

## **Preliminary Evaluation of Proposals for Candidate MPA Packages in the Central Coast Study Region**

Presented by the MLPA Master Plan Science Advisory Team

Presentation to the MLPA Blue Ribbon Task Force  
November 29, 2005 • Monterey, CA

### **Four Components of Proposal Evaluation**

1. Overall package review
2. Network analysis by habitat type
3. Quantitative analyses (in progress)
4. Potential solutions
  - optional candidate MPAs
  - socioeconomic costs/benefits

## 1. Overall package review

- based on ecosystem protection goals
- consider each proposal package collectively
- categorize by level of protection (SMR, SMP, SMCA)
- by habitat type
  
- general observations (common among packages)
- each package separately

## General Observations

- 1) Some proposals omit protection for some habitats. Even representation of habitat protection throughout the study region is necessary.
  
- 2) Some packages provide for different levels of protection in different regions (e.g., northern region vs. southern). An even distribution of levels of protection throughout the study region is necessary.

## General Observations

- 3) Level of SMCA protection depends on species allowed to be taken (e.g., salmon) and depth. The conservation value of an SMCA is compromised because of potential by-catch of resident species in shallow water.

“SAT recommendation”: conservation value of SMCAs increased if all fishing were prohibited at water depths less than 50 m

e.g., a SMR from the coast to 50 m of water and a SMCA with fishing of pelagic transient species and others in deeper water.

## General Observations

- 4) Value of a SMCA adjacent to a SMR in similar habitats and water depths to allow for evaluation of relative benefits of each level of protection.
- 5) Some packages opted for clustering several small (less than SAT size guidelines) MPAs (e.g., Monterey Peninsula).

This approach may increase conservation value for some species while limiting user conflicts.

Smaller ranging species will accrue the most protection from this arrangement.

## General Observations

- 6) Elkhorn Slough and Morro Bay estuaries are rare and ecologically important ecosystems. These need to have effective protection as part of the MPA array.
- 7) Habitats associated with headlands should be given high priority for protection
  - zones of upwelling and increased productivity
  - as sources of larvae - facilitate larval connectivity
  - as areas of retention - noted feeding areas for birds, mammals, fishes, and turtles.

## Levels of Protection

**State Marine Reserve (SMR):** Highest level of protection

**State Marine Conservation Areas (SMCAs):**

- **SMCA with High Protection:** prohibits take of all species except salmon and coastal pelagic fishes in water depths greater than 50 m
- **SMCA with Moderate Protection:** prohibits take of all species except salmon, pelagic fishes, squid, crab, and spot prawns
- **SMCA with Low Protection:** allows various forms of both commercial and recreational fishing

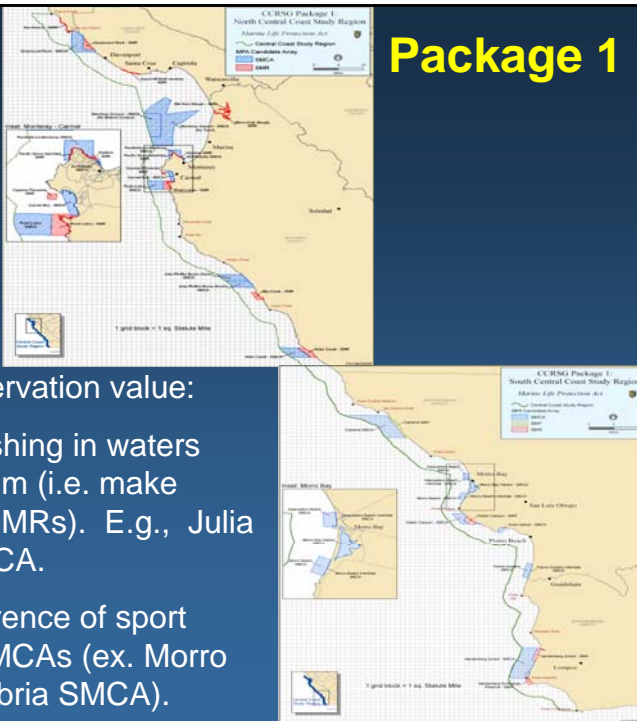
**State Marine Park (SMP):** Lowest level of protection, prohibits commercial take only

Many SMCAs have reduced conservation value - allowances for various types of fishing.

