Marine Life Protection Act Initiative

Marine Birds and Mammals Evaluation for the MLPA South Coast Study Region

Presentation to the South Coast Regional Stakeholder Group
April 28, 2009 • Oxnard, CA

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Benefits for Marine Birds and Mammals

Direct Benefits

1. Decreased disturbance at breeding and resting sites
2. Decreased human interactions at foraging sites
   e.g., bycatch, gear entanglement, light attraction

Indirect Benefits

1. Reduced competition with humans for food resources
   Prey availability is an important factor regulating annual breeding population and reproductive success

Methods Overview

5 Analyses to Evaluate Direct and Indirect Benefits

1. Protection of seabird breeding sites *(marine mammal breeding sites will be in Round 2)*
2. Protection of seabird roost and marine mammal haulouts.
3. Protection of nearshore foraging areas.
4. Protection of neritic foraging 'hot spots' *(in Round 2)*
5. Protection of estuarine and coastal habitat

Notes about Round 1 Analyses

- Round 1 analyses only considered state marine reserves (SMRs)
- Pending military closures will be reviewed to determine whether they provide marine birds and mammals the same benefits as SMRs
- Proposed state marine conservation areas (SMCAs) will be reviewed to determine the level of protection they provide to marine birds and mammals

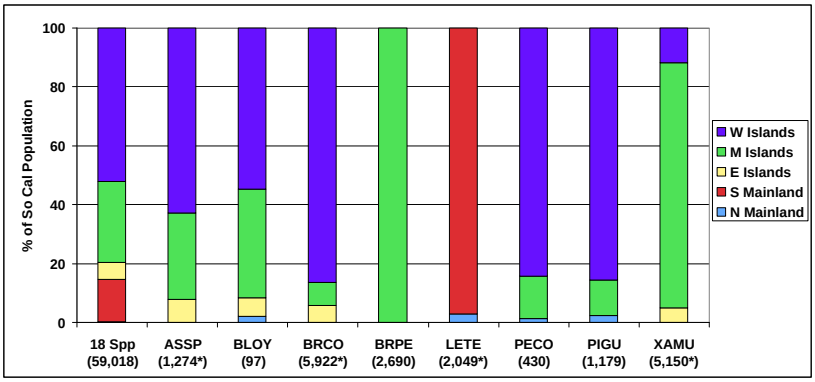
Marine Bird and Mammal Analyses

<u>Analysis 1</u>: Protection at Breeding Sites

Investigated % of bioregion breeding populations protected by SMRs

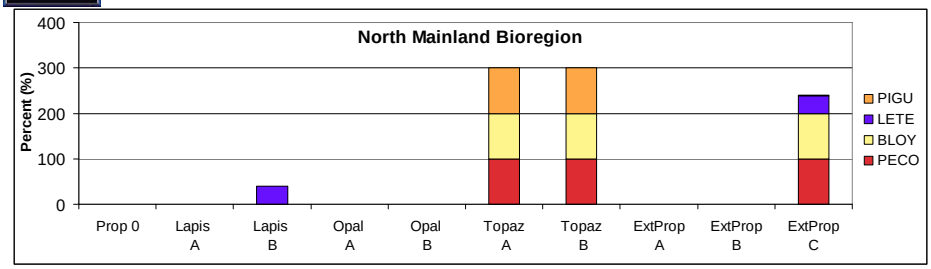
Seabird Breeding Colonies

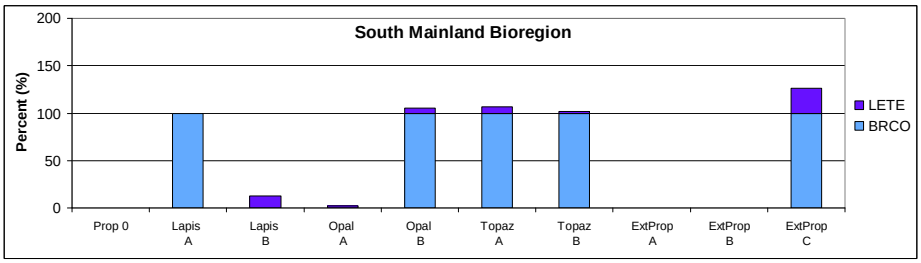
Distribution of Total Seabird Population and SLTB (values in parentheses indicate population estimates)



