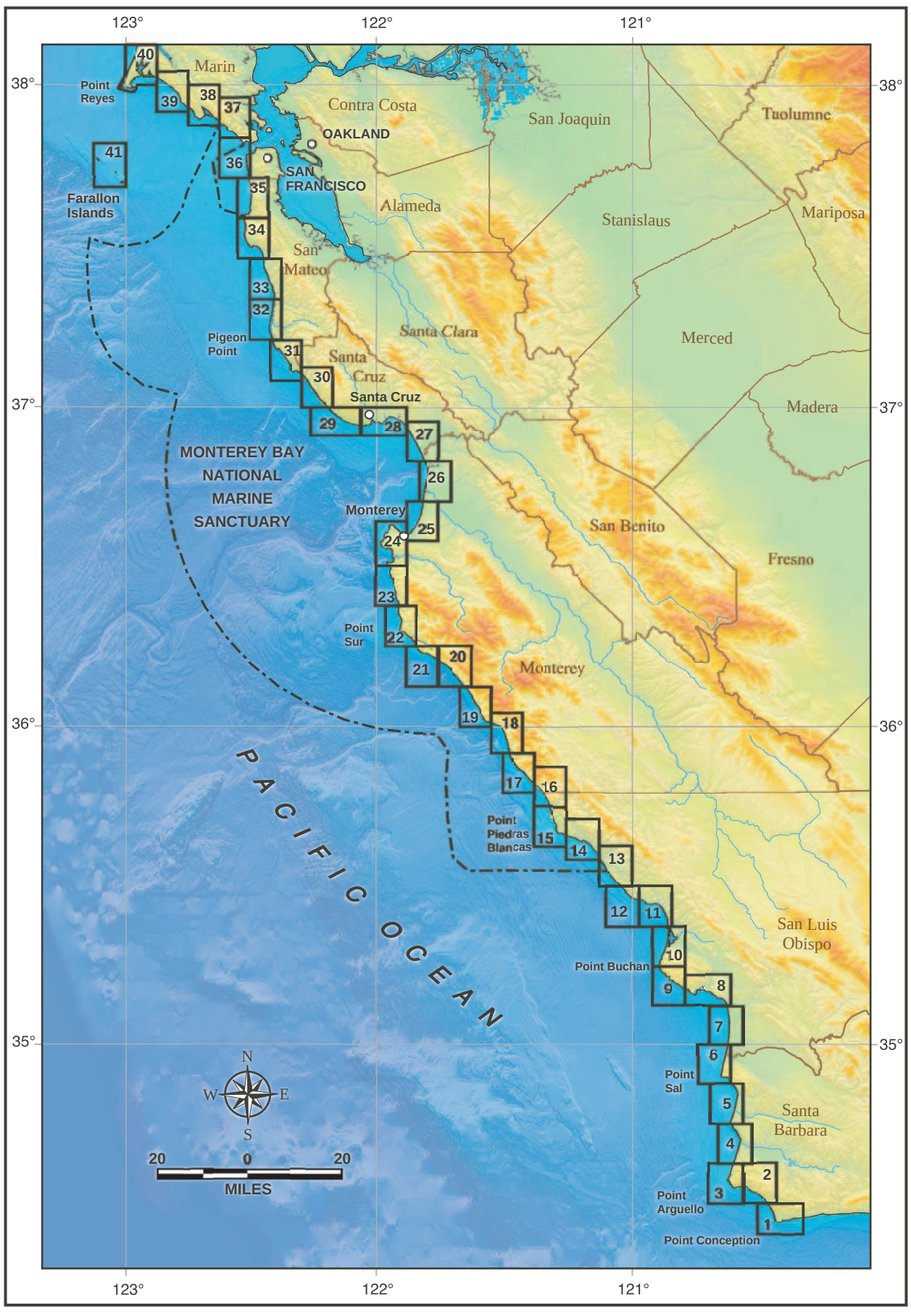
Sensitivity of Coastal Environments to Spilled Oil

CENTRAL CALIFORNIA

ATLAS



Supported by:

MONTEREY BAY
NATIONAL MARINE SANCTUARY
Sanctuary Integrated Monitoring Network (SIMoN)

