

**California MLPA Master Plan Science Advisory Team
Draft Evaluation of Benefits to Marine Mammals from Round 3 MPA
Proposals for the MLPA South Coast Study Region
September 30, 2009**

The objective of this evaluation is to assess what benefits associated with goals 1, 2 and 4 of the California Marine Life Protection Act (MLPA) are achieved by proposed marine protected areas (MPAs) as they apply to marine mammals in the MLPA South Coast Study Region. These evaluation methods were adapted from the methods used to evaluate benefits to marine mammals in the MLPA North Central Coast Study Region. Species used in each evaluation have been adjusted to reflect the species diversity in the south coast. Proposed MPAs are evaluated for benefits, specifically for pinnipeds. Pinnipeds, which include seals and sea lions, are a subset of marine mammals that congregate onshore at traditional locations to rest at “haulout sites” and breed at “rookeries”. These terrestrial sites fall within the intertidal or supratidal zones of the mainland and islands. A range of habitats are represented at these sites, including substrates such as hard rock, cobble and sand.

With one exception, cetaceans are not included in these analyses because they generally range more widely than the species assemblages used to evaluate MPAs and are not likely to directly benefit from the establishment of MPAs. The cetaceans most likely to be observed in MPAs are gray whales, which migrate seasonally through the study region, and the common bottlenose and long-beaked common dolphins, which have distributions largely within state waters off the mainland and around the Channel Islands. Because these species are unlikely to reside within any single MPA for more than a few days, they may be considered species likely to benefit but not among the species most likely to benefit. The exception to the evaluation of cetaceans is the coastal stock of the common bottlenose dolphin. This stock inhabits waters within approximately one nautical mile of the shore and the south coast study region represents a large portion of its range within which there are identifiable, preferred use areas. Therefore, potential foraging benefits for this stock are evaluated.

Sea otters are included in the evaluation because their distribution historically included the south coast study region and MPAs may provide protection of their preferred habitat, and thus, provide benefits to them. Currently, sea otters are found seasonally between Rincon Point and Point Conception and year-round at San Nicolas Island. Male sea otters travel south of Point Conception in the spring and fall, but travel north again during the mating season. From 1987 to 1990, an effort was made to relocate southern sea otters to San Nicolas Island, and a population of about 40 sea otters continues to persist off the Island.

Pinnipeds would benefit from the placement of MPAs because of the reduction of disturbance from human activities on or adjacent to rookeries or haulout sites. Although MPAs do not restrict human access or vessel transit, the restrictions on allowable activities within MPAs are likely to result in fewer extractive users that access these areas. Vessel traffic, including motorized and non-motorized, can cause significant levels of disturbance to marine mammals (e.g. Allen et al. 1985, Suryan and Harvey 1999, Thompson et al. 2001, Johnson and Acevedo-Gutierrez 2007). Disturbances can lead to reductions in productivity or site abandonment. Disturbances at foraging areas can disrupt feeding activities and cause animals to leave the area, further reducing feeding and leading to additional energy expenditures.

Methods

Evaluations follow the methods described in the *Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA South Coast Study Region* (revised June 5, 2009). The MLPA South Coast Study Region evaluation uses the five bioregions identified by the MLPA Master Plan Science Advisory Team. The evaluation includes analyzing the potential benefits to pinnipeds at: 1) breeding, 2) resting, and 3) nearshore foraging areas, and to pinnipeds and cetaceans at 4) neritic foraging areas.

In assessing the benefit provided to pinnipeds, MPAs of different protection levels are not easily comparable due to data limitations for pinnipeds, and due to varied activities associated with lower levels of protection (such as kelp harvesting, lobster trapping and finfish fishing). The analyses, therefore, include only those pinnipeds haulout sites, rookeries and forage areas that fall within the very high protection zone (state marine reserves or SMRs) and do not include MPAs with lower levels of protection. This assumes that most potential activities that might affect pinnipeds would be reduced by the SMR status. We recognize, however, that protection of an area as a SMR does not address all potential sources of human activities. We also recognize that lower levels of protection could also provide some measure of protection. Data to evaluate potential impacts are limited, and therefore, these analyses provide a summary of the potential added value to pinnipeds for proposed SMRs. In addition to the MPAs proposed in the South Coast Regional Stakeholder Group (SCRSG) proposals, there were two pending military closures at San Clemente Island and one pending military closure at San Nicolas Island that the SCRSG had the option to include in their proposals. These pending military closures may provide benefits similar to SMRs depending on the type and frequency of military activities occurring within their boundaries. These pending military closures were evaluated separately from the MPAs.