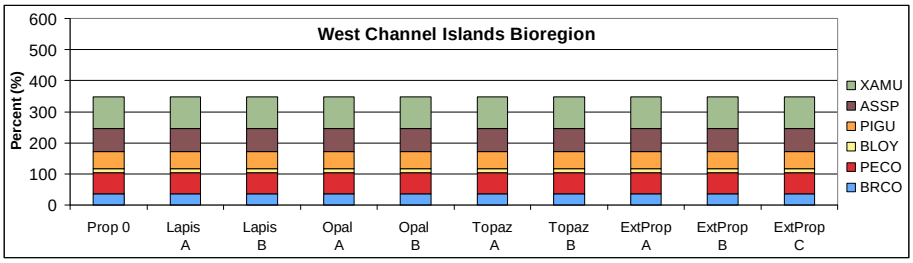
* These population estimates will be updated prior to the Round 2 analysis.

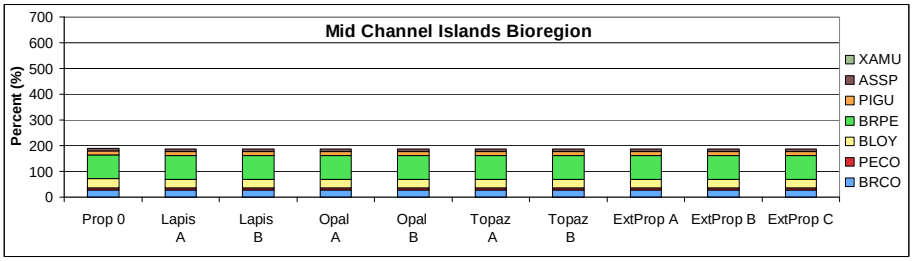
Percent of Bioregion Breeding Population



