



California Marine Life Protection Act Initiative

c/o California Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

To: MLPA Blue Ribbon Task Force
From: MLPA Initiative Staff
Date: January 27, 2006

**Subject: CENTRAL COAST MPA PACKAGES – DRAFT SUMMARY OF STAFF AND
SAT EVALUATION OF MLPA GOAL 3**

Summary

All proposed packages provide better recreational, educational and study opportunities than the existing condition (Package 0). Packages 2, 3 and AC include more state marine reserves (SMRs) and high protection state marine conservation areas (SMCAs) that are valued by non-consumptive recreational users than does Package 1, especially in areas such as the Monterey waterfront and Carmel Bay that are very accessible. Package 1 provides more consumptive recreational opportunities in those same highly contested areas.

Based on an evaluation of habitat replication needed for scientific studies, all packages provide comparable replication of habitats and all lack replication of some deepwater habitats. All packages propose marine protected areas (MPAs) near marine research institutions; Packages 2, 3 and AC provide slightly better educational and study opportunities than Package 1 as those packages would expand existing reserves that have a long history of scientific study. Packages 2, 3 and AC include more established monitoring sites than Package 1. Table 1 provides a summary of the evaluation across packages.

Evaluation

MLPA Initiative staff and the Master Plan Science Advisory Team (SAT) valuation sub-team used some simple metrics to evaluate how well the proposed central coast MPA packages address Goal 3 of the MLPA. This evaluation compared packages relative to one another, and to the existing MPAs (Package 0). Goal 3 is:

“To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.”

The MLPA Initiative staff evaluation of recreational opportunities focused on accessibility of different types of MPAs to the public, specifically:

- *Distance of proposed MPAs from population centers.* The number of MPAs within 0-15 and 15-50 miles of a population center (Santa Cruz, Monterey, San Luis Obispo or Santa Maria) was determined for each package.
- *Distance of proposed MPAs from major ports.* The number of MPAs within 0-5, 5-15, and 15-50 miles of a ports or harbors (Santa Cruz, Moss Landing, Monterey, Morro Bay or Port San Luis) was determined for each package.
- *Stakeholder input.* Input from the regional stakeholders at the Central Coast Regional Stakeholder Group (CCRSG) meetings, as well as the proponents' rationales provided with packages, provided qualitative information on how packages and specific MPAs meet different user group needs.

The MLPA Initiative staff and SAT evaluation of educational and study opportunities focused on:

- *A SAT evaluation of replication of habitats.* The number of proposed MPAs (highly protected MPAs and all MPAs) that each contain a minimum amount of each habitat was determined (see Appendix 1).
- *Distance of proposed MPAs from major marine research institutions.* The number of MPAs within 0-15 and 15-50 miles of the University of California at Santa Cruz Long Marine Lab, Monterey Bay Aquarium Research Institute, Hopkins Marine Station, or CalPoly San Luis Obispo was determined for each package.
- *Number of established marine research monitoring sites.* The number of Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Cooperative Research and Assessment of Nearshore Ecosystems (CRANE), and Multi-Agency Rocky Intertidal Network (MARINE) sites within MPAs was calculated for each package.

Recreational Opportunities

For recreational opportunities, all packages include a comparable number of MPAs that can be considered easily accessible to major ports and population centers (see figures 1 and 2). Goal 3 describes recreational opportunities in “*ecosystems that are subject to minimal human disturbance*” which would be equivalent to SMRs and high protection SMCAs; these designations of MPAs are often preferable to many non-consumptive users. However, it should be noted that consumptive users may prefer accessible MPAs that allow recreational fishing (state marine parks [SMPs] and many SMCAs).

- Packages 2, 3 and AC have more high protection MPAs (SMRs and SMCA-high) near ports or population centers that provide recreational opportunities for non-consumptive users (such as non-consumptive divers, photographers, wildlife viewers, kayakers, etc.).
- Package 1 has more lower protection MPAs (SMPs and some SMCAs) near ports or population centers that provide recreational opportunities for consumptive users (recreational fishing, including shore-fishing, skiff/kayak fishing, spear-fishing, and commercial party boats).
- For recreational opportunities, the issue is not so much overall numbers of accessible MPAs, rather than the types of activities allowed in specific sites, such as the Monterey

waterfront and Carmel Bay that are highly valued by many different consumptive and non-consumptive user groups. Based on input from stakeholders at the CCRSG meetings and rationale narratives provided by package proponents, non-consumptive users generally prefer the MPA designs incorporated into Package 2, while consumptive users generally prefer Package 1.

Educational and study opportunities

Educational and study opportunities are improved by the presence of MPAs with highly protected habitats near research institutions (Figure 3) and MPAs that include established monitoring sites (Figure 4).

