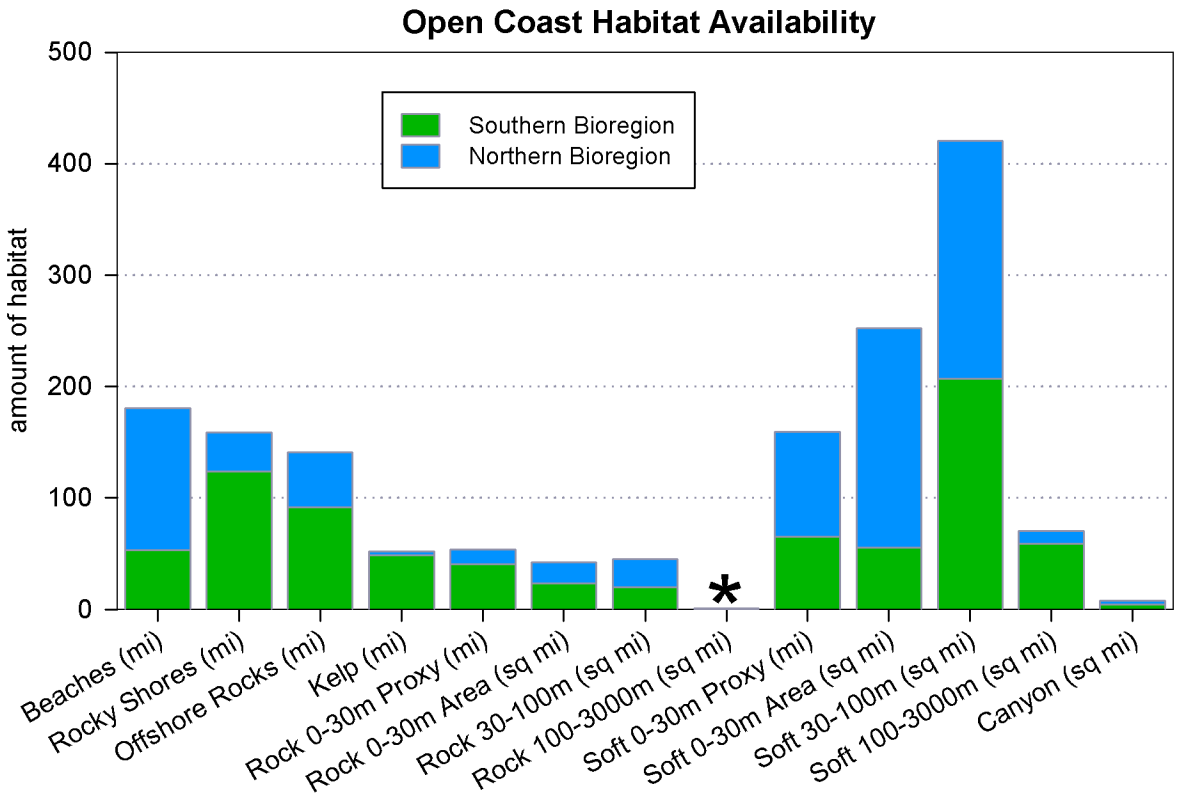
Figure 1.1: North Coast Study Region Habitat Availability

a)



* Hard 100 - 3000m available habitat is 1.1 sq mi

b)

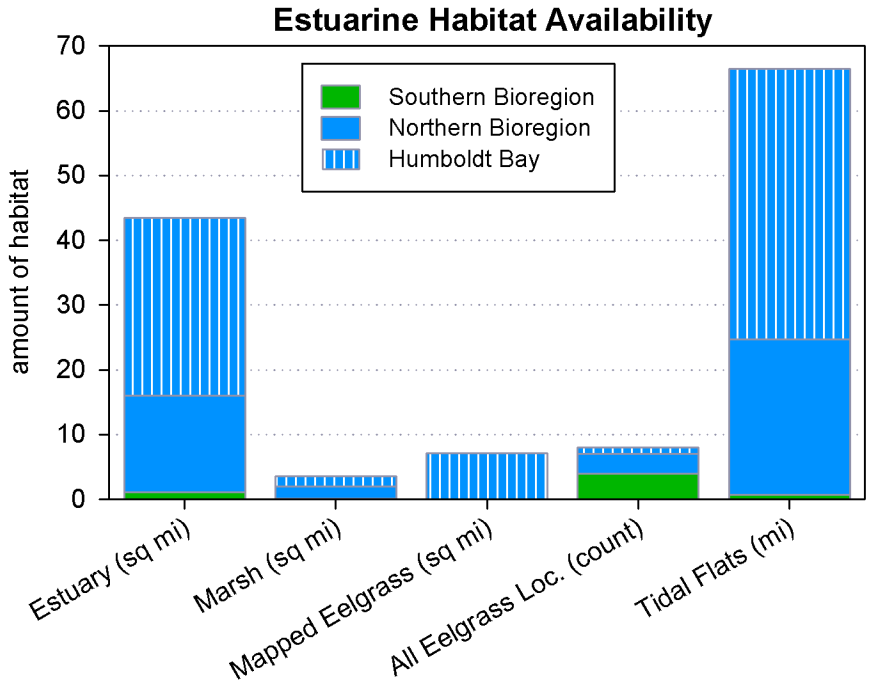
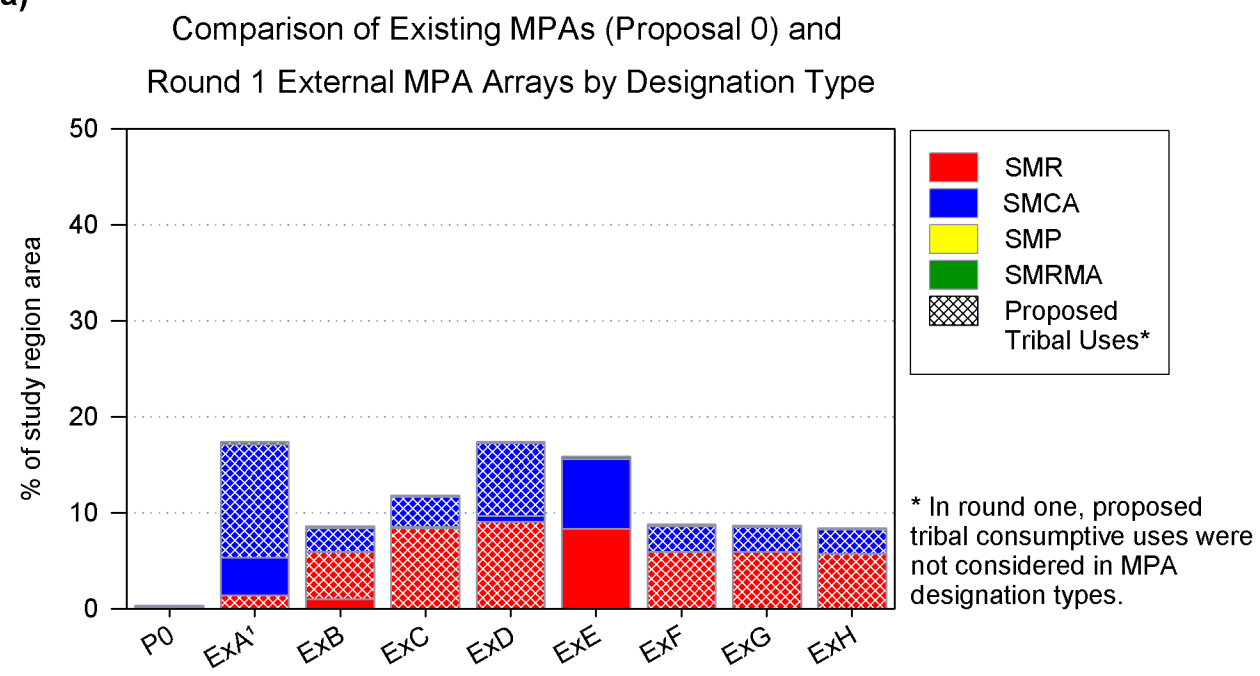
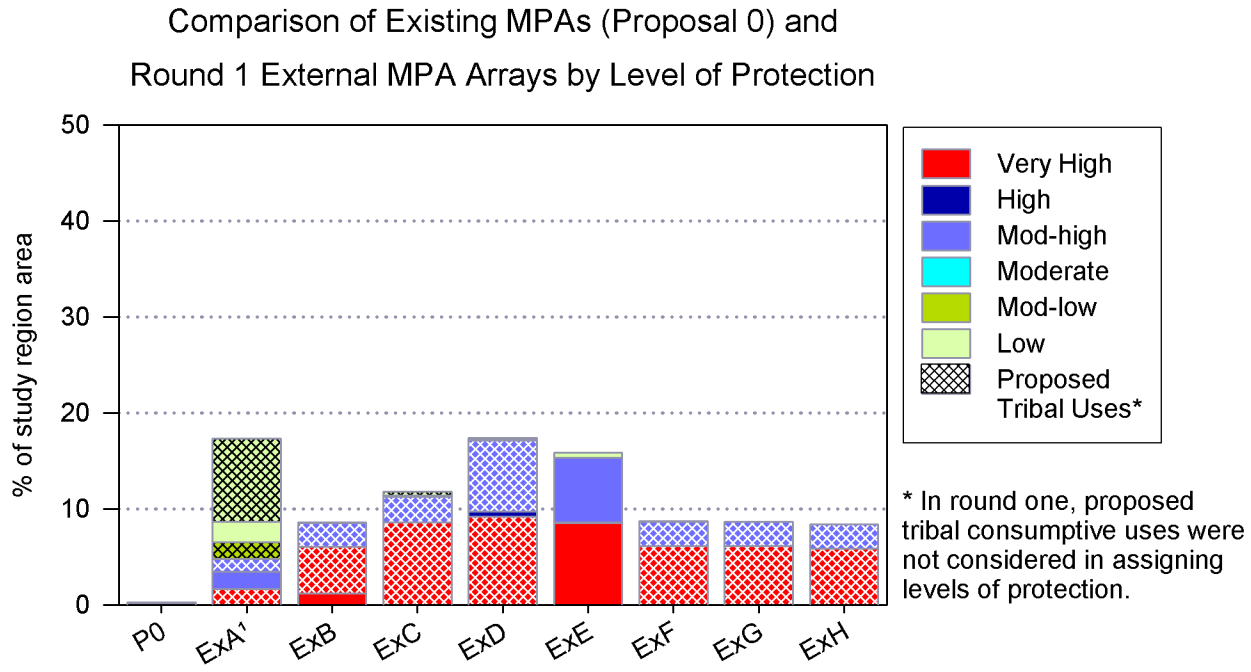