Improve SMCA conservation value:

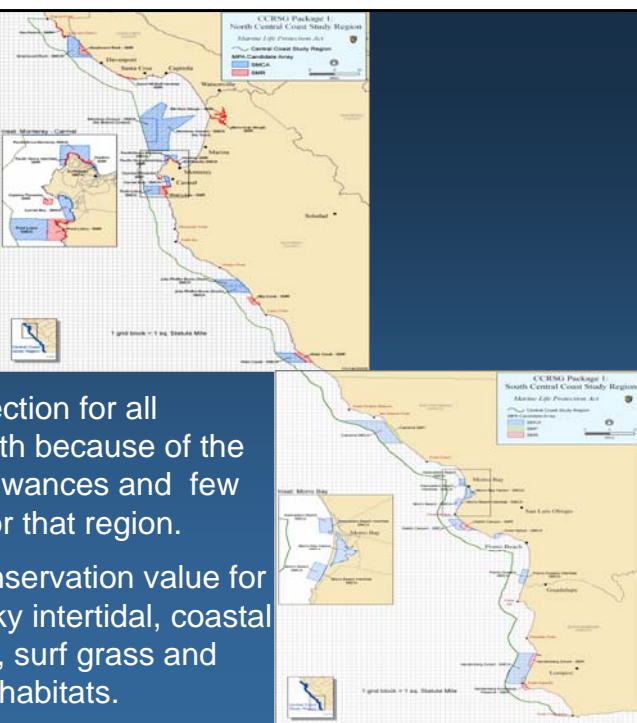
1. Prohibit salmon fishing in waters shallower than 50 m (i.e. make shallow portions SMRs). E.g., Julia Pfeiffer Burns SMCA.
2. Reconsider occurrence of sport fishing in some SMCAs (ex. Morro Bay estuary, Cambria SMCA).

**Package 1**

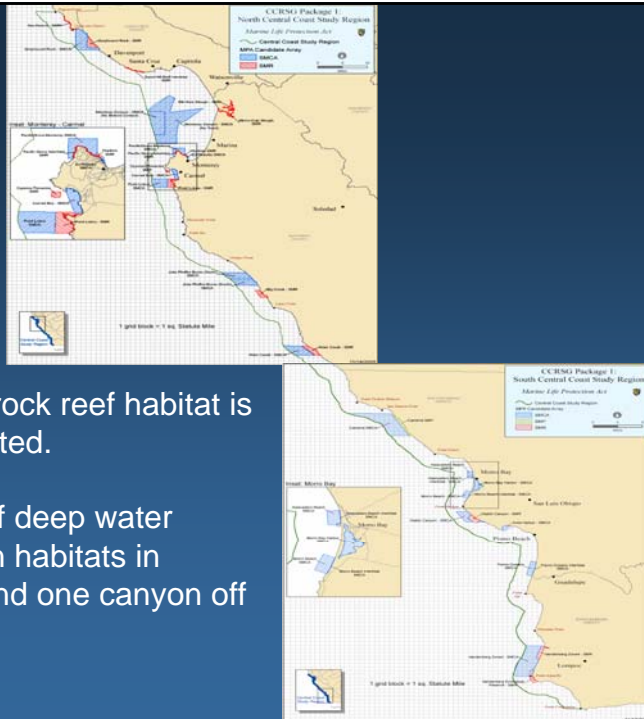


**Package 1**

- Lower level of protection for all habitats to the south because of the various fishing allowances and few SMRs proposed for that region.
- Provides strong conservation value for sand beaches, rocky intertidal, coastal marshes, tidal flats, surf grass and eelgrass, and kelp habitats.

