Note: This evaluation has not been updated to reflect the revised SCRSG proposals and IPA

California Marine Life Protection Act Initiative
Evaluation of Existing MPAs and South Coast Regional Stakeholder Group MPA Proposals Relative to MLPA Goal 3

September 30, 2009

Summary

Goal 3 of the Marine Life Protection Act (MLPA) 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."

MLPA Initiative staff evaluated existing MPAs (Proposal 0) and South Coast Regional Stakeholder Group (SCRSG) marine protected area (MPA) proposals for their fulfillment of MLPA's Goal 3. In total, four proposals were evaluated, including Proposal 0.

Access is a key issue for recreational, educational and study opportunities; the Goal 3 evaluation focuses on proximity of MPAs to access points, boat and kayak launch sites, state parks adjacent to the ocean, and marine research institutions. The number of long-term monitoring sites inside MPAs and the replication of habitats within MPAs were also tabulated as a measure of study opportunities.

For the most part, the SCRSG MPA proposals provide better recreational, educational, and study opportunities than Proposal 0. The following is a summary of the seven parameters included in the Goal 3 analysis:

1. Coastal access points within and near proposed MPAs. Access points located inside MPA boundaries and within 2 miles of MPAs were counted. The number of total access points included in SCRSG MPA proposals ranged from 157 to 205.
2. Boat and kayak launch sites within or near proposed MPAs. Launch sites located within MPA boundaries or within 2 miles of MPAs were counted. The total number of launch sites captured within Round 3 SCRSG MPA proposals ranged from 40 to 57. This is an increase in access from launch sites compared to Proposal 0.
3. Ports and harbors within given distances of proposed MPAs. SCRSG MPA proposals had 10 to 12 ports and harbors within 5 miles of proposed MPAs. Most of the Round 3 proposals show a slight increase over Proposal 0.
4. Terrestrial California State Parks located adjacent to proposed MPAs. In general, SCRSG MPA proposals increased the number of terrestrial parks adjacent to MPAs relative to Proposal 0. Compared to Round 2, proposals also diversified the types of MPAs (and the associated level of protection) placed next to terrestrial parks. Round 3 proposals have 5 to 9 state parks adjacent to proposed shoreline MPAs when MPAs at all levels of protection are included.
5. Major marine research and educational institutions within given distances of proposed MPAs. SCRSG MPA proposals captured a greater number institutions compared to Proposal 0. Considering MPAs at all levels of protection, there are 31 to 34 institutions within 15 miles of proposed MPAs.

6. Long-term marine research monitoring sites located within proposed MPAs. The number of established, long-term monitoring sites located within the boundaries of proposed MPAs was counted. Round 3 SCRSG MPA proposals did increase research and study opportunities compared to Proposal 0 and Round 2. The number of monitoring sites captured within MPAs ranged between 138 and 176.
7. Replication of habitats within the study region. Habitat replication is considered to be a parameter for research opportunities. Round 3 SCRSG MPA proposals had greater habitat replication compared to Proposal 0, particularly for MPAs with a moderate-high or greater level of protection.

Three additional evaluations (not outlined in this document) that take Goal 3 of the MLPA into consideration are:

- The California Department of Fish and Game's feasibility analysis
- The California State Parks evaluation
- The Ecotrust evaluation of potential impacts to areas of importance to recreational fishing modes

Methodology

MLPA Initiative staff used simple metrics and the best-readily available data within a geographic information system (GIS) to evaluate the extent to which draft and revised MPA proposals address Goal 3 of the MLPA. This evaluation compared SCRSG MPA proposals relative to one another and to the existing MPAs. MPA proposals evaluated include:

- Existing MPAs (P0)
- Three Round 3 MPA Proposals
  - SCRSG MPA Proposal 1 (P1)
  - SCRSG MPA Proposal 2 (P2)
  - SCRSG MPA Proposal 3 (P3)

Evaluation of recreational opportunities focused on accessibility of different types of MPAs, specifically:

Number of coastal access points within and near proposed MPAs. In total, there are 486 mapped access points in or adjacent to the south coast study region. For this parameter, these data were evaluated to determine the number of access points located inside MPA boundaries or within 2 miles of proposed MPAs. Access points captured in very high level of protection MPAs may result in more numerous non-consumptive opportunities. Access points in very high protection MPAs may also limit take of marine resources which may result in fewer consumptive recreational opportunities. Taking this into account, this evaluation was conducted at four different thresholds for MPA level of protection (LOP), including: a) very high LOP, b) high and moderate high LOP, c) moderate and lower LOP, and d) all levels of protection. Only MPAs adjacent to the

shoreline are considered in the evaluation of access. Access points that are within the boundary of an MPA and within 2 miles of another MPA are only counted once.

Number of boat and kayak launch sites within or near proposed MPAs. There are 116 launch sites mapped in the study region and they include: boat ramps, kayak launch sites, and boat launch sites. For this parameter, launch sites were counted if located inside MPA boundaries, within 2 miles, or within 2-5 miles of proposed MPAs. This parameter was also evaluated for proposed MPAs with: a) very high LOP, b) high and moderate high LOP, c) moderate and lower LOP, and d) all levels of protection. The distance of 5 miles reflects potential use of MPAs by users with small water craft.

Number of ports and harbors within given distances of proposed MPAs. Eighteen ports and harbors exist in the study region. Each proposed MPA was evaluated to determine the number of ports and harbors within: 0-5 miles, 5-15 miles, or 15-50 miles of that MPA. Proposed MPAs were separated out by those with: a) very high LOP, b) high and moderate high LOP, c) moderate and lower LOP, and d) all levels of protection.

Number of terrestrial California State Parks located adjacent to proposed nearshore MPAs. There are thirty-two state parks located on the coast adjacent to the Pacific Ocean in the south coast study region. Data for this evaluation are provided by California State Parks with individual park information from the various districts in the region. State parks were counted if they were adjacent to nearshore MPAs and their associated boundaries. This parameter was evaluated for proposed MPAs with: a) very high LOP, b) high and moderate high LOP, and c) moderate LOP or lower.

Evaluation of educational and study opportunities focused on:

Number of major marine research and educational institutions within given distances of proposed MPAs. The evaluation is limited to the 49 major research and educational institutions in the region. These institutions include: aquariums, research and educational institutes, education only institutes, and research only institutes. For this parameter, it is determined how many institutes are within 15 miles or within 15-50 miles of proposed MPAs by the following level of protections: a) very high, b) high and moderate high, c) moderate and lower LOP, and d) all levels of protection.

Number of long-term marine research monitoring sites located within proposed MPAs. This parameter considers the key, long-term monitoring sites in the study region and includes nearly 1,400 sites. This parameter is evaluated by counting the number of monitoring sites located within proposed MPAs with: a) very high LOP, b) high and moderate high LOP, c) moderate and lower LOP, and d) all levels of protection.

Number of habitat replicates, for each habitat, within the study region. There are nineteen habitats under consideration in the MLPA South Coast process, including: beaches, rocky shores, surfgrass, kelp persistence, maximum kelp, hard substrate (0-30 m), hard substrate (30-100 m), hard substrate (100-3000 m), soft substrate (0-30 m), soft substrate (30-100 m), soft substrate (100-200 m), soft substrate (200-3000 m), soft (all depths), depth (30-100 m), depth (100-200 m), and depth (200-3000 m), estuary, coastal marsh, and eelgrass. The number of habitat replicates is counted within an MPA

proposal. Habitat replication is considered for proposed MPAs at a) moderate-high LOP or higher, and b) all levels of protection.

Evaluation Results

Overall, Round 3 SCRSG MPA proposals increased access to recreational, educational, and research opportunities relative to Proposal 0. This was particularly true for MPAs at or above a moderate high level of protection. When comparing Round 3 results to previous rounds, the general trend was that the range narrowed for any given parameter, reducing the differences across proposals.

Recreational Opportunities

Access to MPAs is important for both consumptive and non-consumptive users of the marine environment (Figure1). Therefore, one parameter in the Goal 3 analysis determined how many access points were captured within or near (2 miles) MPA proposals. In total, there are 486 coastal access points within the study region. Round 3 SCRSG MPA proposals captured between 157 (P2) and 205 (P1) access points within the 0-2 miles distance range of MPAs. There was far less variation across the proposals when counting the number of access points within proposed MPAs compared to previous rounds. The number of access points within MPAs was 6 (P2) to 8 (P1 and P3) access points. In general, SCRSG MPA Proposal 1 provides the greatest access, both within proposed MPAs and within 2 miles. However, all the proposals increased access compared to Proposal 0, which capture 153 access points. In addition, the proposals showed improvement over previous rounds relative to providing access to recreational activities within MPAs at various levels of protection. In previous rounds, most access was provided in MPAs at only a very high LOP. While that may be desirable for non-consumptive recreational activities, it is likely less desirable for consumptive activities. Round 3 SCRSG MPA proposals increased access to recreational activities in MPAs at high, moderate high and lower levels of protection.

Another parameter used to measure access to recreational opportunities is boat and kayak launch sites within proposed MPAs and within 2 miles of proposed MPAs (Figure 2). In general, SCRSG MPA proposals improved access from launch sites compared to Proposal 0, particularly with MPAs at or above moderate high LOP. SCRSG MPA Proposal 1 provided slightly greater access from boat and kayak launch sites compared to SCRSG MPA Proposals 2 and 3 at all levels of protection, except the high/moderate high category, both within and within 2 miles of proposed MPAs. SCRSG MPA Proposal 3 scored the highest for launch sites within the high/moderate high category. Comparing results to previous rounds, the proposals generally fell in the mid range from Round 2 but did show improvements from Round 1.