Figure 1.2: Summary of MPA Designations and Levels of Protection for Existing MPAs (P0) and All External MPA Arrays

a)

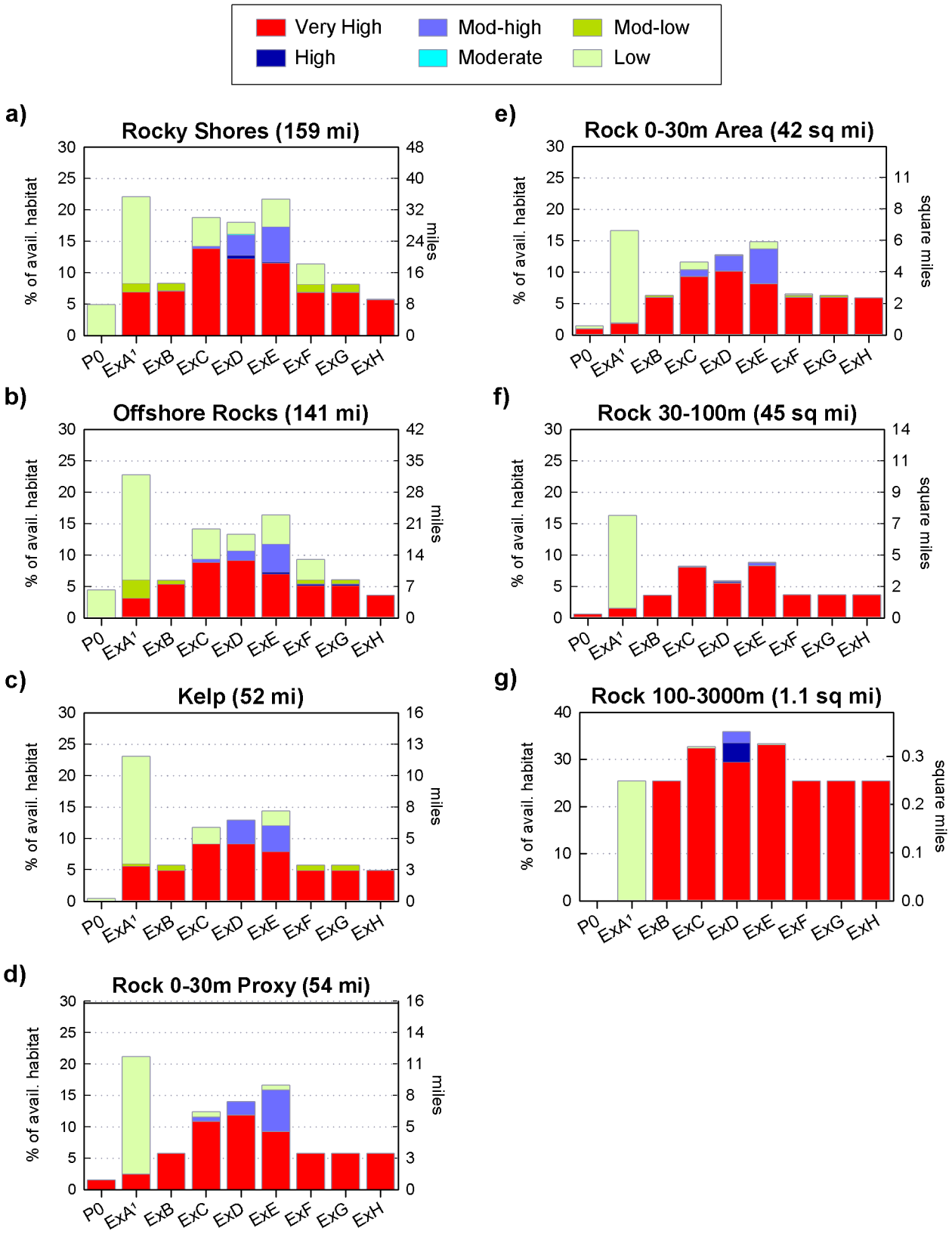


b)



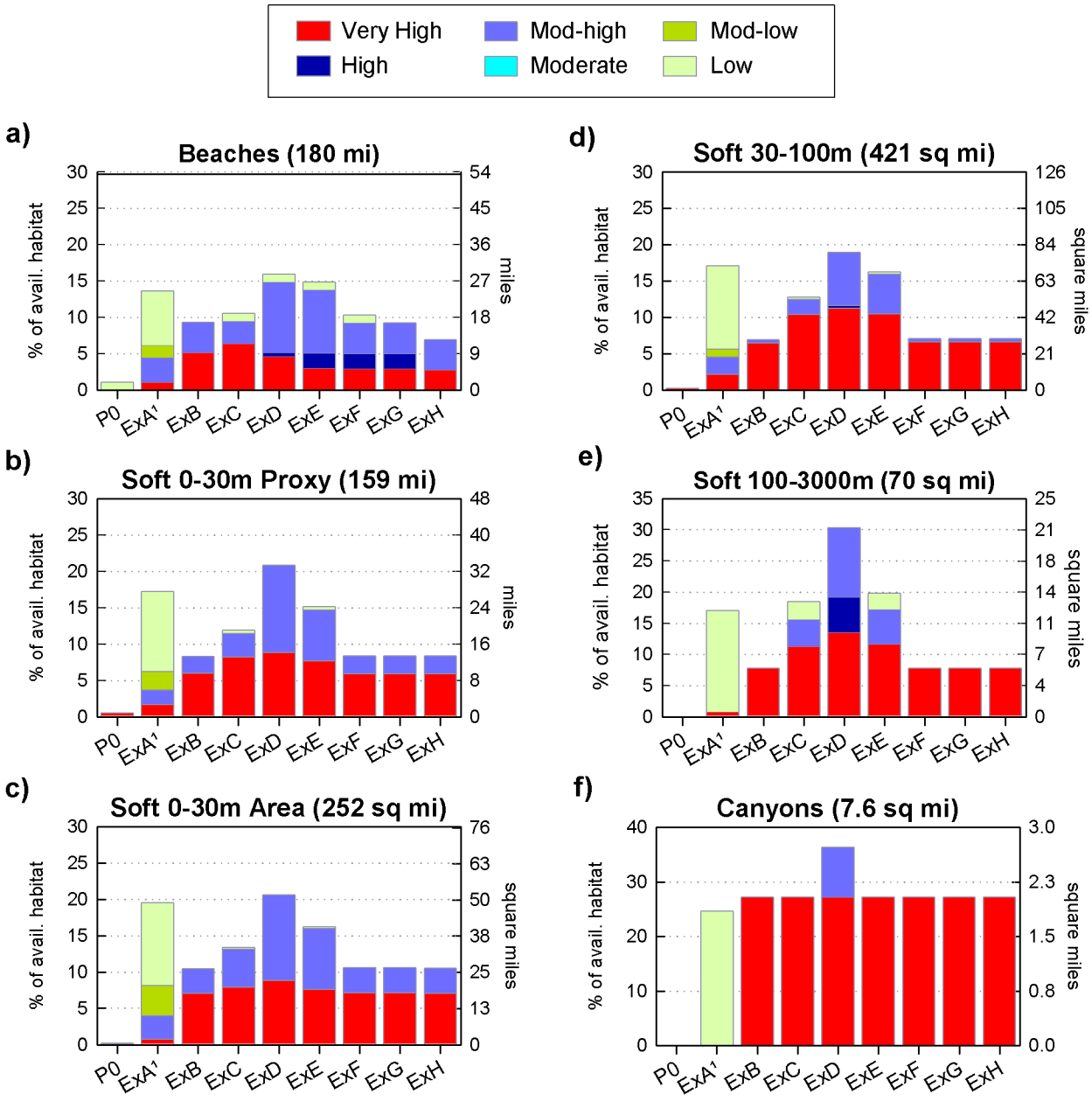
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 2.1: Rocky Habitat Representation for Existing MPAs (P0) and All External MPA Arrays