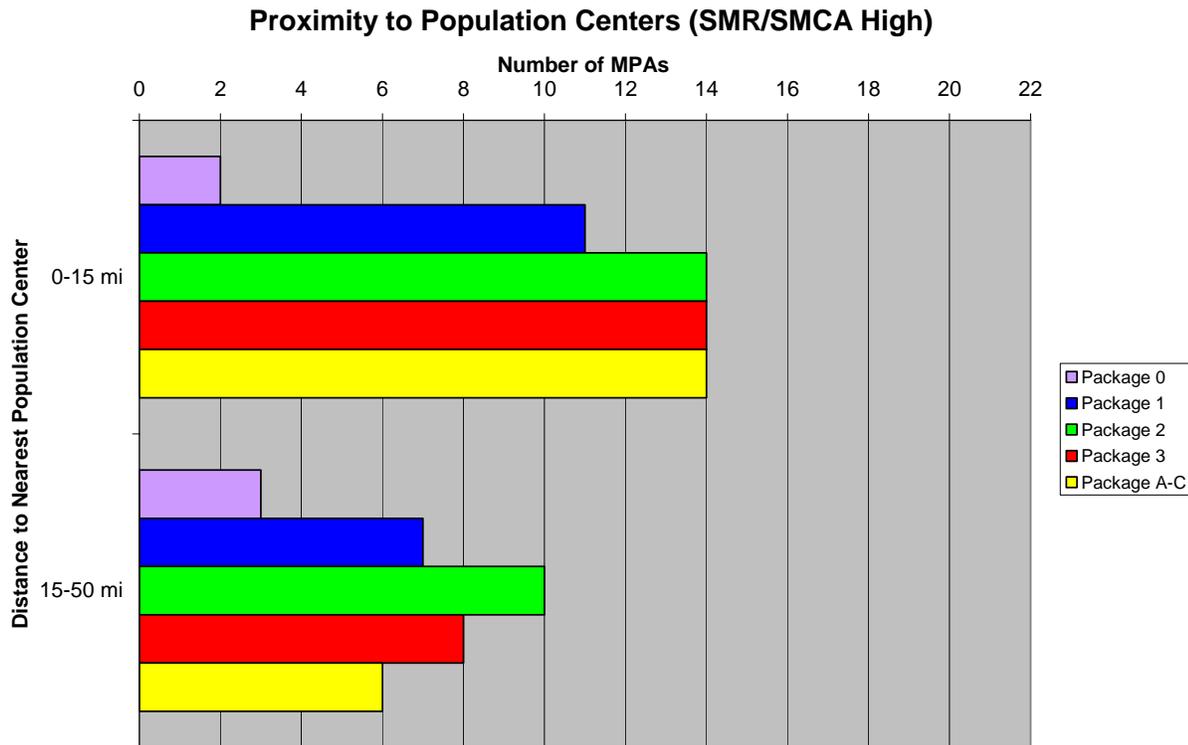
- Based on the SAT subteam evaluation (Appendix 1), all packages had some replication of most habitats and met replication criteria equally well; however, all packages lacked replication of deep water habitats in high protection MPAs
- All packages include some MPAs near major marine research institutions and all packages retain some existing MPAs with a long history of scientific studies (e.g. Hopkins SMR and Big Creek SMR). Packages 2, 3 and AC would expand the existing Hopkins SMR and Big Creek SMR; Package 1 would retain these two MPAs at their existing boundaries.
- Packages 2, 3 and AC include many more established monitoring sites (from the PISCO, CRANE, and MARINE programs) inside of MPAs than does Package 1.

