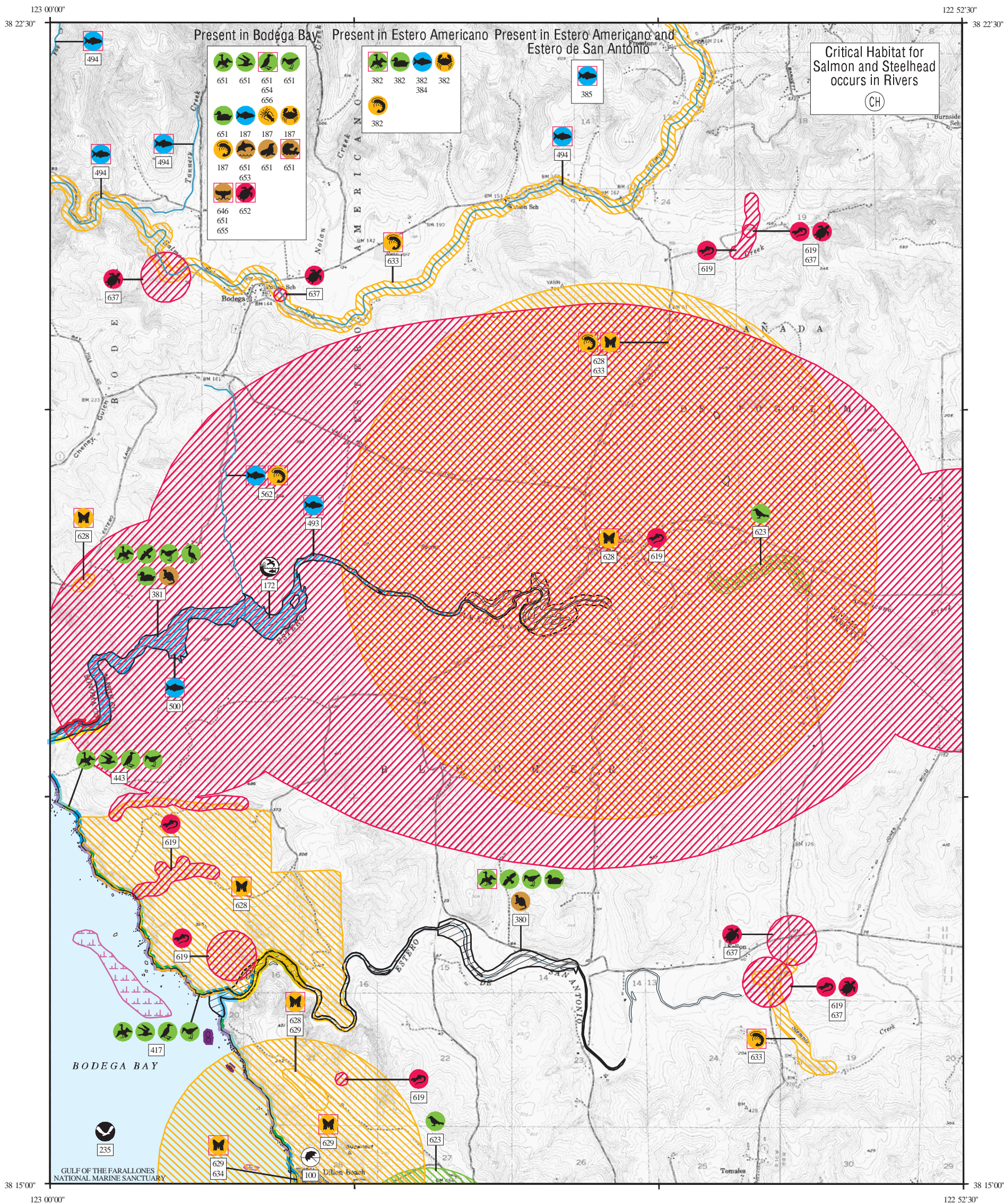
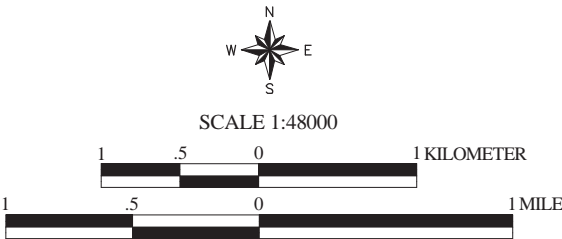