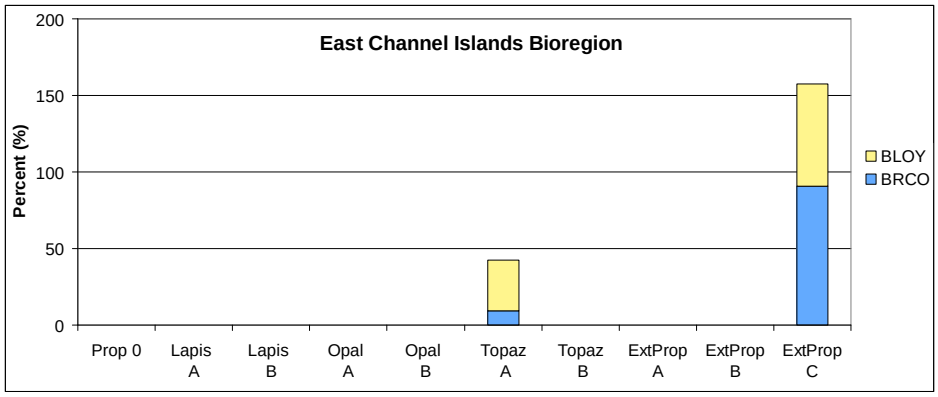


Percent of Bioregion Breeding Population





Percent of Bioregion Breeding Population



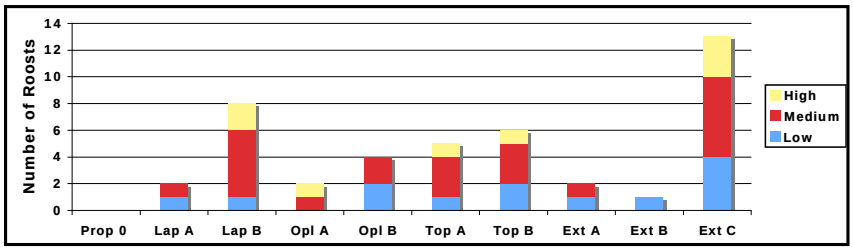
Marine Bird and Mammal Analyses

<u>Analysis 2</u>: Protection at Roosting and Haulout Sites

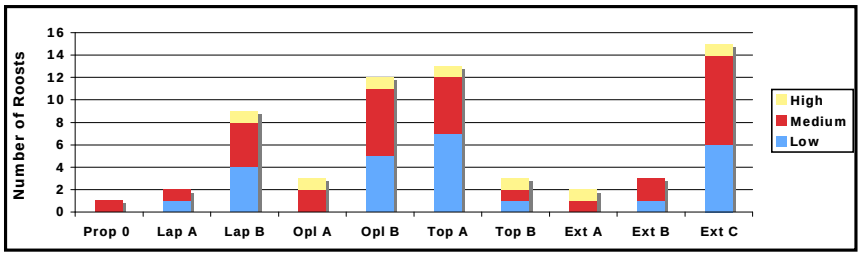
Investigated % of bioregion populations protected by SMRs

