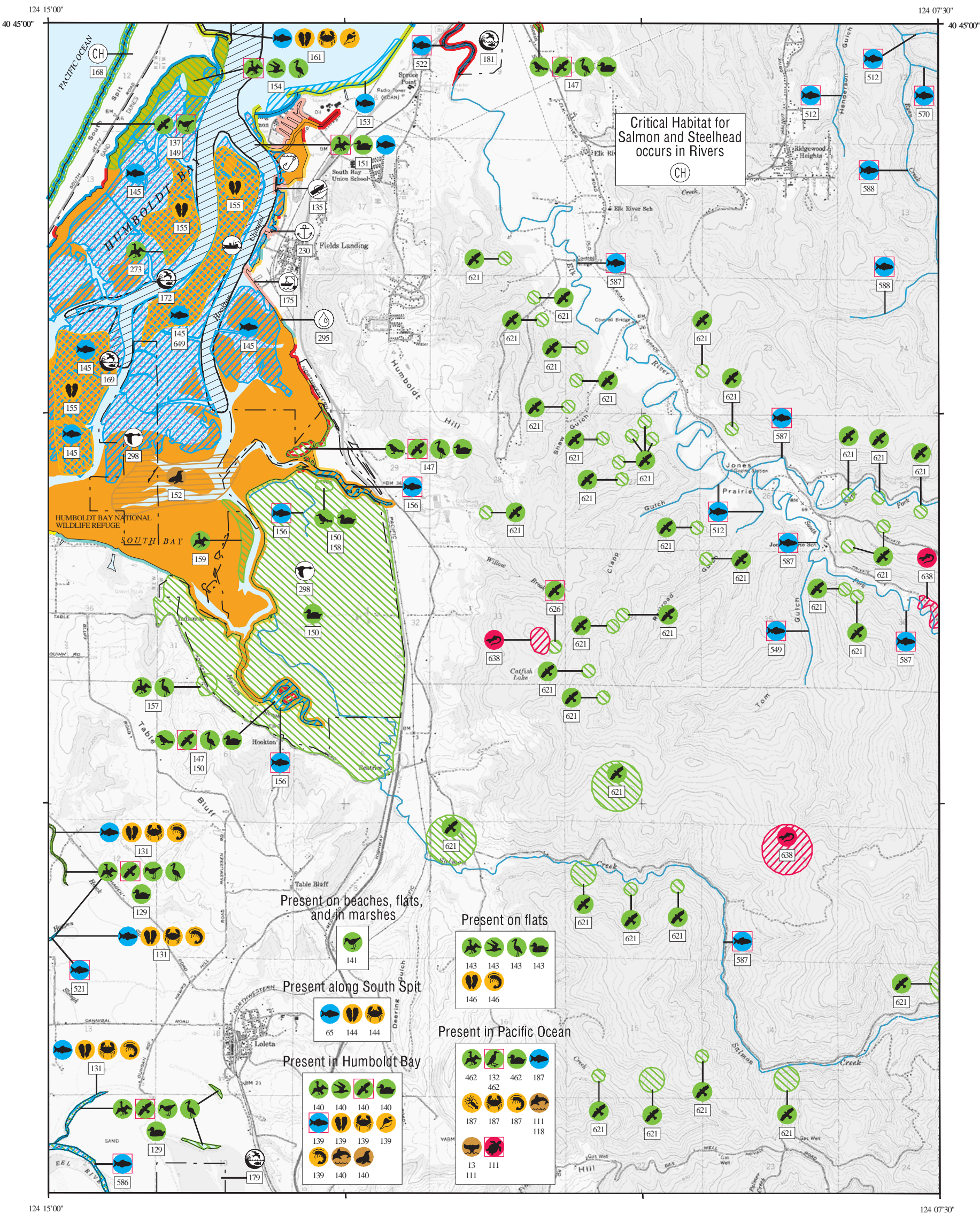
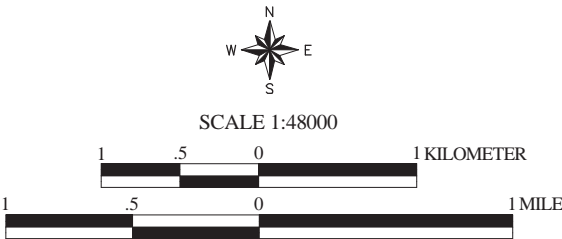