Population in this evaluation refers to the number of animals that use a site for breeding or resting. A haulout site is a location where seals and sea lions come onshore to rest. A rookery is where seals and sea lions come onshore to give birth, raise their young, molt, and breed. Many sites serve as both haulouts and rookeries.

Breeding Sites

For breeding sites, or rookeries, the four species likely to benefit from MPAs include: California sea lions, northern fur seals, northern elephant seals, and harbor seals. These species are sensitive to disturbance from human activities when breeding.

Numbers of pinniped rookeries within each region are shown in Table 1. These analyses draw on information from the following data and/or sources: survey data from Mark Lowry from NOAA Fisheries (pers. com.), survey data from Sharon Melin from NOAA (pers. com.), and the NOAA Biogeographic Assessment.

Resting Sites

Data used for analyses of resting or haulout sites were from survey data from Mark Lowry from NOAA Fisheries (pers. com.). For haulout sites, species likely to benefit from MPAs include California sea lions, harbor seals, northern fur seals and northern elephant seals. Northern fur seals are included in this analysis although they typically use resting sites only during the breeding season and are at sea during the non-breeding season ranging widely along the continental shelf.

The number of pinnipeds within each bioregion are shown in Table 2. Evaluations include numbers of species (species diversity), numbers of pinnipeds, and percentages of bioregional haulout populations (Table 3). In this document, percentages cited are the percentages of the bioregional populations.

Foraging Areas

Pinnipeds (nearshore) – Harbor seals are the only focal species most likely to benefit from increases to forage base. In nearshore areas, harbor seals typically forage near their haulout or rookery sites, and may repeatedly visit specific foraging areas (Jones 1981, Harvey and Torok 1994, Harvey et al. 1995, Thompson et al. 1998). Harbor seals forage on whatever is locally abundant, and they feed over a variety of habitats where they pursue rockfish, anchovies, squid and several other prey.

To evaluate MPAs, GIS software was used to create buffers along three miles of coast and to three miles offshore from haulouts and rookeries; this was thought to encompass most of the harbor seal's foraging range. Buffers measuring three miles by three miles were overlaid with MPAs and the area of overlap determined. The proportions of the foraging range overlapping MPAs were then weighted based on the proportion of the regional population (Table 5). The values are unitless.

Other marine mammal species were not considered in the nearshore foraging analysis because their foraging ranges are broad and often in pelagic waters beyond the three-mile state limit. For example, northern elephant seals and northern fur seals forage over deep waters far offshore (Loughlin et al. 1987, Le Boeuf and Laws 1994).

Pinnipeds (neritic) – The neritic “hot spots” foraging analysis included California sea lions (see *Draft Evaluation of Benefits to Marine Birds from Proposed Marine Protected Areas in the South Coast Study Region, September 2009*). A composite map of at-sea densities for California sea lions, coastal bottlenose dolphins and 11 seabirds was created to show neritic foraging “hot spots” (Figure 3b). At-sea seabird and California sea lion distributions were taken from Mason et al. (2007). Evaluation includes the area of foraging “hot spots” captured in proposed SMRs and SMCAs meeting allowed take guidelines for this analysis as outlined in Table 9.2 of *Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA South Coast Study Region* (revised June 5, 2009).

Cetaceans – The coastal bottlenose dolphin use patterns in the south coast study region are equated to encounter rates (i.e., number of animals sighted per km searched) estimated from aerial survey data collected from 1990 to 2000 (Figure 3a). These data are available from

NOAA's Channel Islands National Marine Sanctuary biogeographic assessment at <http://ccma.nos.noaa.gov/products/biogeography/cinms/>. Coastal bottlenose dolphin "hot spots" were included in the composite map for marine bird and mammal foraging "hot spots" referenced above (Figure 3b). Evaluation includes the area of foraging "hot spots" captured in proposed SMRs and SMCAs meeting allowed take guidelines for this analysis as outlined in Table 9.2 of *Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA South Coast Study Region* (revised June 5, 2009).

Kelp Habitat

Sea otters use kelp to rest and feed. Potential benefits to sea otters are evaluated as the percent of kelp habitat in the study area occurring within proposed MPAs. Evaluation includes kelp habitat captured in proposed SMRs north of Rincon Point, the area currently used by sea otters, proposed SMRs in the North Mainland bioregion and the study region overall, to accommodate for population movement and the potential for otters to expand their range.