ENVIRONMENTAL SENSITIVITY INDEX MAP



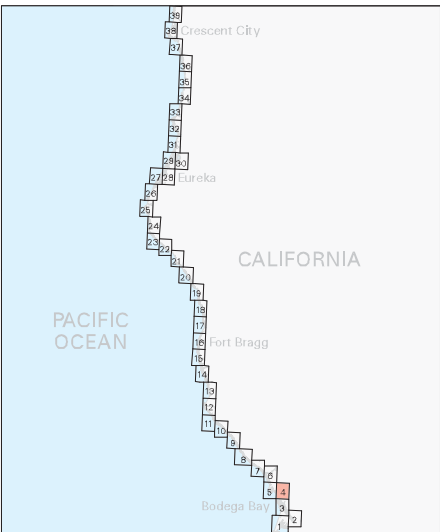
SHORELINE HABITATS (ESI)

- 1A EXPOSED ROCKY SHORES
- 1B EXPOSED, SOLID, MAN- MADE STRUCTURES
- 2A EXPOSED WAVE- CUT PLATFORMS IN BEDROCK
- 3A FINE- TO MEDIUM- GRAINED SAND BEACHES
- 3B SCARPS AND STEEP SLOPES IN SAND
- 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
- 9B VEGETATED LOW BANKS
- 10A SALT- AND BRACKISH- WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB- SHRUB WETLANDS