ENVIRONMENTAL SENSITIVITY INDEX MAP



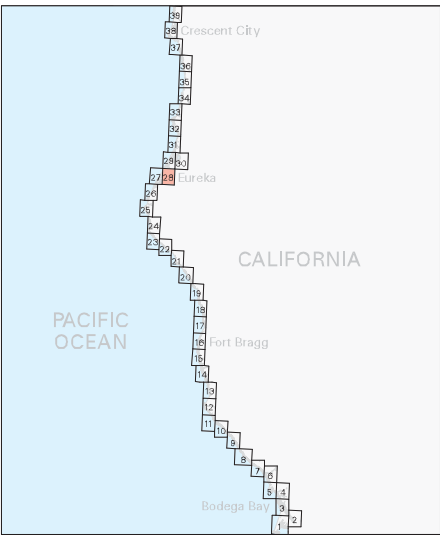
SHORELINE HABITATS (ESI)

- 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



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Northern California: ESIMAP 28

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
129	American peregrine falcon	E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brant		X	X	X	X									-	-	-
	Clark's grebe		X	X	X	X					X	X	X		-	-	-
	Common loon		X	X	X	X	X				X	X	X	X	-	-	-
	Common merganser		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Eared grebe		X	X	X	X					X	X	X	X	-	-	-
	Horned grebe		X	X	X	X					X	X	X		-	-	-
	Merlin		X	X	X	X	X				X	X	X	X	-	-	-
	Osprey		X	X	X	X	X	X	X	X	X	X	X		FEB-AUG	-	-
	Pacific loon				X	X	X				X	X			-	-	-
	Red-breasted merganser		X	X	X	X	X				X	X			-	-	-
	Red-throated loon		X	X	X	X	X				X	X			-	-	-
	Shorebirds	HIGH	X	X	X	X		X	X	X	X	X	X	X	-	MAR-APR JUL-OCT	-
	Wading birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Western grebe		X	X	X	X					X	X	X	X	-	-	-
132	Marbled murrelet	E T MODERATE			X	X	X	X	X	X	X	X			-	-	-
137	Western snowy plover	T 4-8 BIRDS	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
140	American peregrine falcon	E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	American wigeon		X	X	X	X					X	X	X		-	-	-
	Brant	1500-20000	X	X	X	X					X	X			-	-	-
	Bufflehead		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	X	X	X	-	-	-
	Greater scaup		X	X	X	X					X	X	X		-	-	-
	Green-winged teal		X	X	X	X					X	X	X	X	-	-	-
	Mallard		X	X	X						X	X	X		-	-	-
	Northern pintail		X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Northern shoveler		X	X	X	X					X	X	X	X	-	-	-
	Osprey		X	X	X	X	X	X	X	X	X	X			FEB-AUG	-	-
	Red-breasted merganser		X	X	X	X	X				X	X			-	-	-
	Ruddy duck		X	X	X	X					X	X	X		-	-	-
141	American avocet	1000S	X	X	X	X	X			X	X	X	X	X	-	-	-
	Black turnstone	100S	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-bellied plover	1000S	X	X	X	X	X			X	X	X	X	X	-	-	-
	Dunlin	10,000S	X	X	X	X	X				X	X	X		-	-	-
	Greater yellowlegs	100S	X	X	X	X	X				X	X	X	X	-	-	-
	Least sandpiper	10,000S	X	X	X	X					X	X	X	X	-	-	-
	Long-billed curlew	1000S	X	X	X	X		X	X	X	X	X	X	X	-	-	-
	Long-billed dowitcher	100S	X	X	X	X					X	X	X		-	-	-
	Marbled godwit	10,000S	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sanderling	1000S	X	X	X	X	X				X	X	X	X	-	-	-
	Semipalmated plover	1000S			X	X	X				X	X	X	X	-	-	-
	Short-billed dowitcher	1000S			X	X		X	X						-	-	-
	Western sandpiper	>100,000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Whimbrel	100S		X	X	X		X	X	X					-	-	-
	Willet	10,000S	X	X	X	X		X	X	X	X	X	X	X	-	-	-
143	Black-crowned night-heron		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Canada goose		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
	Cattle egret		X	X	X						X	X	X		-	-	-
	Cormorants		X	X	X	X	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	X	X	X	X	-	-	-