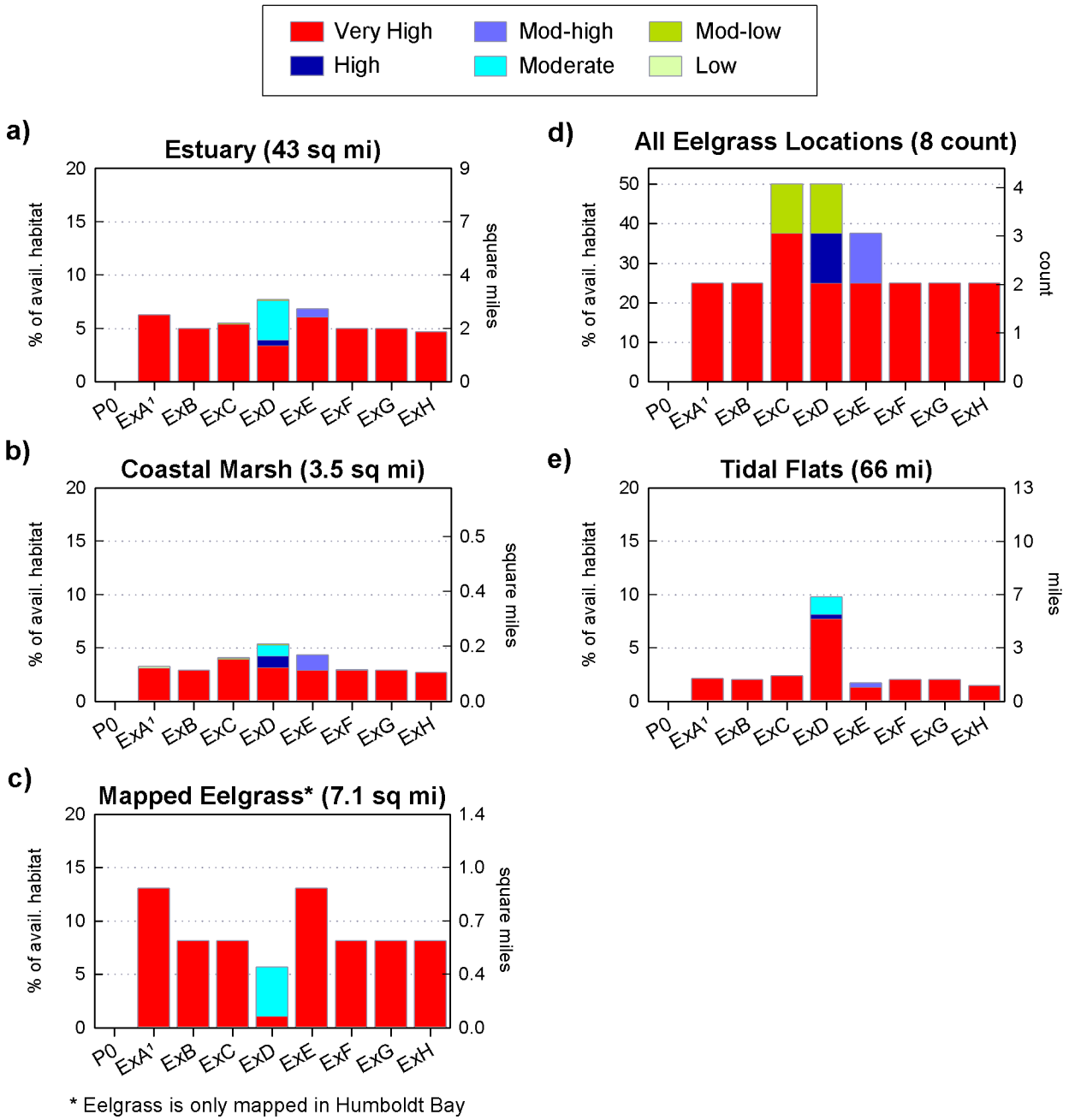
[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 2.2: Soft Bottom Habitat Representation for Existing MPAs (P0) and All External MPA Arrays



¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

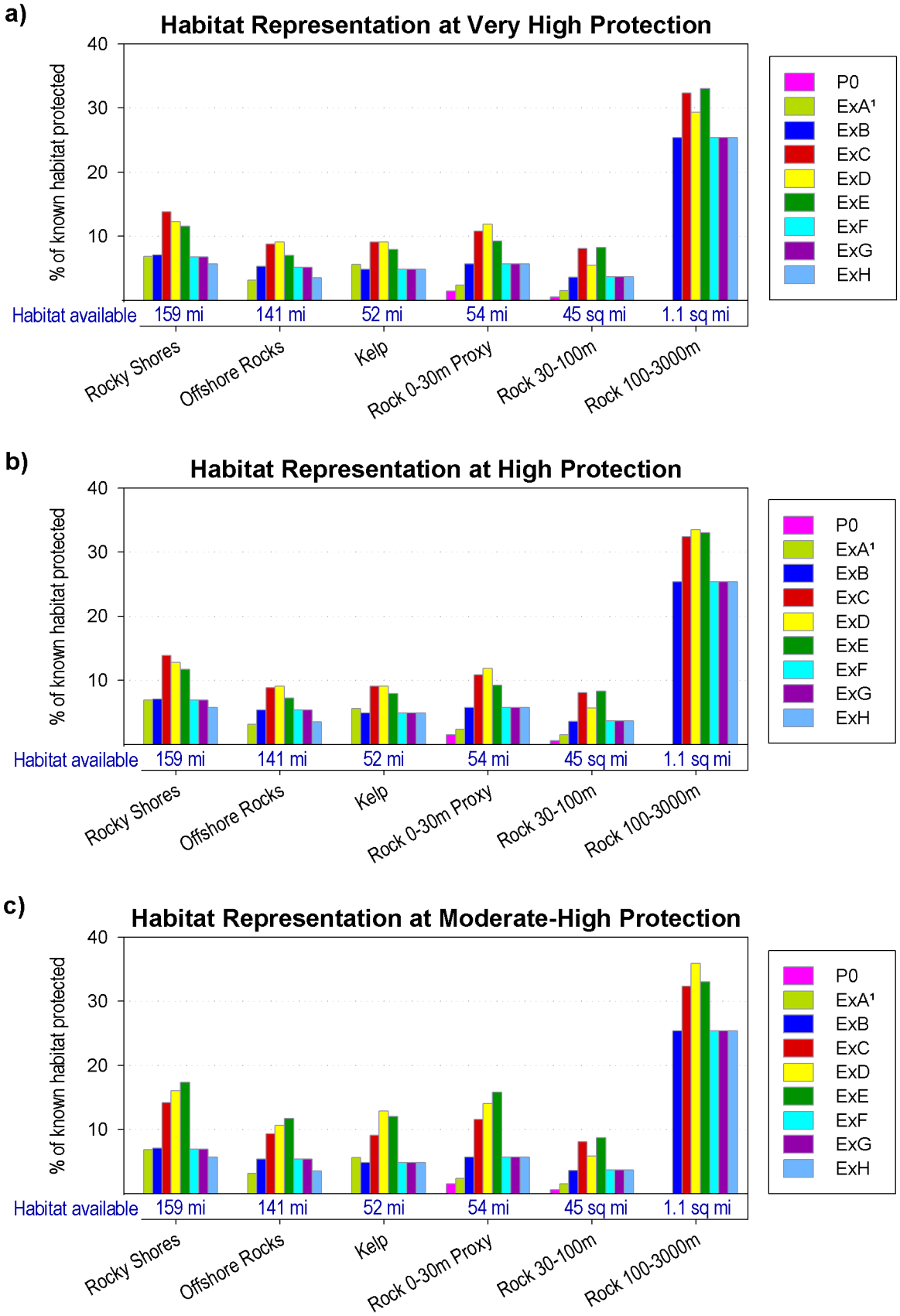
Figure 2.3: Estuarine Habitat Representation for Existing MPAs (P0) and All External MPA Arrays