Not For Navigation
Published: November 2008

Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Emergency Response Division



Northern California: ESIMAP 4

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
380	Brown pelican	E E				X	X	X	X	X	X	X	X		-	-	-
	Dabbling ducks		X	X	X	X					X	X	X		-	-	-
	Diving ducks		X	X	X	X					X	X	X		-	-	-
	Northern harrier		X	X	X	X	X				X	X	X	X	-	-	-
	Sea ducks		X	X	X	X					X	X	X		-	-	-
	Shorebirds		X	X	X	X			X	X	X	X	X	X	-	MAR-APR JUL-OCT	-
381	American avocet		X	X	X	X	X			X	X	X	X	X	-	-	-
	American white pelican		X	X						X	X	X	X	X	-	-	-
	American wigeon		X	X	X	X					X	X	X		-	-	-
	Cinnamon teal		X	X	X						X	X	X	X	-	-	-
	Double-crested cormorant		X	X				X	X	X	X	X	X	X	-	-	-
	Dunlin	HIGH	X	X	X	X	X				X	X	X		-	-	-
	Great blue heron		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Great egret		X	X	X					X	X	X	X	X	-	-	-
	Greater yellowlegs		X	X	X	X	X				X	X	X	X	-	-	-
	Green-winged teal		X	X	X	X					X	X	X	X	-	-	-
	Killdeer		X	X	X	X					X	X	X	X	-	-	-
	Least sandpiper	HIGH	X	X	X	X				X	X	X	X	X	-	-	-
	Long-billed curlew		X	X	X	X			X	X	X	X	X	X	-	-	-
	Mallard		X	X	X						X	X	X		-	-	-
	Marbled godwit		X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Northern harrier		X	X	X	X	X				X	X	X	X	-	-	-
	Sanderling		X	X	X	X	X			X	X	X	X	X	-	-	-
	Semipalmated plover				X	X	X			X	X	X	X		-	-	-
	Short-billed dowitcher				X	X		X	X						-	-	-
	Snowy egret		X	X	X	X			X	X	X	X	X	X	-	-	-
	Tundra swan		X	X									X		-	-	-
	Western sandpiper	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Whimbrel			X	X	X			X	X	X				-	-	-
	Willet	HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-
382	Brown pelican	E E				X	X	X	X	X	X	X	X		-	-	-
	Bufflehead	HIGH	X	X	X	X					X	X			-	-	-
	Common goldeneye		X	X	X	X					X	X	X		-	-	-
	Greater scaup		X	X	X	X					X	X	X		-	-	-
	Ruddy duck		X	X	X	X					X	X	X		-	-	-
	Surf scoter		X	X	X	X				X	X	X	X		-	-	-
417	Black oystercatcher	3 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	-	-
	Brandt's cormorant	8 NESTS		X	X	X	X	X	X	X	X				MAR-AUG	-	-
	Double-crested cormorant	16 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Pelagic cormorant	143 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Pigeon guillemot	20 INDIV.			X	X	X	X	X	X	X				MAY-AUG	-	-
	Western gull	32 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
443	Black oystercatcher	5 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	-	-
	Pelagic cormorant	84 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Pigeon guillemot	25 INDIV.		X	X	X	X	X	X	X	X				MAY-AUG	-	-
	Western gull	14 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
623	Tricolored blackbird		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
651	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		-	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					-	-	-
	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	-
654	Marbled murrelet	E T MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
656	Sooty shearwater	MODERATE		X	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
187	Bat ray				X	X	X	X	X	X	X	X	X		-	-	-	MAR-NOV	MAR-NOV
	Black rockfish		X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	-	JAN-MAY	JAN-DEC	JAN-DEC
	Black-and-yellow rockfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	MAR-MAY	JAN-DEC	JAN-DEC
	Blue rockfish		X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	-	JAN-DEC	JAN-DEC
	Bocaccio		X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	JAN-MAY	FEB-MAY	JAN-DEC	JAN-DEC
	Brown rockfish		X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-	JAN-DEC	JAN-DEC
	Brown smoothhound		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	JAN-DEC	JAN-DEC
	Cabezon		X	X	X	X	X	X	X	X	X	X	X	X	OCT-MAR	OCT-APR	OCT-APR	JAN-DEC	JAN-DEC
	California halibut		X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	JAN-SEP	JAN-SEP	JAN-DEC	FEB-OCT
	California skate		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Canary rockfish (orange)		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-MAR	DEC-APR	JAN-DEC	JAN-DEC
	Chilipepper		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JUN	NOV-JUN	JAN-JUN	JAN-DEC	JAN-DEC
	China rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUL	-	-	JAN-DEC	JAN-DEC
	Chinook salmon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coho salmon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Copper rockfish		X	X	X	X	X	X	X	X	X	X	X	X	FEB-APR	FEB-APR	FEB-APR	JAN-DEC	JAN-DEC
	English sole		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Grass rockfish		X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	DEC-MAR	JAN-JUN	JAN-DEC	JAN-DEC
	Gray smoothhound				X	X	X	X							-	-	-	-	JUN-SEP
	Green sturgeon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Jacksmelt		X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-DEC	JAN-DEC	JAN-DEC
	Kelp greenling		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	-	-	JAN-DEC	JAN-DEC
	Leopard shark		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	JAN-DEC	OCT-JUN
	Lingcod		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-FEB	FEB-APR	JAN-DEC	JAN-DEC
	Longnose skate		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Monkeyface pricklyback		X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Northern anchovy				X	X	X	X	X						-	-	JUN-SEP	JUN-NOV	JUN-OCT
	Pacific herring		X	X	X	X	X	X	X		X	X			NOV-MAR	NOV-MAR	NOV-MAR	MAR-AUG	NOV-MAR
	Pacific sanddab		X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	-	-	JAN-DEC	JAN-DEC
	Pacific sardine				X	X	X								-	-	-	-	JUN-AUG
	Quillback rockfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-	JAN-DEC	JAN-DEC
	Rock greenling		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Sand sole		X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUL	-	-	JAN-DEC	JAN-DEC
	Sandpaper skate		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Sevengill shark				X	X	X	X	X	X	X	X			-	-	-	-	MAR-NOV

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 impacts to protected species.

Northern California: ESIMAP 4 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH: (cont.)