	Gulls		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Snowy egret		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Terns		X	X	X	X	X	X	X	X	X	X	X		-	-	-
147	American kestrel		X	X	X						X	X	X		-	-	-
	American peregrine falcon	E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Bald eagle	E	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Belted kingfisher		X	X	X	X	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	X	X	X	MAR-JUN	-	-
	Red-shouldered hawk		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Red-tailed hawk		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	-	-	-
149	Burrowing owl		X	X							X	X			-	-	-
150	Aleutian cackling goose		X	X	X	X									-	-	-
151	Brown pelican	E E			X	X	X	X	X	X	X	X			-	-	-
	Canvasback		X	X	X						X	X			-	-	-
	Common loon		X	X	X	X	X				X	X	X	X	-	-	-
	Eared grebe		X	X	X	X					X	X	X	X	-	-	-
	Horned grebe		X	X	X	X					X	X	X		-	-	-
	Pacific loon				X	X	X				X	X			-	-	-
	Red-throated loon		X	X	X	X	X				X	X			-	-	-
	Redhead		X	X							X	X			-	-	-
	Surf scoter		X	X	X	X					X	X	X	X	-	-	-
	Western grebe		X	X	X	X	X				X	X	X	X	-	-	-
	White-winged scoter		X	X	X	X					X	X	X		-	-	-
154	Brown pelican	E E HIGH								X	X	X			-	-	-
	Elegant tern	HIGH				X	X	X	X	X	X	X			-	-	-
	Wading birds	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
157	Black-crowned night-heron		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
	Double-crested cormorant		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	Great blue heron		X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Great egret		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
	Snowy egret		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
	Wading birds	200	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
158	Band-tailed pigeon		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-
159	Double-crested cormorant		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
273	Double-crested cormorant	39 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
462	Black scoter		X	X	X	X					X	X			-	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X		-	-	-
	Clark's grebe		X	X	X	X					X	X	X		-	-	-
	Common loon		X	X	X	X	X				X	X	X	X	-	-	-
	Common murre		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Double-crested cormorant		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Eared grebe		X	X	X	X					X	X	X	X	-	-	-
	Horned grebe		X	X	X	X					X	X	X		-	-	-
	Pacific loon				X	X	X				X	X			-	-	-
	Pelagic cormorant		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Red-throated loon		X	X	X	X	X				X	X			-	-	-
	Surf scoter		X	X	X	X					X	X	X	X	-	-	-
	Western grebe		X	X	X	X	X				X	X	X	X	-	-	-
	White-winged scoter		X	X	X	X					X	X	X		-	-	-
621	Osprey		X	X	X	X	X	X	X	X	X	X	X		FEB-AUG	-	-
626	Bald eagle	E	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-

