**California MMLPA Master Plan Science Advisory Team**
**Preliminary Overview Evaluation of Central Coast Regional Stakeholder Group Candidate MPA Packages**
***November 22, 2005***

## Introduction

Members of the Central Coast Regional Stakeholder Group (CCRSG) submitted three draft proposals for MPAs in central California; a fourth proposal is anticipated and three additional proposals were submitted by interested groups outside the CCRSG. The MLPA Blue Ribbon Task Force (BRTF) is scheduled to hear presentations about the draft proposals on November 29 and 3, 2005. Both the CCRSG and BRTF have requested SAT input on all the draft proposals. The SAT has insufficient time to thoroughly review the seven proposals prior to the BRTF meeting, but understands it is valuable to provide general guidance to help the CCRSG generate suitable proposals prior to its December 2005 meeting.

To assist in the development of the draft proposals, the SAT provides the following general comments and advice:

1. The GIS developed for this process is an extremely valuable tool. The large number of data sources, the wide range in quantity and quality of data available for use in the GIS, and the intensity of the MLPA process, however, makes it likely that there will be many errors in the GIS analysis. We identified and changed some errors for our analysis, while recognizing that there may be additional errors. An example of this is that the GIS analysis suggests some of the proposed MPAs are composed of completely soft sediment, when we know that there are rocky habitats throughout those MPAs. Another example is that many pinnacles are not identified in the GIS, and therefore percentage of available pinnacles that are being protected is an overestimate. For this reason, the SAT suggests that the CCRSG and BRTF think in terms of spatial scales of habitat coverage and not be too concerned about actual numbers presented. The overall approach to protection of habitats, replications, and distribution (size and spacing) is more relevant than the actual percentage of a particular habitat type in a proposed MPA.

2. There are fewer human use data layers than biotic data layers. For this reason, the SAT advice at the moment is heavily based on a biotic analysis.

3. The SAT recognizes the critical value of establishing MPAs that can be effectively monitored and evaluated. The SAT is willing to provide more proactive advice on how to develop performance measures to evaluate effectiveness of the MPA array, and also to identify how MPAs can be used to address poorly understood scientific aspects of MPAs as a resource management tool. Where possible, the CCRSG and BRTF should consider an array of MPAs that will enable the scientific testing of some of these critical unknowns. For example, the level of protection of an SMCA will vary depending upon the exceptions to the regulations (e.g., the type of fishing gear allowed for use in the SMCA).

Another example is the relative benefit of pairing a SMCA with a SMR (buffer concept). A third example is the effects of various types of MPAs on populations of individual species.

4. SMCAs have varying conservation values, depending upon the species taken, the amount of take, the associated amount of bycatch, and the associated habitat type and water depth. At a recent national meeting on benthic-pelagic habitat coupling, scientists and fishermen agreed that in waters less than 50 m deep, the bottom and water column habitats are closely linked. In waters greater than that depth, the associations are less strong. That means that a SMCA that allows salmon fishing in shallow water affords little protection for benthic species, whereas in deeper water, there is less of an impact from salmon trolling.

5. Some of the MPA designs were clearly attempts at compromise between different user groups. The SAT applauds these attempts at compromise among different stakeholders. Although compromise between users is good, we must caution that sometimes compromise comes at the expense of failing to achieve conservation goals.

6. In reviewing the draft proposals, the SAT assumed that incidental take was not allowed unless specified. We did evaluate the potential for incidental take (bycatch) when reviewing the conservation objectives of the proposed MPAs. For instance, we divided the SMCA category into three levels of protection:

   **SMCAs with High Protection** prohibit take of all species except salmon and coastal pelagic fishes in water depths greater than 50 m.

   **SMCAs with Moderate Protection** prohibit take of all species except salmon, pelagic fishes, squid, crab, and spot prawns.

   **SMCAs with Low Protection** allow various forms of commercial and recreational fishing, and the potential bycatch from these fisheries will limit the conservation value of those MPAs.

7. Size and spacing are not independent. Smaller MPAs need to be closer together to achieve conservation objectives. Likewise, larger MPAs can be further apart. When providing advice, the SAT will consider the size of a habitat type within a MPA and the distance between similar types of protected habitats.

**General Observations about Proposed MPA Packages**

1. Some of the proposals omit protection for some of the habitats identified in the MLPA. There needs to be an even representation of habitat protection throughout the study region.

2. There needs to be an even distribution of levels of protection throughout the study region. For instance, some packages provide for a higher level of protection (i.e., SMR and SMCA High) in the northern part of the study region than in the south.

3. Some of the packages provide for a SMCA that prohibits all take except salmon. Boundaries of many of these SMCAs extend from the coast out to deep water (beyond 50 m). The conservation value of such an MPA is compromised because of the potential bycatch of the salmon fishing gear in shallow water. The SAT recommends that the conservation value of these SMCAs would be increased if all fishing were prohibited at water depths less than 50 m (i.e., a SMR from the coast to 50 m of water and a SMCA with salmon fishing in deeper water).

4. There is value in having a SMCA adjacent to a SMR in similar habitats and water depths to allow for an evaluation of the relative benefits of each type of level of protection.