Mainland Brown Pelican Roosts

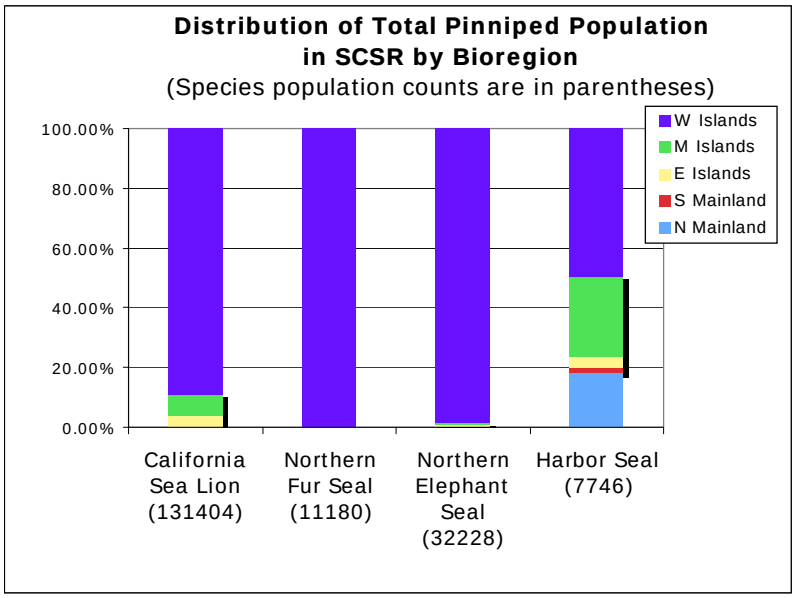
North Mainland



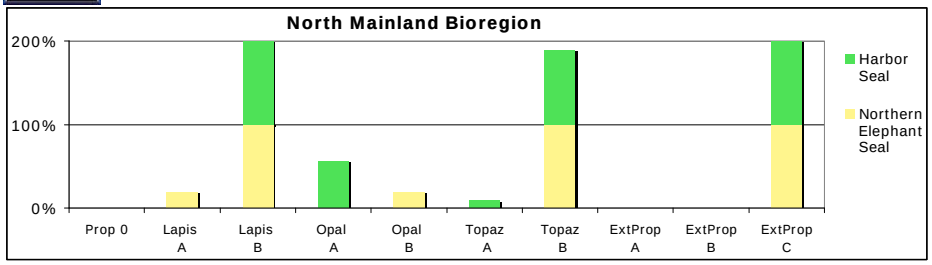
South Mainland

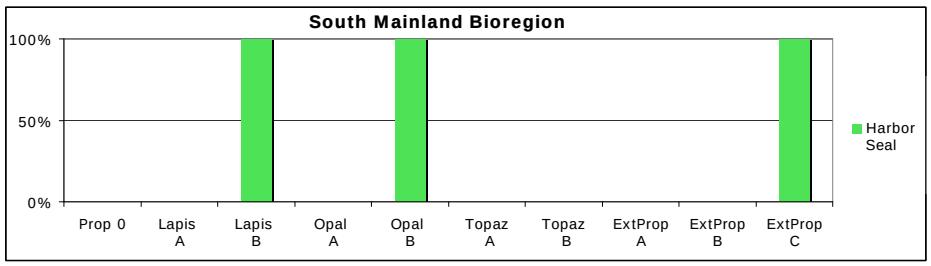


Pinniped Bioregion Haulout Summary

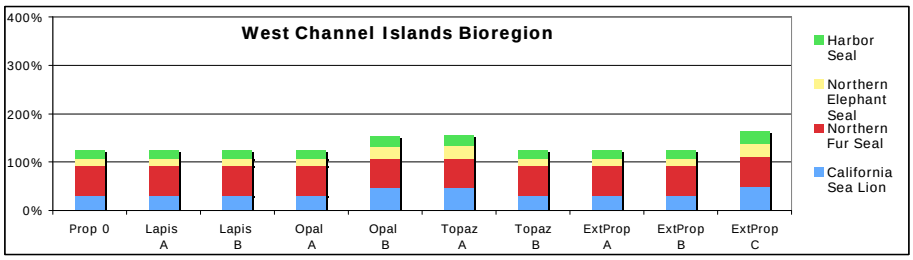


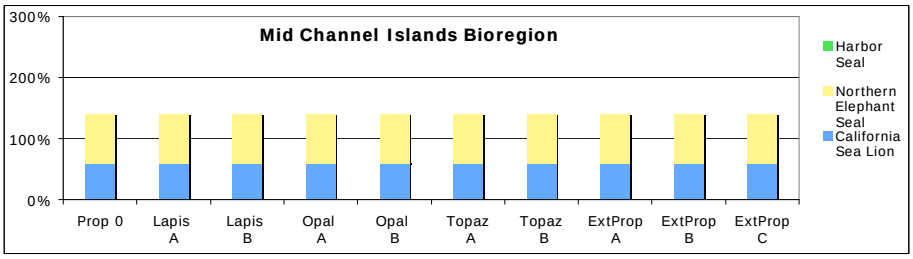
Percent of Bioregion Haulout Population



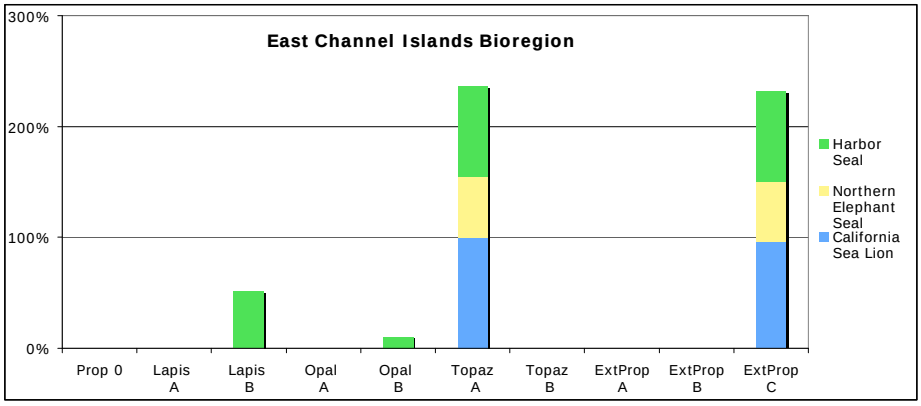