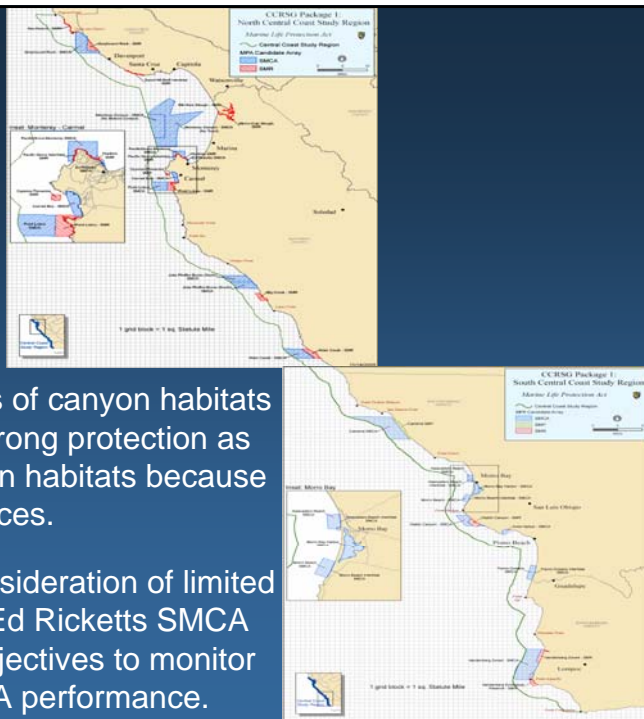


## Package 1



- Shallow (0-30 m) rock reef habitat is adequately protected.
- Good protection of deep water (> 200 m) canyon habitats in Soquel Canyon and one canyon off Big Sur.

## Package 1



- Shallower portions of canyon habitats do not have as strong protection as the deeper canyon habitats because of fishing allowances.
- SAT suggests consideration of limited scientific take in Ed Ricketts SMCA to meet MLPA objectives to monitor and evaluate MPA performance.

## Package 2

- All habitats in this package appear to have adequate conservation value.

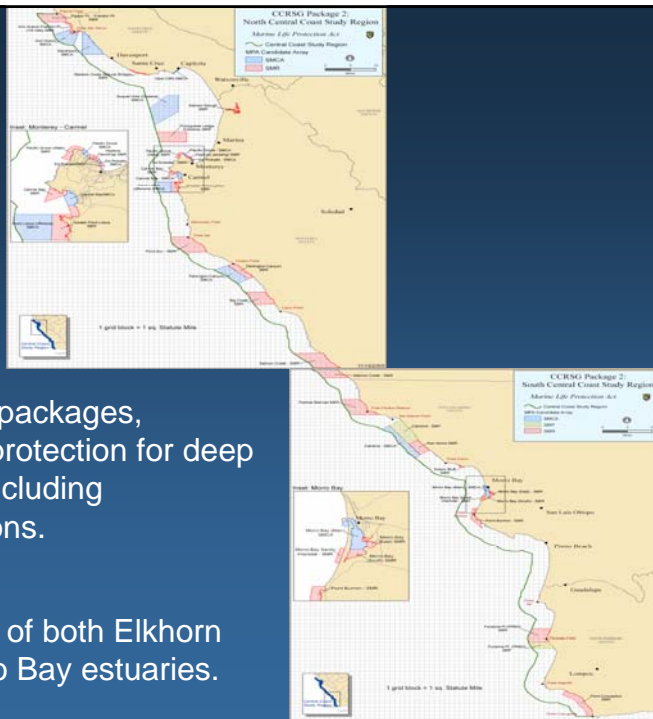
Excluding pinnacle habitat, strong protection ranges from about 15% to 45% of the available habitats in this region.



## Package 2

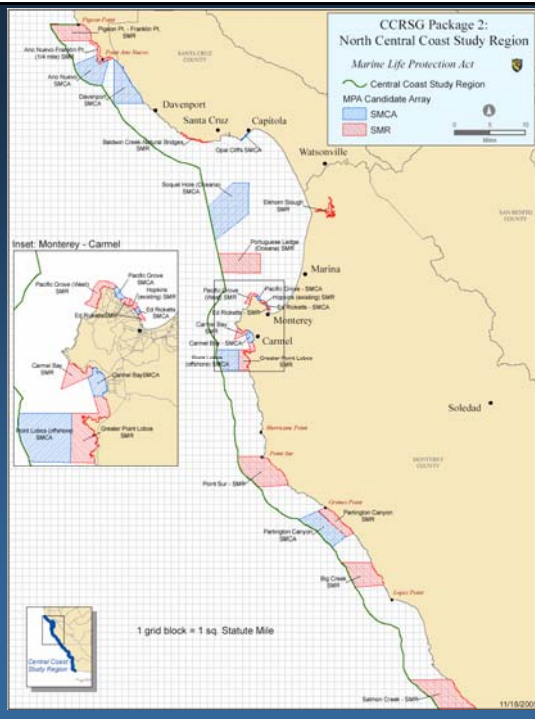
- Relative to other packages, provides strong protection for deep water habitats, including submarine canyons.