The third parameter used to measure recreational opportunities is the number of ports and harbors within three discrete distance ranges of proposed MPAs (see Figure 3). There are 18 ports and harbors in the study region, which were included in this analysis and nearly all were captured within the middle distance bin (5 – 15 miles) and all were captured within 50 miles. Therefore, the results focus on the inner distant bin of 0-5 miles, as that is where the greatest variation exists across proposals. The evaluation found that SCRSG MPA proposals captured

10 (P2) and 12 (P1) ports and harbors within 5 miles of proposed MPAs at all levels of protection. Relative to Proposal 0, SCRSG MPA proposals showed an increase in access (via ports and harbors) for MPAs at or above moderate-high LOP. Similar to other parameters, Round 3 SCRSG MPA proposals increased access to MPAs in the moderate high to high category compared to previous rounds.

The final recreational parameter counts the number of terrestrial state parks that are adjacent to onshore MPAs (see Figure 4). In total there are 32 terrestrial state parks with boundaries that intersect the coastline. The number of terrestrial parks adjacent to proposed onshore MPAs ranged from 5 (P2) to 9 (P1) state parks when considering all levels of protection. In general, SCRSG MPA proposals improved access to recreational opportunities via terrestrial parks, particularly for MPAs at or above moderate high LOP. There was an increase in the number of terrestrial state parks adjacent to proposed MPAs in the moderate high/high category compared to previous rounds. In this category, SCRSG MPA Proposal 3 provided the greatest access with 5 parks.

Educational and Study Opportunities

Educational and study opportunities may be improved by the presence of proposed MPAs near research institutions and proposed MPAs that include established long term monitoring sites. Therefore, these parameters were used to evaluate such opportunities. In addition, habitat replication within the study region is also an essential consideration in the design of MPA proposals for educational and study opportunities, given the importance of replicate sites for robust design of scientific studies.

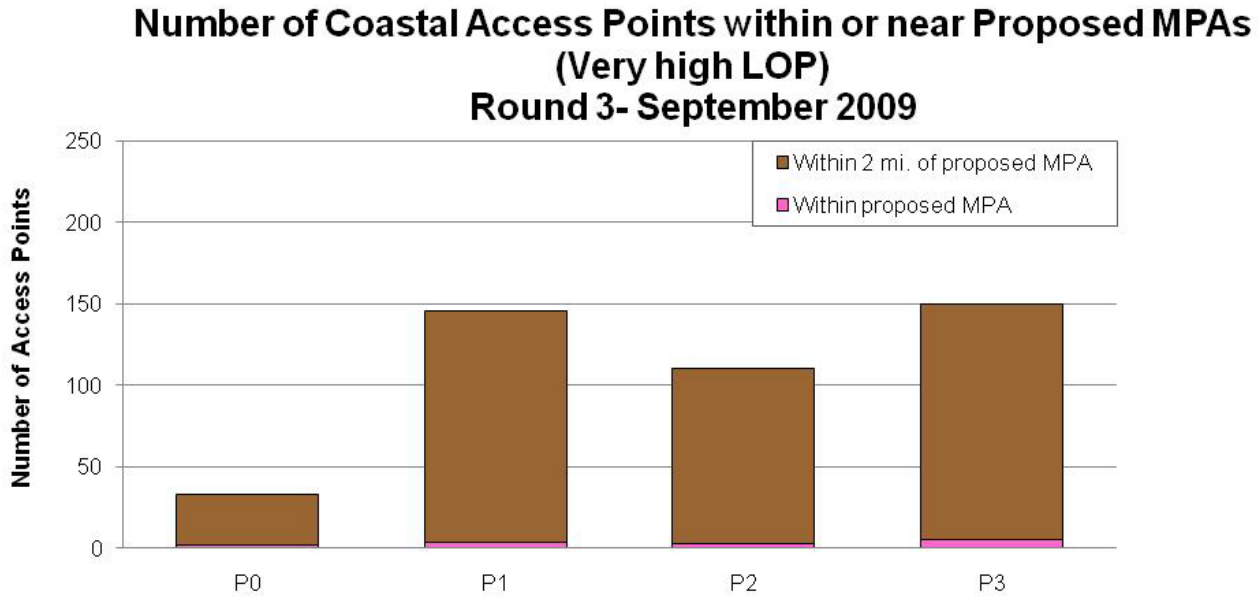
In total, 49 major research and educational institutions were considered in this evaluation; this sample population does not represent all the institutions in the study region, but instead represents important institutions to provide a relative comparison. Results focus on MPAs within 0 to 15 miles given that all institutions are captured within 50 miles of proposed MPAs. SCRSG MPA proposals improved access to educational and study opportunities relative to Proposal 0 for this parameter (see Figure 5). SCRSG MPA Proposal 3 captured the most institutions within 15 miles of MPAs, particularly for the very high LOP category and for MPAs at all levels of protection. Compared to previous rounds, Round 3 SCRSG MPA proposals narrowed the range between proposals although there was an increase in the number of institutions within 15 miles of moderate high or high protection MPAs.

There are 1,394 long-term monitoring sites in the study region. This parameter evaluated the number of sites captured within proposed MPAs (see Figure 6). SCRSG MPA proposals improved access for this parameter relative to Proposal 0, particularly those at very high and moderate high/high categories. In general, SCRSG MPA Proposal 3 captured more monitoring sites, except at the moderate high/high category where all three proposals had the same number of monitoring sites. Round 3 proposals increased access to research and study opportunities when considering the monitoring sites found in MPAs at or above moderate high LOP. When considering MPAs at all levels of protection, Round 3 SCRSG MPA proposals narrow the range compared to Rounds 1 and 2.

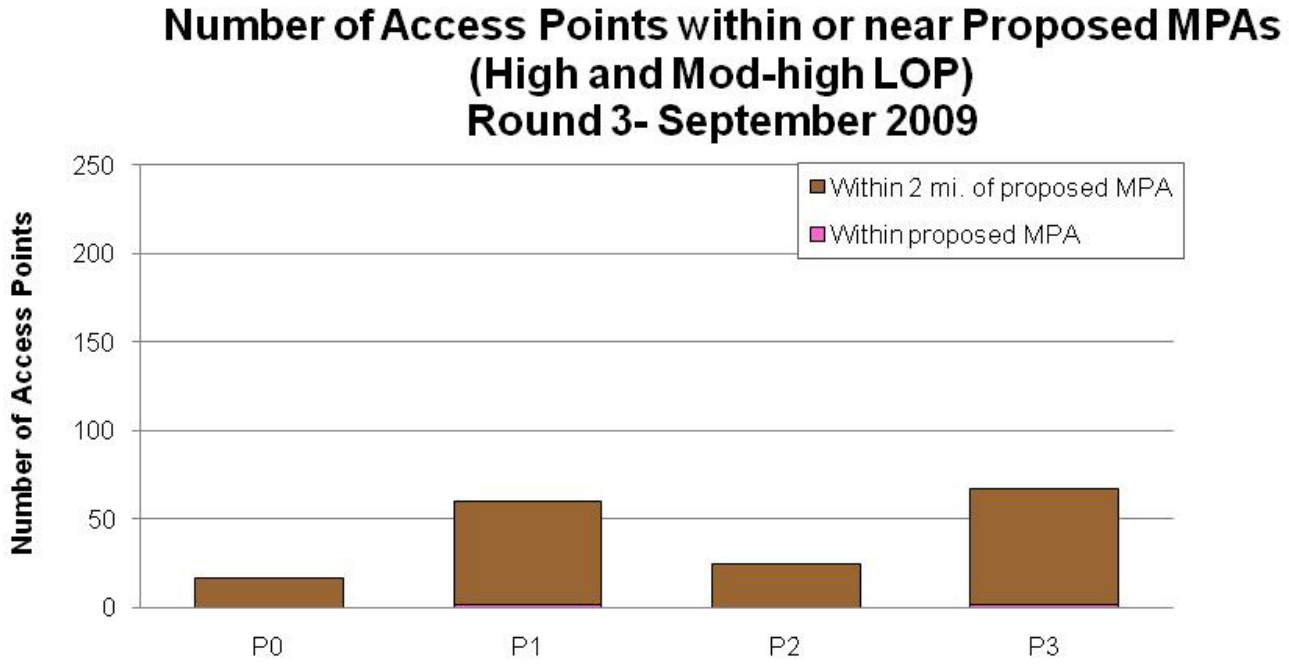
The SCRSG MPA proposals provided notable improvement to habitat replication compared to Proposal 0 when considering all MPAs and those at or above moderate high LOP (see Figure 7). Some habitats may have fewer replicates due to patchy data or poor representation, such as surfgrass. For most of the hard habitats, SCRSG MPA Proposal 3 captured more replicates. The SCRSG MPA proposals tended to capture the same number of replicates for most soft habitats. Compared to previous rounds, the SCRSG MPA proposals had notably less variation across the proposals.

