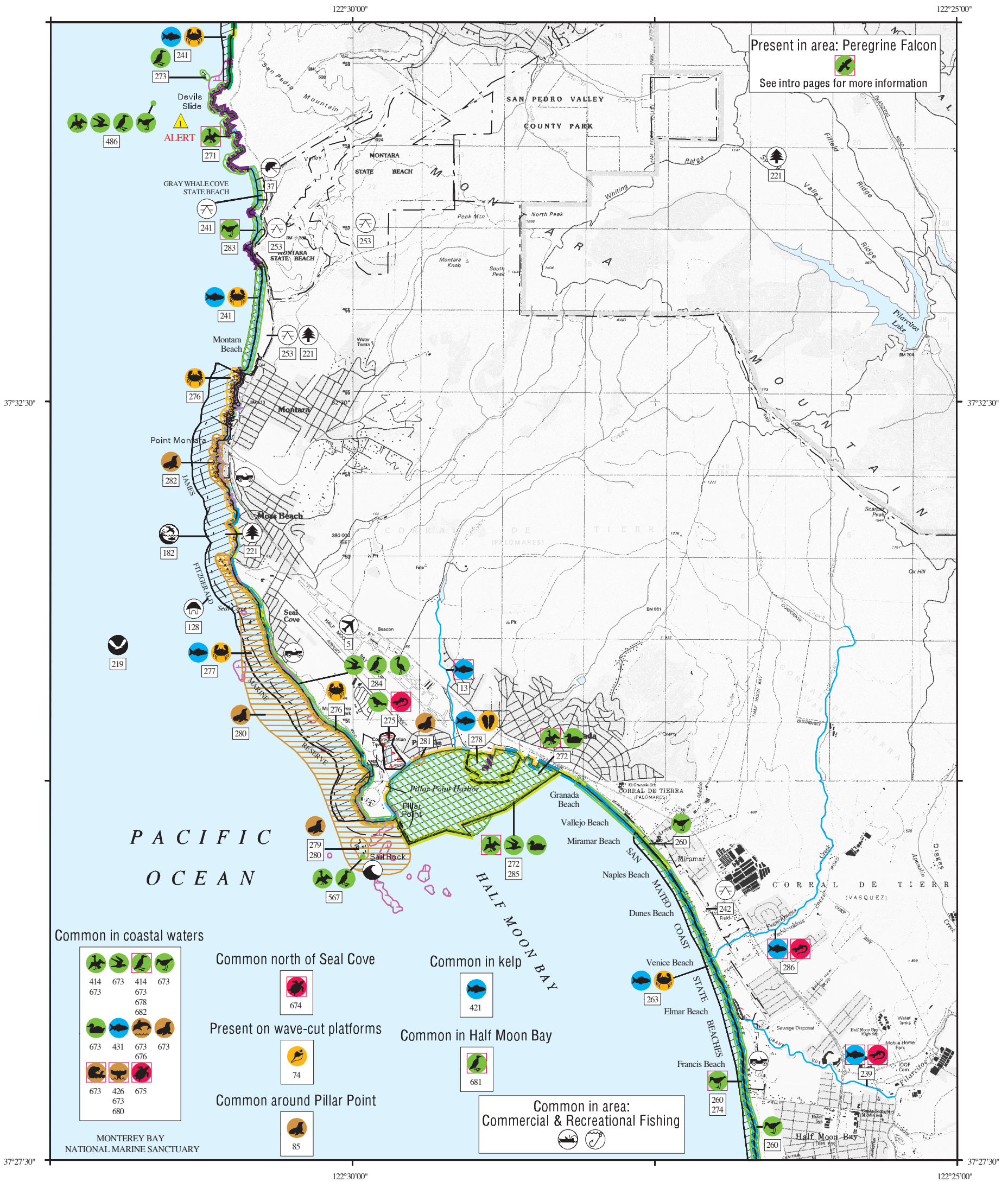


ENVIRONMENTAL SENSITIVITY INDEX MAP



SHORELINE HABITATS (ESI)

1A EXPOSED ROCKY SHORES	10A SALT- AND BRACKISH-WATER MARSHES
1B EXPOSED, SOLID, MAN-MADE STRUCTURES	10B FRESHWATER MARSHES
2A EXPOSED WAVE-CUT PLATFORMS IN BEDROCK	10C SWAMPS
3A FINE- TO MEDIUM-GRAINED SAND BEACHES	10D SCRUB-SHRUB WETLANDS
4 COARSE-GRAINED SAND BEACHES	
5 MIXED SAND AND GRAVEL BEACHES	
6A GRAVEL BEACHES	
6D BOULDER RUBBLE	
6B RIPRAP	
7 EXPOSED TIDAL FLATS	
8A SHELTERED ROCKY SHORES	
8B SHELTERED, SOLID, MAN-MADE STRUCTURES	
8C SHELTERED RIPRAP	
9A SHELTERED TIDAL FLATS	

SCALE 1:50000

Not For Navigation

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Monterey Bay National Marine Sanctuary
and
Office of Spill Prevention and Response
California Department of Fish and Game