Results

Seven species of pinnipeds occur in the south coast study region (California sea lion, northern elephant seal, harbor seal, northern fur seal, Guadalupe fur seal and, on very rare occasion, Steller sea lions and ribbon seals). California sea lions, northern elephant seals, harbor seals and northern fur seals are known to breed in the study region, mostly at the Channel Islands, especially San Miguel, Santa Barbara, and San Nicolas islands, although harbor seals and northern elephant seals also have rookeries on the mainland. Because harbor seal census data are collected during the molt period, systematic documentation of rookery locations on the Channel Islands are not available. Similarly, California sea lions along the mainland coast are not included in the census and so no data for populations resting or breeding sites are available.

Breeding and Resting Sites

The set of existing MPAs includes SMRs in the West and Mid Channel Island bioregions. All pinniped species occur on the islands within these bioregions and all breed there. All proposals include existing SMRs for these bioregions. However, Proposal 3 differs from the other 2 in that the pending military closure: San Nicolas Island Alpha Area, is included, and thus will likely benefit the harbor seals that haul out there (Table 3, Figure 1).

The MPA proposals include SMRs where northern elephant seals and Pacific harbor seals breed along the North Mainland coast. Only Proposal 3 includes an SMR in the North Mainland bioregion that is not in the existing network of MPAs (Table 3).

See Appendix I for the number of pinnipeds, by species, within each proposed MPA by proposal and Appendix II for number of rookeries within each proposed MPA by proposal.

Foraging Areas

Pinnipeds – The potential benefit from SMRs protecting likely foraging areas for Pacific harbor seals is summarized by the weighted foraging index, which is unitless (Table 5, Figure 2). All

proposals increase the foraging benefit to harbor seals over the existing network of MPAs in the south coast study region. Proposal 3 provides the greatest benefit because of SMRs proposed in the North and South Mainland, and East Channel Islands bioregions as well as the addition of the San Nicolas Alpha Area pending military closure area to the network (Table 5; Figure 2).

Foraging benefits to the California sea lion population were included in the “hot spots” analyses. See the description under the heading “Cetaceans” for results.

Cetaceans – The foraging “hot spots” (Figure 3b) included within the boundaries of proposed MPAs comprise 15-34 square miles within the south coast study region. All proposed arrays increase the likely foraging benefits over the existing network of MPAs. Proposal 3 provides the greatest potential benefits due to the size and location of SMRs proposed in the North and South Mainland bioregions (Table 6).

Kelp Habitat

Kelp habitat was identified and analyzed as described in the *Draft Habitat Evaluations of the Round 2 Draft MPA Proposals for the MLPA South Coast Study Region*. Approximately 14.8 to 32.4% of kelp habitat within the North Mainland bioregion currently used by sea otters, which is north of Rincon Point, is included in proposed SMRs (Table 7). Additional kelp habitat within SMRs proposed for the entire North Mainland bioregion, including south of Rincon Point, ranges from 12.6 to 25%, and from 10.0 to 17.1% for the study region overall. Proposal 3 includes proposed SMRs that provide the greatest protection for kelp and thus, likely sea otter habitat.

SUMMARY

The three proposals for MPA networks in the south coast study region include the addition of SMRs not currently in the network. Some of the SMRs proposed will likely benefit marine mammals by reducing disturbance at pinniped haulouts and rookeries as well as by protecting potential foraging areas for pinnipeds and coastal small cetaceans, because they coincide with known use areas. All three networks propose SMRs in the North Mainland and East Channel Islands bioregions that encompass existing pinniped haulouts and rookeries. Additionally, the proposed networks provide potential foraging benefits to marine mammals, especially harbor seals, California sea lions and coastal common bottlenose dolphins in the North and South Mainland, and East Channel Islands bioregions. Of the three proposals evaluated during Round 3 of the south coast study region review process, the SMRs described in Proposal 3 provide the most potential benefits to marine mammals.