Figure 1: Coastal access points within and near proposed MPAs

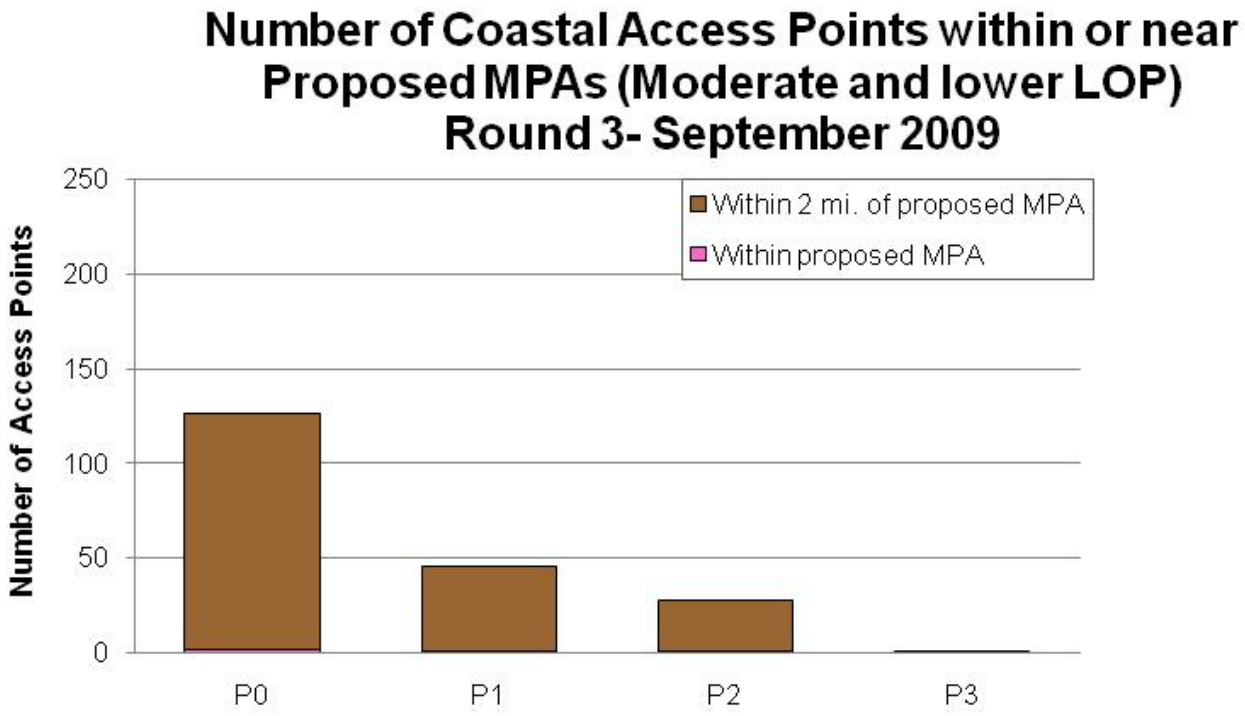
1a) Very high Level of Protection MPAs



1b) High and Moderate-high Level of Protection MPAs



1c) Moderate or lower Level of Protection MPAs



1d) All MPAs: At all Levels of Protection

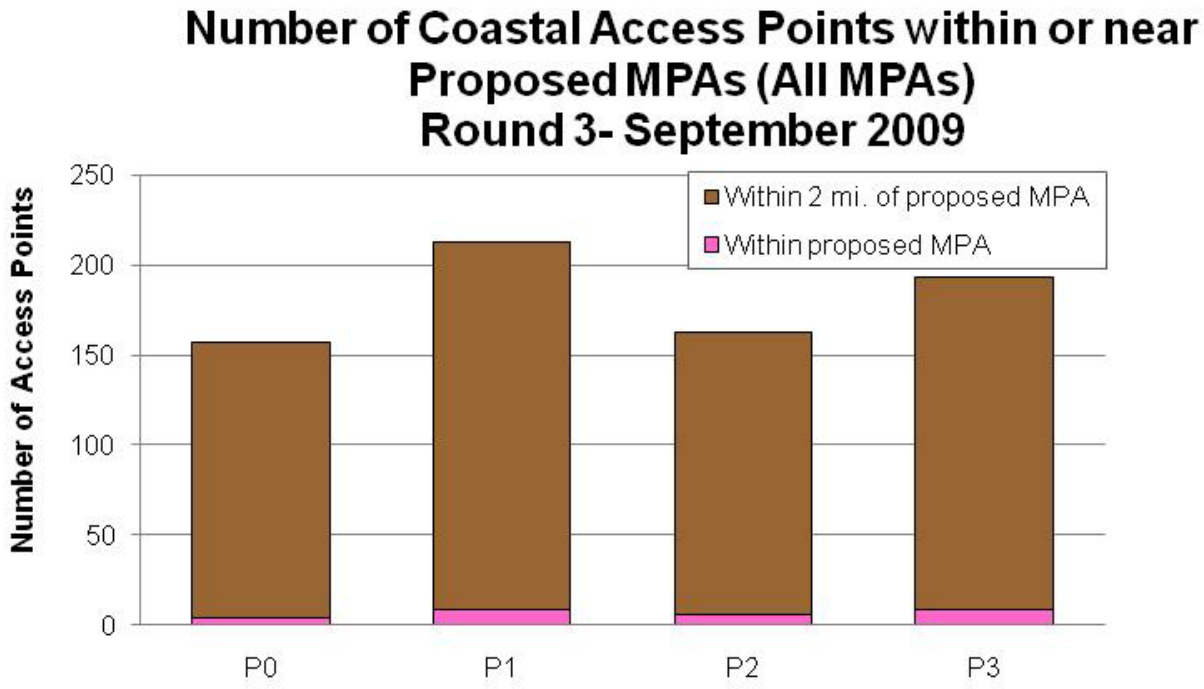
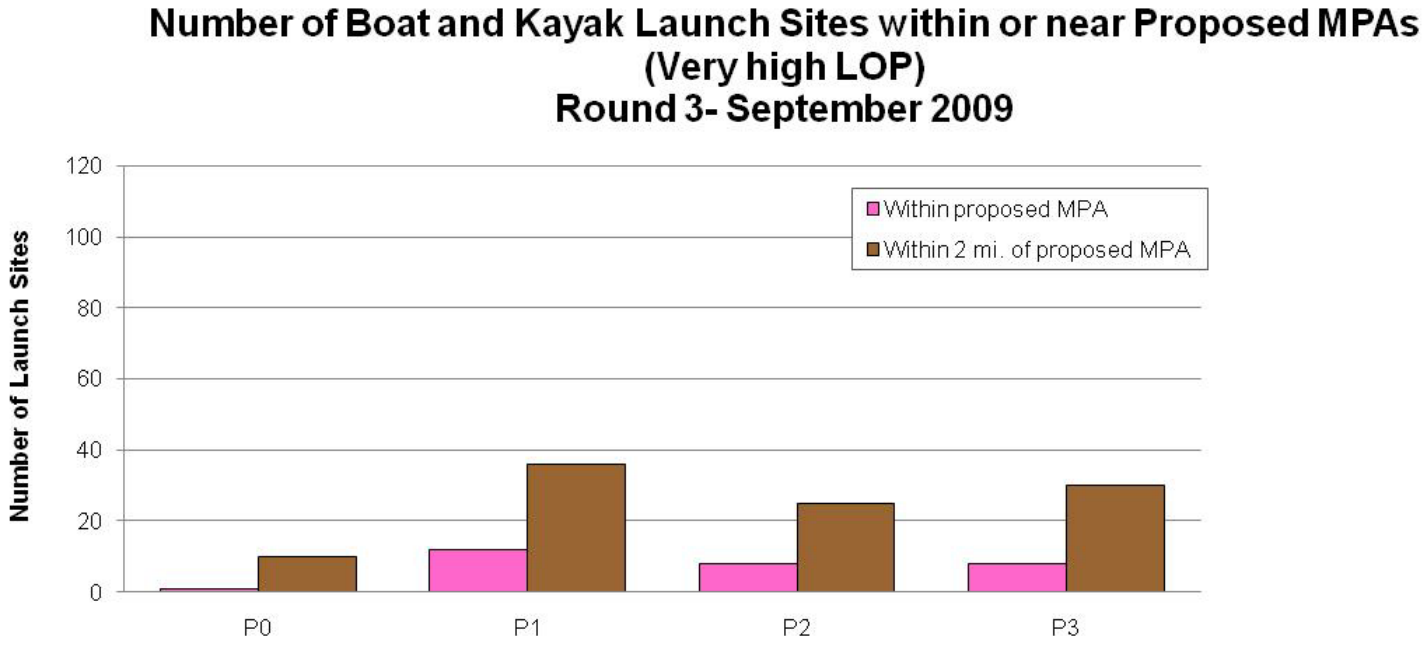
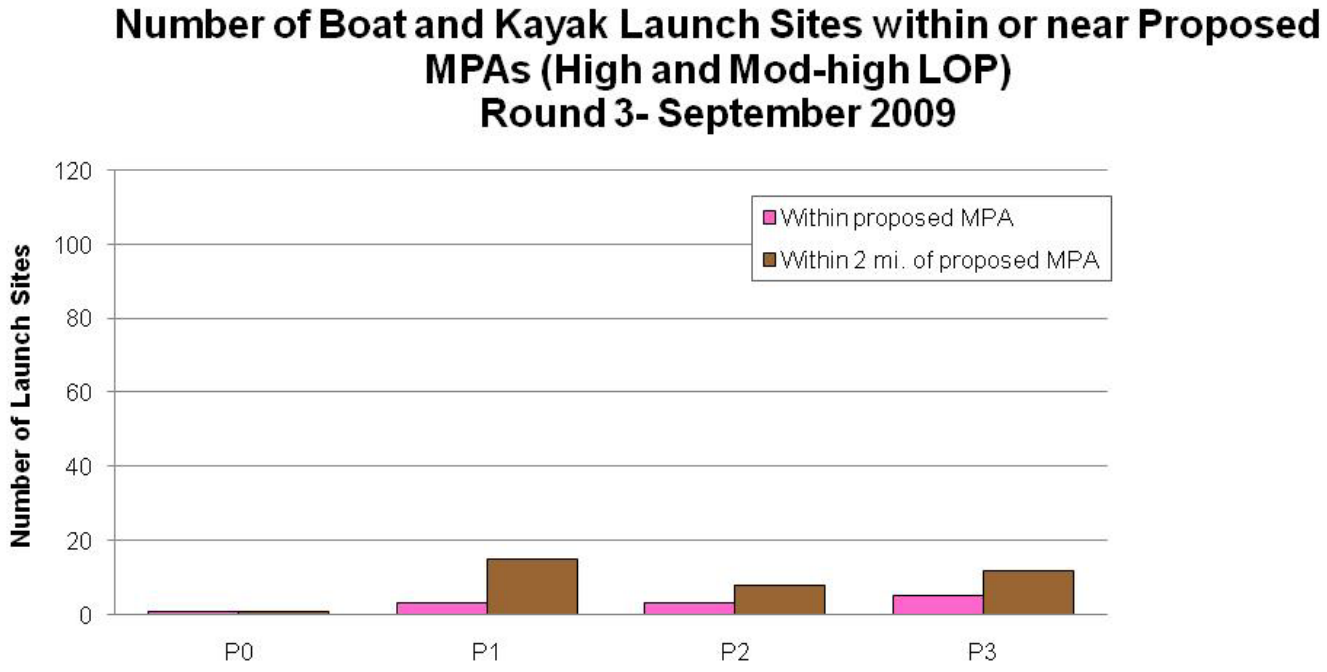


Figure 2: Boat and kayak launch sites within or near proposed MPAs.