Table 1: Summary of Goal 3 Evaluation of Central Coast MPA Packages

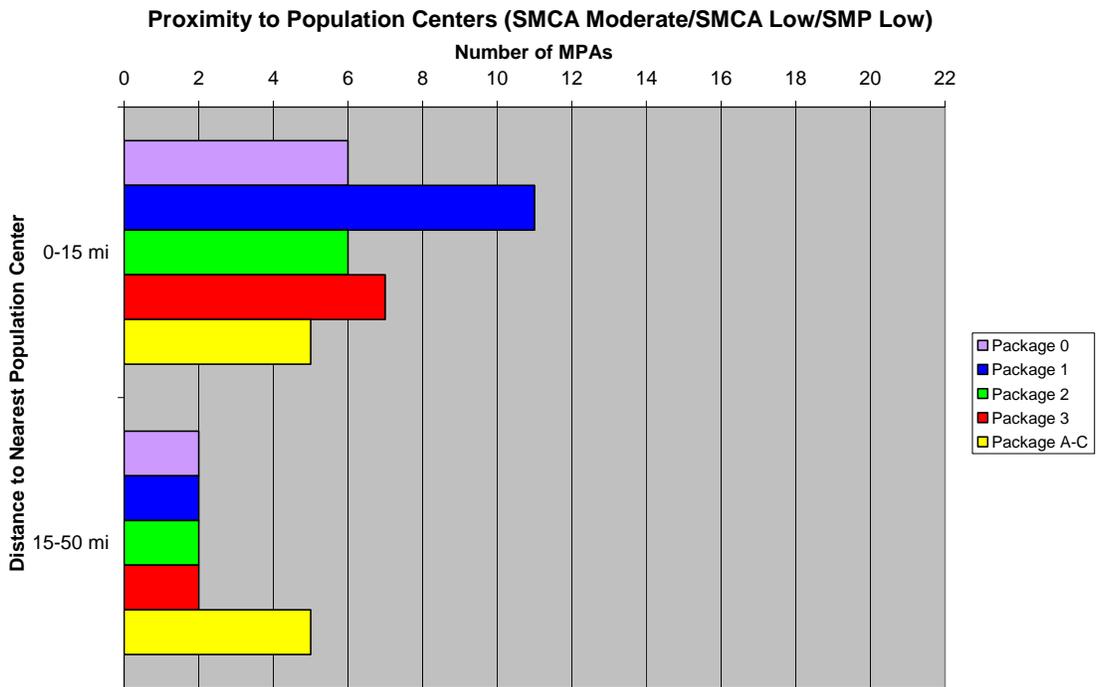
	Package 1	Package 2	Package 3	Package AC
Recreational Opportunities				
Proximity to ports and population centers	Package 1 has fewer high protection MPAs near population centers and ports	Packages 2, 3, and AC have more high protection MPAs near population centers and ports		
Stakeholder perceptions	Package 1 provides better consumptive recreational opportunities	Packages 2 and AC provide better non-consumptive recreational opportunities	Package 3 is intermediate in its appeal to recreational user groups	Packages 2 and AC provide better non-consumptive recreational opportunities
Educational and Study Opportunities				
Replication of habitats (SAT evaluation)	Overall the packages met replication criteria equally well. All packages protect shallow habitats with a similar number of MPAs. All packages lack replication of some deep habitats			
Proximity to marine research institutions	All the packages have high protection MPAs near research institutions. All packages would retain Hopkins SMR and Big Creek SMR; however, Packages 2, 3, and AC would expand those two MPAs that have a long history of scientific study			
Established monitoring sites	MPAs in Package 1 contains the fewest established monitoring sites	MPAs in Packages 2 and AC contain the most established monitoring sites	MPAs in Package 3 contain an intermediate number of established monitoring sites	MPAs in Packages 2 and AC contain the most established monitoring sites

Figure 1. Proximity of proposed MPAs to major population centers (Santa Cruz, Monterey, San Luis Obispo or Santa Maria).

1a. High protection MPAs (SMR and SMCA-High)



1b. Lower protection MPAs (SMP, SMCA-moderate, SMCA-low)