Table 1. Numbers of pinniped rookeries within each south coast study region bioregion

Bioregion	Number of Species	Total Pinniped Rookeries	California Sea Lion Rookeries	Northern Fur Seal Rookeries	Northern Elephant Seal Rookeries	Harbor Seal Rookeries
East Channel Islands	2	4	3	0	1	N/A
Mid Channel Islands	3	10	6	0	4	N/A
North Mainland	2	5	N/A	0	1	4
South Mainland	1	1	N/A	0	0	1
West Channel Islands	4	58	19	2	37	N/A
Study Region Total	4	78	28	2	43	5

Table 2. Number of pinnipeds at resting, or haulout, sites within each south coast study region bioregion

Bioregion	Number of Species	Total Pinnipeds	California Sea Lion	Northern Fur Seal	Northern Elephant Seal	Harbor Seal
North Mainland	2	1431	N/A	0	8	1423
South Mainland	1	121	N/A	0	0	121
East Channel Islands	2	6022	5432	0	293	297
Mid Channel Islands	3	11316	9192	0	76	2048
West Channel Islands	4	163668	116780	11180	31851	3857
Study Region Total	4	182558	131404	11180	32228	7746

Table 3. Comparison between proposals of number of species and number and percentage of animals within proposed state marine reserves and pending military closures by bioregion

	No. Species	California Sea Lion	California Sea Lion %	Northern Fur Seal	Northern Fur Seal %	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
North Mainland									
Proposal 0	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSG MPA Proposal 1	2	0	0.00%	0	0.00%	8	100.00%	459	32.26%
SCRSG MPA Proposal 2	2	0	0.00%	0	0.00%	8	100.00%	459	32.26%
SCRSG MPA Proposal 3	2	0	0.00%	0	0.00%	8	100.00%	495	34.79%
South Mainland									
Proposal 0	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%

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	No. Species	California Sea Lion	California Sea Lion %	Northern Fur Seal	Northern Fur Seal %	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
SCRSO MPA Proposal 1	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 2	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 3	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
East Channel Islands									
Proposal 0	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 1	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 2	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 3	1	0	0.00%	0	0.00%	0	0.00%	152	51.18%
Mid Channel Islands									
Proposal 0	2	5502	59.86%	0	0.00%	61	80.26%	0	0.00%
SCRSO MPA Proposal 1	2	5502	59.86%	0	0.00%	61	80.26%	0	0.00%
SCRSO MPA Proposal 2	2	5502	59.86%	0	0.00%	61	80.26%	0	0.00%
SCRSO MPA Proposal 3	2	5502	59.86%	0	0.00%	61	80.26%	0	0.00%
West Channel Islands									
Proposal 0	4	36339	31.12%	6768	60.54%	5072	15.92%	648	16.80%
SCRSO MPA Proposal 1	4	36339	31.12%	6768	60.54%	5072	15.92%	648	16.80%
SCRSO MPA Proposal 2	4	36339	31.12%	6768	60.54%	5072	15.92%	648	16.80%
SCRSO MPA Proposal 3	4	36339	31.12%	6768	60.54%	5072	15.92%	648	16.80%
West Channel Islands - Military Closure									
Proposal 0	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 1	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 2	0	0	0.00%	0	0.00%	0	0.00%	0	0.00%
SCRSO MPA Proposal 3	2	0	0.00%	0	0.00%	79	0.25%	196	5.08%

Figure 1. Comparison by proposal of percent pinniped population captured in state marine reserves, excluding the West Channel Islands bioregion pinniped population