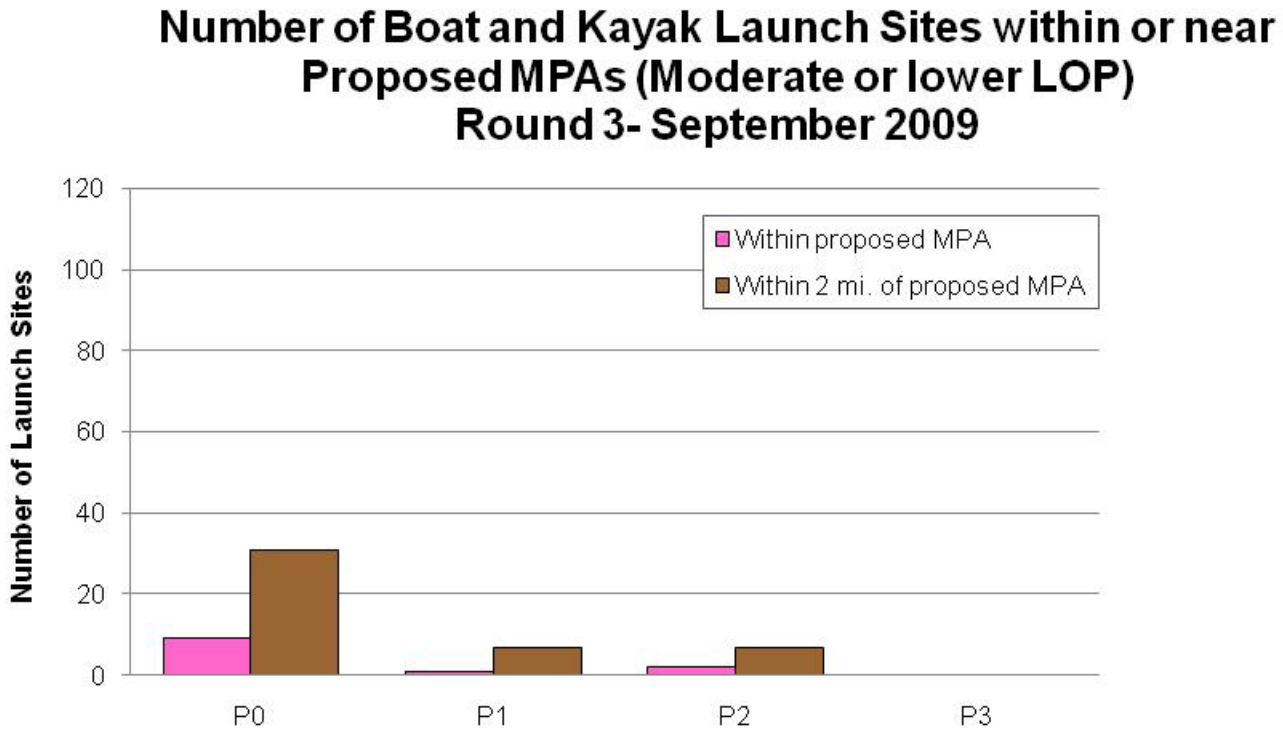
2a) Very high Level of Protection MPAs



2b) High and Moderate-high Level of Protection MPAs



2c) Moderate or lower Level of Protection MPAs



2d) All MPAs: At all Levels of Protection

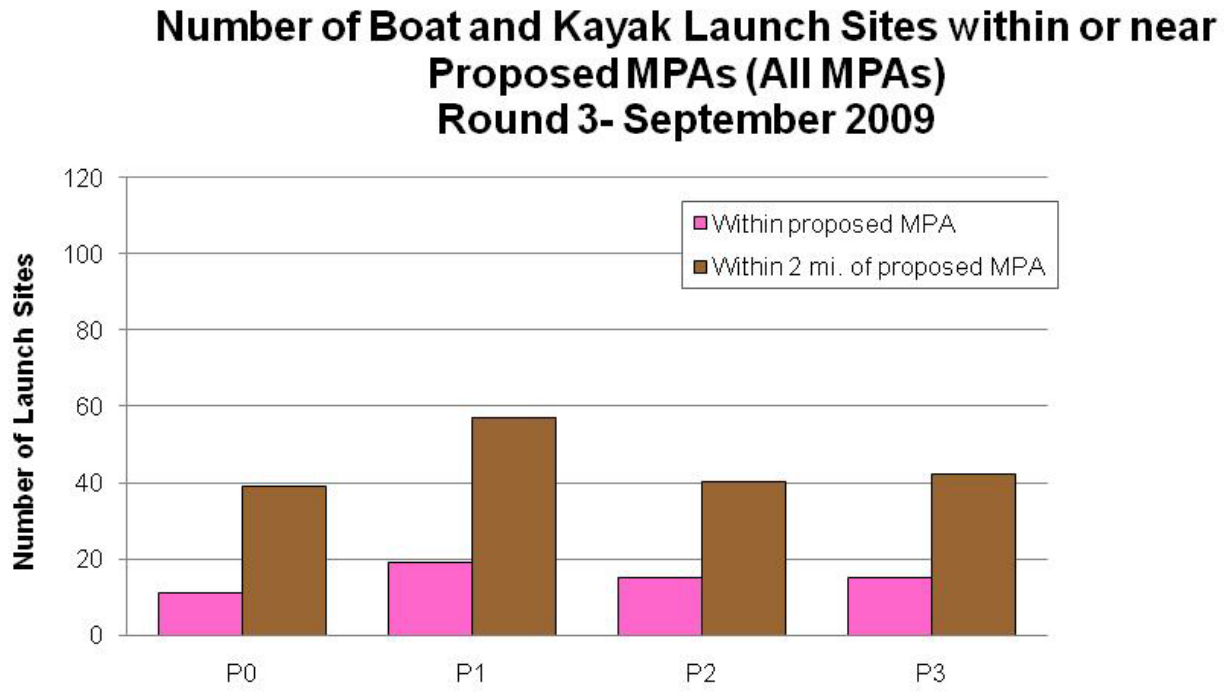
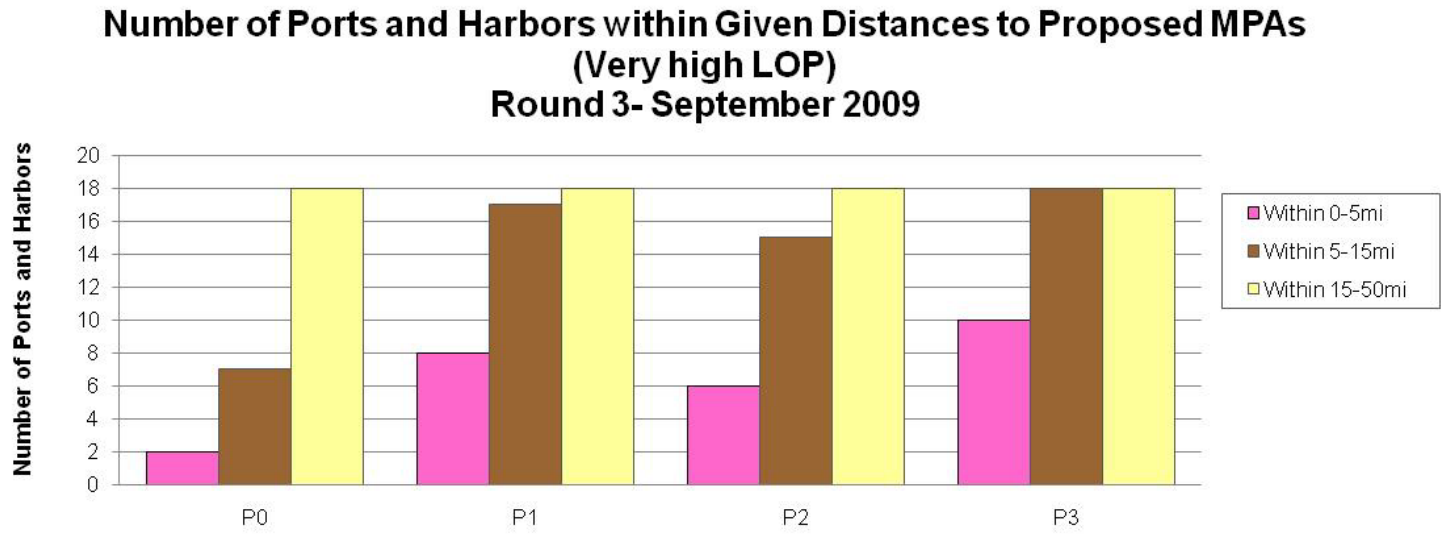
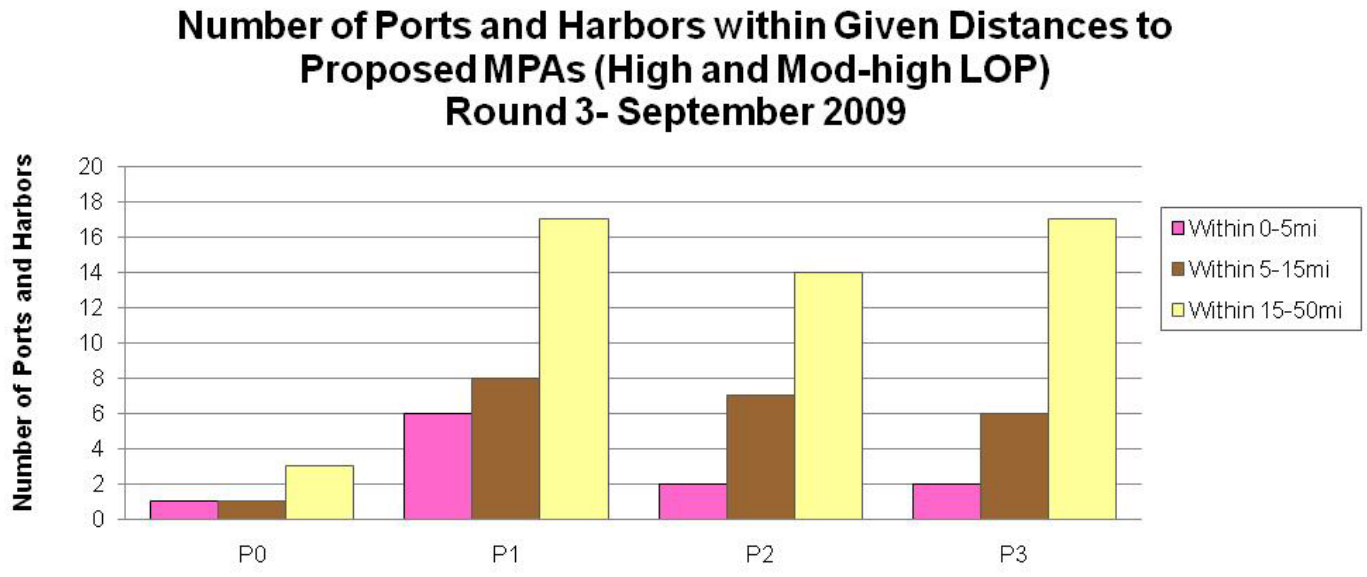