1c. All MPAs

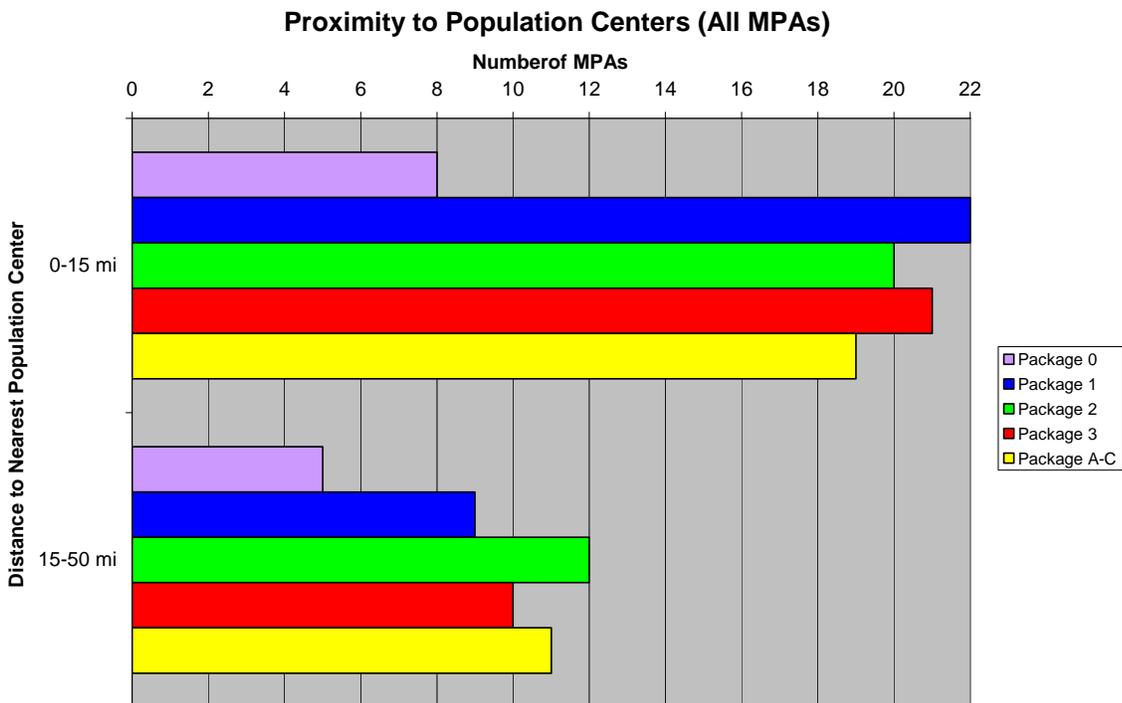
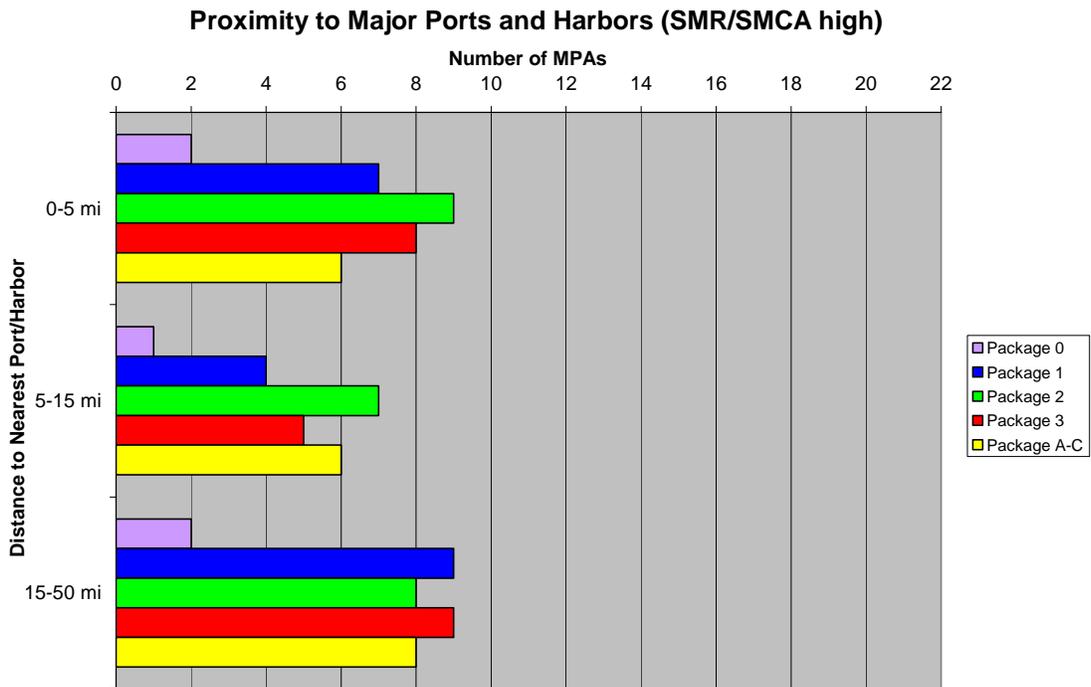
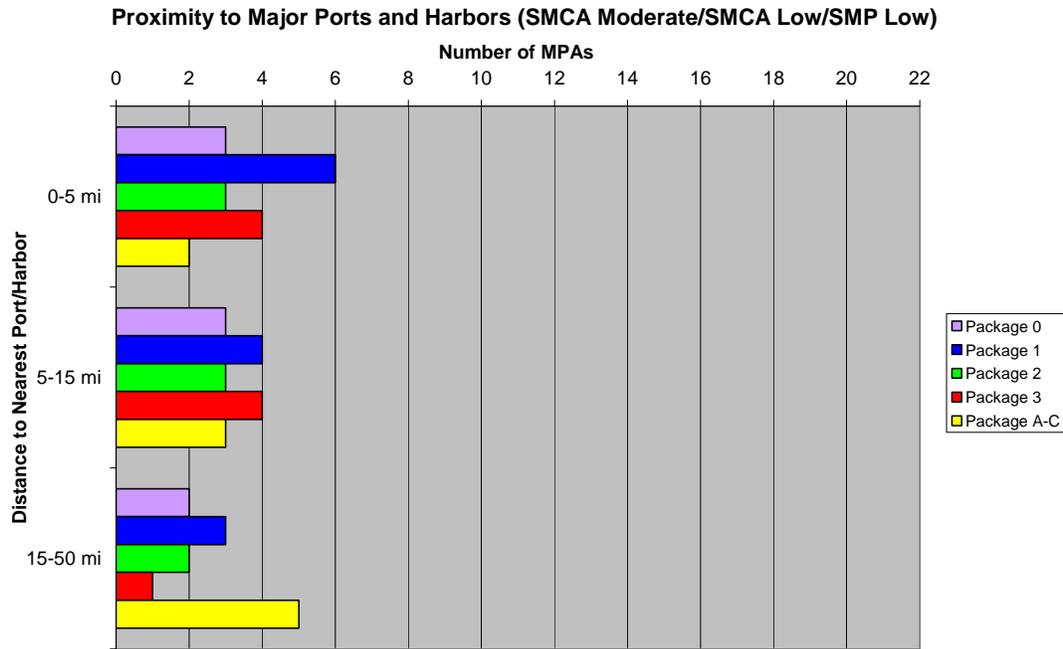