* Eelgrass is only mapped in Humboldt Bay

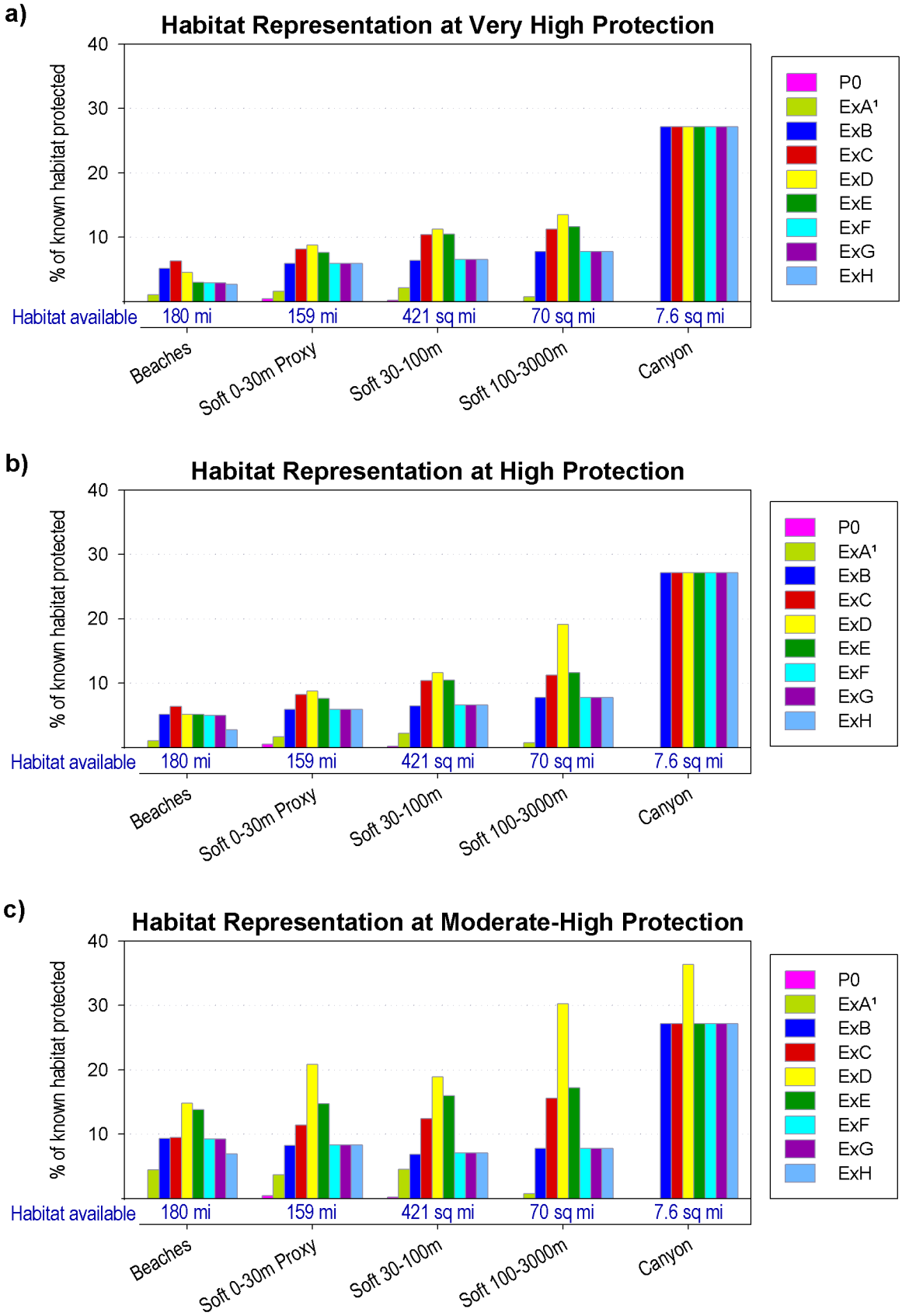
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 2.4: Rocky Habitat Representation Overview for Existing MPAs (P0) and All External MPA Arrays



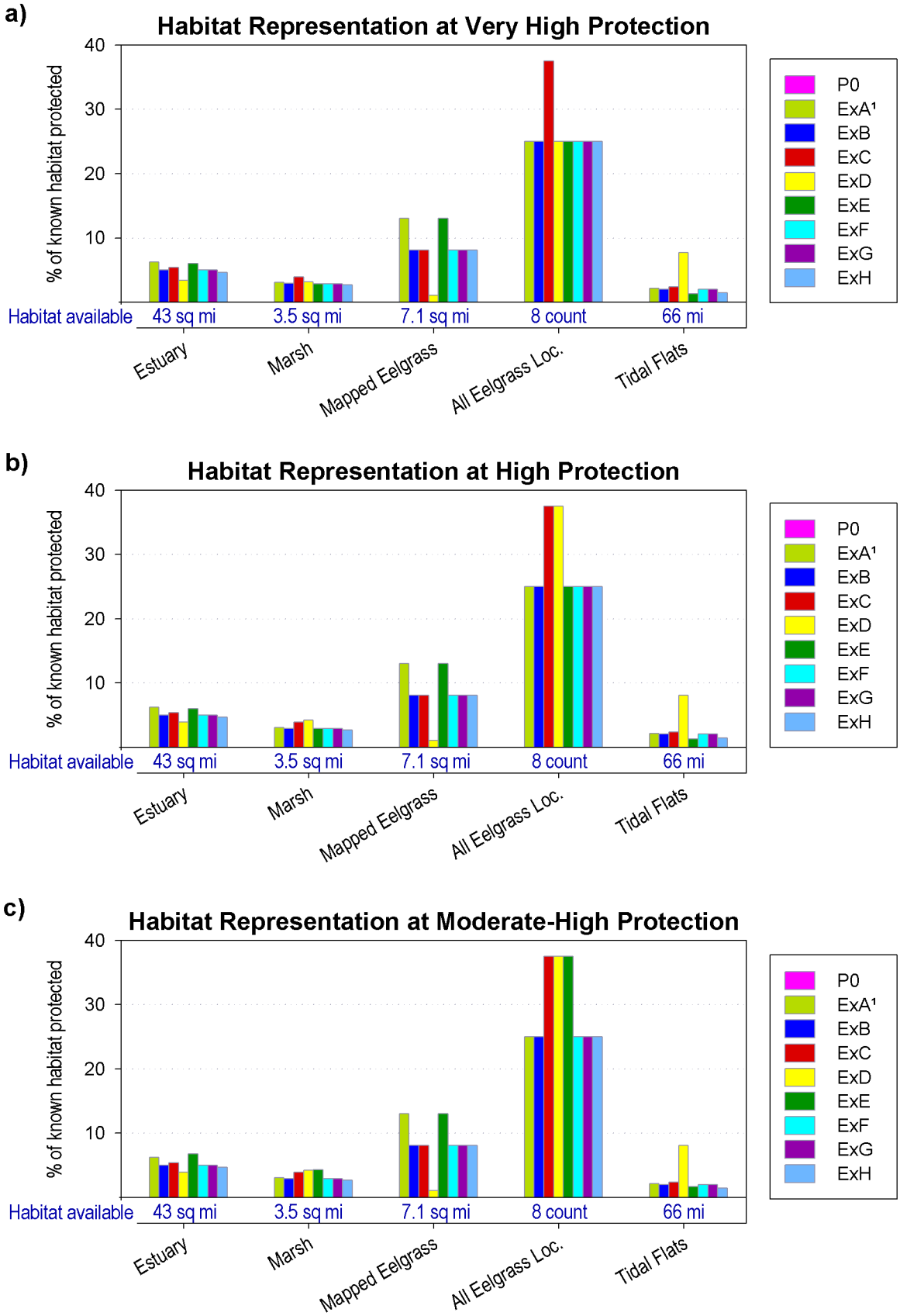
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 2.5: Soft Bottom Habitat Representation Overview for Existing MPAs (P0) and All External MPA Arrays



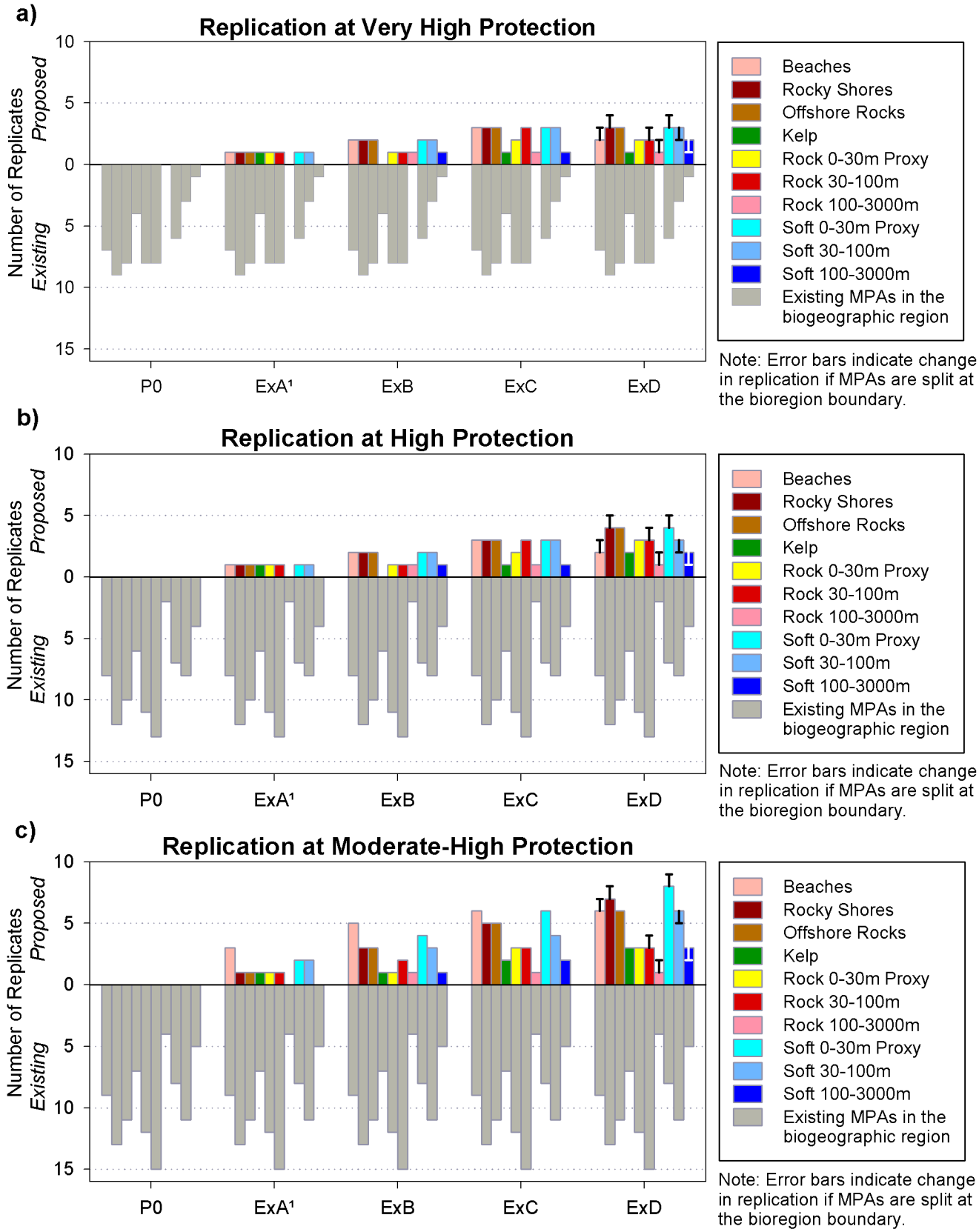
[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 2.6: Estuarine Habitat Representation Overview for Existing MPAs (P0) and All External MPA Arrays