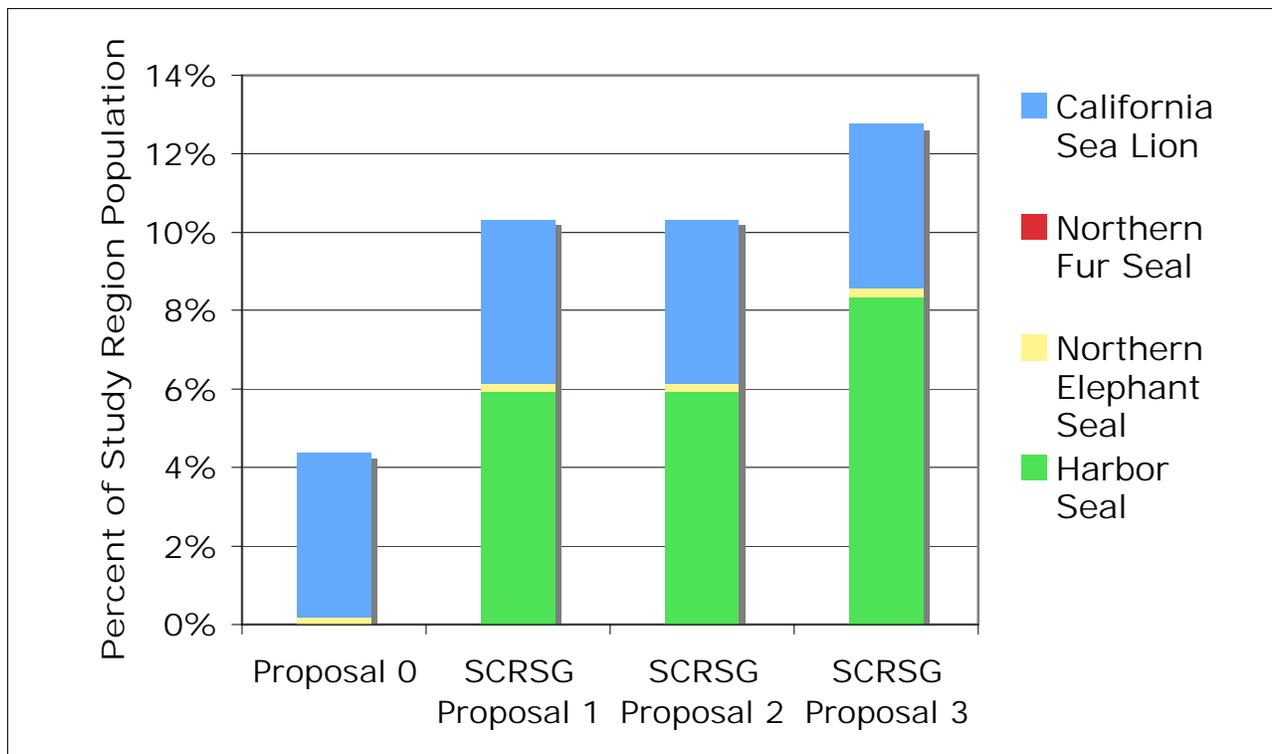


Table 4. Comparison between proposals of number of rookeries within proposed state marine reserves by species and bioregion

Bioregion	MPA Name	California Sea Lion	Northern Fur Seal	Northern Elephant Seal	Harbor Seal
North Mainland					
Proposal 0	None	0	0	0	0
SCRS G MPA Proposal 1	Point Conception SMR	0	0	1	2
SCRS G MPA Proposal 2	Point Conception SMR	0	0	1	2
SCRS G MPA Proposal 3	Point Conception SMR	0	0	1	2
	Naples SMR	0	0	0	0
South Mainland					
Proposal 0	None	0	0	0	0
SCRS G MPA Proposal 1	None	0	0	0	0
SCRS G MPA Proposal 2	None	0	0	0	0
SCRS G MPA Proposal 3	None	0	0	0	0

East Channel Islands					
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	None	0	0	0	0
SCRSG MPA Proposal 2	None	0	0	0	0
SCRSG MPA Proposal 3	None	0	0	0	0
Mid Channel Islands					
Proposal 0	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 1	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 2	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 3	Santa Barbara Island SMR	1	0	1	0
West Channel Islands					
Proposal 0	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 1	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 2	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 3	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0

Table 5. Comparison between proposals of the harbor seal foraging index within proposed state marine reserves and pending military closures by bioregion.

	North Mainland	South Mainland	East Channel Islands	Mid Channel Islands	West Channel Islands	Military Closures
Proposal 0	0.00	0.00	0.00	2.46	8.47	0.00
SCRSG MPA Proposal 1	4.46	2.90	0.00	2.46	8.47	0.16
SCRSG MPA Proposal 2	4.44	0.77	0.00	2.46	8.47	0.16
SCRSG MPA Proposal 3	4.51	8.50	5.19	2.46	8.47	2.27

Figure 2. Comparison between proposals of the harbor seal foraging index within proposed state marine reserves and pending military closures by bioregion