CALIFORNIA

PACIFIC OCEAN

MBNMS

Central California: ESIMAP 34

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
260	Shorebirds		X	X	X	X		X	X	X	X	X	X		-	-	-
271	Brown pelican	E E 177-602 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
272	Brown pelican	E E 460-787 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Diving birds	HIGH	X	X	X	X	X	X	X	X	X	X	X		-	-	-
	Diving ducks	HIGH	X	X	X	X			X	X	X	X			-	SEP-MAY	-
273	Common murre	>400 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
274	Western snowy plover	T MEDIUM	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
275	Common yellowthroat		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY	-
																SEP-OCT	
283	Western snowy plover	T	X	X	X	X			X	X	X	X	X	X	-	-	-
284	Gulls		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Seabirds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Wading birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
285	Cormorants		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Gulls		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
414	Diving birds	1100 INDIV.	X	X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds	800 INDIV.	X	X	X	X	X	X	X						FEB-AUG	-	-
486	Black oystercatcher	4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant	7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre	246 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant	46 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot	30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull	16 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
567	Pelagic cormorant	5 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot	2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
673	Cassin's auklet	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Clark's grebe	MODERATE	X	X	X	X				X	X	X	X		-	MAR-APR	-
																SEP-NOV	
	Common murre	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUL-SEP
	Cormorants	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Eared grebe	LOW	X	X	X	X				X	X	X	X		-	MAR-APR	-
																SEP-OCT	
	Gulls	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Horned grebe	LOW	X	X	X	X				X	X	X	X		-	OCT-APR	-
	Pacific loon	MODERATE	X	X	X	X				X	X	X			-	OCT-MAY	-
	Pelicans	MODERATE		X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Phalaropes	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pigeon guillemot	LOW	X	X	X	X	X	X	X	X					-	-	-
	Rhinoceros auklet	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters	LOW-HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Surf scoter	MODERATE	X	X	X	X				X	X	X	X		-	MAR-APR	-
																SEP-DEC	
	Western grebe	MODERATE	X	X	X	X				X	X	X	X		-	MAR-APR	-
																SEP-NOV	
	White-winged scoter	MODERATE	X	X	X	X				X	X	X			-	MAR-APR	-
																OCT-NOV	
678	Marbled murrelet	E T MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
681	Marbled murrelet	E T HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
682	Sooty shearwater	MODERATE		X	X	X	X	X	X	X	X	X			-	-	APR-OCT

FISH:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
13	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
239	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
241	Barred surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Calico surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	California grunion			X	X	X	X	X	X	X					MAR-AUG	MAR-SEP	-	-	MAR-AUG
	Jacksmelt		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JUN	NOV-JUN	NOV-JUN	APR-NOV	NOV-JUN
	Redtail surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	JAN-DEC
	Striped bass			X	X	X	X	X							-	-	-	MAY-SEP	MAY-SEP
	Walleye surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	JAN-DEC
	White seabass			X	X	X	X	X	X	X	X				APR-AUG	-	-	-	MAR-NOV
	White seaperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	FEB-AUG
263	Barred surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	California grunion			X	X	X	X	X	X						MAR-AUG	MAR-SEP	-	-	MAR-AUG
	Jacksmelt		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JUN	NOV-JUN	NOV-JUN	APR-NOV	NOV-JUN
	Night smelt		X	X	X	X	X								JAN-JUN	-	-	-	JAN-JUN
	Striped bass				X	X	X	X	X						-	-	-	MAY-SEP	MAY-SEP
	Surf smelt				X	X	X	X	X						APR-SEP	-	-	-	APR-SEP
	Walleye surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	JAN-DEC
	White seabass			X	X	X	X	X	X	X	X				APR-AUG	-	-	-	MAR-NOV
	White seaperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	FEB-AUG
277	Barred surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Cabazon		X	X	X	X	X	X	X	X	X	X	X	X	OCT-APR	-	-	JAN-DEC	JAN-DEC
	Calico surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	California grunion			X	X	X	X	X	X						MAR-AUG	MAR-SEP	-	-	MAR-AUG
	Jacksmelt		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JUN	NOV-JUN	NOV-JUN	APR-NOV	NOV-JUN
	Lingcod		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickpleback		X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Redtail surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Striped bass			X	X	X	X	X							-	-	-	MAY-SEP	MAY-SEP
	Striped seaperch		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
	Walleye surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	JAN-DEC
	White seabass			X	X	X	X	X	X	X	X				APR-AUG	-	-	-	MAR-NOV
	White seaperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	FEB-AUG
278	Rubberlip seaperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Shiner surfperch			X	X	X	X	X	X	X	X				APR-JUL	-	-	-	MAR-NOV
286	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
421	Black rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	-	-	APR-JUL	JAN-DEC
	Black-and-yellow rockfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Blue rockfish		X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	-	APR-JUL	JAN-DEC
	Bocaccio		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Canary rockfish (orange)		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	China rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUL	-	-	MAY-JUL	JAN-DEC
	Copper rockfish		X	X	X	X	X	X	X	X	X	X	X	X	FEB-APR	-	-	APR-JUL	JAN-DEC
	Gopher rockfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Grass rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAR	-	-	MAY-JUL	JAN-DEC
	Kelp rockfish		X	X	X	X	X	X	X	X	X	X	X	X	FEB-APR	-	-	APR-AUG	JAN-DEC
	Olive rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAR	-	-	APR-JUL	JAN-DEC
	Vermilion rockfish		X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	-	-	FEB-JUL	JAN-DEC
	Widow rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Yellowtail rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
431	California halibut		X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	-	FEB-SEP	JAN-DEC	FEB-NOV
	Salmon			X	X	X	X	X							-	-	-	-	APR-SEP
	White shark		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC

Biological information shown on the maps represents known concentration areas or occurrences, but does not necessarily represent the full distribution or range of each species. This is particularly important to recognize when considering potential impactsto protected species.

Central California: ESIMAP 34 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
74	Black abalone	HIGH	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab		X X X X X X X X X	-	-	-	-	JUN-SEP
263	Dungeness crab		X X X X	-	-	-	-	JUN-SEP
276	Tidepool invertebrates		X X X X X X X X X X X	-	-	-	-	-
277	Dungeness crab		X X X X	-	-	-	-	JUN-SEP
278	Clams		X X X X X X X X X X X	-	-	-	-	JAN-DEC

MARINE MAMMAL:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Mating	Calving	Pupping	Molting
85	Pinnipeds	HIGH	X X X X X X X X X X X	-	-	-	-
279	California sea lion	94 INDIV.	X X X X X X X X X X X	-	-	-	-
280	Harbor seal	179-212 INDIV.	X X X X X X X X X X X	-	-	MAR-JUN	-
281	Harbor seal	9 INDIV.	X X X X X X X X X X X	-	-	MAR-JUN	-
282	Harbor seal	LOW	X X X X X X X X X X X	-	-	MAR-JUN	-
426	Gray whale		X X X X X X X X	-	DEC-FEB	-	-
673	Bottlenose dolphin	LOW	X X X X X X X X X X X	-	-	-	-
	Dall's porpoise	LOW	X X X X X X X X X X X	-	-	-	-
	Fin whale	E LOW	X X X X X X X X X X X	-	-	-	-
	Killer whale	LOW	X X X X X X X X X X X	-	-	-	-
	Long-beaked common dolphin	LOW	X X X X X X X X X X X	-	-	-	-
	Minke whale	MODERATE	X X X X X X X X X X X	-	MAR-MAY	-	-
	Northern right whale	E LOW	X X X	-	-	-	-
	Pacific white-sided dolphin	LOW	X X X X X X X X X X X	-	-	-	-
	Risso's dolphin	LOW	X X X X X X X X X X X	-	-	-	-
	Sea lions	LOW-MODERATE	X X X X X X X X X X X	-	-	-	-
	Sea otter	T LOW	X X X X X X X X X X X	-	-	-	-
	Seals	LOW-MODERATE	X X X X X X X X X X X	-	-	-	-
	Short-beaked common dolphin	LOW	X X X X X X X X X X X	-	-	-	-
	Short-finned pilot whale	LOW	X X X X X X X X X X X	-	-	-	-
676	Harbor porpoise	8500 INDIV.	X X X X X X X X X X X	JUL-SEP	JUN-AUG	-	-
680	Blue whale	E LOW	X X X X X X	-	-	-	-
	Humpback whale	E MODERATE	X X X X X X X X X	-	-	-	-

REPTILE:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Hatching	Interesting	Juveniles	Adults
239	California red-legged frog	T	X X X X X	-	-	-	JUN-OCT	-
	San Francisco garter snake	E E	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
275	California red-legged frog	T	X X X X X X X X X X X	NOV-APR	-	-	JAN-DEC	JAN-DEC
	San Francisco garter snake	E E	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
286	San Francisco garter snake	E E	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle	E HIGH	X X X X X X	-	-	-	-	MAY-NOV
675	Leatherback sea turtle	E MODERATE	X X X X X X X	-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Keep aircraft away February-August (Seabird colony restoration).

AIRPORT:

HUN#	Name	Contact	Phone
5	HALF MOON BAY AIRPORT		

BEACH:

HUN#	Name	Contact	Phone
37	GRAY WHALE COVE STATE BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
128	PISCO:FITZGERALD MARINE RESERVE	PETE RAIMONDI, FITZGERALD MR	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
182	JAMES V. FITZGERALD - SMP	CDF&G	

MARINE SANCTUARY:

HUN#	Name	Contact	Phone
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

NATIONAL PARK:

HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700

PARK:

HUN#	Name	Contact	Phone
241	GRAY WHALE COVE SB	CA DEPT OF PARKS AND RECREATION	
242	HALF MOON BAY SB	CA DEPT OF PARKS AND RECREATION	
253	MONTARA SB	CA DEPT OF PARKS AND RECREATION	