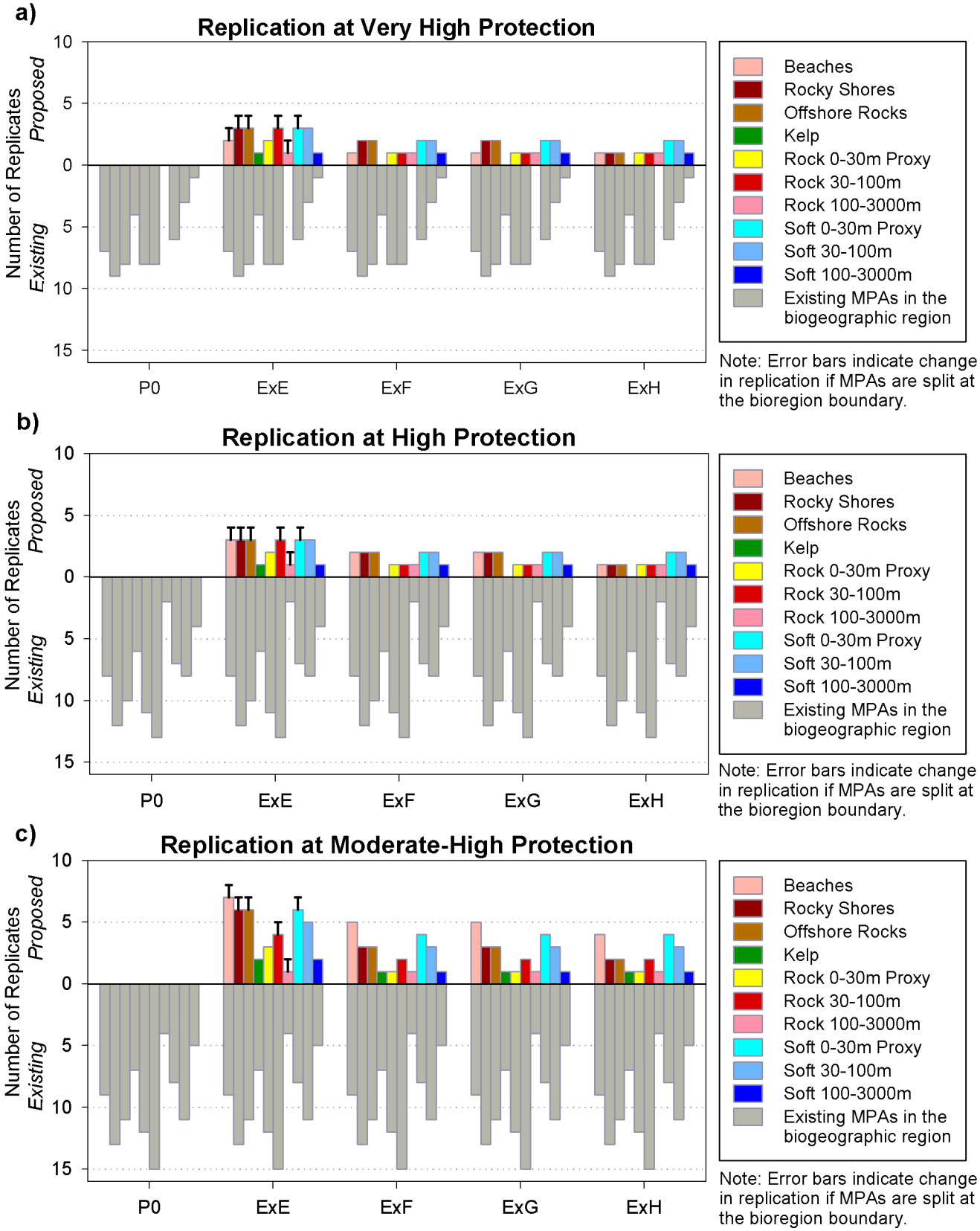
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 3.1: Open Coast Habitat Replication for Existing MPAs (P0) and External MPA Arrays A through D



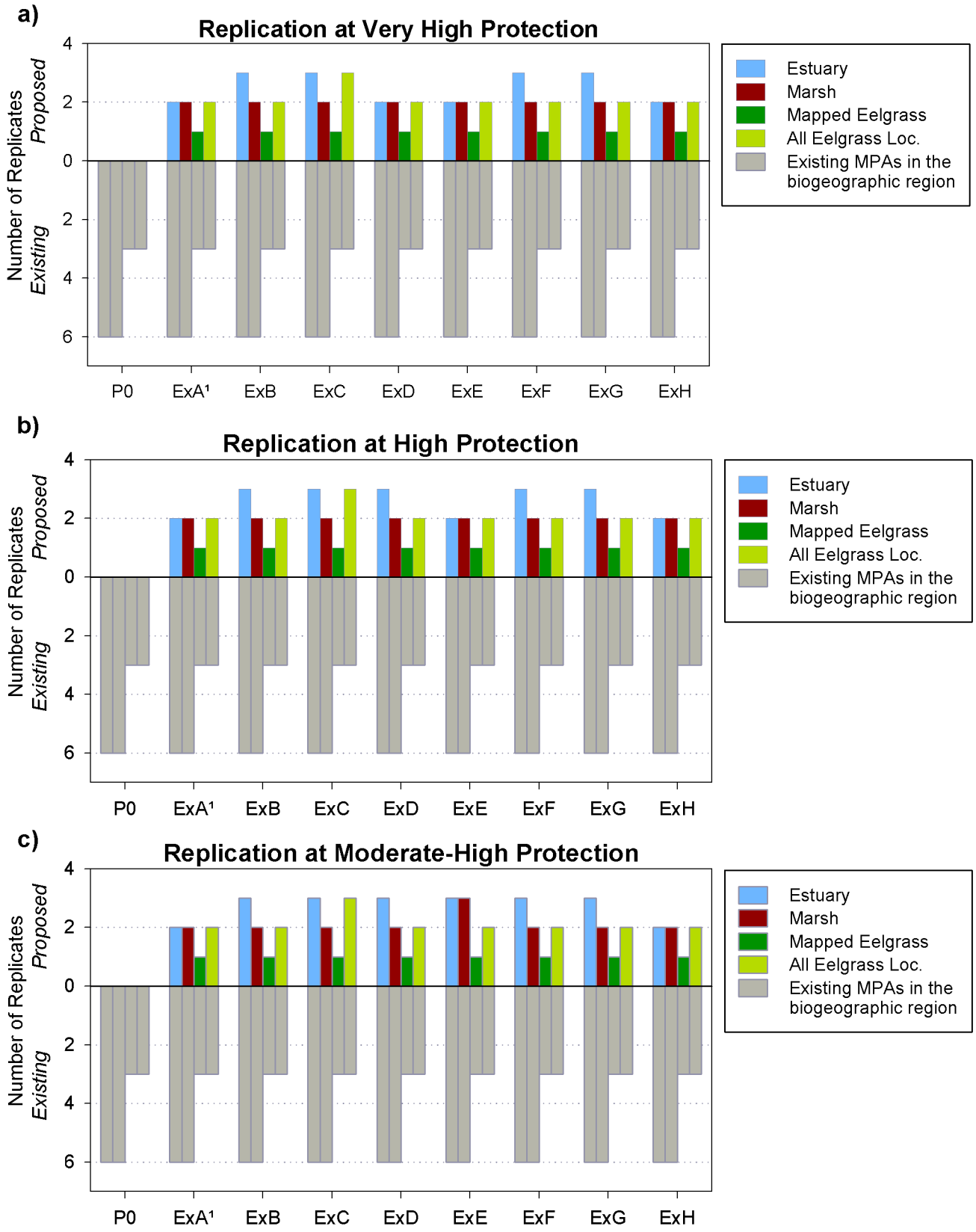
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 3.2: Open Coast Habitat Replication for Existing MPAs (P0) and External MPA Arrays E through H



[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 3.3: Estuarine Habitat Replication for Existing MPAs (P0) and All External MPA Arrays



¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 3.4: Number of Bioregions in which Habitats are Replicated for Existing MPAs (P0) and All External MPA Arrays

a	Rocky Shores (2 possible)			Offshore Rocks (2 possible)			Kelp (2 possible)			Rock 0-30m Proxy (2 possible)			Rock 30-100m (2 possible)			Rock 100-3000m (2 possible)*		
	VH	H	MH	VH	H	MH	VH	H	MH	VH	H	MH	VH	H	MH	VH	H	MH
P0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
ExA[1]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
ExB	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1
ExC	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	1	1	1
ExD	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	1 (2)	1 (2)	1 (2)
ExE	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	1 (2)	1 (2)	1 (2)
ExF	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1
ExG	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1
ExH	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1

* A replicate of rock 100-3000m is only available in one location, spanning the bioregion boundary.
Note: Parenthesis () indicate the number of bioregions with replicates if MPAs are split at the bioregion boundary.

b	Beaches (2 possible)			Soft 0-30m Proxy (2 possible)			Soft 30-100m (2 possible)			Soft 100-3000m (2 possible)		
	VH	H	MH	VH	H	MH	VH	H	MH	VH	H	MH
P0	1	1	1	0	0	0	1	1	1	0	0	0
ExA[1]	1	1	2	1	1	2	1	1	2	0	0	0
ExB	2	2	2	1	1	2	2	2	2	1	1	1
ExC	2	2	2	2	2	2	2	2	2	1	1	1
ExD	1 (2)	1 (2)	2	2	2	2	2	2	2	1	1	1
ExE	1 (2)	2	2	2	2	2	2	2	2	1	1	1
ExF	2	2	2	1	1	2	2	2	2	1	1	1
ExG	2	2	2	1	1	2	2	2	2	1	1	1
ExH	2	2	2	1	1	2	2	2	2	1	1	1

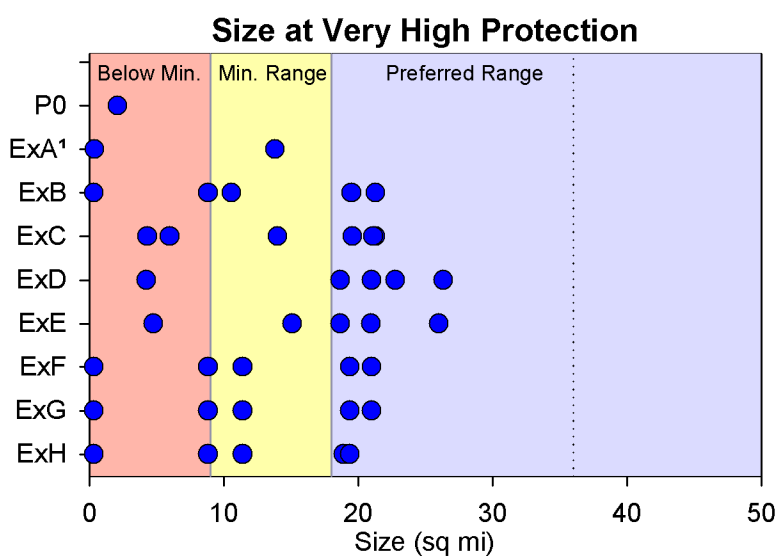
Note: Parenthesis () indicate the number of bioregions with replicates if MPAs are split at the bioregion boundary.

c	Estuary (2 possible)			Marsh (2 possible)			Mapped Eelgrass (1 possible)			All Eelgrass Loc. (2 possible)		
	VH	H	MH	VH	H	MH	VH	H	MH	VH	H	MH
P0	1	1	1	1	1	1	0	0	0	1	1	1
ExA[1]	2	2	2	2	2	2	1	1	1	2	2	2
ExB	2	2	2	2	2	2	1	1	1	2	2	2
ExC	2	2	2	2	2	2	1	1	1	2	2	2
ExD	2	2	2	2	2	2	1	1	1	2	2	2
ExE	2	2	2	2	2	2	1	1	1	2	2	2
ExF	2	2	2	2	2	2	1	1	1	2	2	2
ExG	2	2	2	2	2	2	1	1	1	2	2	2
ExH	2	2	2	2	2	2	1	1	1	2	2	2

[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

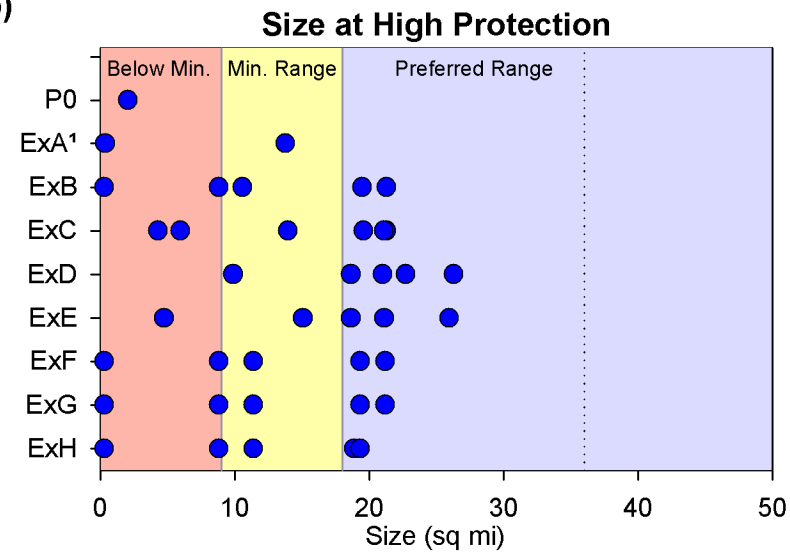
Figure 4.1: MPA Cluster Size for Existing MPAs (P0) and All External MPA Arrays

a)



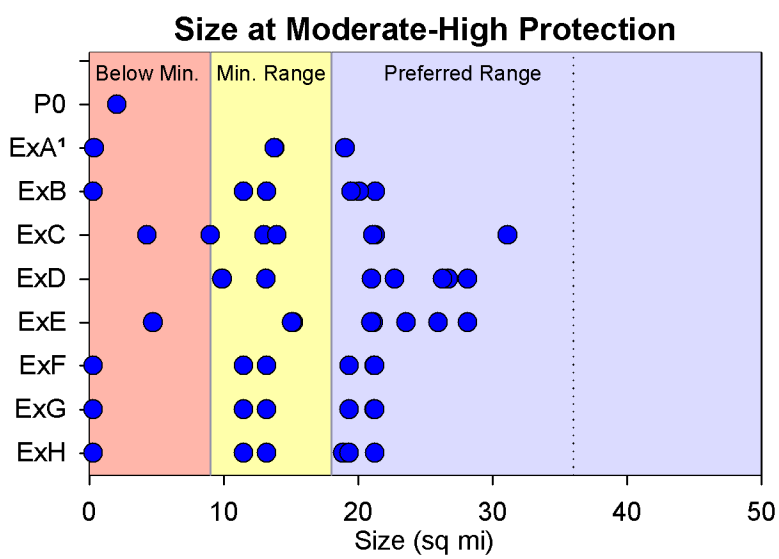
Number of MPA Clusters at Very High Protection				
Proposal	Below Min. Size	Min. Size Range	Pref. Size Range	Total # Clusters
P0	1	0	0	1
ExA¹	1	1	0	2
ExB	2	1	2	5
ExC	2	1	3	6
ExD	1	0	4	5
ExE	1	1	3	5
ExF	2	1	2	5
ExG	2	1	2	5
ExH	2	1	2	5

b)



Number of MPA Clusters at High Protection				
Proposal	Below Min. Size	Min. Size Range	Pref. Size Range	Total # Clusters
P0	1	0	0	1
ExA¹	1	1	0	2
ExB	2	1	2	5
ExC	2	1	3	6
ExD	0	1	4	5
ExE	1	1	3	5
ExF	2	1	2	5
ExG	2	1	2	5
ExH	2	1	2	5

