- Deep rock is replicated in 2 bioregions (North Mainland and West Channel Islands)

### ***MPA Size***

- Most MPA clusters at least meet the minimum size range
- Six MPA clusters are within the preferred size range

### ***MPA Spacing***

- Gap exists for kelp, rock 0 – 30m and soft 100 – 200m
- Significant gaps for rock 30 – 100m, deep rock (rare), and deep soft habitat (rare)
- Gaps are not reduced if include MPAs with moderate-high or higher LOP

### ***Benefits to Marine Birds and Mammals***

- Captures the most breeding seabird colonies at the North Mainland bioregion and some at the south mainland and east channel islands
- Captures majority of marine mammal haulout sites in the East Channel Islands bioregion, some sites in the north mainland, but does not include any marine mammal haulout sites in the south mainland
- Includes significant foraging habitat

### ***Bioeconomic Models***

- Ranks near the top for conservation value in relation to other proposals

- Ranks near the bottom for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Higher relative commercial impacts for most ports, especially Dana Point and San Diego
- Greatest commercial economic impact on the nearshore trap fishery
- Lowest economic impact for CPFV vessels in Port Hueneme
- Higher recreational impacts to diving in Los Angeles and Orange counties

**Key Points for Draft MPA Array Topaz B**

***Habitat Representation***

- Most habitat representation is somewhere in the middle of the range, compared to other proposals
- Rocky shores is represented, but more than half are moderate-low or lower LOP MPAs
- Deep soft bottom habitat is not well represented in SMRs, but is represented at moderate-low LOP MPAs
- Deep rock habitat is not represented in SMRs, but is represented at moderate-low LOP MPAs

***Habitat Replication***

- At least one habitat replicate in all 5 bioregions for beaches and soft 0 – 30m habitat and at least one replicate in the South Mainland and North Mainland for estuary and coastal marsh habitat.
- Rocky shores habitat is not replicated in the South Mainland
- Coastal marsh is well replicated, but only one in the North Mainland
- Eelgrass has one habitat replicate (South Mainland)
- Provides second highest number of replicates for estuaries in MPAs at moderate-high or higher LOP, but only 1 of the 7 are found in the North Mainland
- For Soft 0-30m and 30-100m, there is no habitat replicate in the East Channel Islands
- Only 3 replicates of deep soft habitat, but there are 6 if MPAs at all levels of protection are included
- Only proposal with a habitat replicate for hard 30 – 100m in the North Mainland bioregion

***MPA Size***

- Most MPA clusters meet the minimum size range
- Four MPA clusters are within the preferred size range

### ***MPA Spacing***

- Gaps exist for all habitats
- Greatest gaps in kelp and rock habitat
- Gaps are not reduced if include MPAs with moderate-high or higher LOP

### ***Benefits to Marine Birds and Mammals***

- Captures breeding seabird colonies at the south mainland and captures the most colonies at the North Mainland bioregion
- Does not capture any seabird breeding colonies at the east channel islands
- Captures majority of marine mammal haulout sites in the North Mainland and the East Channel Islands bioregions, but does not include any marine mammal haulout sites in the south mainland
- Provides the greatest forging habitat for pelagic cormorant and pigeon guillemot

### ***Bioeconomic Models***

- Ranks near the middle for conservation value in relation to other proposals
- Ranks in the middle for fisheries yield in relation to other proposals

### ***Potential Impacts to Commercial and Recreational Fisheries***

- Lower relative commercial impacts for most ports
- For all the commercial ports, had the greatest impact on Oceanside
- Greatest commercial economic impact on sablefish
- Lowest economic impact for CPFV in San Pedro, Newport Bay and Dana Point
- Higher recreational impacts to diving in Los Angeles County

## **Key Points for Draft External MPA Proposal A**

### ***Habitat Representation***

- High proportion of coastal marsh, tidal flats, eelgrass, estuary habitats represented in lower LOP MPAs
- Eelgrass is not represented in moderate-high or higher LOP MPAs
- Hard bottom habitat 30 – 100m not well represented
- Among the lowest representation for soft and hard habitats

### ***Habitat Replication***

- At least one replicate for beaches and rocky shores habitat in each bioregion

- Coastal marsh and estuary habitats do not have habitat replicates in the North Mainland for moderate-high or higher LOP MPAs; but both have 2 replicates if all MPA at all LOPs are included
- Eelgrass does not have a habitat replicate for moderate-high or higher LOP MPAs; but it does have 1 replicate in the South Mainland if all MPAs are included
- Kelp has at least one habitat replicate in each bioregion, except South Mainland
- Most soft habitat is lacking a replicate in the East Channel Islands bioregion
- 0 – 30m rock habitat is missing a replicate in the South Mainland bioregion
- 30 – 100m rock habitat does not have a replicate in the North or South Mainland bioregion

***MPA Size***

- Most MPA clusters are in the minimum size range
- One MPA cluster is within the preferred size range

***MPA Spacing***

- Gaps exist for rocky shores, soft 0 – 30m, and soft 200 – 3000m
- Significant gaps for kelp and rock habitat
- Gaps are reduced for beaches, soft 30 – 100m, and soft 100 – 200m at a high LOP