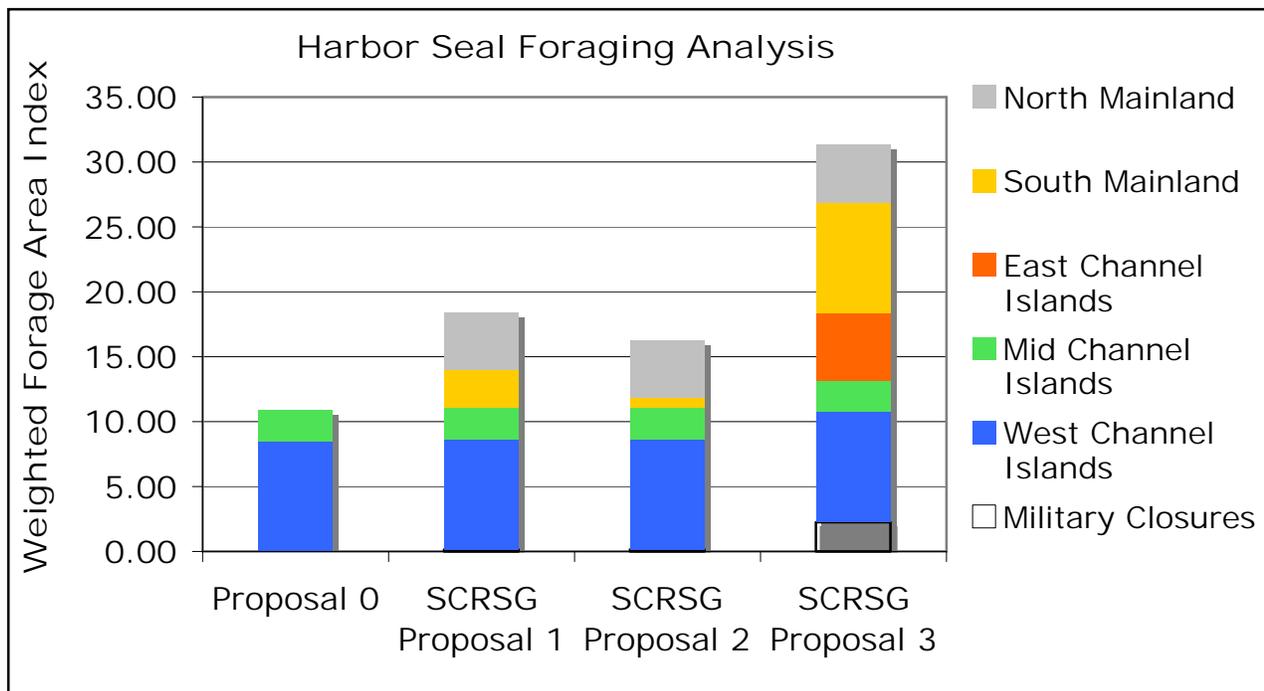


Figure 3a. Encounter rates for coastal bottlenose dolphins

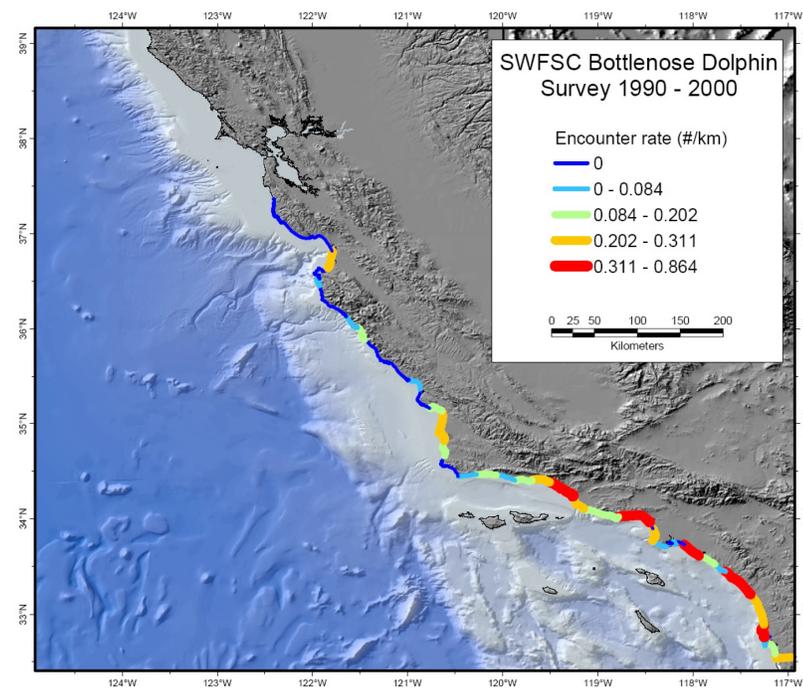


Figure 3b. Potential neritic foraging “hot spots” for coastal bottlenose dolphins (BNDO), California sea lion and 11 species of seabirds.