- Strong protection of both Elkhorn Slough and Morro Bay estuaries.



## Package 2

- 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.



## Package 2

- Point Lobos MPA includes portion of reef, with increased likelihood of emigration from MPA.

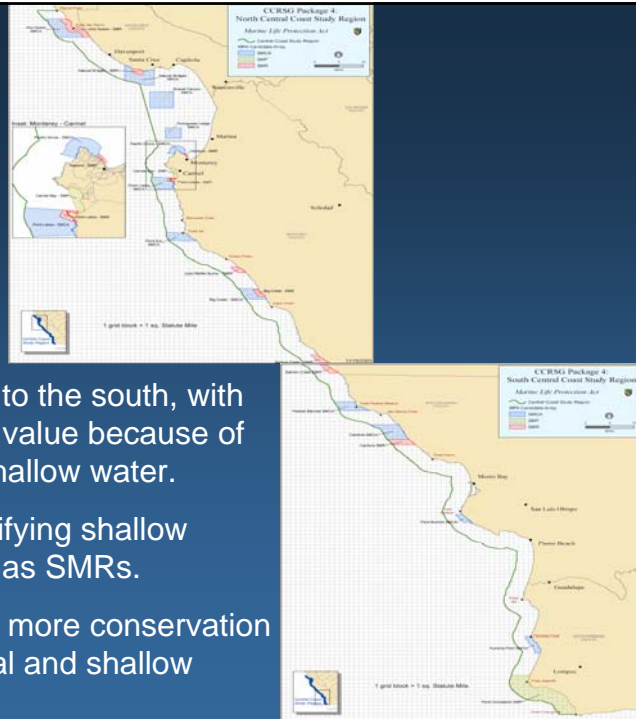
Results in reduced conservation value but may result in fishery benefits and test of value of protecting only a portion of a reef.





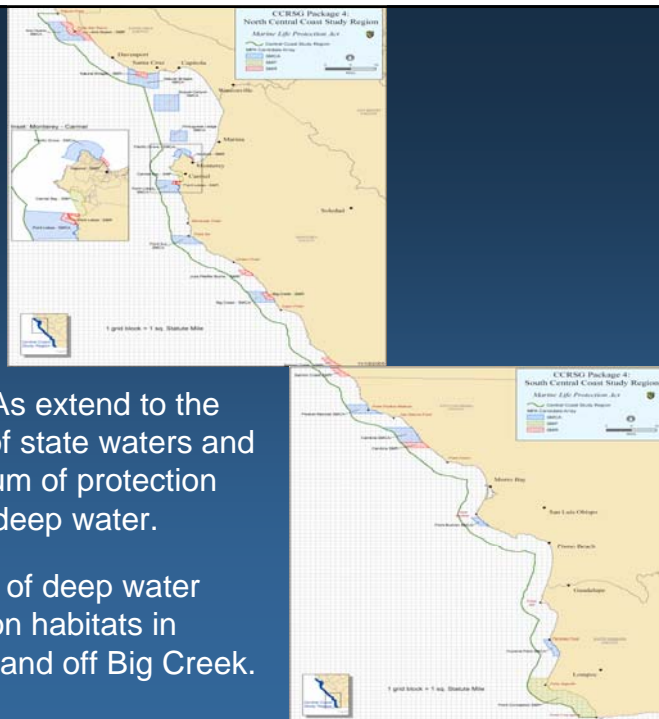
## Package 4

- Lower level of protection for all habitats south of Cambria.
- SMCAs, especially to the south, with lower conservation value because of salmon fishing in shallow water.
- Remedied by classifying shallow portions of SMCAs as SMRs.
- Would also provide more conservation benefits for intertidal and shallow subtidal habitats.