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
187	Sixgill shark		X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	-	-	JAN-DEC	JAN-DEC
	Speckled sanddab		X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	-	AUG-DEC	JAN-DEC	JAN-DEC
	Spiny dogfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	JAN-DEC	JAN-DEC
	Starry flounder		X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	-	-	JAN-DEC	JAN-DEC
	Steelhead		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Striped surfperch		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	Topsmelt		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	MAY-AUG	JAN-DEC	JAN-DEC
	Vermilion rockfish		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	-	-	JAN-DEC	JAN-DEC
	Yellowtail rockfish		X	X	X	X	X	X	X	X	X	X	X	X	JAN-JUL	JAN-JUL	JAN-JUL	JAN-DEC	JAN-DEC
382	Arrow goby		X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	English sole		X	X	X	X	X	X	X	X	X	X	X	X	-	-	DEC-MAY	JAN-DEC	-
	Jacksmelt		X	X	X	X	X	X	X	X	X	X	X	X	JAN-AUG	JAN-AUG	JAN-DEC	JAN-DEC	JAN-DEC
	Northern anchovy		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	JAN-DEC	JAN-DEC
	Pacific sanddab		X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	-	-	JAN-DEC	JUL-SEP
	Pacific staghorn sculpin		X	X	X	X	X	X	X	X	X	X	X	X	OCT-MAR	OCT-APR	OCT-APR	JAN-DEC	JAN-DEC
	Shiner surfperch							X	X	X	X	X	X	X	APR-NOV	-	-	APR-NOV	APR-NOV
	Starry flounder		X	X	X	X	X	X	X	X	X	X	X	X	-	-	FEB-NOV	JAN-DEC	JAN-DEC
	Striped bass							X	X	X	X	X	X	X	-	-	-	-	MAY-SEP
	Surf smelt		X	X	X	X	X	X	X	X	X	X	X	X	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Threespine stickleback		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUN	MAR-AUG	JUN-MAR	JAN-DEC
	Topsmelt		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JUL	MAY-AUG	JAN-DEC	JAN-DEC
384	Pacific herring		X	X	X	X	X	X	X	X			X	X	NOV-MAR	NOV-MAR	NOV-MAR	MAR-AUG	NOV-MAR
385	Tidewater goby	E	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
493	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	DEC-MAR
494	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-APR	JAN-MAY	JAN-DEC	DEC-MAR
500	Steelhead	T	X	X	X									X	-	-	-	-	DEC-MAR
562	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
187	California market squid		X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	APR-NOV	APR-JAN	JAN-DEC	JAN-DEC
	Dungeness crab		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	MAR-SEP	JUN-SEP	JAN-DEC
	Ocean pink shrimp		X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	OCT-APR	MAR-JUL	JAN-DEC	JAN-DEC
	Spot prawn		X	X	X	X	X	X	X	X	X	X	X	X	SEP-APR	SEP-APR	SEP-APR	JAN-DEC	JAN-DEC
382	California bay shrimp		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Dungeness crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	APR-JUN	JAN-DEC	JAN-DEC
562	California freshwater shrimp	E E	X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	JAN-DEC	JAN-DEC
628	Myrtle's silverspot	E	X	X	X	X			X	X	X	X	X	X	AUG-SEP	AUG-NOV	MAR-MAY	-	AUG-SEP
629	San Bruno elfin butterfly	E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
633	California freshwater shrimp	E E	X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	JAN-DEC	JAN-DEC
634	Globose dune beetle		X	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
646	Gray whale		X	X	X	X	X						X	X	-	DEC-FEB	-	-
651	Bottlenose dolphin	LOW	X	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	X	-	-	-	-
	Fin whale	E LOW	X	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	X	-	-	-	-
	Long-beaked saddleback dolphin	LOW	X	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	X	-	MAR-MAY	-	-
	North Pacific right whale	E LOW				X	X	X							-	-	-	-
	Pacific white-sided dolphin	LOW	X	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	X	-	-	-	-
	Sea lions	LOW-MODERATE	X	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	X	-	-	-	-
	Seals	LOW-MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Short-beaked saddleback dolphin	LOW	X	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	X	-	-	-	-
653	Harbor porpoise	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
655	Blue whale	E LOW						X	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
619	California red-legged frog		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
637	Northwestern pond turtle		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	JAN-DEC	JAN-DEC
652	Leatherback sea turtle	E HIGH					X	X	X	X	X	X	X	X	-	-	-	-	MAY-NOV

TERRESTRIAL MAMMAL:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D
380	Northern river otter		X	X	X	X	X	X	X	X	X	X	X	X
381	Northern river otter		X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

BEACH:

HUN#	Name	Contact	Phone
100	DILLON BEACH	CDFG	

ESSENTIAL HABITAT:

HUN#	Name	Contact	Phone
172	ESSENTIAL FISH HABITAT HAPC - SEAGRASS	PACIFIC STATES MARINE FISHERIES COMMISSION	

MARINE SANCTUARY:

HUN#	Name	Contact	Phone
235	GULF OF THE FARALLONES NMS	NOAA	415/561-6622