Monterey, California

DEPARTMENT OF FISH AND GAME
Office of Spill Prevention and Response

Sacramento, California

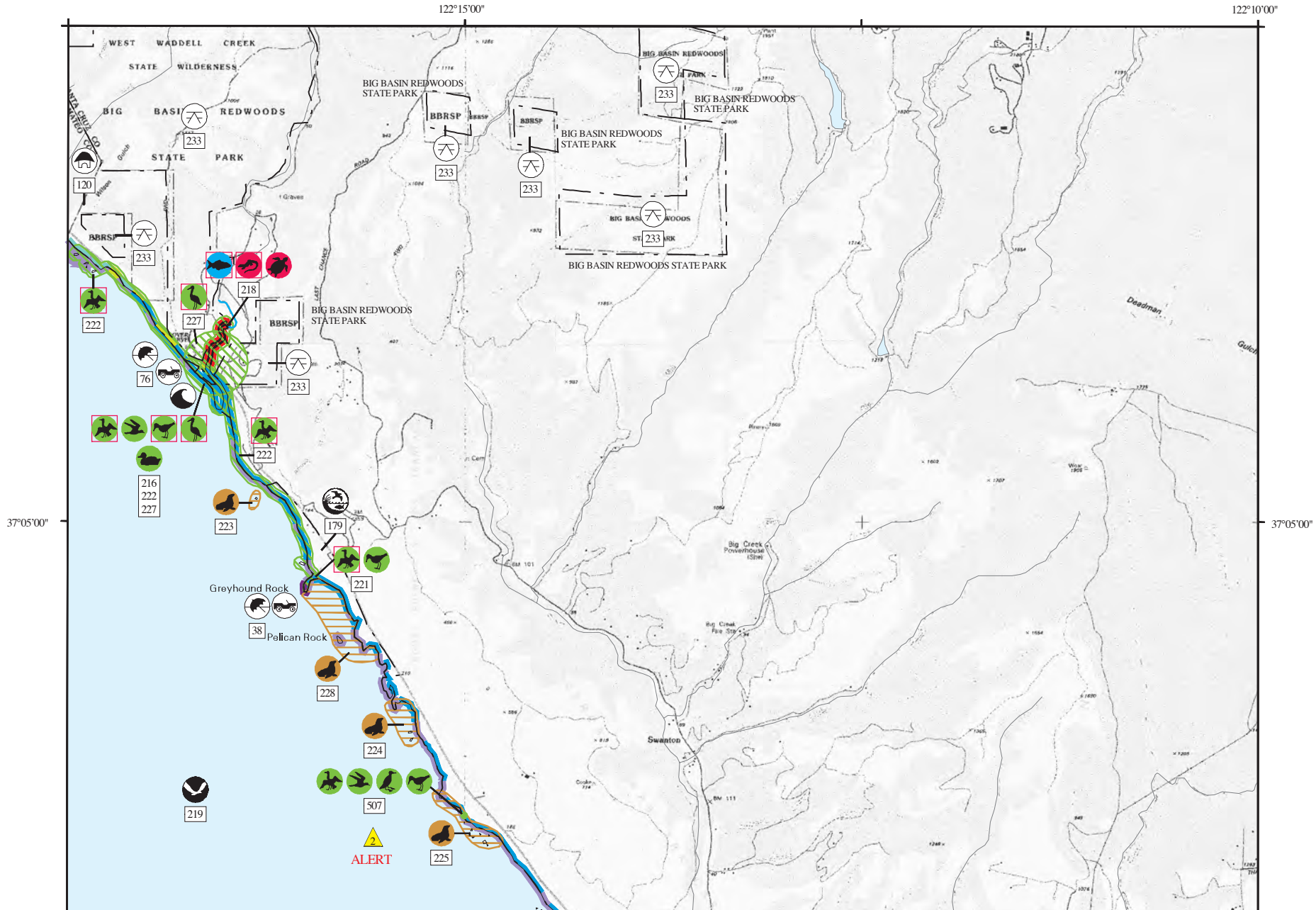
MONTEREY BAY
SANCTUARY FOUNDATION

Monterey, California

Prepared by: RESEARCH PLANNING, INC.
Columbia, South Carolina

May 2006

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
- 4 COARSE–GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
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- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
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- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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Monterey Bay National Marine Sanctuary
and
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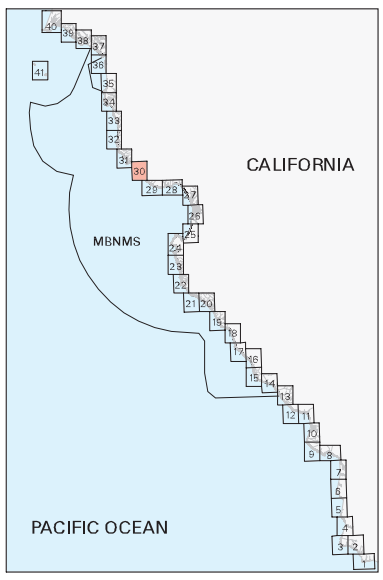
California Department of Fish and Game