Figure 2. Proximity of proposed MPAs to major ports or harbors (Santa Cruz, Moss Landing, Monterey, Morro Bay and Port San Luis)

2a. High protection MPAs (SMR and SMCA-High)



2b. Lower protection MPAs (SMP, SMCA-moderate, SMCA-low)



2c. All MPAs

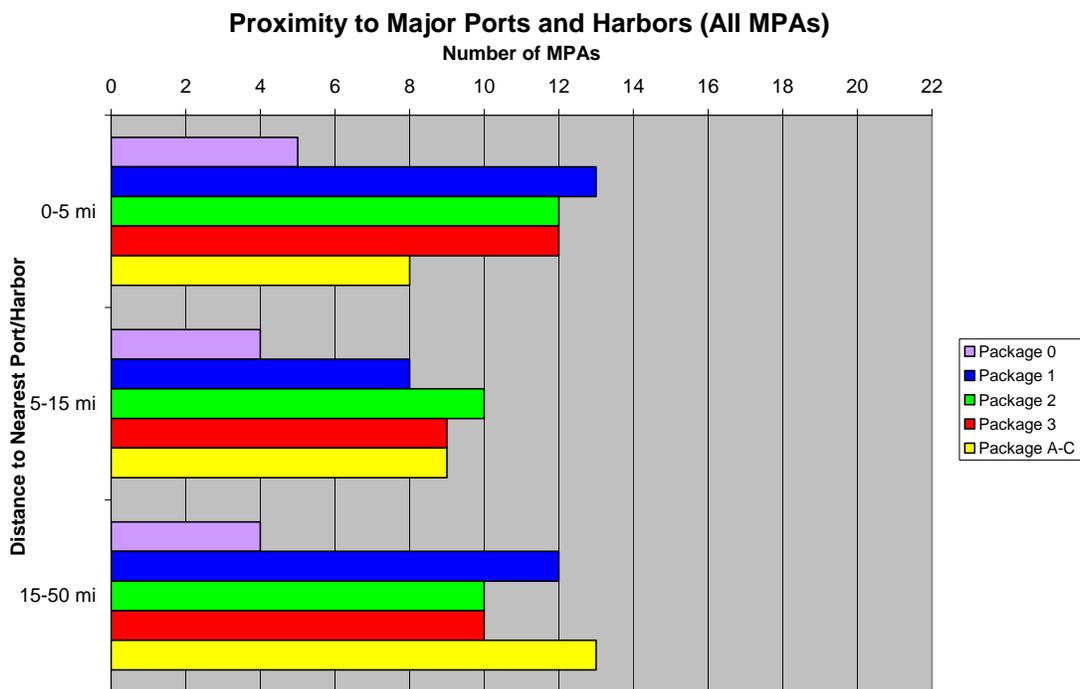
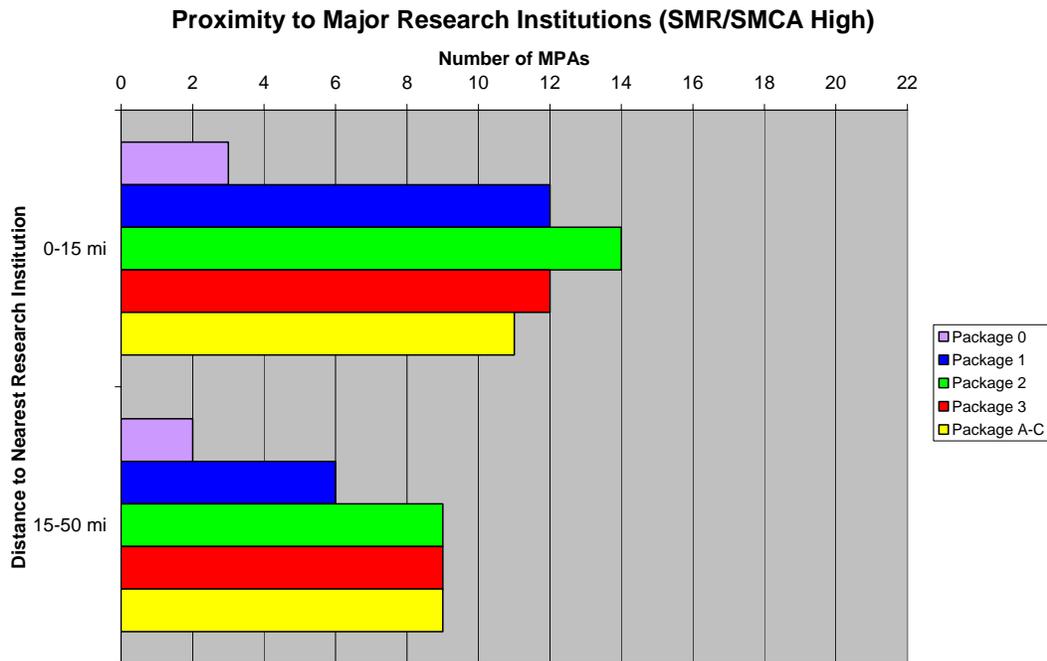