Percent of Bioregion Haulout Population

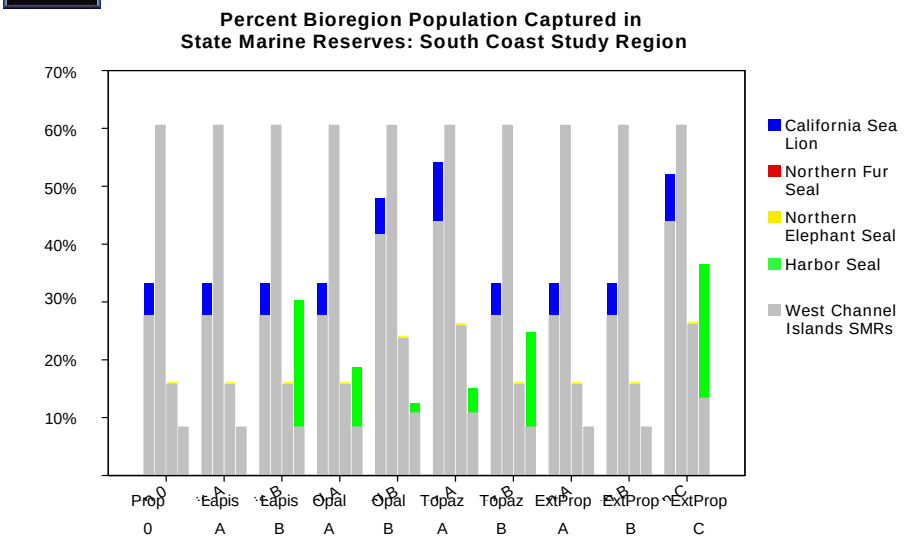




Percent of Bioregion Haulout Population



South Coast Study Region

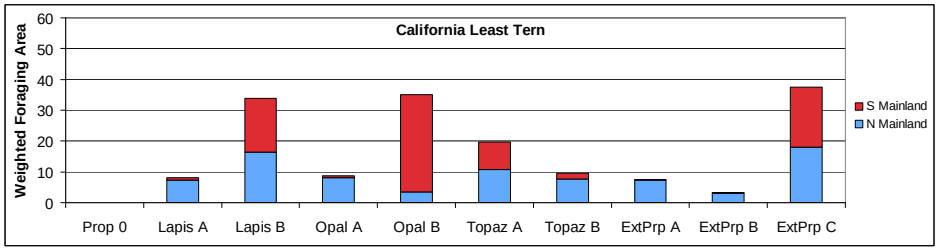


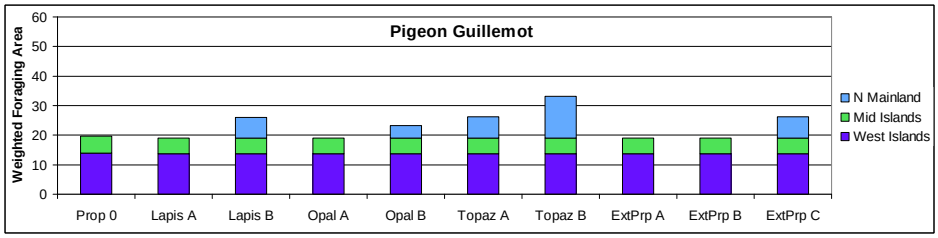
Marine Bird and Mammal Analyses

<u>Analysis 3</u>: Protection at Nearshore Foraging Sites

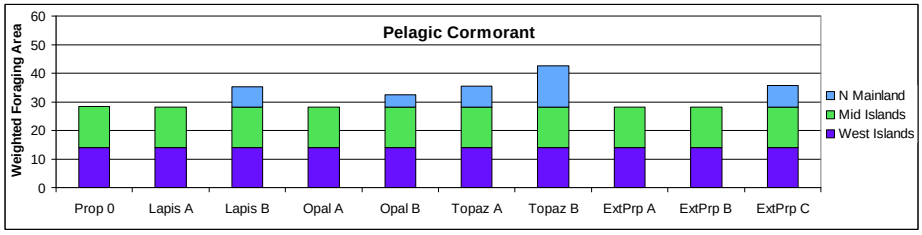
Investigated amount of foraging area protected by SMRs