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 28 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
65	Night smelt		X	X	X	X	X	X	X	X					JAN-SEP	-	-	JAN-SEP	JAN-SEP
	Redtail surfperch		X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-	JAN-DEC	FEB-NOV
	Silver surfperch		X	X	X	X	X	X	X	X	X	X	X	X	SEP-OCT	-	JUN-AUG	JAN-DEC	JAN-DEC
	Striped surfperch		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	Surf smelt						X	X	X	X	X				MAY-OCT	-	-	MAY-OCT	MAY-OCT
	Walleye surfperch		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	APR-FEB	JAN-DEC
														NOV-DEC					
131	White seaperch		X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	-	-	JAN-DEC	JAN-DEC
	American shad					X	X	X	X	X	X	X			-	-	-	JUL-NOV	APR-JUL
	Bay goby		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Bay pipefish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Big skate		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Buffalo sculpin		X	X	X	X	X	X	X	X	X	X	X	X	JAN-MAY	-	-	JAN-DEC	JAN-DEC
	Cabazon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	California roach		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Coastrange sculpin		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	English sole		X	X	X	X	X	X	X	X	X	X	X	X	-	-	FEB-JUN	JAN-DEC	-
	Eulachon		X	X	X	X	X						X		-	JAN-MAY	FEB-JUN	-	DEC-MAY
	Green sturgeon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Jack mackerel		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Kelp greenling		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Longfin smelt		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	NOV-JAN	NOV-FEB	JAN-DEC	OCT-APR
	Night smelt		X	X	X	X	X	X	X	X					JAN-SEP	-	-	JAN-SEP	JAN-SEP
	Northern anchovy								X	X	X				-	-	-	JUL-SEP	JUL-SEP
	Pacific herring		X	X	X	X	X	X	X	X	X	X	X	X	JAN-FEB	JAN-FEB	JAN-APR	APR-OCT	SEP-APR
	Pacific lamprey		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	APR-JAN	JAN-DEC	JAN-DEC	JAN-DEC
	Pacific sand lance		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-APR	JAN-DEC	JAN-DEC
	Pacific staghorn sculpin		X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	DEC-FEB	SEP-MAR	JAN-DEC	JAN-DEC
	Pacific tomcod		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Prickly sculpin		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Redtail surfperch		X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-	JAN-DEC	FEB-NOV
	Ringtail snailfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Saddleback gunnel		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-DEC	JAN-DEC
	Shiner surfperch					X	X	X	X	X	X	X	X	X	MAY-JUL	-	-	MAY-DEC	APR-OCT
	Speckled sanddab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Starry flounder		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Striped surfperch		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	Surf smelt		X	X	X	X	X	X	X	X	X	X	X	X	-	-	OCT-MAR	JAN-DEC	MAY-OCT
	Threespine stickleback		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	JUN-SEP	JUN-DEC	JAN-DEC
	Topsmelt					X	X	X	X	X	X				APR-JUN	APR-JUN	APR-JUL	MAR-OCT	MAR-OCT
139	Arrow goby		X	X	X	X	X	X	X	X	X	X	X	X	AUG-OCT	AUG-OCT	AUG-DEC	JAN-DEC	JAN-DEC
	Bay goby		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Black rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	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		-	-	-	SEP-JUN	SEP-JUN
	Brown rockfish		X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-	JAN-DEC	JAN-DEC
	Cabazon		X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	-	JAN-DEC	JAN-DEC
	Chinook salmon	T				X	X	X	X	X	X	X	X	X	-	-	-	MAR-NOV	JUL-DEC
	Coastal cutthroat trout					X	X	X			X	X	X		-	-	-	MAR-MAY	AUG-OCT
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	MAR-MAY	JAN-DEC
	Copper rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	English sole		X	X	X	X	X	X	X	X	X	X	X	X	-	-	FEB-JUN	JAN-DEC	-
	Grass rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Jacksmelt					X	X	X	X	X	X				APR-JUN	APR-JUN	APR-AUG	APR-OCT	APR-OCT
	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	DEC-JAN	DEC-JAN	JAN-FEB	JAN-DEC	JAN-DEC
	Longfin smelt		X	X	X	X	X	X	X	X	X	X	X	X	NOV-JAN	NOV-JAN	OCT-FEB	JAN-DEC	OCT-MAR
	Night smelt		X	X	X	X	X	X	X	X					JAN-SEP	-	-	JAN-SEP	JAN-SEP
	Northern anchovy								X	X	X				-	-	-	JUL-SEP	JUL-SEP
	Pacific sand lance		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-APR	JAN-DEC	JAN-DEC
	Pacific sardine		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Pacific staghorn sculpin		X	X	X	X	X	X	X	X	X	X	X	X	DEC-FEB	DEC-FEB	SEP-MAR	JAN-DEC	JAN-DEC
	Pile surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Redtail surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Rubberlip surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Saddleback gunnel		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			-	-	-	-	MAR-NOV
	Shiner surfperch	VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	MAY-DEC	JAN-DEC
	Silver surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	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
	Starry flounder		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Steelhead	T	X	X	X	X							X		-	-	-	MAR-MAY	DEC-MAR
	Striped surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Surf smelt		X	X	X	X	X	X	X	X	X	X	X	X	-	-	OCT-MAR	JAN-DEC	JAN-DEC
	Threespine stickleback		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUN-SEP	JUL-DEC	JAN-DEC
	Topsmelt		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Walleye surfperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	APR-FEB	JAN-DEC
	White croaker					X	X	X	X	X					-	-	-	APR-SEP	APR-SEP
	White seaperch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
145	Bay pipefish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
151	Bat ray					X	X	X	X	X	X	X			-	-	-	MAR-NOV	MAR-NOV
	California halibut		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Green sturgeon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Leopard shark		X	X	X	X	X	X	X	X	X	X	X	X	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Sevengill shark					X	X	X	X	X	X	X			-	-	-	-	MAR-NOV
	Spiny dogfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
153	Surfperch	HIGH				X	X	X							APR-JUN	-	-	APR-JUN	APR-JUN
156	Tidewater goby	E	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
161	Black rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAY	JAN-DEC	JAN-DEC
	Blue rockfish		X	X	X	X				X	X	X			-	-	-	SEP-JUN	SEP-JUN
	Brown rockfish		X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-	JAN-DEC	JAN-DEC
	Cabazon		X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	-	JAN-DEC	JAN-DEC
	Copper rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Grass rockfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Kelp greenling		X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	-	-	JAN-DEC	JAN-DEC
	Lingcod		X	X	X	X	X	X	X	X	X	X	X	X	DEC-JAN	DEC-JAN	JAN-FEB	JAN-DEC	JAN-DEC
	Monkeyface prickleback		X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Pacific halibut		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Rock greenling		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
187	Bat ray					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</														