5. Some of the packages opted for clustering several small (less than the SAT guidelines of 3 mi in length) MPAs (e.g., Monterey Peninsula). This approach may provide increased conservation value for some species while limiting user conflicts. Smaller ranging species will accrue the most benefit from such an arrangement.

6. Elkhorn Slough and Morro Bay estuaries are the only two estuaries of any size in the study region and serve as important nursery grounds and adult feeding and spawning habitats for many marine fishes. These areas need to have effective protection as part of the MPA array.

7. Habitats associated with headlands should be considered as high priority for protection because of their link to zones of upwelling, increased productivity, and larval and juvenile retention. Because headlands are more exposed to coastal current regimes, they are also likely to act as good source locations for enriching adjacent unprotected areas and facilitating connectivity within the MPA network. These zones are noted feeding areas for birds, mammals, fishes, and turtles.

## Specific Comments about Proposed Packages

### *Package 1*

- Many of the SMCAs in this package have reduced conservation value because of the allowances for various types of fishing. There are two ways to improve the conservation value for those areas. The first is to prohibit salmon fishing in waters shallower than 50 m (i.e. make shallow portions SMRs). An example of this is the Julia Pfeiffer Burns SMCA. The second is to reconsider the occurrence of recreational fishing in some of the SMCAs (e.g., Morro Bay estuary, Cambria SMCA).

- There is a lower level of protection for all habitats south of the proposed Alder Creek MPAs. The SMCAs in the south result in low conservation value because of the various fishing allowances and there are few SMRs proposed for that region.

- This proposal provides strong conservation value for sand beaches, rocky intertidal, coastal marshes, tidal flats, surf grass and eelgrass, and persistent kelp habitats.

- Shallow (0-30 m) rock reef habitat appears to be adequately protected in this package.

- This proposal provides good protection of deep water (> 200 m) canyon habitats in Soquel Canyon and one canyon off Big Sur.

- The shallower portions of canyon habitats do not have as strong protection as the deeper canyon habitats because of fishing allowances.

- The SAT suggests the proponents consider an allowance for some limited scientific take in the Ed Ricketts SMCA in order to meet the MLPA program objectives to monitor and evaluate MPA performance.

***Package 2***

- All habitats in this package appear to have adequate conservation value. Excluding pinnacle habitat, because of its poor representation in the GIS, strong protection ranges from about 15% to 45% of the available habitats in this region.

- Relative to other packages, this proposal provides strong protection for deep water habitats, including submarine canyons.
- Habitat protection is strong in both Elkhorn Slough and Morro Bay estuaries.

- The four MPAs in the Año Nuevo area are disjointed and could be simplified by creating one SMR and one SMCA in order to provide protection of forage species for marine vertebrates.

- The MPA at Point Lobos ends just short of the end of the reef at Yankee Point. This will result in reduced conservation value (because fish could leave the MPA and get caught) but may result in fishery benefits or scientific benefits by providing an opportunity to test the value of protecting only a portion of a reef.

***Package 4***

- There is a lower level of protection for all habitats south of Cambria in this proposal. The SMCAs in this proposal in general, and in the south in particular, result in lower conservation value because of the allowance for salmon fishing in shallow water. This would result in bycatch of various species. This could be remedied by classifying the shallow portions of the SMCAs as SMRs. If this were accomplished, it would also provide more conservation benefits for intertidal and shallow subtidal habitats.

- Many of the MPAs in this proposal extend to the three-mile limit of state waters and afford a continuum of protection from shallow to deep water.

- This proposal provides good protection of deep water (> 100 m) canyon habitats in Soquel Canyon and canyons off Big Creek.

- The conservation value of this proposal would be stronger if the estuarine habitats of Elkhorn Slough and Morro Bay had a higher level of protection, because they serve as important nursery grounds and adult feeding and spawning habitats for many marine fishes.

- The small (< 3 mi long) SMRs in this proposal should be extended to meet the size guidelines provided by the SAT.

***Package A***

- Most habitats in this package appear to have adequate conservation value. Strong protection ranges from about 10% to 35% of the available habitats in this region. Habitats with lesser protection (i.e., less than 10% available protected) in this package include tidal flats, eelgrass beds, estuarine habitats, deep sand (100-200 m), deep rock (> 200 m), and shallow canyon heads (0-30 m).

- This package in general does a good job of protecting several headlands that support high biological productivity. An example of this is the inclusion of the very productive habitats that occur in the lee of Point Sur.

- This proposal provides good protection of deep water (> 100 m) canyon habitats in Soquel Canyon and canyons off Big Creek.

- The conservation value of this proposal would be stronger if a greater proportion of the estuarine habitats of Morro Bay had a higher level of protection, because they serve as important nursery grounds and adult feeding and spawning habitats for many marine fishes.

- Many of the MPAs in this proposal extend to the three-mile limit of state waters and afford a continuum of protection from shallow to deep water.

- This package proposed a MPA that was much larger than the minimum the SAT recommended. Having a MPA larger than the minimum size will help scientists design experiments to evaluate the levels of protection afforded by different sizes of MPAs.