

**California MLPA Master Plan Science Advisory Team**  
**Outputs from Bioeconomic Model Evaluations of**  
**Round 3 SCRSG MPA Proposals: MPA Deletion Evaluations**  
*October 13, 2009*

Table 4a. MPA deletion results for the South Coast Regional Stakeholder (SCRSG) Marine Protected Area (MPA) Proposal 1. This table reports the results of an MPA deletion analysis, in which each MPA in a proposal is sequentially removed, one-at-a-time, and the equilibrium biomass of the system is recalculated. The "Effect on biomass" reflects the amount of biomass lost when the MPA is removed. It is calculated as the difference between the biomass with the MPA and the biomass without the MPA divided by the biomass with the MPA and multiplied by 100. A large number means that the MPA contributes greatly to the MPA network, a small number means it is less important. The "Efficiency of effect on biomass" is the "effect on biomass" divided by the area of habitat being protected. It is a measure of the efficiency of the MPA at increasing biomass. Large numbers here suggest places where protecting an additional unit of habitat is likely to result in the greatest increase in overall biomass. UCSB results are from an MPA deletion analysis run under MSY-type management. UCD results are from an MPA deletion analysis run under unsuccessful management. Results are averaged across all species.

MPA Name	Effect on Biomass (UCSB)	Efficiency of effect on biomass (UCSB)	Effect on Biomass (UCD)	Efficiency of effect on biomass (UCD)
Point Conception SMR	0.1047	0.0506	0.4009	0.2029
Naples SMCA	0.0612	0.0378	0.0925	0.0864
Helo SMR	0.5171	0.2595	1.0688	0.4404
Point Dume SMCA	0.3461	0.2252	1.5375	1.0239
Point Dume SMR	0.5287	0.4924	1.4523	1.5652
Long Point SMR	0.0082	0.0548	0.3119	2.6918
Farnsworth SMCA	0.2959	0.3178	1.2820	1.2756
Blue Cavern SMR	0.1032	0.2720	0.8590	2.0980
Begg Rock SMR	0.0579	0.0218	0.1475	0.0553
Crystal Cove SMCA	0.0720	0.0709	0.0816	0.1555
Del Mar SMR	0.1804	0.0581	1.4403	0.4831
La Jolla South SMR	0.2269	0.0522	0.7022	0.1598
San Clemente Pending Military Closure 1	1.4554	0.2278	4.4074	0.5601
San Clemente Pending Military Closure 2	1.6136	0.5288	2.0913	0.7841
Palos Verdes SMR	0.6013	0.2918	2.6869	0.7576
La Jolla Cove SMR	0.0153	0.0419	0.1149	0.1439
Cabrillo SMR	0.0573	0.0472	0.3082	0.1834
Cat Harbor SMCA	0.0000	0.0000	0.0429	0.4753
Emerald Bay SMCA	0.0259	0.0813	0.0281	0.1505
Laguna SMR	0.2760	0.2074	2.9455	2.2282

Table 4b. MPA deletion results for the South Coast Regional Stakeholder (SCRSG) Marine Protected Area (MPA) Proposal 2. This table reports the results of an MPA deletion analysis, in which each MPA in a proposal is sequentially removed, one-at-a-time, and the equilibrium biomass of the system is recalculated. The "Effect on biomass" reflects the amount of biomass lost when the MPA is removed. It is calculated as the difference between the biomass with the MPA and the biomass without the MPA divided by the biomass with the MPA and multiplied by 100. A large number means that the MPA contributes greatly to the MPA network, a small number means it is less important. The "Efficiency of effect on biomass" is the "effect on biomass" divided by the area of habitat being protected. It is a measure of the efficiency of the MPA at increasing biomass. Large numbers here suggest places where protecting an additional unit of habitat is likely to result in the greatest increase in overall biomass. UCSB results are from an MPA deletion analysis run under MSY-type management. UCD results are from an MPA deletion analysis run under unsuccessful management. Results are averaged across all species.