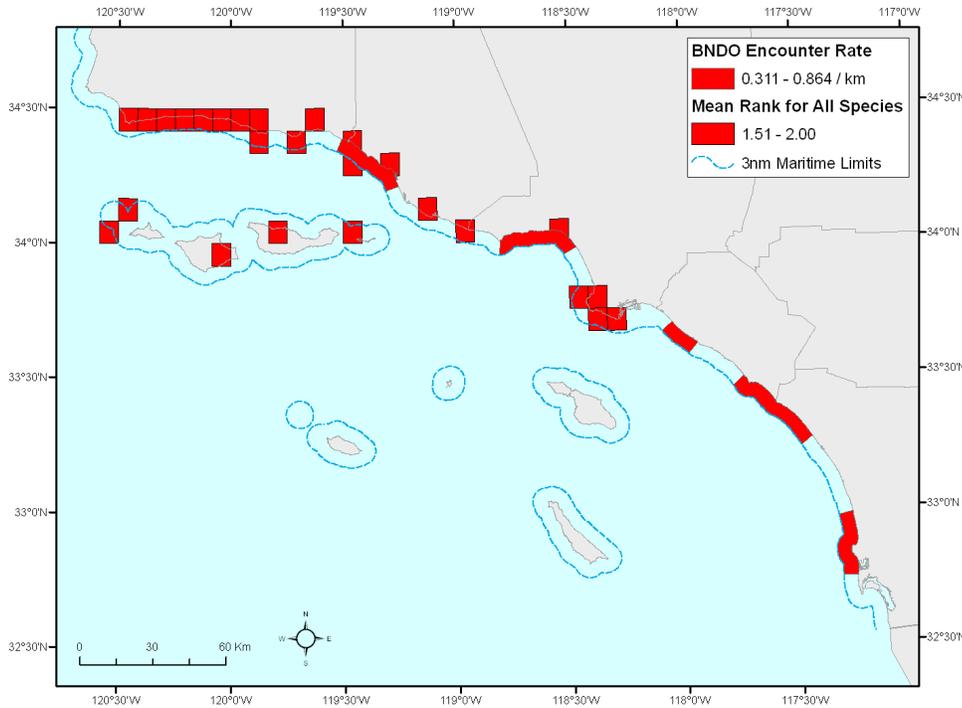


Table 6. Comparison of proposals to total contributions of neritic foraging area “hot spots” for 11 species of breeding seabirds and 2 marine mammals in the study region

	North Mainland	South Mainland	West Channel Islands
Proposal 0	0.01	0.00	15.65
SCRSG MPA Proposal 1	30.20	22.22	15.65
SCRSG MPA Proposal 2	24.44	19.05	15.65
SCRSG MPA Proposal 3	34.31	23.91	15.65

Units are statute square miles.

Table 7. Comparison of proposals to total contribution of kelp habitat within proposed state marine reserves

	Linear Kelp Persistence (statute miles)	% of Available Linear Kelp Persistence
Sea Otter Use Area (North of Rincon Point)		
Proposal 0	0.00	0.0%
SCRSG MPA Proposal 1	2.90	14.8%
SCRSG MPA Proposal 2	3.82	19.4%
SCRSG MPA Proposal 3	6.36	32.4%
Sea Otter Habitat (North Mainland)		
Proposal 0	0.00	0.0%
SCRSG MPA Proposal 1	3.47	12.6%
SCRSG MPA Proposal 2	3.82	13.8%
SCRSG MPA Proposal 3	6.93	25.1%
Sea Otter Habitat (Study Region)		
Proposal 0	11.33	6.2%
SCRSG MPA Proposal 1	21.11	11.6%
SCRSG MPA Proposal 2	18.28	10.0%
SCRSG MPA Proposal 3	31.16	17.1%
Sea Otter Habitat (San Nicolas Island)		
Proposal 0	0.00	0.0%
SCRSG MPA Proposal 1	0.00	0.0%
SCRSG MPA Proposal 2	0.00	0.0%
SCRSG MPA Proposal 3	3.78	18.8%

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APPENDICES

Appendix I. Summary of numbers of pinnipeds and percent of bioregion totals within proposed MPAs.