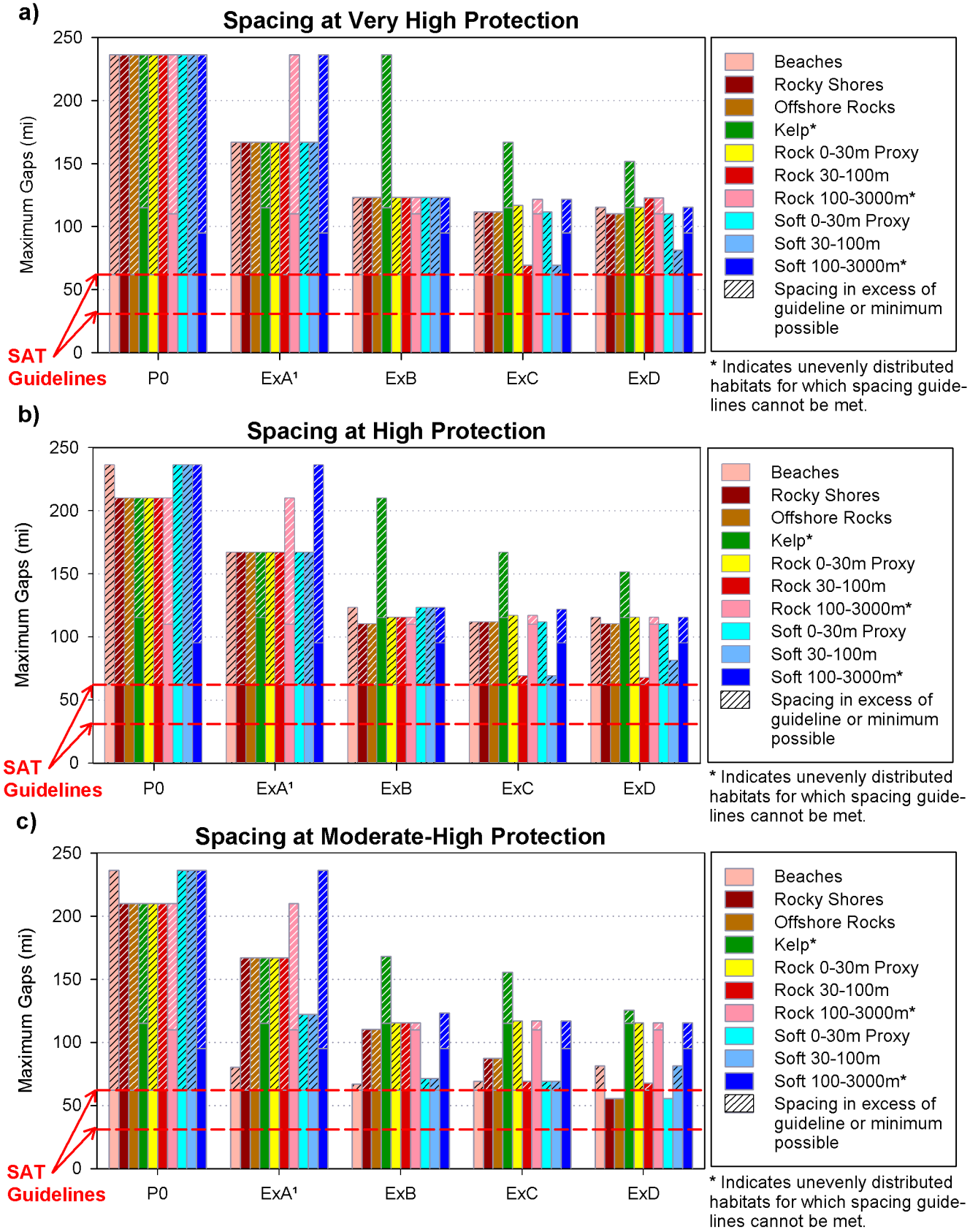
c)



Number of MPA Clusters at Moderate-High Protection				
Proposal	Below Min. Size	Min. Size Range	Pref. Size Range	Total # Clusters
P0	1	0	0	1
ExA¹	1	2	1	4
ExB	1	2	3	6
ExC	1	3	3	7
ExD	0	2	6	8
ExE	1	2	5	8
ExF	1	2	3	6
ExG	1	2	3	6
ExH	1	2	3	6

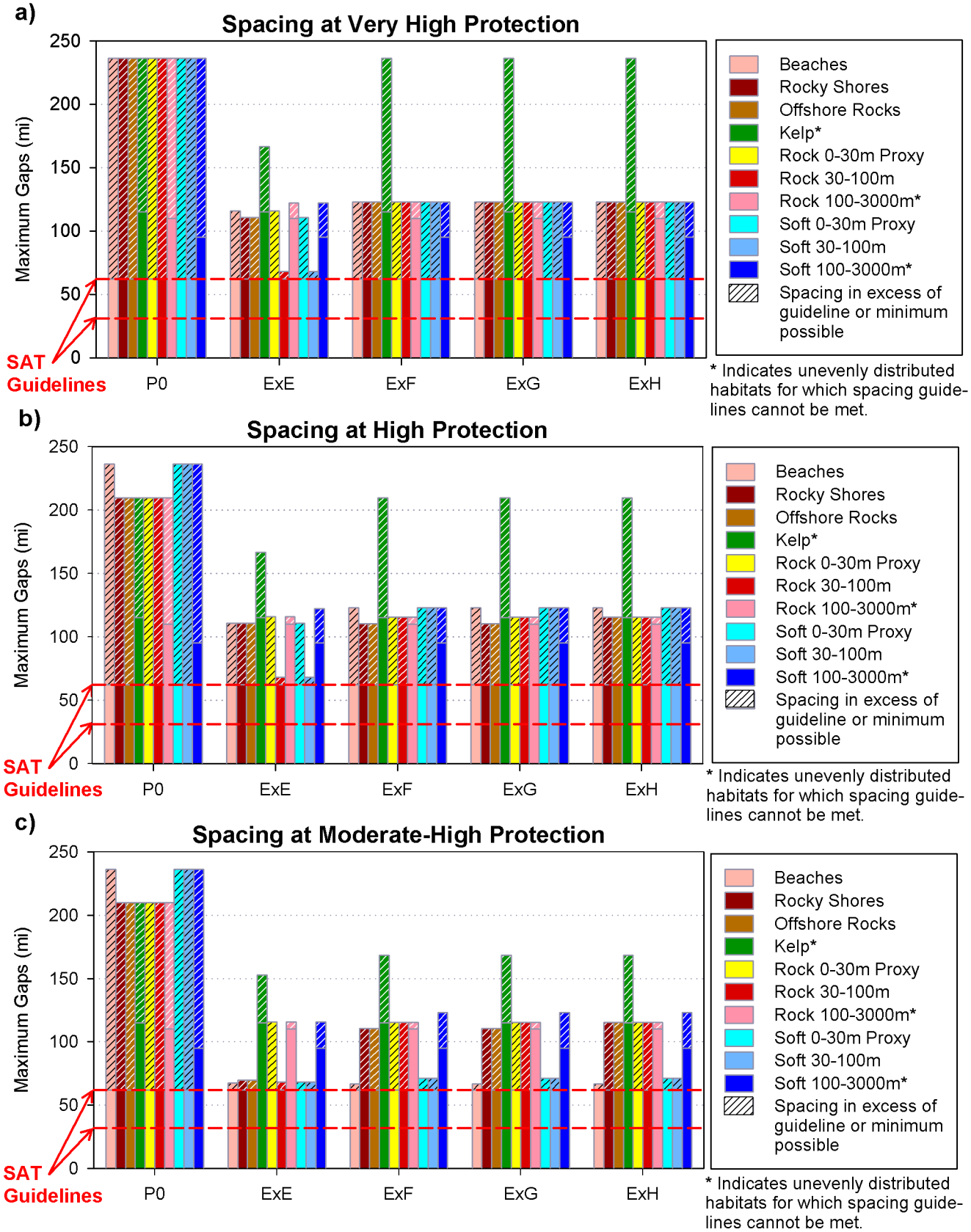
¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 5.1: Habitat Spacing for Existing MPAs (P0) and External MPA Arrays A through D



¹ Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Figure 5.2: Habitat Spacing for Existing MPAs (P0) and External MPA Arrays E through H



[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Table 5.3a: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array A[1]

External MPA Array A[1]		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rocky Shores	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Offshore Rocks	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Kelp	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rock 0-30m Proxy	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rock 30-100m	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rock 100-3000m	1	236	Oregon Border to Stewarts Point Cluster				
Soft 0-30m Proxy	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 30-100m	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 100-3000m	1	236	Oregon Border to Stewarts Point Cluster				

External MPA Array A[1]		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rocky Shores	1	167	Oregon Border to Ten Mile (FS) SMR				
Offshore Rocks	1	167	Oregon Border to Ten Mile (FS) SMR				
Kelp	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 0-30m Proxy	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 30-100m	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 100-3000m	1	210	Oregon Border to Point Arena Cluster				
Soft 0-30m Proxy	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 30-100m	2	167	Oregon Border to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 100-3000m	1	236	Oregon Border to Stewarts Point Cluster				

External MPA Array A[1]		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	80	Eureka Mobile SMCA to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Rocky Shores	1	167	Oregon Border to Ten Mile (FS) SMR				
Offshore Rocks	1	167	Oregon Border to Ten Mile (FS) SMR				
Kelp	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 0-30m Proxy	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 30-100m	1	167	Oregon Border to Ten Mile (FS) SMR				
Rock 100-3000m	1	210	Oregon Border to Point Arena Cluster				
Soft 0-30m Proxy	2	122	Reading Rock (FS) SMCA to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 30-100m	2	122	Reading Rock (FS) SMCA to Ten Mile (FS) SMR	67	Ten Mile (FS) SMR to Stewarts Point Cluster		
Soft 100-3000m	1	236	Oregon Border to Stewarts Point Cluster				

[1] Mobile MPAs in ExA were treated as static for the purpose of evaluation.