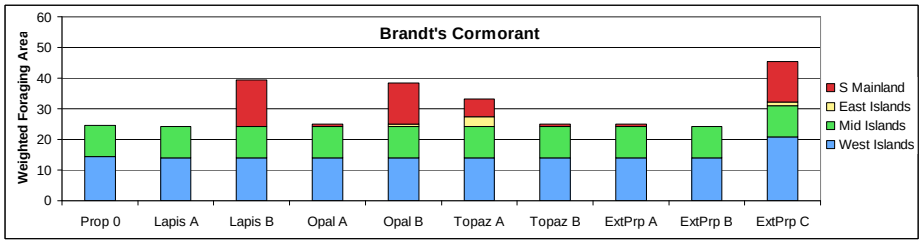
Nearshore Foraging Areas



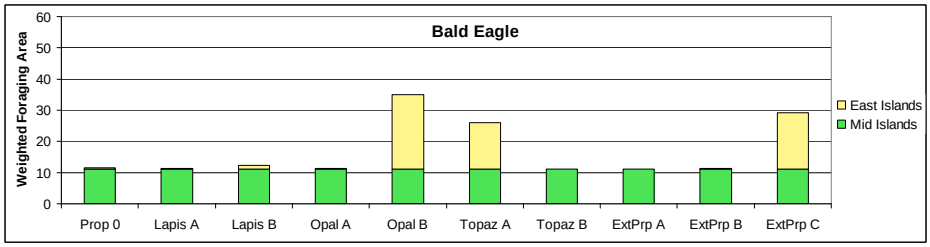


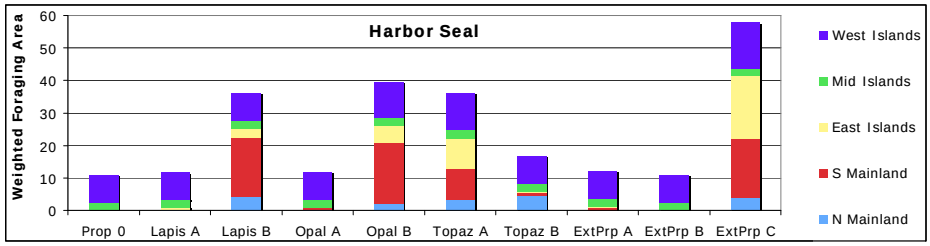
Nearshore Foraging Areas





Nearshore Foraging Areas

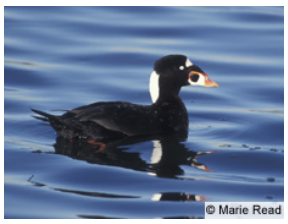




Marine Bird and Mammal Analyses

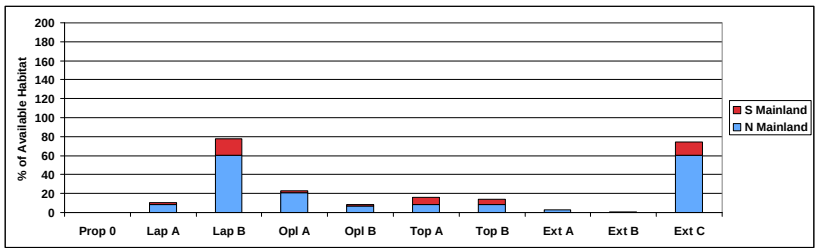
<u>Analysis 4</u>: Protection in Estuarine and Coastal Habitats

Investigated percent of available estuary, tidal flat, coastal marsh, and beach habitat protected by SMRs

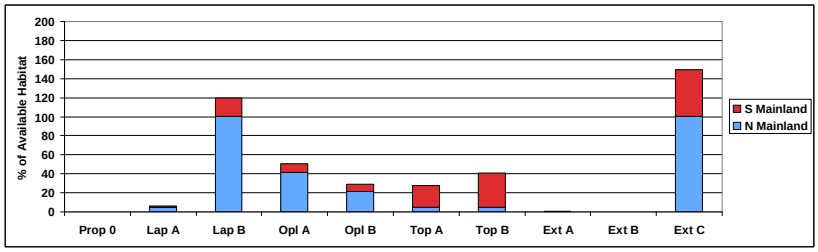


Estuarine and Coastal Habitat

Estuaries

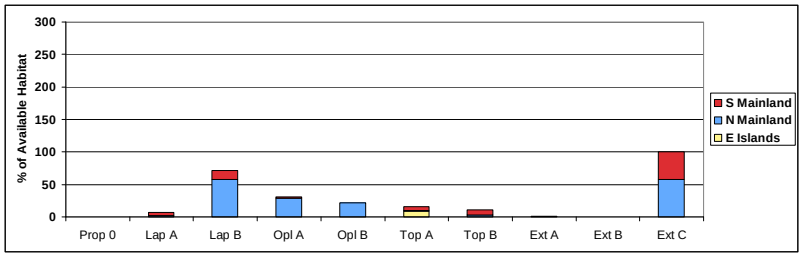


Coastal Marshes

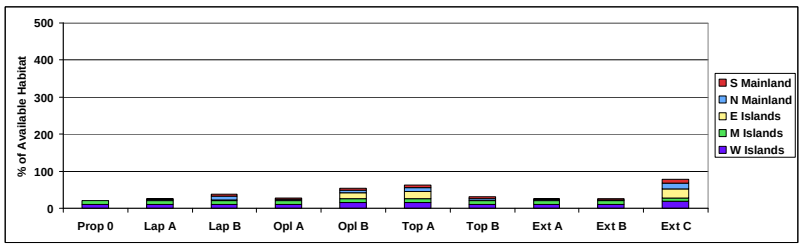


Estuarine and Coastal Habitat

Tidal Flats



Beaches



Summary of Round 1 Analyses

Seabird Breeding Colonies

- External C provides the most protection in all bioregions.
- Lapis B and Topaz A provide more protection within mainland bioregions.
- All other arrays similar to Proposal 0

