Table 4a. MPA deletion results for Lapis 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)
Blue Cavern SMR	0.0923	0.2817	0.6582	1.8382
Arrow Point SMCA	0.0422	0.0761	0.0686	0.8175
Farnsworth Bank SMR	0.2817	0.2333	1.3660	1.1507
Begg Rock SMR	0.0595	0.0224	0.1302	0.0488
Point Conception/Humqaq SMR	0.2273	0.0563	1.1253	0.2839
Coal Oil Point SMR	0.5278	0.2683	0.8071	0.3682
Lachusa SMCA	0.5147	0.3383	2.3018	1.5229
La Jolla SMR 2	0.6189	0.0542	1.0108	0.0825
Point Dume SMR	1.2673	0.4698	3.6288	1.3863
Swami's-San Elijo SMCA	0.1381	0.0586	1.4079	0.6606
Laguna Beach SMR	0.2344	0.2013	2.8322	2.4496
SoLag Dana SMCA	0.0710	0.0422	2.2938	1.4632
Newport Beach SMCA	0.1792	0.1942	1.5833	1.9219
Point Loma SMCA	0.0031	0.0005	0.5231	0.1426
Palos Verdes SMR	0.8742	0.2675	3.1029	0.8094
Doheny SMCA	0.0565	0.2186	0.6153	1.1566
Blue Cavern SMCA	0.0076	0.1469	0.1060	2.0636
La Jolla SMR 1	0.0157	0.0189	0.1973	0.2471
San Diego-Scripps SMCA	0.0006	0.0044	0.0141	0.9372
Point Fermin SMP	0.0099	0.0272	0.0273	0.1071
Dana Point SMR	0.0950	0.3170	1.4920	2.2667
San Clemente Pending Military Closure 1	1.4411	0.2255	3.7560	0.4773
San Clemente Pending Military Closure 2	1.2623	0.4137	0.4622	0.1987

Table 4b. MPA deletion results for Lapis 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)
Newport Beach SMCA 1	0.0767	0.1136	1.4210	1.8527
Point Loma SMCA	0.0145	0.0024	0.4848	0.1062
Malibu SMR	0.1650	0.1250	0.4405	0.3344
Point Vicente SMR	0.0163	0.1793	0.0291	0.3216
Big Sycamore Canyon SMR	0.0709	0.0483	0.3580	0.2501
Laguna SMR	0.1323	0.1594	1.8846	2.2830
Del Mar SMR	0.0976	0.0532	1.1192	0.4734
Abalone Cove SMCA	0.0427	0.0254	0.1029	0.6326
Doheny SMCA	0.0556	0.2149	0.6838	1.2853
La Jolla SMR	0.0490	0.0590	0.1045	0.1309
Begg Rock SMR	0.0567	0.0214	0.1420	0.0532
Point Conception/Humqaq SMR	0.2181	0.0540	1.3597	0.3431
Coal Oil Point SMR	0.5160	0.2622	0.9603	0.4381
Point Fermin SMP	0.0000	0.0000	0.0000	0.0000
Farnsworth Bank SMR	0.2808	0.2326	1.5975	1.3457
San Diego-Scripps SMCA	0.0013	0.0106	0.0143	0.9539
Blue Cavern SMCA	0.0073	0.1417	0.1405	2.7339
Blue Cavern SMR	0.0931	0.2838	0.8112	2.2657
Arrow Point SMCA	0.0418	0.0754	0.0711	0.8477
San Clemente Pending Military Closure 1	1.4336	0.2244	4.2798	0.5439
San Clemente Pending Military Closure 2	1.2768	0.4184	0.7163	0.3079
SoLag Dana SMCA	0.0668	0.0397	2.0207	1.2890
Dana Point SMR	0.0934	0.3116	1.5960	2.4247