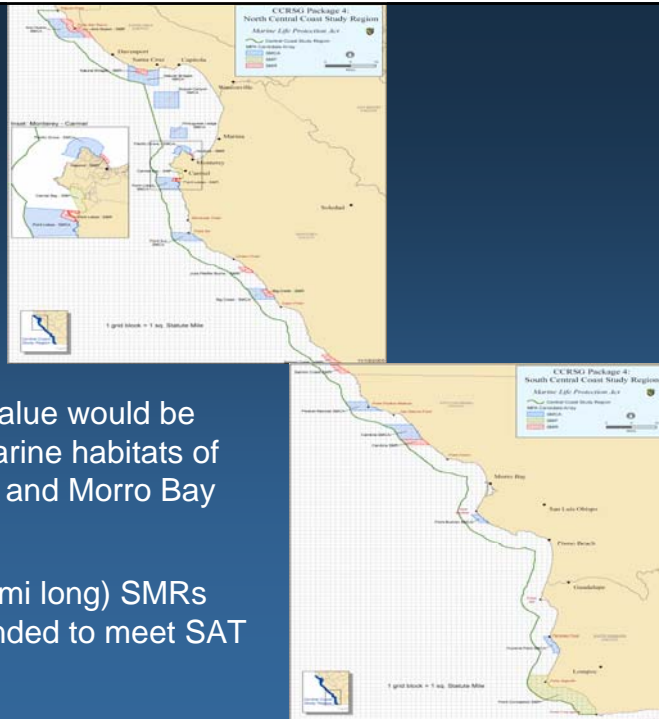
## Package 4

- Many of the MPAs extend to the three-mile limit of state waters and afford a continuum of protection from shallow to deep water.
- Good protection of deep water (> 100 m) canyon habitats in Soquel Canyon and off Big Creek.



## Package 4

- Conservation value would be stronger if estuarine habitats of Elkhorn Slough and Morro Bay were protected.
- The small (< 3 mi long) SMRs should be extended to meet SAT size guidelines.

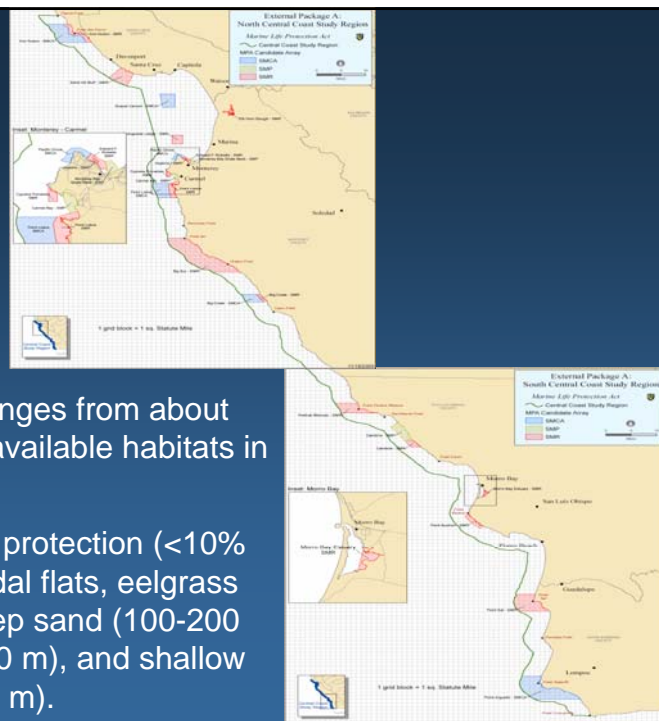


## Package A

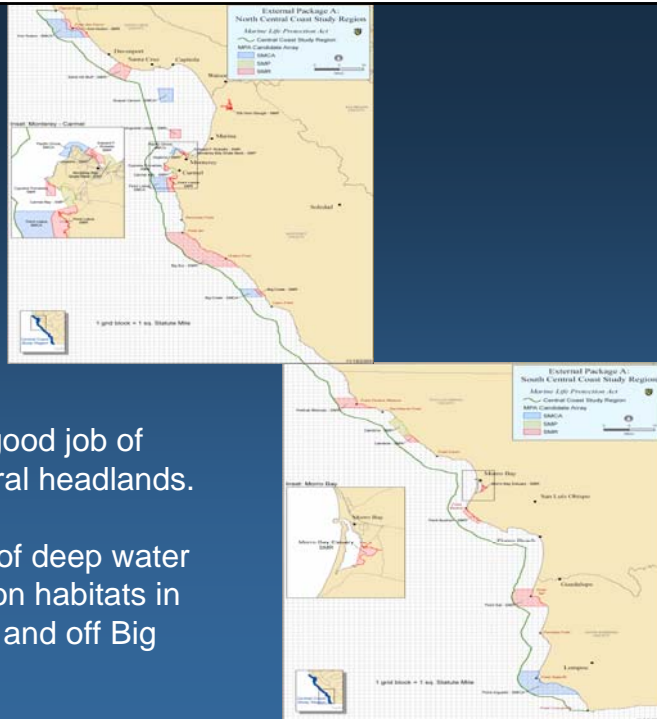
-Most habitats appear to have adequate conservation value.