***Benefits to Marine Birds and Mammals***

- Does not include any breeding seabird colonies at the mainland or east channel islands
- Does not include any marine mammal haulout sites in the Mainland or East Channel Islands
- Includes limited foraging habitat

***Bioeconomic Models***

- Ranks near the bottom for conservation value in relation to other proposals
- Ranks near the top for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Lowest commercial impacts by total value and area relative to other proposals and arrays
- Greatest commercial impact is for the Oceanside port
- Highest commercial impact is for sea cucumber (diving)
- Higher recreational impacts are for kayak fishing in Ventura County and diving in Los Angeles County

## **Key Points for Draft External MPA Proposal B**

### ***Habitat Representation***

- High proportion of beaches, rocky shores, coastal marsh, tidal flats, eelgrass, estuary habitats represented in lower LOP MPAs
- Coastal marsh, tidal flats, eelgrass, and estuary habitat is not represented in moderate-high or higher LOP MPAs
- Hard bottom habitat 30 – 100m not well represented
- Among the lowest representation for soft and hard habitats, but most of those habitats have greater representation in lower LOP MPAs

### ***Habitat Replication***

- At least one replicate for beaches and rocky shores habitat in each bioregion
- Coastal marsh and estuary habitats do not have habitat replicates in the North Mainland or South Mainland for moderate-high or higher LOP MPAs; but both have replication if all MPAs are included
- Eelgrass does not have a habitat replicate for moderate-high or higher LOP MPAs; but it does have 1 replicate in the South Mainland if all MPAs are included
- Kelp has at least one habitat replicate in each bioregion, except South Mainland
- Most soft habitat is lacking a replicate in the East Channel Islands bioregion for moderate-high or higher LOP MPAs; but do have replication if all MPA at all LOPs are included
- 30 – 100m rock habitat does not have a replicate in the North or South Mainland bioregion
- Deep rock (100 – 3000m) has a habitat replicate in the West Channel Islands bioregion for moderate-high or higher LOP MPAs; but there is also a replicate in the East Channel Islands bioregion if all MPAs are included

### ***MPA Size***

- A little more than half of the MPA clusters meet the minimum size range
- A few MPA clusters are within the preferred size range

### ***MPA Spacing***

- Gaps exist for all habitats
- Greatest gaps in kelp and rock habitat
- Gaps are reduced if include MPAs with moderate-high or higher LOP

### ***Benefits to Marine Birds and Mammals***

- Does not include any breeding seabird colonies at the Mainland or East Channel Islands

- Does not include any marine mammal haulout sites in the Mainland or East Channel Islands
- Includes limited foraging habitat

***Bioeconomic Models***

- Ranks near the middle for conservation value in relation to other proposals
- Ranks in the middle for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Low commercial impacts for most ports relative to other proposals and arrays
- The greatest commercial impact was on Dana Point and Oceanside port
- Highest commercial impact is on the sablefish fishery
- Overall, lowest potential impact on CPFV
- Higher recreational impacts was for diving in Los Angeles and Orange counties

**Key Points for Draft External MPA Proposal C**

***Habitat Representation***

- Provides the most habitat representation for majority of the habitats, particularly in soft 200 – 3000m, coastal marsh, and tidal flats habitat.
- Eelgrass has fair representation in moderate-high and higher MPAs, but provides the most representation if all MPAs are included

***Habitat Replication***

- Most habitats have replicates, where possible
- Coastal marsh and estuary habitats have more replicates in the South Mainland bioregion compared to the north
- Eelgrass has one habitat replicate (South Mainland)
- 30 – 100m rock has at least one habitat replicate, except in the North Mainland bioregion
- Deep rock is replicated in 2 bioregions (North Mainland and West Channel Islands)

***MPA Size***

- One MPA cluster is below the minimum size range
- Most MPA clusters are within the preferred size range

***MPA Spacing***

- Gap exists for kelp, rock, soft 100 – 200m, and soft 200 – 3000m
- Significant gaps for rock 30 – 100m and deep rock

- Gaps are not reduced if include MPAs with moderate-high or higher LOP

***Benefits to Marine Birds and Mammals***

- Includes seabird colonies at the North Mainland bioregion and the most colonies at the South Mainland and East Channel Islands bioregions
- Captures all the marine mammal haulout sites in the North Mainland and South Mainland bioregions, and most of the sites in the East Channel Islands
- Provides foraging habitat, particularly for harbor seals, Brandt's cormorant and least tern

***Bioeconomic Models***

- Ranks the highest for conservation value in relation to other proposals
- Ranks the lowest for fisheries yield in relation to other proposals

***Potential Impacts to Commercial and Recreational Fisheries***

- Economic impacts generally higher than in other proposals for commercial, CPFV, and recreational fisheries
- Highest commercial impacts, with the greatest impact on San Diego port
- Highest commercial impact on sablefish fishery
- Highest recreational impacts to kayak fishing and diving in San Diego County and kayak and private vessel fishing in Santa Barbara County