Seabird Roost and Pinniped Haulout Sites

- External Proposal C, Lapis A, and Topaz B provide greatest protection for north mainland pelican roosts.
- External Proposal C, Opal B, and Topaz A provide greatest protection for south mainland pelican roosts.
- Overall: External C, Opal B and Topaz A provide greatest protection of pinniped haulouts.
- External C, Lapis B and Opal B propose a La Jolla SMR that includes the harbor seal haulout and rookery.
- External C, Lapis B, and Topaz B arrays capture most of the sites used by northern elephant seals and harbor seals along the north mainland coast.
- External C and Topaz A arrays capture most of the sites used by California sea lions, northern elephant seals and harbor seals in the east channel islands bioregion.

Summary of Round 1 Analyses

Near-Colony Foraging Areas

- Brandt's Cormorant and Pelagic Cormorant receive most protection from proposed arrays.
- Most protection occurs within mainland bioregions.
- Lapis B, Opal B, and External C provide greatest protection for Brandt's Cormorant.
- Topaz B provides greatest protection for Pelagic Cormorant.
- External C, Lapis B, Opal B and Topaz A provide greatest protection of harbor seals.

Estuarine and Coastal Habitats

- Estuaries and coastal marshes receive the most protection.
- Lapis B and External C provide the most protection of these habitats.

North Mainland Bioregion

Number and Percent of Haul Out Population Captured within Individual MPAs: North Mainland

Proposal/Draft MPA Array	MPA Name	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
External Proposal A	MuguLagoon SMCA	0	0%	803	56%
External Proposal C	Pt Conception SMR	8	100%	459	32%
	Goleta SMR	0	0%	36	3%
	Carpinteria SMR	0	0%	125	9%
	Mugu Lagoon SMR	0	0%	803	56%
Lapis B	Point Conception SMR	8	100%	459	32%
	Naples Coal Oil Point SMR	0	0%	36	3%
	Carpinteria SMR	0	0%	125	9%
	Mugu Lagoon SMR	0	0%	803	56%
Opal A	Point Mugu Esturay SMR	0	0%	803	56%
Opal B	Devereux- Naples SMCA	0	0%	36	3%
Topaz A	Naples SMP	0	0%	36	3%
	Carp Reef SMR	0	0%	125	9%
	Muwu SMP	0	0%	803	56%
Topaz B	Point Conception SMR	8	100%	459	32%
	Muwu SMP	0	0%	803	56%

South Mainland Bioregion

Number and Percent of Haul Out Population Captured within Individual MPAs: South Mainland

Proposal/Draft MPA Array	MPA Name	Harbor Seal	Harbor Seal %
External Proposal C	La Jolla SMR	121	100%
Lapis B	La Jolla SMR	121	100%
Opal B	La Jolla Coast SMR	121	100%

East Channel Islands Bioregion

Number and Percent of Haul Out Population Captured within Individual MPAs: East Channel Islands

Proposal/Draft MPA Array	MPA Name	California Sea Lion	California Sea Lion %	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
External Proposal B	Charles F Holder Catalina SMRMA	357	100.00%	0	0.00%	193	64.98%
External Proposal C	Land's End SMR	4	1%	0	0%	11	4%
	North End SMR	527	0%	0	0%	5	2%
	Farnsworth Bank SMR	0	0%	0	0%	152	51%
	Pyramid Head SMR	0	0%	0	0%	18	6%
	China Point SMR	4658	0%	160	98%	56	19%
Lapis B	Farnsworth Bank SMR	0	0%	0	0%	152	51%
Opal B	Santa Catalina Island SMP	0	0%	0	0%	0	0%
	Eagle Rock SMR	4	1%	0	0%	0	0%
	Back Catalina SMCA	0	0%	0	0%	163	55%
	Church Rock SMR	353	99%	0	0%	0	0%
	China Point SMR	0	0%	0	0%	4	1%
Topaz A	West End SMR	4	1%	0	0%	0	0%
	Southwest Catalina SMR	0	0%	0	0%	152	51%
	Castle Rock SMR	527	0%	0	0%	5	2%
	West San Clemente Island SMR	4658	0%	162	100%	24	8%
	Pyramid Head SMR	0	0%	0	0%	19	6%