Northern California: ESIMAP 28 (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	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
	Cabazon		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														-	-	-	-	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 prickleback		X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Northern anchovy														-	-	JUN-SEP	JUN-NOV	JUN-OCT
	Pacific herring		X	X	X	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														-	-	-	-	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														-	-	-	-	MAR-NOV
	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
512	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	DEC-JUN	DEC-JUL	JAN-DEC	OCT-JUN
521	Chinook salmon	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-SEP	SEP-FEB
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-FEB	NOV-APR	FEB-JUN	JAN-DEC	SEP-JAN
	Tidewater goby	E	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
522	Chinook salmon	T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-FEB	NOV-APR	JAN-SEP	AUG-JAN
	Coastal cutthroat trout		X	X	X	X	X	X	X	X	X	X	X	X	DEC-APR	JAN-APR	-	JAN-DEC	SEP-FEB
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-FEB	NOV-APR	FEB-JUN	JAN-DEC	SEP-JAN
	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	DEC-JUN	DEC-JUL	JAN-DEC	OCT-JUN
	Tidewater goby	E	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
549	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	OCT-JUN
570	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	OCT-JUN
586	Chinook salmon	T	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-SEP	SEP-FEB
	Coastal cutthroat trout		X	X	X	X	X	X	X	X	X	X	X	X	DEC-APR	JAN-APR	-	JAN-DEC	SEP-FEB
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-FEB	NOV-APR	FEB-JUN	JAN-DEC	SEP-JAN
	Tidewater goby	E	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
587	Chinook salmon	T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-JAN	OCT-FEB	NOV-APR	JAN-SEP	AUG-JAN
	Coastal cutthroat trout		X	X	X	X	X	X	X	X	X	X	X	X	DEC-APR	JAN-APR	-	JAN-DEC	SEP-FEB
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-FEB	NOV-APR	FEB-JUN	JAN-DEC	SEP-JAN
	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	DEC-JUN	DEC-JUL	JAN-DEC	OCT-JUN
588	Coastal cutthroat trout		X	X	X	X	X	X	X	X	X	X	X	X	DEC-APR	JAN-APR	-	JAN-DEC	SEP-FEB
	Coho salmon	T T	X	X	X	X	X	X	X	X	X	X	X	X	OCT-FEB	NOV-APR	FEB-JUN	JAN-DEC	SEP-JAN
	Steelhead	T	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAY	DEC-JUN	DEC-JUL	JAN-DEC	OCT-JUN
649	Pacific herring	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	DEC-MAR	JAN-MAY	APR-OCT	NOV-APR