Strong protection ranges from about 10% to 35% of the available habitats in this region.

Habitats with lesser protection (<10% available) include tidal flats, eelgrass beds, estuarine, deep sand (100-200 m), deep rock (> 200 m), and shallow canyon heads (0-30 m).

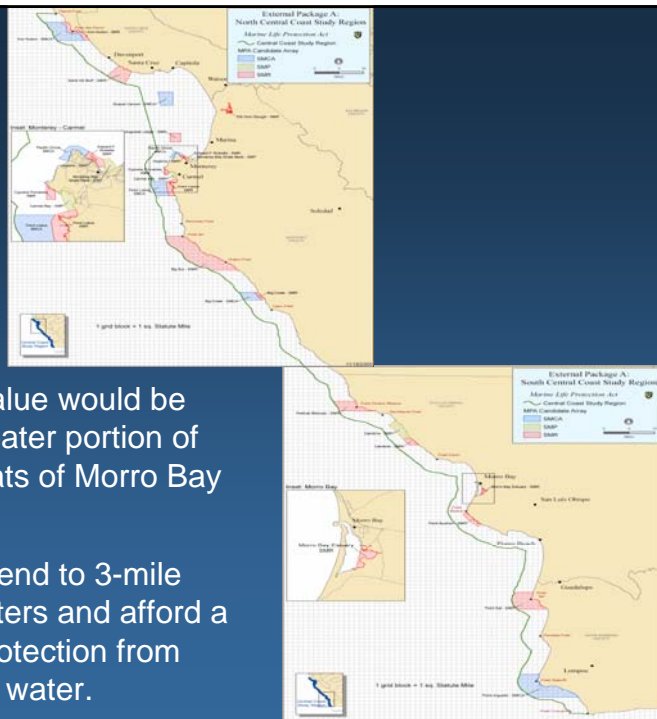


## Package A



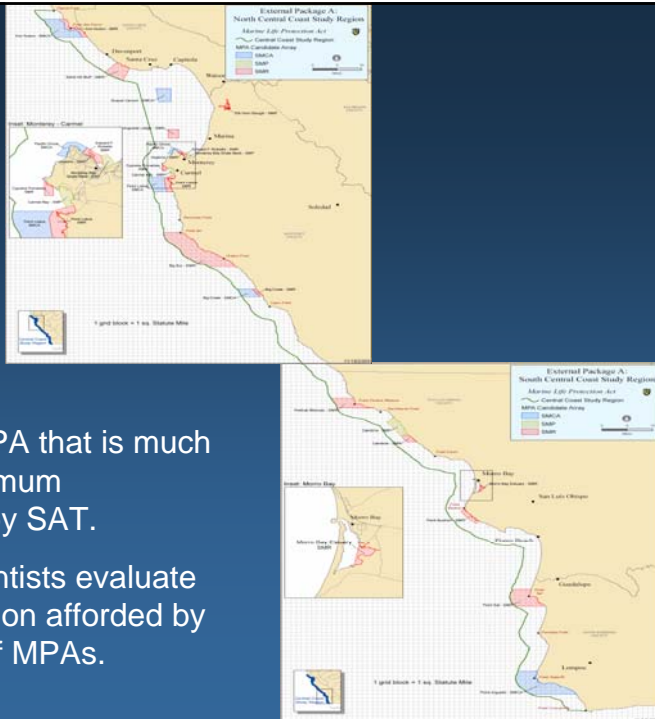
- Generally does good job of protecting several headlands.
- Good protection of deep water (> 100 m) canyon habitats in Soquel Canyon and off Big Creek.