Figure 3. Proximity of proposed MPAs to major marine research institutions (University of California at Santa Cruz Long Marine Laboratory, Monterey Bay Aquarium Research Institute, Hopkins Marine Station (Stanford University) and CalPoly San Luis Obispo)

3a. High protection MPAs (SMR and SMCA-high)



3b. All MPAs

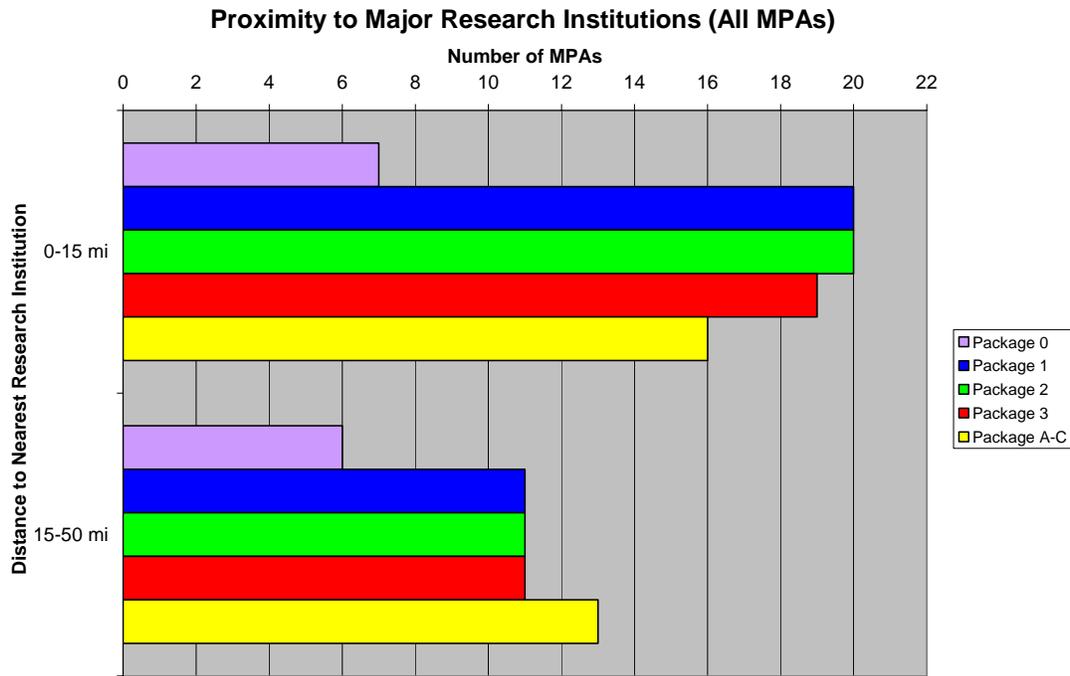
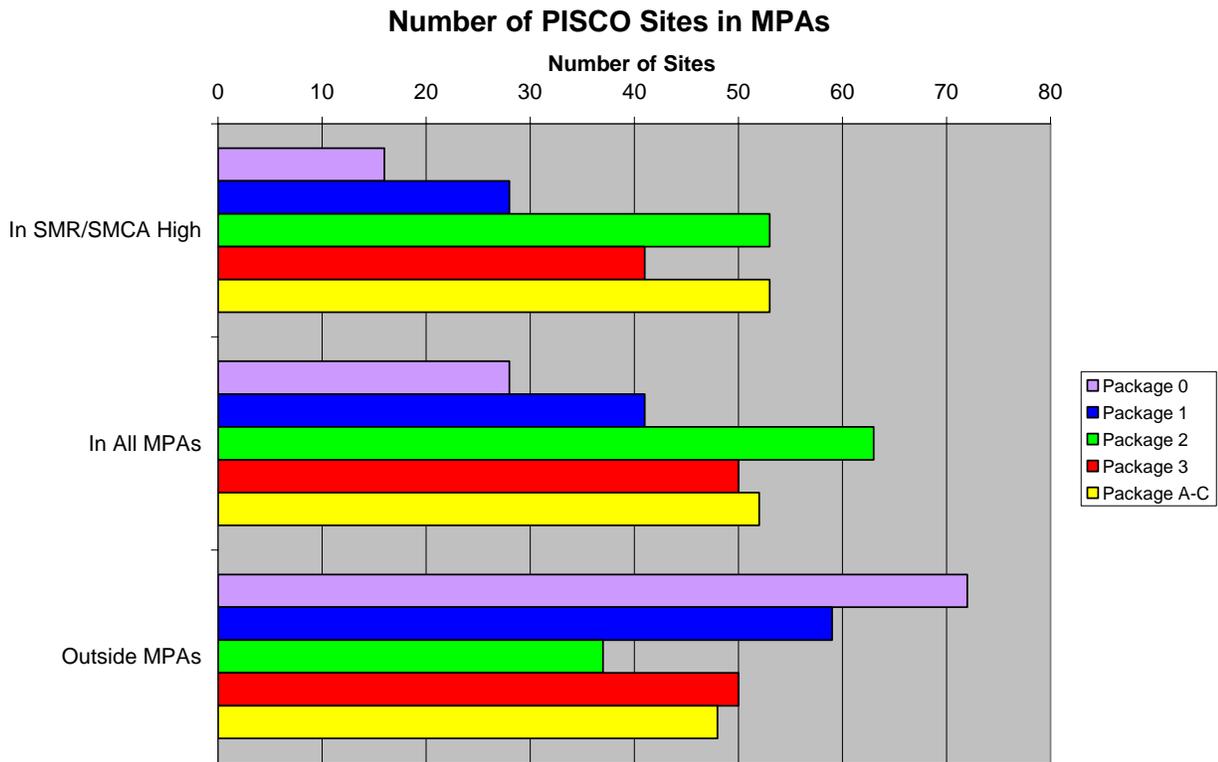
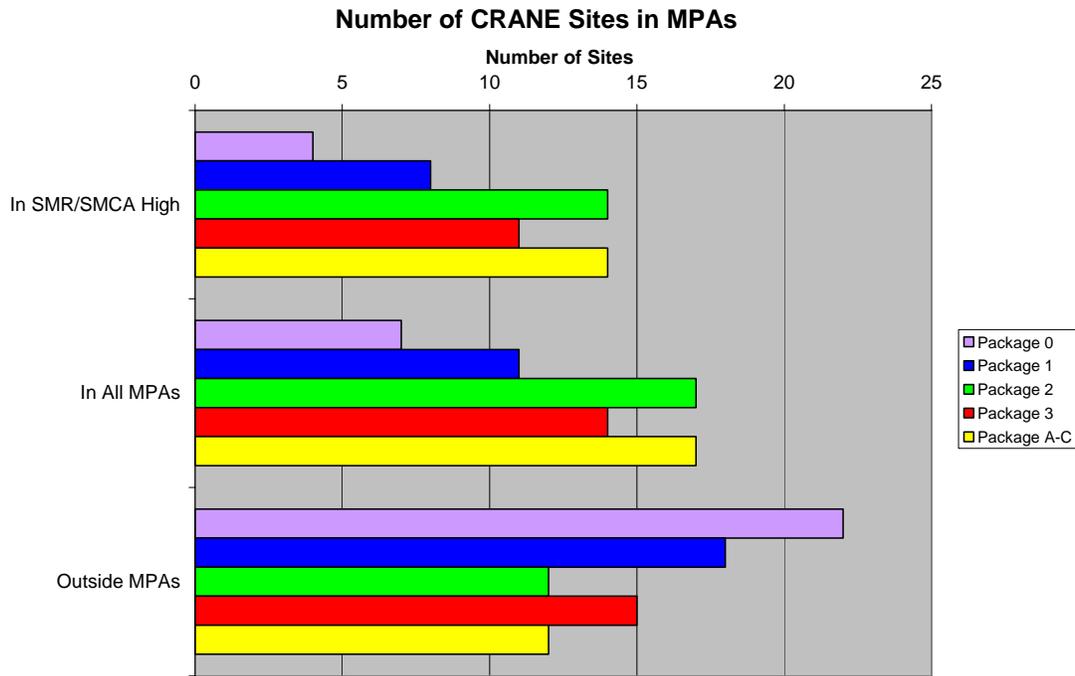