Table 4c. MPA deletion results for Opal. 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)
Lovers Cove SMCA	0.0000	0.0000	0.4576	5.7086
Begg Rock SMR	0.0583	0.0220	0.1507	0.0565
Coal Oil Point SMR	0.5095	0.2589	0.8177	0.3731
Laguna SMR	0.2050	0.2470	1.5214	1.8519
Point Fermin SMP	0.0097	0.0266	0.0278	0.1092
Laguna North SMCA	0.0000	0.0000	0.0000	0.0000
Point Conception SMR	0.2427	0.0512	1.7070	0.3678
Cabrillo SMR	0.0586	0.0483	0.3074	0.1829
La Jolla SMR	0.0143	0.0393	0.1101	0.1378
San Diego-Scripps SMCA	0.0008	0.0063	0.0143	0.9522
Del Mar SMR	0.1265	0.0531	1.3552	0.4395
Penasquitos SMR	0.0027	0.0268	0.1090	0.7434
Point Dume SMCA	0.2422	0.1806	0.9122	0.9592
Lechuza SMR	0.4811	0.4083	2.1067	1.7877
Point Vicente SMR	0.4089	0.3965	1.4807	1.3355
Little Bird Rock SMR	0.0598	0.0526	0.5809	0.1666
Farnsworth Bank SMCA	0.1037	0.2261	0.4129	1.0904
China Point SMR	0.4056	0.2830	2.2289	1.5632
Long Point SMR	0.0083	0.0634	0.3111	3.2688
Santa Catalina Marine Science Center SMR	0.0188	0.1180	0.7322	2.0450
Arrow Point-Lion's Head SMCA	0.1348	0.3081	0.8899	1.6953
Laguna South SMCA	0.0000	0.0000	0.0000	0.0000
San Clemente Pending Military Closure 1	1.4595	0.2284	4.3998	0.5591
San Clemente Pending Military Closure 2	1.6168	0.5298	2.0502	0.7688
Catalina Harbor SMCA	0.0000	0.0000	0.0000	0.0000
Ocean Beach SMCA	0.0142	0.0147	0.3586	0.2465

Table 4d. MPA deletion results for Topaz. 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 Fermin SMP	0.1033	0.2829	0.2218	0.4205

Palos Verdes SMR	0.6848	0.5874	2.8480	1.3802
Laguna SMR	0.2911	0.1932	2.9714	1.9839
Cat Harbor SMCA	0.0000	0.0000	0.0000	0.0000
San Clemente Pending Military Closure 1	1.4608	0.2286	3.7567	0.4774
San Clemente Pending Military Closure 2	1.6091	0.5273	1.5180	0.5692
Lover's Cove SMCA	0.0000	0.0000	0.3520	5.2813
Begg Rock SMR	0.0599	0.0226	0.1250	0.0469
La Jolla South SMR	0.1150	0.0405	0.5912	0.1291
Swamis SMCA	0.0937	0.0325	1.3588	0.6507
Del Mar SMR	0.1052	0.0573	0.9114	0.4929
Cabrillo SMR	0.0588	0.0484	0.3038	0.1808
Point Conception SMR	0.2278	0.0564	1.0514	0.2653
Long Point SMR	0.0091	0.0605	0.2277	1.9655
Farnsworth SMCA	0.3002	0.3225	1.0160	1.0109
Point Dume SMCA	0.0250	0.0400	0.0135	0.0230
Point Dume SMR	0.5317	0.4952	1.1897	1.2887
Crystal Cove SMCA	0.0733	0.0804	1.0573	6.9582
Dana Point SMCA	0.1911	0.1574	1.0282	0.7572
Three Arch Bay SMCA	0.0000	0.0000	0.1478	0.4325
Doheny Beach SMCA	0.0713	0.2756	0.2343	0.7328
Deer Creek SMCA	0.4710	0.3146	2.0024	1.3417
Sequit SMCA	0.0000	0.0000	0.0513	0.0886
Silver Canyon SMR	0.0375	0.1562	0.0783	0.2581
Blue Cavern SMR	0.1043	0.2750	0.6666	1.6281
Refugio SMCA	0.0167	0.0226	0.0929	0.1614
Naples SMCA	0.2330	0.1437	0.8887	0.4556
Helo SMR	0.5330	0.2392	0.8568	0.3531
La Jolla North SMR	0.0532	0.0646	0.0858	0.1074
Ocean Beach SMCA	0.0174	0.0096	0.3343	0.2285