Mid Channel Islands Bioregion

Number and Percent of Haul Out Population Captured within Individual MPAs: Mid Channel Islands

Proposal/Draft MPA Array	MPA Name	California Sea Lion	California Sea Lion %	Northern Elephant	Northern Elephant Seal	Harbor Seals	Harbor Seals %
All	Anacapa Island SMR	102	1.11%	0	0.00%	0	0.00%
	Anacapa Island SMCA	0	0.00%	0	0.00%	1	0.05%
	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%

West Channel Islands Bioregion

Number and Percent of Haul Out Population Captured within Individual MPAs: West Channel Islands

Proposal/Draft MPA Array	MPA Name	California Sea Lion	California Sea Lion %	Northern Fur Seal	Northern Fur Seal %
All	Richardson Rock SMR	387	0%	0	0%
	Harris Point SMR	300	0.26%	0	0%
	Carrington Point SMR	0	0%	0	0%
	Judith Rock SMR	35624	31%	6768	61%
	South Point SMR	28	0%	0	0%
External Proposal B	San Nicolas Pending Military Closure	0	0%	0	0%
External Proposal C	West San Nicolas SMR	21324	18%	0	0%
Lapis A	San Nicolas Pending Military Closure	0	0%	0	0%
Lapis B	San Nicolas Pending Military Closure	0	0%	0	0%
Opal A	San Nicolas Island Pending Military Closure	0	0%	0	0%
Opal B	San Nicolas SMR	18356	16%	0	0%
Topaz A	San Nicolas Island SMR	21324	18%	0	0%
Topaz B	San Nicolas Island Pending Military Closure	0	0%	0	0%

West Channel Islands Bioregion: Con't

Number and Percent of Haul Out Population Captured within Individual MPAs: West Channel Islands

Proposal/Draft MPA Array	MPA Name	Northern Elephant Seal	Northern Elephant Seal %	Harbor Seal	Harbor Seal %
All	Richardson Rock	0	0%	0	0%
	Harris Point	657	2.06%	445	12%
	Carrington Point	0	0%	45	1%
	Judith Rock	2856	9%	30	1%
	South Point	1559	5%	128	3%
External Proposal B	San Nicolas Pending Military Closure	79	0.25%	196	5%
External Proposal C	West San Nicolas	3338	10.48%	386	10%
Lapis A	San Nicolas Pending Military Closure	79	0.25%	196	5%
Lapis B	San Nicolas Pending Military Closure	79	0.25%	196	5%
Opal A	San Nicolas Island Pending Military Closure	79	0.25%	196	5%
Opal B	San Nicholas SMR	2553	8%	190	5%
Topaz A	San Nicolas Island SMR	3259	10.23%	190	5%
Topaz B	San Nicolas Island Pending Military Closure	79	0%	196	5%

Harbor Seal Forage Area

Harbor Seal Weighted Forage Area by Bioregion

	North Mainland	South Mainland	East Channel Islands	Mid Channel Islands	West Channel Islands
External Proposal A	0.00	0.77	0.00	2.45	8.46
External Proposal B	0.00	0.00	0.00	2.45	8.46
External Proposal C	3.98	18.12	19.21	2.45	14.17
Lapis A Draft MPA Array	0.28	0.00	0.40	2.45	8.46
Lapis B Draft MPA Array	4.15	18.22	2.82	2.45	8.46
Opal A Draft MPA Array	0.23	0.77	0.00	2.45	8.46
Opal B Draft MPA Array	2.09	18.84	5.14	2.45	10.96
Topaz A Draft MPA Array	3.24	9.63	9.35	2.45	11.31
Topaz B Draft MPA Array	4.60	0.77	0.38	2.45	8.46
Proposal 0	0.00	0.00	0.00	2.45	8.46