Central California **ESI-30**

Central California: ESIMAP 30

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
122	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
153	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Western snowy plover		T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
208	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
216	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Waterfowl				X	X	X	X	X			X	X	X	X		-	-	-
	Western snowy plover		T	MEDIUM	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
221	Black oystercatcher				X	X	X					X	X	X	X		-	-	-
	Brown pelican	E	E	0-233 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
222	Brown pelican	E	E	0-215 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
227	California black rail	T			X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
229	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
415	Diving birds			8000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			1400 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			1300 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
494	Brandt's cormorant			308 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			313 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
507	Black oystercatcher			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			66 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			321 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
682	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X			-	-	APR-OCT
684	Cassin's auklet			MODERATE	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			HIGH	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	-
	Loons			MODERATE	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Pacific loon			MODERATE	X	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			MODERATE		X	X	X	X	X	X	X					-	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW-MODERATE	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			LOW	X	X	X	X					X	X	X		-	MAR-APR OCT-NOV	-
685	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-
687	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
76	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
218	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
219	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
220	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	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	-
427	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	X					-	-	-	-	APR-SEP

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				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
223	Harbor seal			4-8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
224	Harbor seal			62-92 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
225	Harbor seal			200-261 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
226	Harbor seal			6-22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
228	Northern elephant seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
666	Sea otter		T	50 INDEP / 7 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
677	Harbor porpoise			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
684	Blue whale		E	LOW						X	X	X	X	X			-	-	-	-
	Bottlenose dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dall's porpoise			MODERATE	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	-	-	-	-

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.

Central California: ESIMAP 30 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
684	Humpback whale		E	MODERATE			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 common dolphin			LOW	X	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	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	X	-	-	-	-
	Risso's dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			MODERATE	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 common 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	-	-	-	-
686	Harbor porpoise			1600 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
76	California red-legged frog		T							X	X	X	X	X			-	-	-	JUN-OCT	-
218	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	X	-	-	-	JAN-DEC	JAN-DEC
	Western pond turtle									X	X	X	X	X			-	-	-	JUN-OCT	-
219	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	X	-	-	-	JAN-DEC	JAN-DEC
220	California red-legged frog		T							X	X	X	X	X			-	-	-	JUN-OCT	-
674	Leatherback sea turtle		E	HIGH					X	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 out of kelp when transiting. Note potential presence of sea otters if operating outboard motor.
2	Harbor seal breeding area, March-July.
3	Snowy plovers, March-July, no vehicles without escort.

AQUACULTURE:

HUN#	Name	Contact	Phone
18	MONTEREY BAY SALMON AND TROUT PROJECT		
21	SILVERKING OCEANIC FARMS		

BEACH:

HUN#	Name	Contact	Phone
29	BONNY DOON BEACH		
33	DAVENPORT BEACH		
34	DAVENPORT LANDING BEACH		
38	GREYHOUND ROCK BEACH		
58	PANTHER BEACH		
69	SCOTT CREEK BEACH		
76	WADDELL CREEK STATE BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
120	PISCO:ANO NUEVO	PETE RAIMONDI	831/459-5674
148	PISCO:SCOTT CREEK	PETE RAIMONDI	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
179	GREYHOUND ROCK FA	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
233	BIG BASIN REDWOODS SP	CA DEPT OF PARKS AND RECREATION	

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.

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
- 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
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- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

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and
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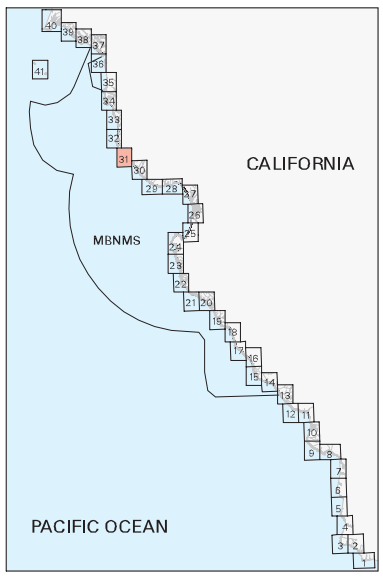
California Department of Fish and Game