Table 4e. MPA deletion results for External A. 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)
Del Mar SMR	0.0968	0.0527	1.1469	0.4957
Campus Point SMR	0.5136	0.2610	0.9788	0.4466

Cat Harbor SMCA	0.0000	0.0000	0.0000	0.0000
Blue Cavern SMR	0.0008	0.0025	0.8102	2.2628
Malibu SMR	0.1638	0.1241	0.4383	0.3327
Big Sycamore Canyon SMR	0.0568	0.0452	0.5537	0.4479
Point Conception SMR	0.1028	0.0497	0.4992	0.2527
Portuguese Bend SMCA	0.2355	0.1400	2.0787	1.2553
Laguna Coast SMCA	0.0000	0.0000	0.0340	0.0690
Laguna SMR	0.1873	0.2673	1.4791	2.0887
Dana Point SMCA	0.0000	0.0000	0.0912	0.1183
Crystal Cove SMCA	0.0000	0.0000	0.0361	0.0684
Begg Rock SMR	0.0560	0.0211	0.1550	0.0581
San Clemente Island Pending Military Closure 1	1.4484	0.2267	4.6904	0.5961
San Clemente Island Pending Military Closure 2	1.6153	0.5294	2.3361	0.8759
Farnsworth Bank_SMCA	0.0000	0.0000	0.0000	0.0000
Deer Creek SMCA	0.2541	0.2943	2.1279	2.4722
Point Vicente SMR	0.0162	0.1785	0.0931	1.0268
La Jolla SMR	0.0147	0.0402	0.1161	0.1454
Ocean Beach SMCA	0.0024	0.0189	0.0608	0.4691
Cabrillo SMR	0.0592	0.0487	0.3149	0.1874
Lover's Cove_SMCA	0.0000	0.0000	0.4180	6.2700
Bird Rock SMCA	0.0109	0.2120	0.1427	2.7771
Point Fermin SMP	0.0097	0.0265	0.0286	0.1121

Table 4f. MPA deletion results for External B. 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 SMR	0.1993	0.2227	1.7558	1.9814
Arrow Pt to Lionhead SMCA	0.0000	0.0000	0.0000	0.0000
Farnsworth ptB SMCA	0.0889	0.1543	0.2782	3.1769
San Clemente Island Pending Military Closure 2	1.6222	0.5316	2.6885	1.0081
San Clemente Island Pending Military Closure 1	1.4518	0.2272	4.9662	0.6311
Del Mar SMR	0.0790	0.0456	1.0159	0.4736
Big Sycamore SMR	0.0846	0.0471	0.8517	0.5475

Farnsworth ptA SMCA	0.0984	0.2638	0.1901	0.9611
Laguna Coast SMCA	0.0002	0.0354	0.0411	10.3757
Portuguese Bend SMCA	0.2934	0.1354	2.9258	0.9768
Goleta SMR	0.2587	0.1083	1.4995	0.6078
Palos Verdes SMCA	0.0275	0.1280	0.1618	4.0020
Del Mar SMCA	0.0338	0.1223	0.1826	1.0811
Big Sycamore SMP	0.1646	0.2443	4.3822	2.9067
Begg Rock SMR	0.0555	0.0209	0.1599	0.0599
Ocean Beach SMCA	0.0026	0.0202	0.0642	0.4952
Charles F Holder Catalina SMCA	0.0000	0.0000	0.0000	0.0000
Bird Rock SMCA	0.0000	0.0000	0.0000	0.0000
La Jolla SMCA	0.0139	0.0383	0.1326	0.1660
San Diego-Scripps SMCA	0.0007	0.0055	0.0146	0.9684