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
131	Bay mussel		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brown rock crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	California bay shrimp		X	X	X	X	X	X	X	X	X	X	X	X	DEC-AUG	DEC-AUG	DEC-SEP	JAN-DEC	JAN-DEC
	Dungeness crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	JAN-DEC	JAN-DEC
	Lined shore crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Red rock crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Softshell clam		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	MAY-SEP	JAN-DEC	JAN-DEC
	Yellow shore crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
139	Brown rock crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	California bay shrimp		X	X	X	X	X	X	X	X	X	X	X	X	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Dungeness crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	JAN-DEC	JAN-DEC
	Geoduck		X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	JAN-DEC	JAN-DEC
	Green crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Horseneck gaper		X	X	X	X	X	X	X	X	X	X	X	X	FEB-APR	-	-	JAN-DEC	JAN-DEC
	Lewis's moonsnail		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Pacific gaper		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Red rock crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
144	Pacific razor clam	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	Pacific sand crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
146	California butterclam		X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	-	-	-	JAN-DEC
	Cockles		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Ghost shrimp		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Manila clam		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	JUN-AUG	JAN-DEC	JAN-DEC
	Pacific littleneck	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	MAR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Softshell clam		X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	APR-OCT	APR-OCT	JAN-DEC	JAN-DEC
	Washington butterclam		X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	-	-	-	JAN-DEC
155	Horseneck gaper	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	FEB-APR	-	-	JAN-DEC	JAN-DEC
	Pacific gaper	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Washington butterclam	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	-	-	-	JAN-DEC
161	Bay mussel		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Black tegula		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Brown tegula		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	California mussel		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	JAN-DEC	JAN-DEC
	California native oyster		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Lined shore crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Purple shore crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
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

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

Northern California: ESIMAP 28 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Mating	Calving	Pupping	Molting
13	Gray whale		X X X X X X X X X X X	-	DEC-FEB	-	-
111	Killer whale	LOW	X X X X X X X X X X X	-	-	-	-
	Minke whale	LOW	X X X X X X X X 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	-	-	-	-
	Short-finned pilot whale	LOW	X X X X X X X X X X X	-	-	-	-
118	Harbor porpoise	HIGH	X X X X X X X X X X X	JUL-SEP	JUN-AUG	-	-
140	California sea lion		X X X X X X X X X X X	-	-	-	-
	Harbor porpoise		X X X X X X X X X X X	JUL-SEP	JUN-AUG	-	-
152	Harbor seal	1045-1132 INDIV.	X X 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
111	Leatherback sea turtle	E VERY LOW	X X X X X X X X X	-	-	-	-	MAY-NOV
638	Northern red-legged frog		X X X X X X X X X X X	MAR-JUL	-	-	-	-

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
135	FIELDS LANDING WHARF	CDFG	

CRITICAL HABITAT:

HUN#	Name	Contact	Phone
168	WESTERN SNOWY PLOVER CRITICAL HABITAT	USFWS	707/822-7201

ESSENTIAL HABITAT:

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

HOIST:

HUN#	Name	Contact	Phone
175	HARBOR MARINE SERVICE WHARF	CDFG	

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
179	EEL RIVER WA	CDFG	707/445-6493
181	ELK RIVER WA	CDFG	707/445-6493

MARINA:

HUN#	Name	Contact	Phone
230	SOUTH BAY MARINA PIER	CDFG	

WATER INTAKE:

HUN#	Name	Contact	Phone
295	KUIPER MARICULTURE INC.	CDFG	

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
298	HUMBOLDT BAY NWR	USFWS	707/733-5406