Figure 3: Ports and harbors within given distances of proposed MPAs.

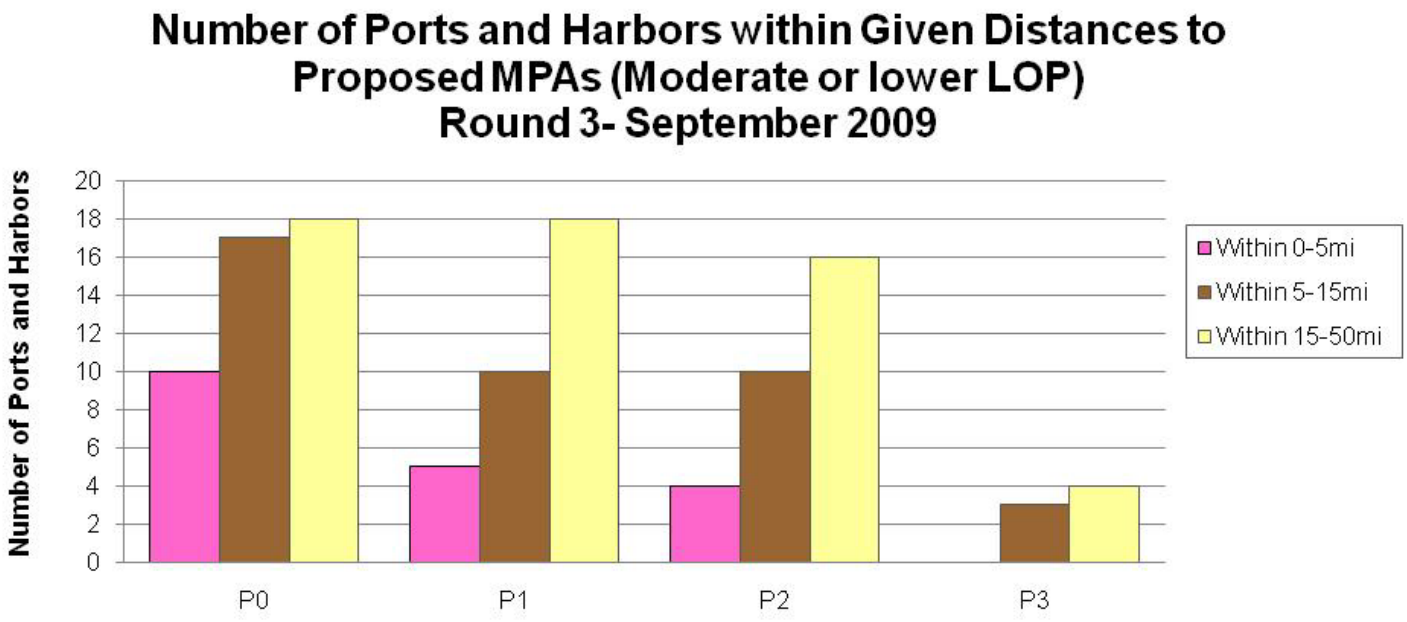
3a) Very high Level of Protection MPAs



3b) High and Moderate-high Level of Protection MPAs



3c) Moderate or lower Level of Protection MPAs



3d) All MPAs: At all Levels of Protection

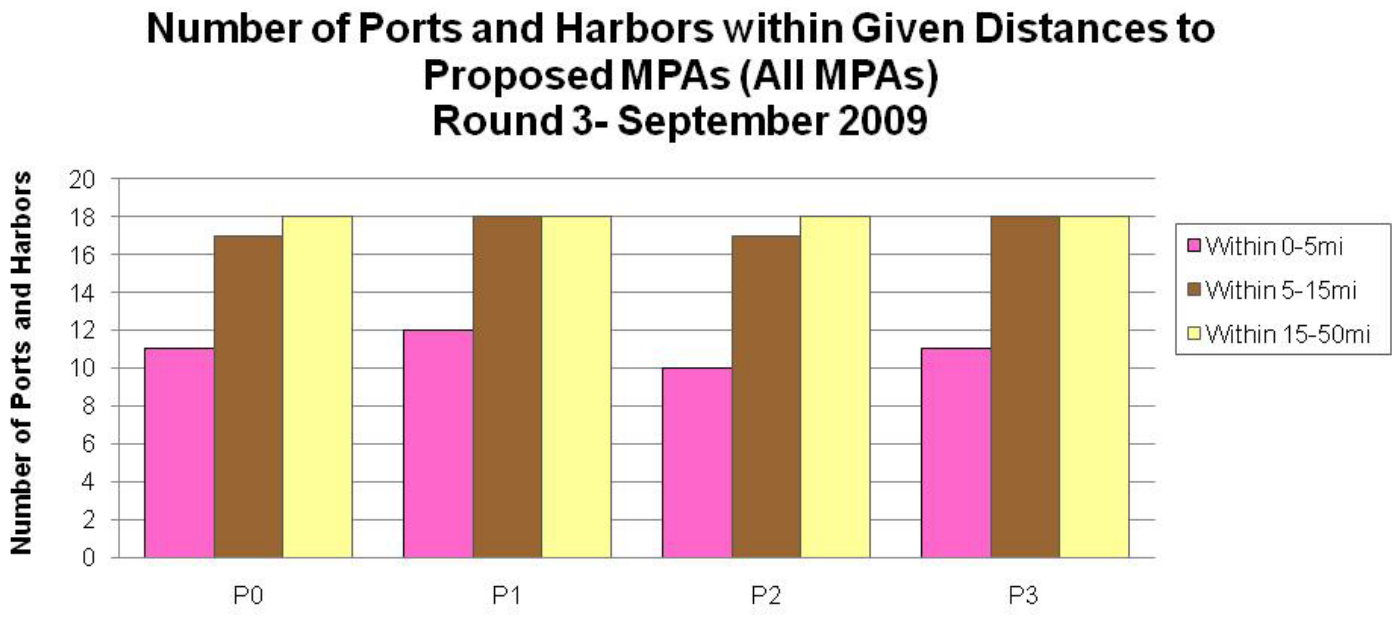


Figure 4: California State Parks located adjacent to MPA boundaries.