Central California **ESI-31**

Central California: ESIMAP 31

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
122	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
230	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
231	Western snowy plover		T	MEDIUM	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
232	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
233	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
235	Brown pelican	E	E	1388-5229 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
236	Brown pelican	E	E	12-77 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
237	Brown pelican	E	E	38-1438 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
415	Diving birds			8000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			1400 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			1300 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
444	Black oystercatcher			27 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Cassin's auklet			24 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Double-crested cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Pelagic cormorant			13 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			117 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			224 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Western gull			1382 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
453	Marbled murrelet	E	T	600 INDIV.			X	X	X	X	X	X					-	-	-
502	Pigeon guillemot			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
566	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
586	Pelagic cormorant			114 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			102 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	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	-
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			-	-	APR-OCT
684	Cassin's auklet			MODERATE	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			HIGH	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	-
	Loons			MODERATE	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Pacific loon			MODERATE	X	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			MODERATE			X	X	X	X	X	X	X				-	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW-MODERATE	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			LOW	X	X	X	X					X	X	X		-	MAR-APR OCT-NOV	-
685	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-
687	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
238	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	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					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	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
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

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.

Central California: ESIMAP 31 (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
421	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	-
427	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	X					-	-	-	-	APR-SEP
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
72	Harbor seal			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
85	Pinnipeds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
120	Harbor seal			15 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
234	Harbor seal			36-43 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
235	California sea lion			2301-9439 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-JUL	-
	Harbor seal			84-98 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
	Northern elephant seal				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
	Steller sea lion		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
243	Harbor seal			87-232 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
244	Harbor seal			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
246	Northern elephant seal			10000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
665	Sea otter		T	6 INDEP / 1 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
666	Sea otter		T	50 INDEP / 7 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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		-	-	-	-
684	Blue whale		E	LOW						X	X	X	X	X	X		-	-	-	-
	Bottlenose dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dall's porpoise			MODERATE	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	-	-	-	-
	Humpback whale		E	MODERATE			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 common dolphin			LOW	X	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	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	X	-	-	-	-
	Risso's dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			MODERATE	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 common 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	-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
238	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	X	-	-	-	JAN-DEC	JAN-DEC
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	X	-	-	-	JAN-DEC	JAN-DEC
240	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Keep aircraft away year-round. Restrict all vehicles except with escorts.

SAMPLING SITE:

HUN#	Name	Contact	Phone
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622
139	PISCO:PIGEON POINT	PETE RAIMONDI	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
165	ANO NUEVO INVERTEBRATE AREA	CDF&G	
178	GAZOS CREEK FA	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
229	ANO NUEVO SP	CA DEPT OF PARKS AND RECREATION	
230	ANO NUEVO SR	CA DEPT OF PARKS AND RECREATION	
233	BIG BASIN REDWOODS SP	CA DEPT OF PARKS AND RECREATION	
235	BUTANO SP	CA DEPT OF PARKS AND RECREATION	