From the following tables, only state marine reserves were included in Table 3. MPAs not listed did not contain pinniped resting, or haul out, locations. No proposals included MPAs in the South Mainland bioregion that contained pinniped resting, or haul out, locations.

a) North Mainland

Proposal	MPA Name	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	Point Conception SMR	8	100.00%	459	32.26%
	Naples SMCA	0	0.00%	36	2.53%
SCRSG MPA Proposal 2	Point Conception SMR	8	100.00%	459	32.26%
	Point Mugu SMRMA	0	0.00%	803	56.43%
SCRSG MPA Proposal 3	Point Conception SMR	8	100.00%	459	32.26%
	Naples SMR	0	0.00%	36	2.53%
	Mishopsno SMCA	0	0.00%	125	8.78%
	Mugu Lagoon SMRMA	0	0.00%	803	56.43%

b) East Channel Islands

Proposal	MPA Name	Harbor Seal	Harbor Seal %
Proposal 0	None	0	0
SCRSG MPA Proposal 1	Farnsworth SMCA	152	51.18%
SCRSG MPA Proposal 2	None	0	0
SCRSG MPA Proposal 3	Farnsworth SMR	152	51.18%

c) Mid-Channel Islands

	MPA Name	California Sea Lion	California Sea Lion %	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Har Seal %
All Proposals	Anacapa Island SMR	102	1.11%	0	0.00%	0	0.00%
	Anacapa Island SMCA	0	0.00%	0	0.00%	100	0.00%
	Gull Island SMR	709	7.71%	0	0.00%	0	0.00%
	Santa Barbara Island SMR	4691	51.03%	61	80.26%	0	0.00%

d) West Channel Islands

	MPA Name	California Sea Lion	California Sea Lion %	Northern Fur Seal	Northern Fur Seal %	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
Proposal 0, SCRSG MPA	Richardson Rock SMR	387	0.33%	0	0.00%	0	0.00%	0	0.00%
	Harris Point SMR	300	0.26%	0	0.00%	657	2.06%	445	11.54%
Proposal 1, SCRSG MPA	Carrington Point SMR	0	0.00%	0	0.00%	0	0.00%	45	1.17%
	Judith Rock SMR	35624	30.51%	6768	60.54%	2856	8.97%	30	0.78%
Proposal 2	South Point SMR	28	0.02%	0	0.00%	1559	4.89%	128	3.32%
SCRSG MPA Proposal 3	Richardson Rock SMR	387	0.33%	0	0.00%	0	0.00%	0	0.00%
	Harris Point SMR	300	0.26%	0	0.00%	657	2.06%	445	11.54%
	Carrington Point SMR	0	0.00%	0	0.00%	0	0.00%	45	1.17%
	Judith Rock SMR	35624	30.51%	6768	60.54%	2856	8.97%	30	0.78%
	South Point SMR	28	0.02%	0	0.00%	1559	4.89%	128	3.32%
	San Nicolas Alpha Area Military Closure	0	0.00%	0	0.00%	79	0.25%	196	5.08%

Appendix II. Summary by proposal of number of rookeries by species within proposed MPAs

From the following table, only rookeries in SMRs were included in Table 4. MPAs not listed did not contain a pinniped rookery.

Bioregion	MPA Name	California Sea Lion	Northern Fur Seal	Northern Elephant Seal	Harbor Seal
North Mainland					
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	Point Conception SMR	0	0	1	2
	Naples SMCA	0	0	0	0
SCRSG MPA Proposal 2	Point Conception SMR	0	0	1	2
	Point Mugu SMRMA	0	0	0	1
SCRSG MPA Proposal 3	Point Conception SMR	0	0	1	2
	Naples SMR	0	0	0	0
	Mishopsno SMCA	0	0	0	1
	Mugu Lagoon SMRMA	0	0	0	1

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Bioregion	MPA Name	California Sea Lion	Northern Fur Seal	Northern Elephant Seal	Harbor Seal
South Mainland					
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	None	0	0	0	0
SCRSG MPA Proposal 2	None	0	0	0	0
SCRSG MPA Proposal 3	None	0	0	0	0
East Channel Islands					
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	None	0	0	0	0
SCRSG MPA Proposal 2	None	0	0	0	0
SCRSG MPA Proposal 3	None	0	0	0	0
Mid Channel Islands					
Proposal 0	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 1	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 2	Santa Barbara Island SMR	1	0	1	0
SCRSG MPA Proposal 3	Santa Barbara Island SMR	1	0	1	0
West Channel Islands					
Proposal 0	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 1	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 2	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
SCRSG MPA Proposal 3	Harris Point SMR	0	0	3	0
	Judith Rock SMR	1	1	1	0
	South Point SMR	0	0	1	0
West Channel Islands Military Closures					
Proposal 0	None	0	0	0	0
SCRSG MPA Proposal 1	None	0	0	0	0
SCRSG MPA Proposal 2	None	0	0	0	0
SCRSG MPA Proposal 3	San Nicolas Alpha Area Military Closure	0	0	1	0