4a) All MPAs: At all Levels of Protection

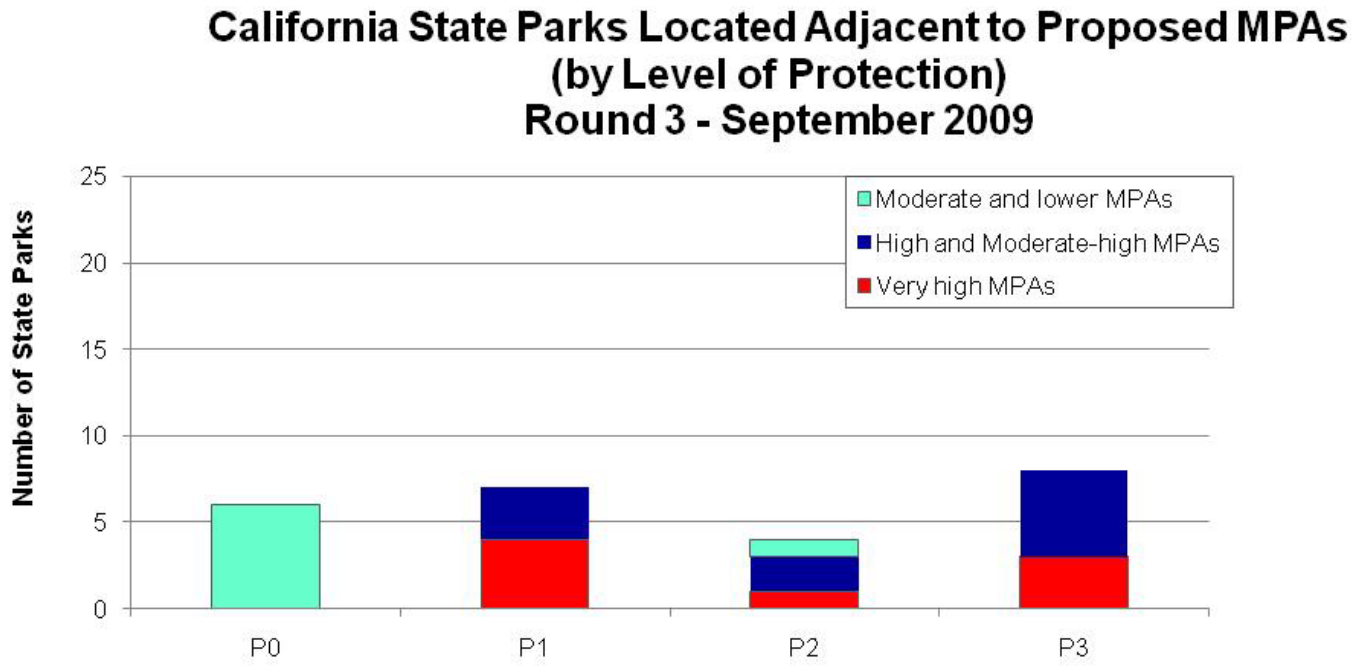
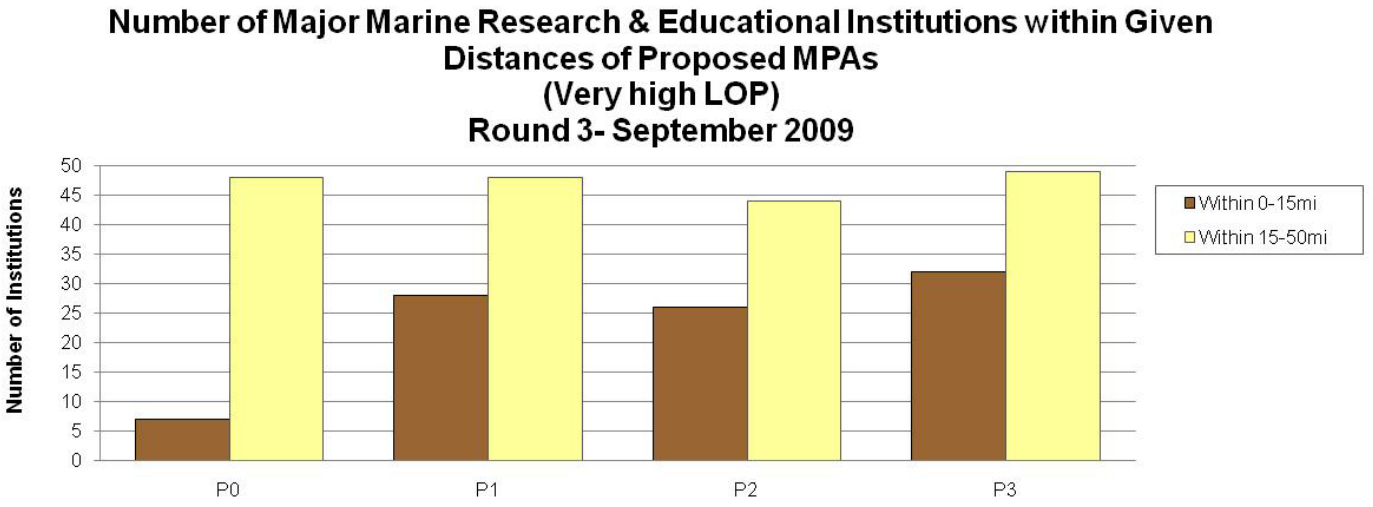
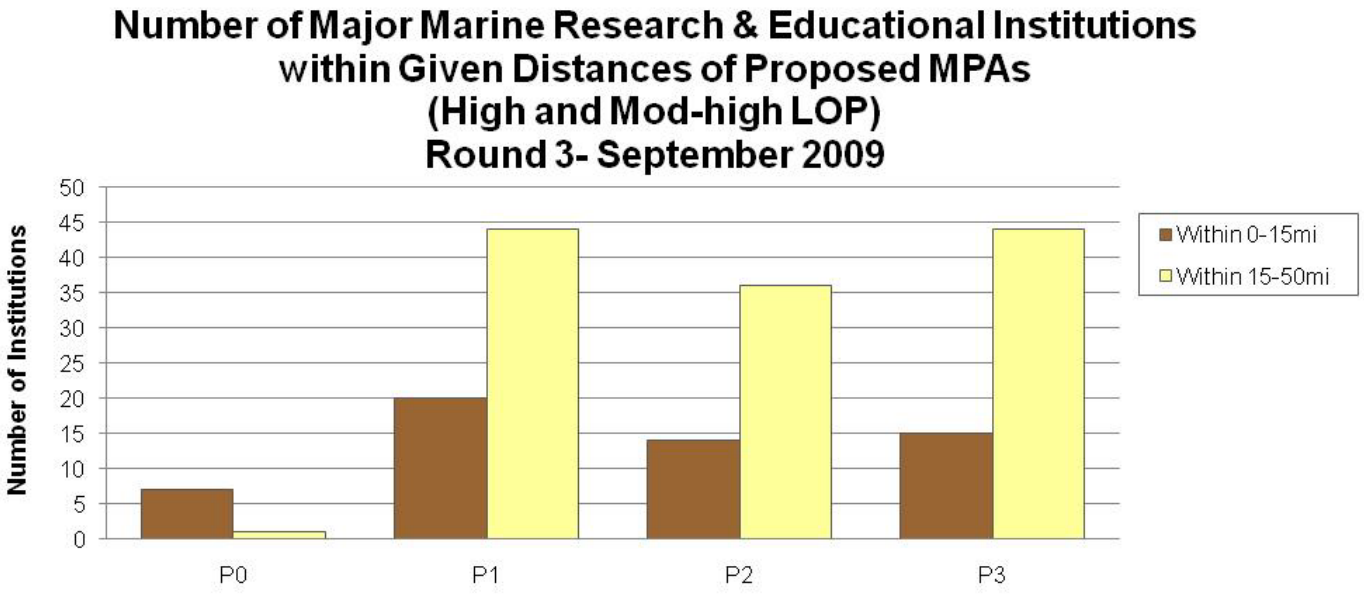


Figure 5: Major marine research and educational institutions within given distances of proposed MPAs.