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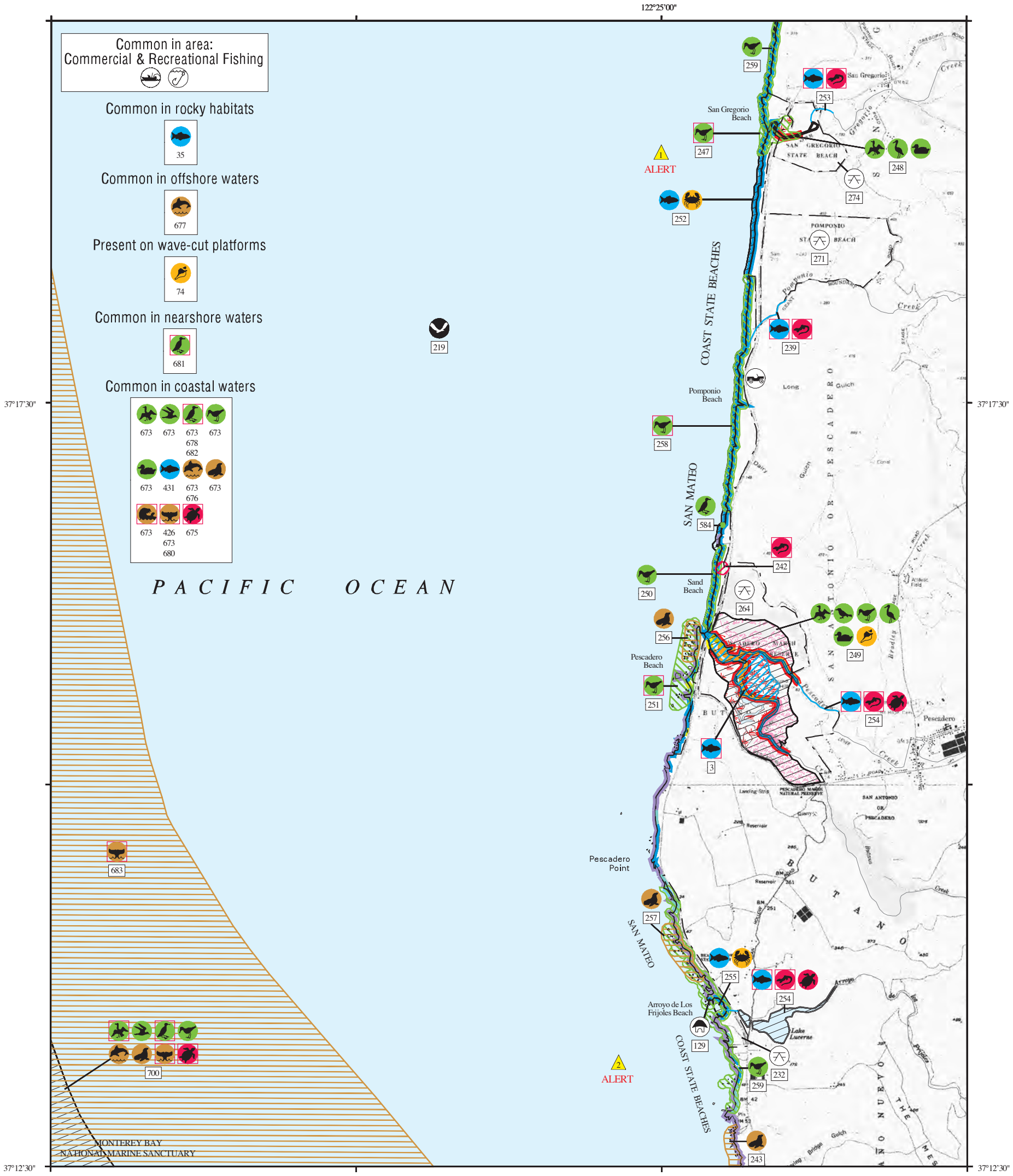
ENVIRONMENTAL SENSITIVITY INDEX MAP



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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

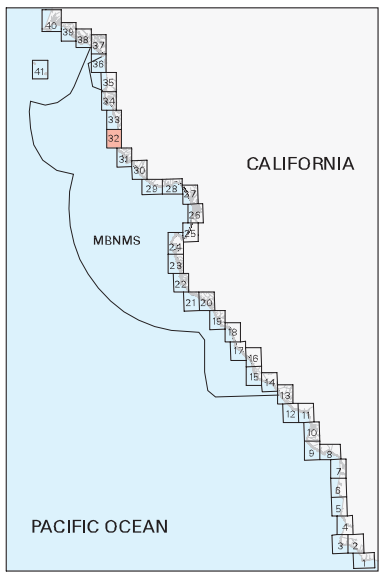
1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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



Central California **ESI-32**

Central California: ESIMAP 32

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
247	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
248	Diving birds				X	X	X	X	X			X	X	X	X		-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
249	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving birds				X	X	X	X	X			X	X	X	X		-	-	-
	Diving ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Shorebirds				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	FEB-AUG	-	-
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
251	Black oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
258	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
584	Pigeon guillemot			20 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	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	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			-	-	APR-OCT
700	Ashy storm-petrel			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X			X		-	-	-
	Brown pelican	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Common murre			HIGH	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	-	-	-
	Gulls			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Loons			LOW	X	X	X	X	X			X	X	X			-	OCT-MAY	-
	Pacific loon			LOW	X	X	X	X	X			X	X	X			-	OCT-MAY	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pigeon guillemot			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X			-	-	APR-OCT
	Storm-petrels			LOW			X	X	X	X	X	X	X	X			-	-	-
	Xantus' murrelet	T		LOW						X	X	X	X				-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
3	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
239	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
252	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	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	X							JAN-JUN	-	-	-	JAN-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
	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
253	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
254	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Pacific lamprey				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
255	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	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
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	White seabass							X	X	X	X	X	X	X	X		APR-AUG	-	-	-	MAR-NOV
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	X				-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
249	California brackishwater snail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
252	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
255	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
243	Harbor seal			87-232 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-

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.