MPA Name	Effect on Biomass (UCSB)	Efficiency of effect on biomass (UCSB)	Effect on Biomass (UCD)	Efficiency of effect on biomass (UCD)
Laguna North SMCA	0.0182	0.0179	0.0000	0.0000
San Clemente Pending Military Closure 2	1.6185	0.5304	2.4822	0.9307
San Clemente Pending Military Closure 1	1.4529	0.2274	4.8343	0.6143
Begg Rock SMR	0.0561	0.0212	0.1578	0.0592
Laguna SMR	0.1878	0.2680	1.5815	2.0667
Point Conception SMR	0.2193	0.0543	1.3699	0.3456
Campus Point SMR	0.4620	0.2585	1.0137	0.4625
Point Dume SMCA	0.5229	0.2633	2.4110	1.2201
Del Mar SMR	0.1098	0.0517	1.3587	0.5239
Ocean Beach Pier SMCA	0.0033	0.0122	0.0121	0.0739
Point Vicente SMR	0.1883	0.3895	0.6719	1.4523
Abalone Cove SMCA	0.0877	0.1559	0.6710	1.6176
Cabrillo SMR	0.0590	0.0486	0.3096	0.1843
Bird Rock SMCA	0.0110	0.2136	0.1497	2.9142
Blue Cavern SMR	0.0909	0.2772	0.8385	2.3419
Lover's Cove SMCA	0.0064	0.0803	0.3847	5.7715
Farnsworth SMCA	0.0977	0.2486	0.2714	0.7101
Point Mugu SMRMA	0.0103	0.0445	0.0119	0.0310
La Jolla SMR	0.0152	0.0416	0.1198	0.1500
Laguna South SMCA	0.0000	0.0000	0.0000	0.0000

Table 4c. MPA deletion results for the South Coast Regional Stakeholder (SCRSG) Marine Protected Area (MPA) Proposal 3. This table reports the results of an MPA deletion analysis, in which each MPA in a proposal is sequentially removed, one-at-a-time, and the equilibrium biomass of the system is recalculated. The "Effect on biomass" reflects the amount of biomass lost when the MPA is removed. It is calculated as the difference between the biomass with the MPA and the biomass without the MPA divided by the biomass with the MPA and multiplied by 100. A large number means that the MPA contributes greatly to the MPA network, a small number means it is less important. The "Efficiency of effect on biomass" is the "effect on biomass" divided by the area of habitat being protected. It is a measure of the efficiency of the MPA at increasing biomass. Large numbers here suggest places where protecting an additional unit of habitat is likely to result in the greatest increase in overall biomass. UCSB results are from an MPA deletion analysis run under MSY-type management. UCD results are from an MPA deletion analysis run under unsuccessful management. Results are averaged across all species.

MPA Name	Effect on Biomass (UCSB)	Efficiency of effect on biomass (UCSB)	Effect on Biomass (UCD)	Efficiency of effect on biomass (UCD)
Long Point SMR	0.0092	0.0716	0.1672	1.7567
North Catalina SMR	0.6239	0.9431	0.7713	0.9006
Blue Cavern SMR	0.0952	0.2903	0.4403	1.1030
Farnsworth SMR	0.5183	0.2912	1.5975	0.9027
Cabrillo SMR	0.0644	0.0423	0.3295	0.1657
Lachusa SMCA	0.5350	0.3132	1.8448	1.0864
Point Dume SMR	0.5493	0.4374	3.0203	1.2425
Palos Verdes SMR	1.3730	0.3830	3.6469	0.9789
San Clemente Pending Military Closure 1	1.5059	0.2357	3.3111	0.4208
San Clemente Pending Military Closure 2	1.6112	0.5280	1.1025	0.4134
San Nicolas Alpha Area Military Closure	2.5884	0.1887	3.5613	0.2156
South La Jolla Reefs SMR	0.5184	0.0519	0.7306	0.0609
Point Conception SMR	0.2901	0.0583	1.2453	0.2551
Swami's SMCA	0.1854	0.0786	0.6336	0.2841
Matlahuayl SMR	0.0523	0.0630	0.0895	0.1120
Naples SMR	0.2469	0.1522	0.7341	0.3763
Dana Point SMCA	0.0000	0.0000	0.1074	0.1042
Laguna Beach SMR	0.2772	0.1621	2.3494	1.4014
Newport Coast SMCA	0.0381	0.0378	0.0818	0.1418
UCSB SMR	0.5419	0.2754	0.4725	0.2156
Mishopsno SMCA	0.5984	0.1276	5.0345	0.8897