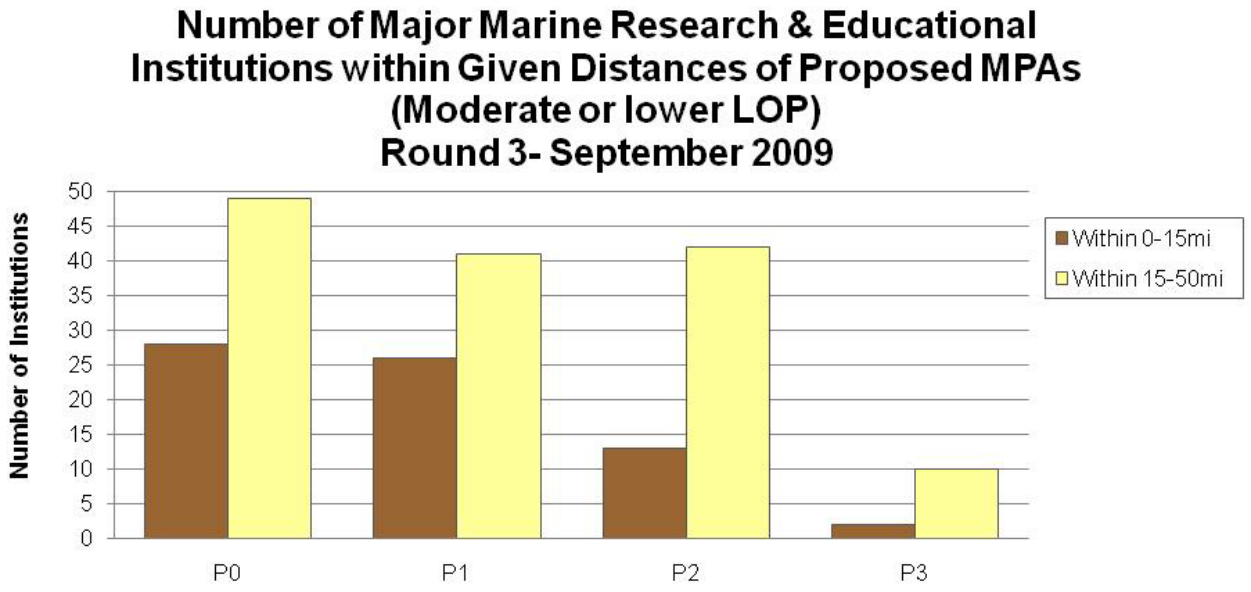
5a) Very high Level of Protection MPAs



5b) High and Moderate-high Level of Protection MPAs



5c) Moderate or lower Level of Protection MPAs



5d) All MPAs: At all Levels of Protection

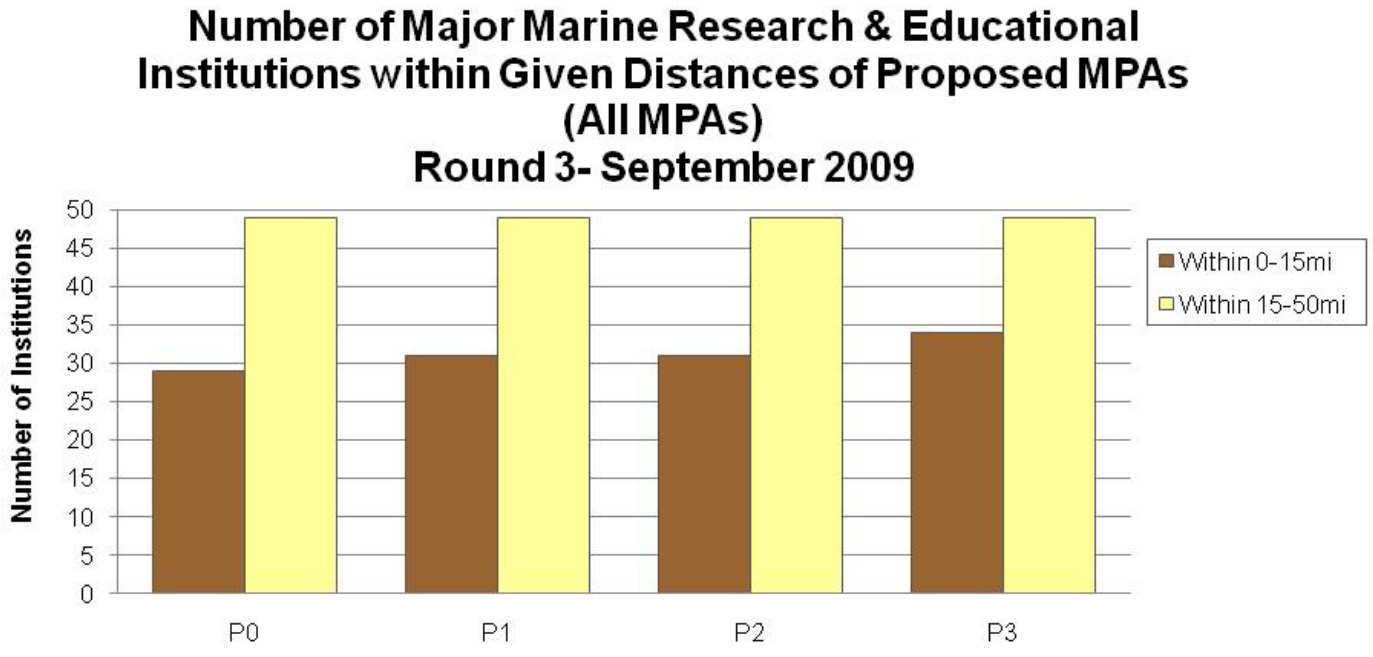


Figure 6: Long-term marine research monitoring sites located within proposed MPAs.

6a) All MPAs: At all Levels of Protection

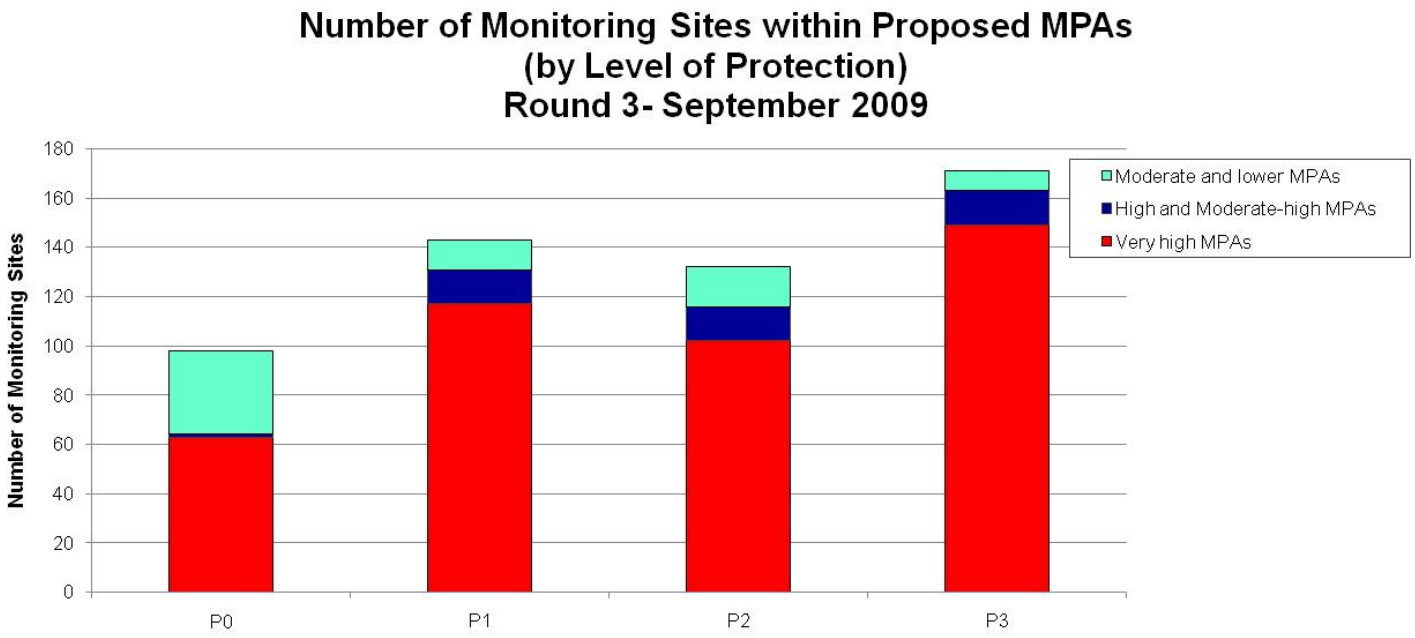
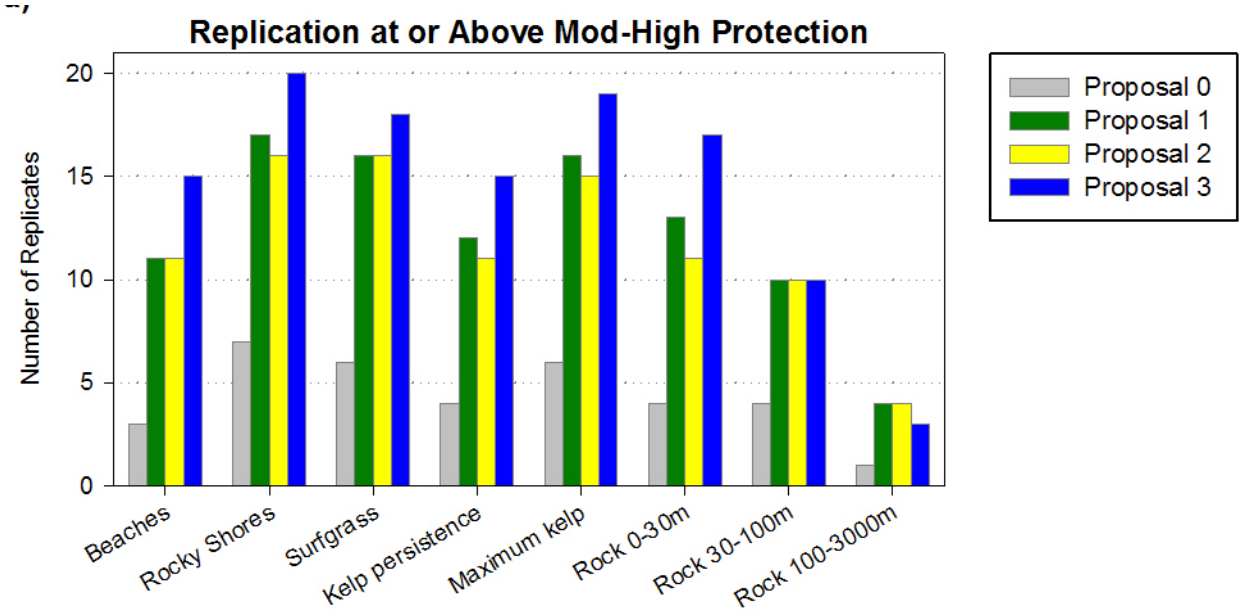
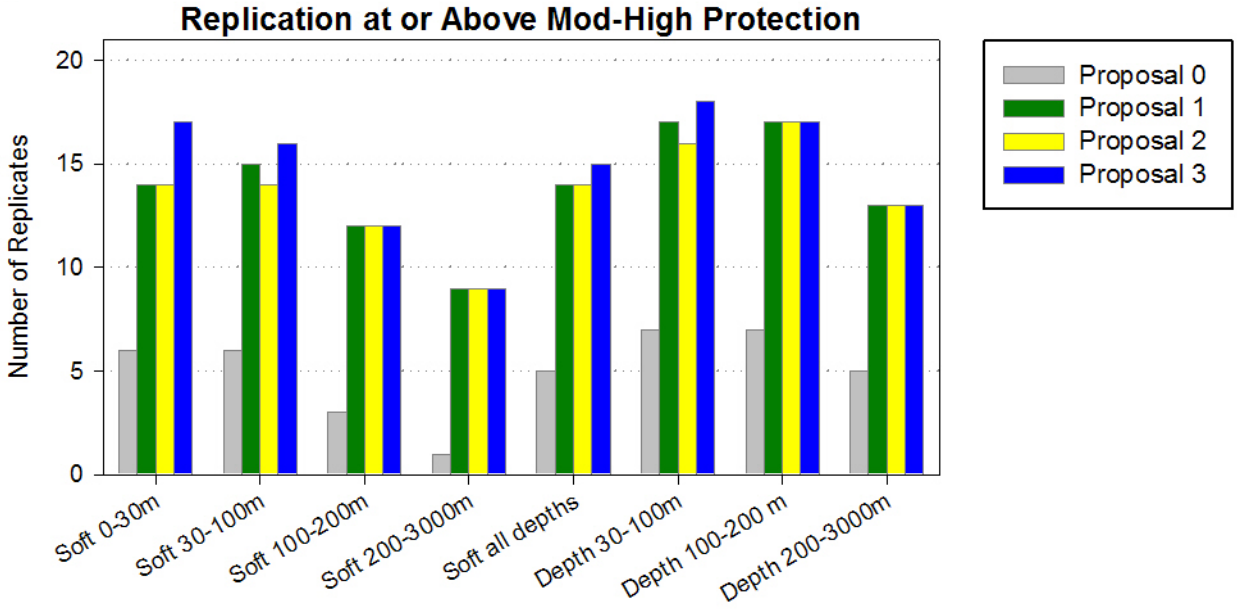