## Package A



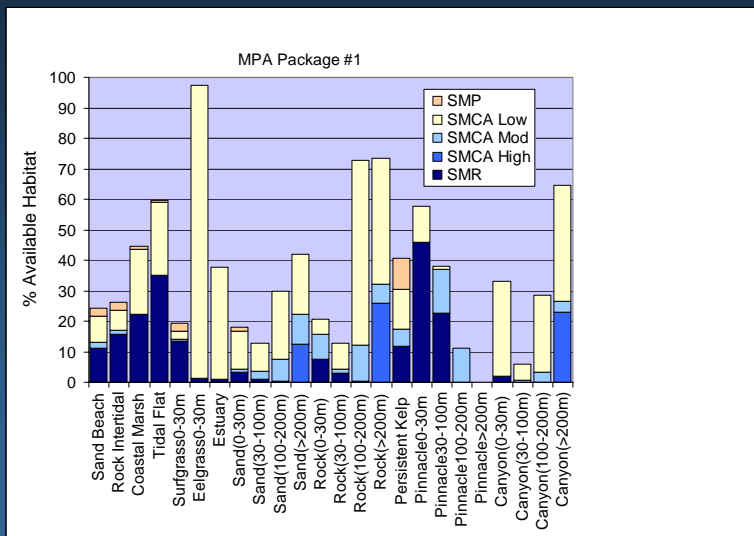
- Conservation value would be stronger if a greater portion of estuarine habitats of Morro Bay were protected.
- Many MPAs extend to 3-mile limit of state waters and afford a continuum of protection from shallow to deep water.

## Package A

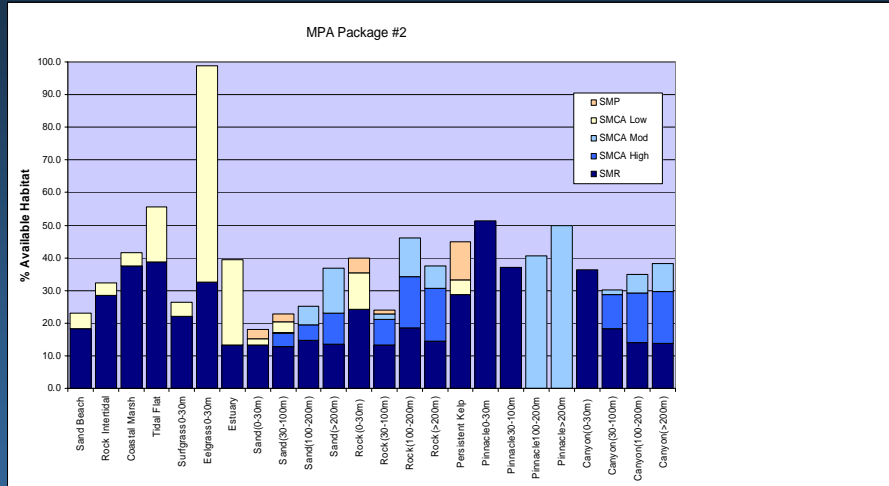


- Includes one MPA that is much larger than minimum recommended by SAT.
- Would help scientists evaluate levels of protection afforded by different sizes of MPAs.

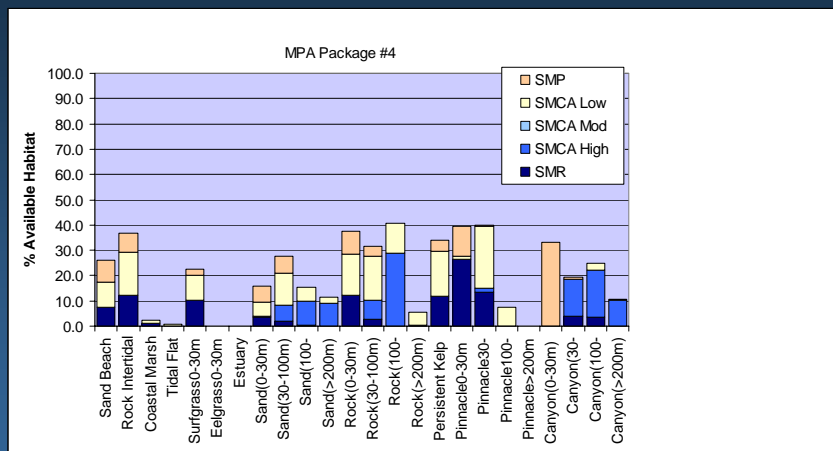
## Package 1



## Package 2



## Package 4



## Package A