Central California: ESIMAP 32 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
256	Harbor seal			54-77 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
257	Harbor seal			163-320 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				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	-	-
677	Harbor porpoise			MODERATE	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				-	-	-	-
	Humpback whale		E	MODERATE			X	X	X	X	X	X	X				-	-	-	-
683	Blue whale		E	HIGH					X	X	X	X	X				-	-	-	-
	Humpback whale		E	HIGH			X	X	X	X	X	X	X				-	-	-	-
700	Dall's porpoise			MODERATE	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		-	-	-	-
	Harbor porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X		JUL-SEP	JUN-AUG	-	-
	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								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X		-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X		-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X		-	-	-	-
	Sea lions			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		-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
242	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
253	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	X	-	-	-	JAN-DEC	JAN-DEC
254	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	X	-	-	-	JAN-DEC	JAN-DEC
	Western pond turtle									X	X	X	X	X			-	-	-	JUN-OCT	-
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X			-	-	-	-	MAY-NOV
700	Leatherback sea turtle		E	LOW					X	X	X	X	X	X			-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Snowy plovers, March-July, no vehicles without escort.
2	Harbor seal haulouts, pupping March-May.

SAMPLING SITE:

HUN#	Name	Contact	Phone
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622

MARINE SANCTUARY:

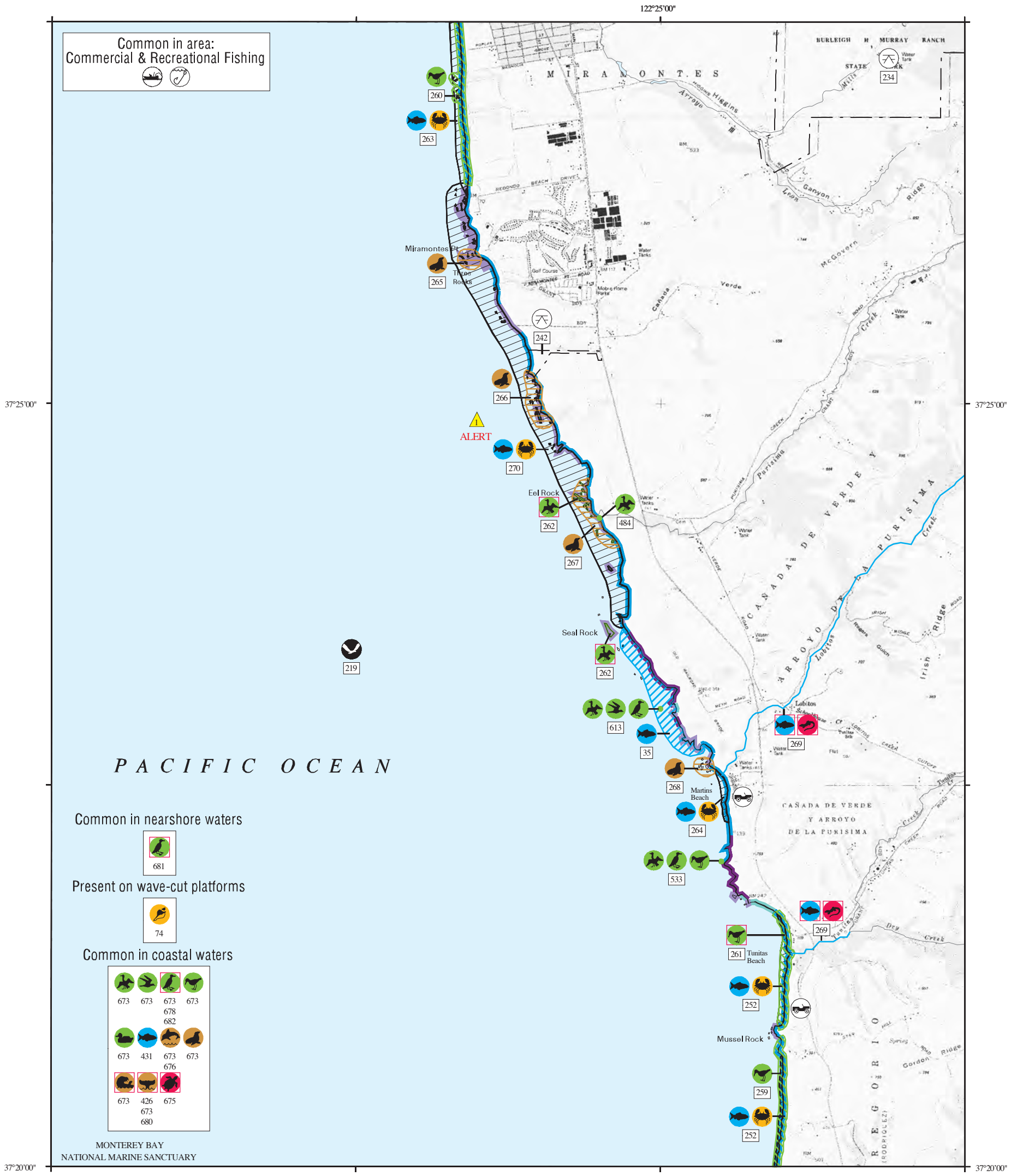
HUN#	Name	Contact	Phone
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