Figure 4. Number of established monitoring sites (PISCO, CRANE and MARINE programs) inside and outside of proposed MPAs

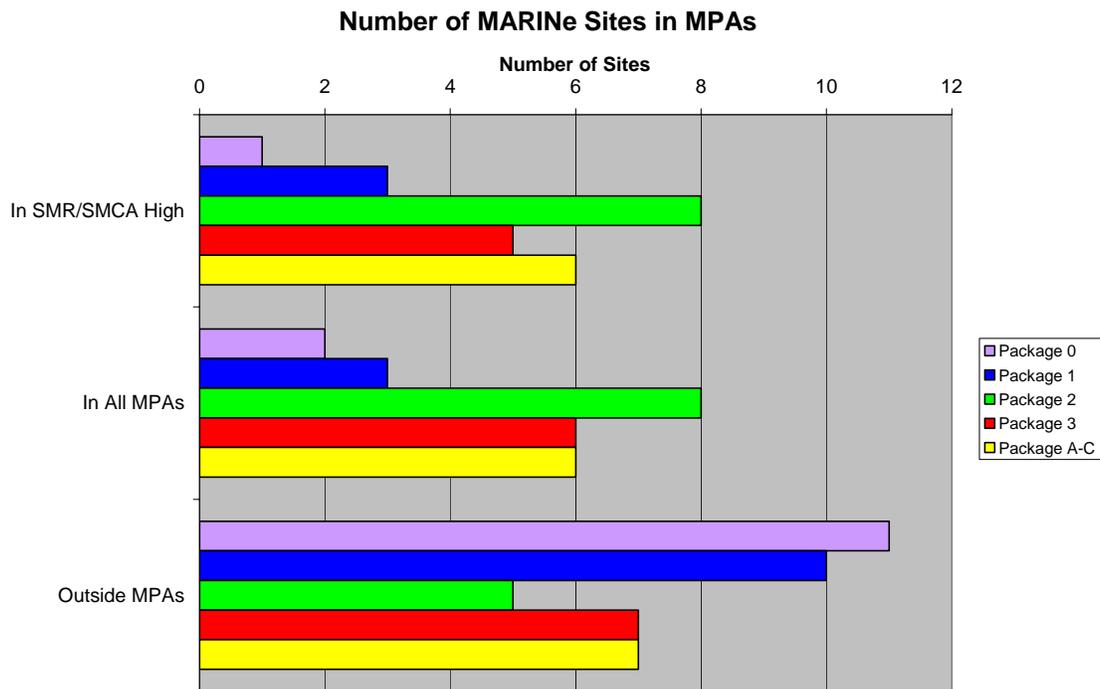
4a. Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) sites



4b. Cooperative Research and Assessment of Near-shore Ecosystems (CRANE) sites



4c. Multi-Agency Rocky Intertidal Network (MARINE) sites



APPENDIX 1

MLPA SAT Evaluation Sub-team (S. Palumbi) **Draft Summary of Replication Analysis of Packages 1, 2 and 3** **January 26, 2006**

Criteria: An MPA was considered to possess a particular habitat if it had more than 0.5 sq mi (or 0.5 linear mi) of that habitat. The major exception was for kelp beds. An MPA with any persistent kelp bed, no matter how small, was considered to have that habitat type.

MPAs were divided into two types with high levels of protection (State Marine Reserves and High level SMCA's).

Analysis

Figure R1 shows that all three packages have a very similar number of MPAs of high protection value across habitat types. No package protected eelgrass beds. Minimum replicates of 3 MPAs in all other habitat types were met for all packages for all habitat types except:

- 1) Package 3 has only 2 protected tidal flats
- 2) Package 1 has no protected 100-200 m soft sediments
- 3) Package 3 has only 2 protected 100-200 m soft sediment habitats
- 4) Package 1 has only 1 protected 30-100 m hard bottom habitat
- 5) All packages lack sufficient deep water hard bottom habitat (however, note the rarity of this habitat type mentioned in the SAT Evaluation sub-team review)/

Even these minor departures from network planning criteria disappear if all MPAs are considered, not just the ones with high levels of protection. Overall, the packages met replication criteria about equally well. They all protect shallow water habitats with a similar number of MPAs, but are much less protective of deep rocky or soft bottom habitats. It should be noted that some MPAs have very small amounts of some habitats (ca. 0.5 sq. mi) but were counted in totals as being equal to MPAs with much larger areas of protected habitat. Also, some MPAs are listed as not having a particular habitat type but might be found – with higher resolution data sets - to contain it. Significant differences among plans will more likely be found in the areas of habitat protected, and in the localities protected, rather than in number of protective MPAs defined in the fashion allowed by current habitat data.