Table 5.3b: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array B

External MPA Array B		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Rocky Shores	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Offshore Rocks	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Kelp	1	236	Oregon Border to Stewarts Point Cluster				
Rock 0-30m Proxy	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 30-100m	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 100-3000m	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Soft 30-100m	2	123	Reading Rock Cluster to Ten Mile Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array B		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Rocky Shores	2	110	Pyramid Point SMR to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Offshore Rocks	2	110	Pyramid Point SMR to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Kelp	1	210	Oregon Border to Point Arena Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	123	Reading Rock Cluster to Ten Mile Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Soft 30-100m	2	123	Reading Rock Cluster to Ten Mile Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array B		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	67	Ten Mile Cluster to Stewarts Point Cluster				
Rocky Shores	1	110	Pyramid Point SMR to Punta Gorda SMR				
Offshore Rocks	1	110	Pyramid Point SMR to Punta Gorda SMR				
Kelp	1	168	Oregon Border to Ten Mile Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	1	115	Oregon Border to Punta Gorda SMR				
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 30-100m	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 100-3000m	2	123	Reading Rock Cluster to Ten Mile Cluster	115	Oregon Border to Punta Gorda SMR		

Table 5.3c: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array C

External MPA Array C		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rocky Shores	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Offshore Rocks	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Kelp	2	167	Oregon Border to Ten Mile SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rock 0-30m Proxy	2	117	Oregon Border to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rock 30-100m	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rock 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	117	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	117	Oregon Border to Punta Gorda SMR		

External MPA Array C		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rocky Shores	1	112	Pyramid Point SMR to Punta Gorda SMR				
Offshore Rocks	1	112	Pyramid Point SMR to Punta Gorda SMR				
Kelp	1	167	Oregon Border to Ten Mile SMR				
Rock 0-30m Proxy	1	117	Oregon Border to Punta Gorda SMR				
Rock 30-100m	1	69	Reading Rock Cluster to Punta Gorda SMR				
Rock 100-3000m	2	117	Oregon Border to Punta Gorda SMR	93	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	112	Pyramid Point SMR to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	117	Oregon Border to Punta Gorda SMR		

External MPA Array C		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Rocky Shores	1	87	False Klamath Cove SMCA to Punta Gorda SMR				
Offshore Rocks	1	87	False Klamath Cove SMCA to Punta Gorda SMR				
Kelp	1	155	Oregon Border to Vizcaino Cluster				
Rock 0-30m Proxy	1	117	Oregon Border to Punta Gorda SMR				
Rock 30-100m	1	69	Reading Rock Cluster to Punta Gorda SMR				
Rock 100-3000m	2	117	Oregon Border to Punta Gorda SMR	93	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	69	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	117	Oregon Border to Punta Gorda SMR	80	Vizcaino Cluster to Stewarts Point Cluster		

Table 5.3d: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array D

External MPA Array D		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Rocky Shores	2	110	Pyramid Point SMR to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Offshore Rocks	2	110	Pyramid Point SMR to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Kelp	2	151	Oregon Border to Usal SMR	81	Usal SMR to Stewarts Point Cluster		
Rock 0-30m Proxy	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Rock 30-100m	2	123	Gorda SMR to Stewarts Point Cluster	68	Reading Rock Cluster to Gorda SMR		
Rock 100-3000m	2	123	Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Gorda SMR		
Soft 0-30m Proxy	2	110	Pyramid Point SMR to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Soft 30-100m	2	81	Usal SMR to Stewarts Point Cluster	68	Reading Rock Cluster to Gorda SMR		
Soft 100-3000m	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		

External MPA Array D		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		
Rocky Shores	1	110	Pyramid Point SMR to Gorda SMR				
Offshore Rocks	1	110	Pyramid Point SMR to Gorda SMR				
Kelp	1	151	Oregon Border to Usal SMR				
Rock 0-30m Proxy	1	115	Oregon Border to Gorda SMR				
Rock 30-100m	2	68	Reading Rock Cluster to Gorda SMR	67	Gorda SMR to Point Cabrillo Cluster		
Rock 100-3000m	2	115	Oregon Border to Gorda SMR	93	Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	1	110	Pyramid Point SMR to Gorda SMR				
Soft 30-100m	2	81	Usal SMR to Stewarts Point Cluster	68	Reading Rock Cluster to Gorda SMR		
Soft 100-3000m	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		

External MPA Array D		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	81	Usal SMR to Stewarts Point Cluster				
Rocky Shores	0						
Offshore Rocks	0						
Kelp	1	126	Oregon Border to Big Flat SMCA				
Rock 0-30m Proxy	1	115	Oregon Border to Gorda SMR				
Rock 30-100m	2	68	Reading Rock Cluster to Gorda SMR	67	Gorda SMR to Point Cabrillo Cluster		
Rock 100-3000m	2	115	Oregon Border to Gorda SMR	93	Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	0						
Soft 30-100m	1	81	Usal SMR to Stewarts Point Cluster				
Soft 100-3000m	2	115	Oregon Border to Gorda SMR	81	Usal SMR to Stewarts Point Cluster		

Table 5.3e: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array E

External MPA Array E		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	116	Oregon Border to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Rocky Shores	2	111	Pyramid Point Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Offshore Rocks	2	111	Pyramid Point Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Kelp	2	167	Oregon Border to S.E.A. Ten Mile SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Rock 0-30m Proxy	2	116	Oregon Border to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Rock 30-100m	2	68	Reading Rock Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Rock 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	116	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	111	Pyramid Point Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	68	Reading Rock Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	116	Oregon Border to Punta Gorda SMR		

External MPA Array E		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	111	Pyramid Point Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Rocky Shores	1	111	Pyramid Point Cluster to Punta Gorda SMR				
Offshore Rocks	1	111	Pyramid Point Cluster to Punta Gorda SMR				
Kelp	1	167	Oregon Border to S.E.A. Ten Mile SMR				
Rock 0-30m Proxy	1	116	Oregon Border to Punta Gorda SMR				
Rock 30-100m	1	68	Reading Rock Cluster to Punta Gorda SMR				
Rock 100-3000m	2	116	Oregon Border to Punta Gorda SMR	93	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	111	Pyramid Point Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	68	Reading Rock Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	122	Punta Gorda SMR to Stewarts Point Cluster	116	Oregon Border to Punta Gorda SMR		

External MPA Array E		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster				
Rocky Shores	1	70	False Klamath SMCA to False Cape SMCA				
Offshore Rocks	1	70	False Klamath SMCA to False Cape SMCA				
Kelp	1	153	Oregon Border to Vizcaino SMCA				
Rock 0-30m Proxy	1	116	Oregon Border to Punta Gorda SMR				
Rock 30-100m	1	68	Reading Rock Cluster to Punta Gorda SMR				
Rock 100-3000m	2	116	Oregon Border to Punta Gorda SMR	93	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	68	Reading Rock Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 30-100m	2	68	Reading Rock Cluster to Punta Gorda SMR	68	S.E.A. Ten Mile SMR to Stewarts Point Cluster		
Soft 100-3000m	2	116	Oregon Border to Punta Gorda SMR	81	Vizcaino SMCA to Stewarts Point Cluster		

Table 5.3f: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array F

External MPA Array F		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rocky Shores	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Offshore Rocks	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Kelp	1	236	Oregon Border to Stewarts Point Cluster				
Rock 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array F		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Rocky Shores	2	110	Pyramid Point Cluster to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Offshore Rocks	2	110	Pyramid Point Cluster to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Kelp	1	210	Oregon Border to Point Arena Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array F		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	67	Ten Mile Cluster to Stewarts Point Cluster				
Rocky Shores	1	110	Pyramid Point Cluster to Punta Gorda SMR				
Offshore Rocks	1	110	Pyramid Point Cluster to Punta Gorda SMR				
Kelp	1	168	Oregon Border to Ten Mile Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	1	115	Oregon Border to Punta Gorda SMR				
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 30-100m	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

Table 5.3g: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array G

External MPA Array G		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rocky Shores	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Offshore Rocks	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Kelp	1	236	Oregon Border to Stewarts Point Cluster				
Rock 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array G		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Rocky Shores	2	110	Pyramid Point Cluster to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Offshore Rocks	2	110	Pyramid Point Cluster to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Kelp	1	210	Oregon Border to Point Arena Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point Cluster to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array G		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	67	Ten Mile Cluster to Stewarts Point Cluster				
Rocky Shores	1	110	Pyramid Point Cluster to Punta Gorda SMR				
Offshore Rocks	1	110	Pyramid Point Cluster to Punta Gorda SMR				
Kelp	1	168	Oregon Border to Ten Mile Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	1	115	Oregon Border to Punta Gorda SMR				
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 30-100m	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

Table 5.3h: Gaps that exceed the SAT spacing guidelines and their locations for External MPA Array H

External MPA Array H		Very High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rocky Shores	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Offshore Rocks	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Kelp	1	236	Oregon Border to Stewarts Point Cluster				
Rock 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rock 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array H		High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		
Rocky Shores	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Offshore Rocks	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Kelp	1	210	Oregon Border to Point Arena Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	123	Punta Gorda SMR to Stewarts Point Cluster	110	Pyramid Point SMR to Punta Gorda SMR		
Soft 30-100m	2	123	Punta Gorda SMR to Stewarts Point Cluster	71	Reading Rock Cluster to Punta Gorda SMR		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		

External MPA Array H		Moderate-High Protection					
Habitat	# gaps over guideline	gap #1	gap #1 location	gap #2	gap #2 location	gap #3	gap #3 location
Beaches	1	67	Ten Mile Cluster to Stewarts Point Cluster				
Rocky Shores	1	115	Oregon Border to Punta Gorda SMR				
Offshore Rocks	1	115	Oregon Border to Punta Gorda SMR				
Kelp	1	168	Oregon Border to Ten Mile Cluster				
Rock 0-30m Proxy	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Rock 30-100m	1	115	Oregon Border to Punta Gorda SMR				
Rock 100-3000m	2	115	Oregon Border to Punta Gorda SMR	94	Punta Gorda SMR to Point Arena Cluster		
Soft 0-30m Proxy	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 30-100m	2	71	Reading Rock Cluster to Punta Gorda SMR	67	Ten Mile Cluster to Stewarts Point Cluster		
Soft 100-3000m	2	123	Punta Gorda SMR to Stewarts Point Cluster	115	Oregon Border to Punta Gorda SMR		