Figure 7: Habitat replication within study region in proposed MPAs

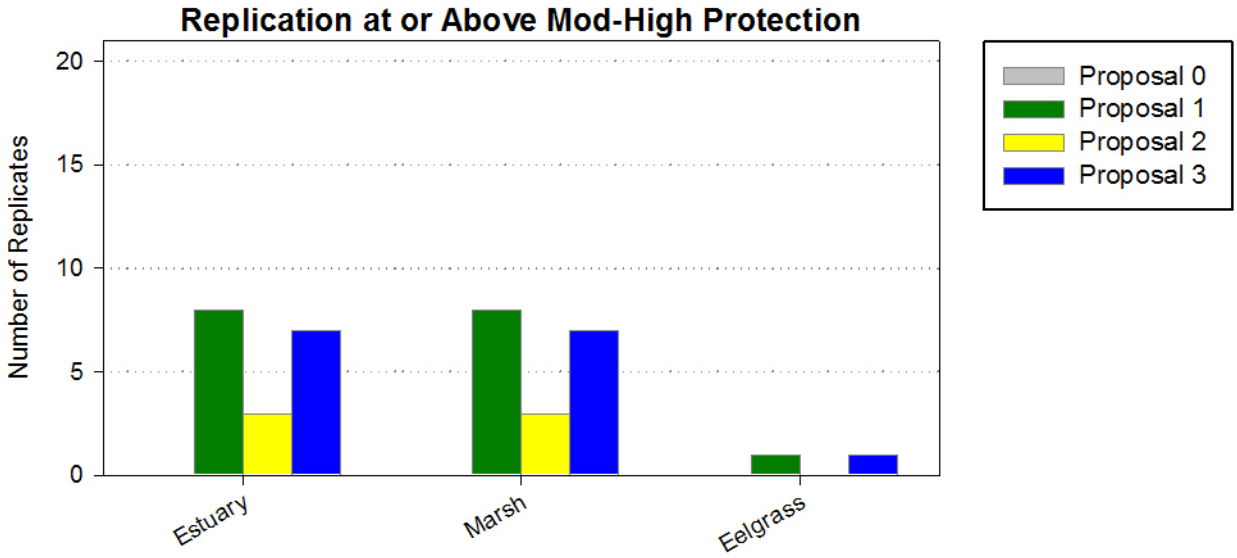
7a) Moderate-high or above Level of Protection MPAs: Hard-bottom habitats



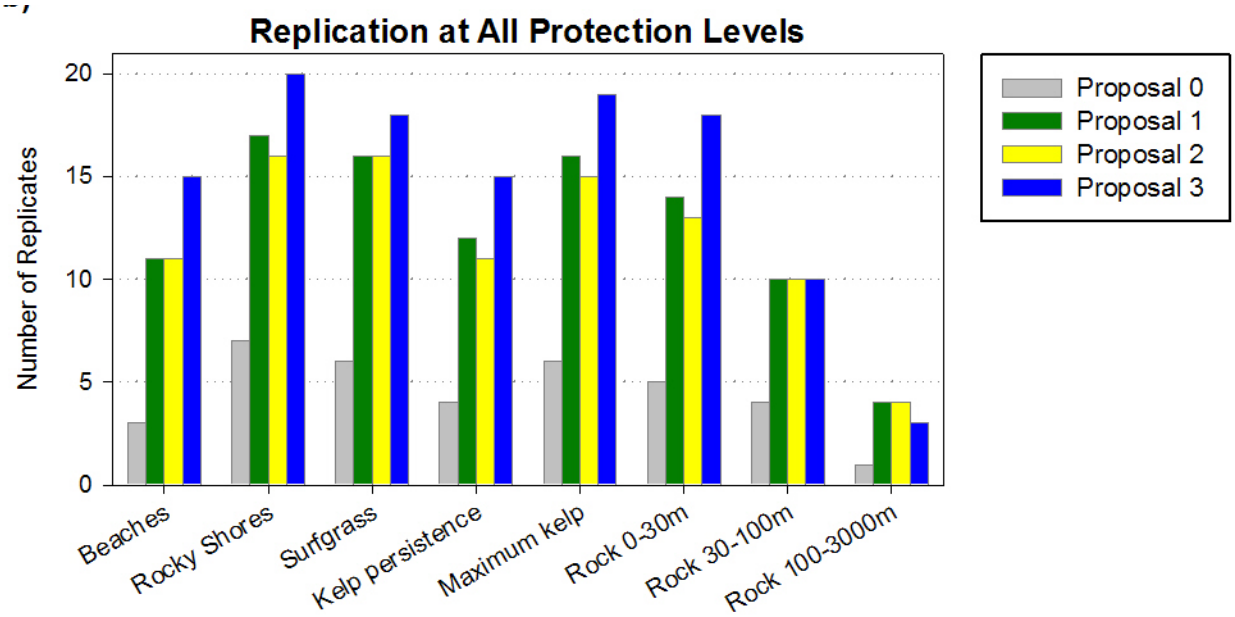
7b) Moderate-hgh or above Level of Protection MPAs: Soft-bottom habitats



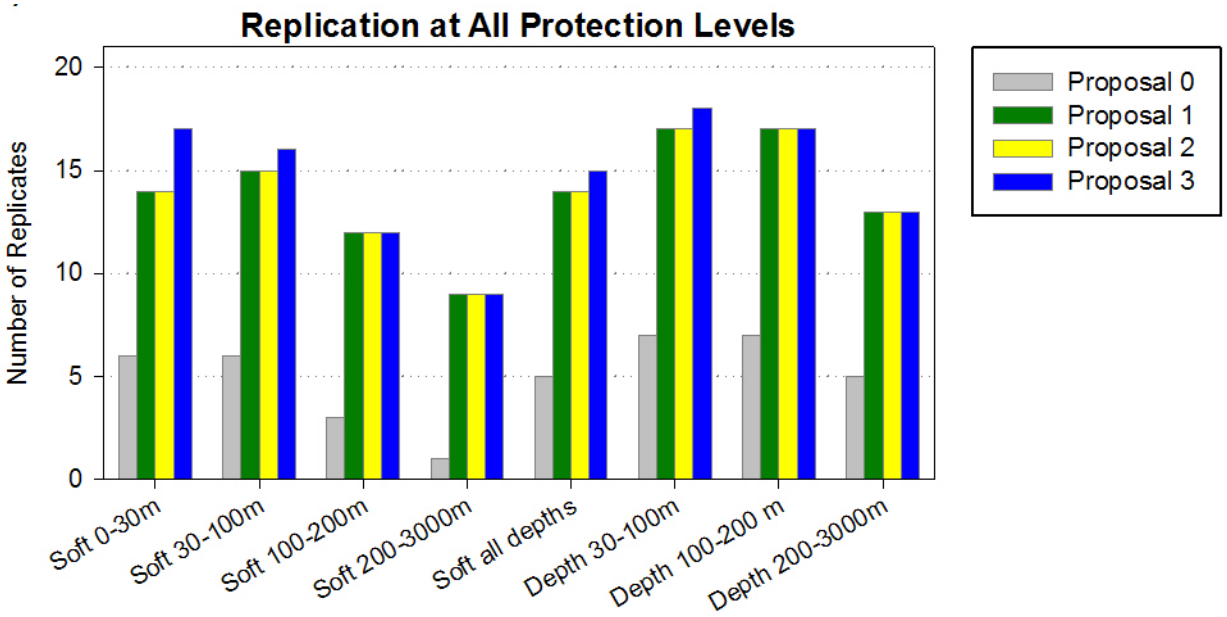
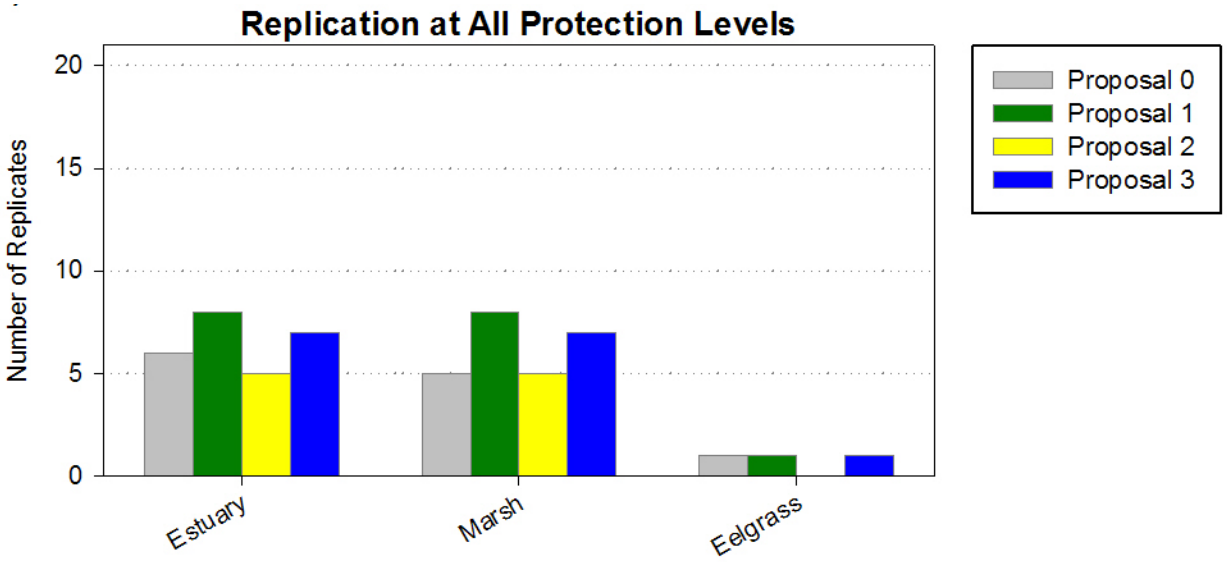
7c) Moderate-high or above Level of Protection MPAs: Estuarine habitats



7d) All MPAs: At all Levels of Protection: Hard bottom habitats



7e) All MPAs: At all Levels of Protection: Soft Bottom Habitats



7f) All MPAs: At all Levels of Protection: Estuarine Habitats