PARK:

HUN#	Name	Contact	Phone
232	BEAN HOLLOW SB	CA DEPT OF PARKS AND RECREATION	
264	PESCADERO SB	CA DEPT OF PARKS AND RECREATION	
271	POMPONIO SB	CA DEPT OF PARKS AND RECREATION	
274	SAN GREGORIO SB	CA DEPT OF PARKS AND RECREATION	

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

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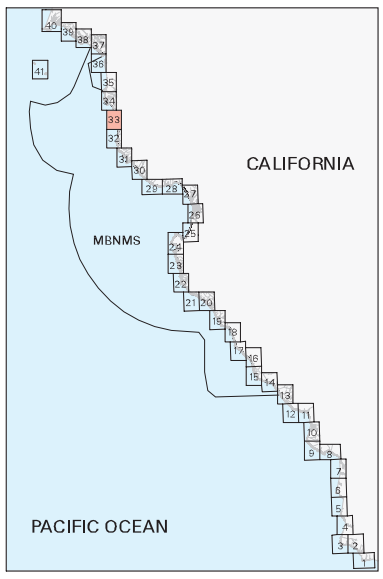


Central California **ESI-33**

Central California: ESIMAP 33

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
260	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
261	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
262	Brown pelican	E	E	64-218 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
484	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
533	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			108 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
613	Brandt's cormorant			37 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant			123 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			12 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
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				-	-	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
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
252	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	X							JAN-JUN	-	-	-	JAN-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
	Surf smelt						X	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	X		APR-AUG	-	-	-	MAR-NOV
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	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	X							JAN-JUN	-	-	-	JAN-JUN
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	Surf smelt						X	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	X		APR-AUG	-	-	-	MAR-NOV
264	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	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	X							JAN-JUN	-	-	-	JAN-JUN
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	Surf smelt						X	X	X	X	X	X					APR-SEP	-	-	-	APR-SEP
	White seabass						X	X	X	X	X	X	X	X	X		APR-AUG	-	-	-	MAR-NOV
269	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
270	Barred surfperch				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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	X				MAR-AUG	MAR-SEP	-	-	MAR-AUG
	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
	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 prickleback				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	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
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
252	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
263	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
264	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
270	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
265	Harbor seal			80-100 INDIV.	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.

Central California: ESIMAP 33 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
266	Harbor seal			139-273 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
267	Harbor seal			51-69 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
268	Harbor seal			27-41 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X						X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
269	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal breeding area, March-July.

MARINE SANCTUARY:

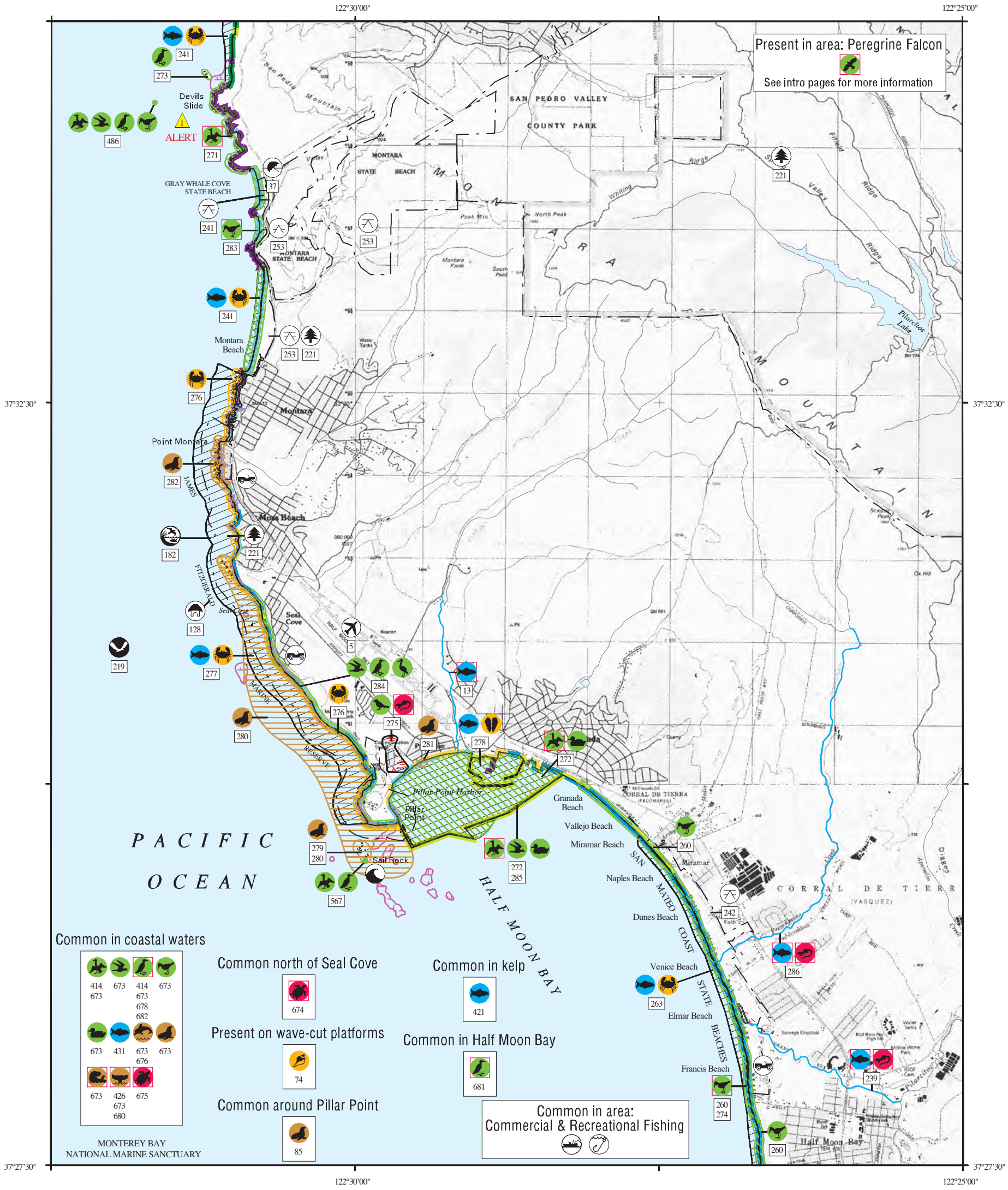
HUN#	Name	Contact	Phone
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

PARK:

HUN#	Name	Contact	Phone
234	BURLEIGH H. MURRAY RANCH	CA DEPT OF PARKS AND RECREATION	
242	HALF MOON BAY SB	CA DEPT OF PARKS AND RECREATION	

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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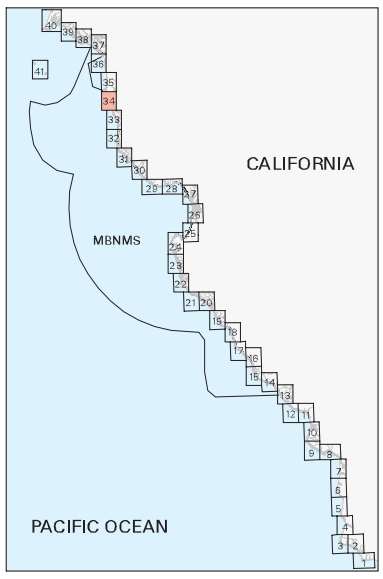
Monterey Bay National Marine Sanctuary
and
Office of Spill Prevention and Response
California Department of Fish and Game



Central California **ESI-34**

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	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	X	-	-	-
	Diving ducks			HIGH	X	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						FEB-AUG	-	-
	Seabirds			800 INDIV.		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	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	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				-	-	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	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	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	X							JAN-JUN	-	-	-	JAN-JUN
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	Surf smelt						X	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	X		APR-AUG	-	-	-	MAR-NOV
277	Barred surfperch				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Cabezon				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	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 prickleback				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	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	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	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 impacts to 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				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
263	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
276	Tidepool invertebrates			HIGH	X	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	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	X	-	-	-	-
279	California sea lion			94 INDIV.	X	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	X	-	-	MAR-JUN	-
281	Harbor seal			9 INDIV.	X	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	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X						X	X	-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
275	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
286	San Francisco garter snake	E	E		X	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	X	-	-	-	-	MAY-NOV
675	Leatherback sea turtle		E	MODERATE						X	X	X	X	X	X	X	-	-	-	-	MAY-NOV

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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:

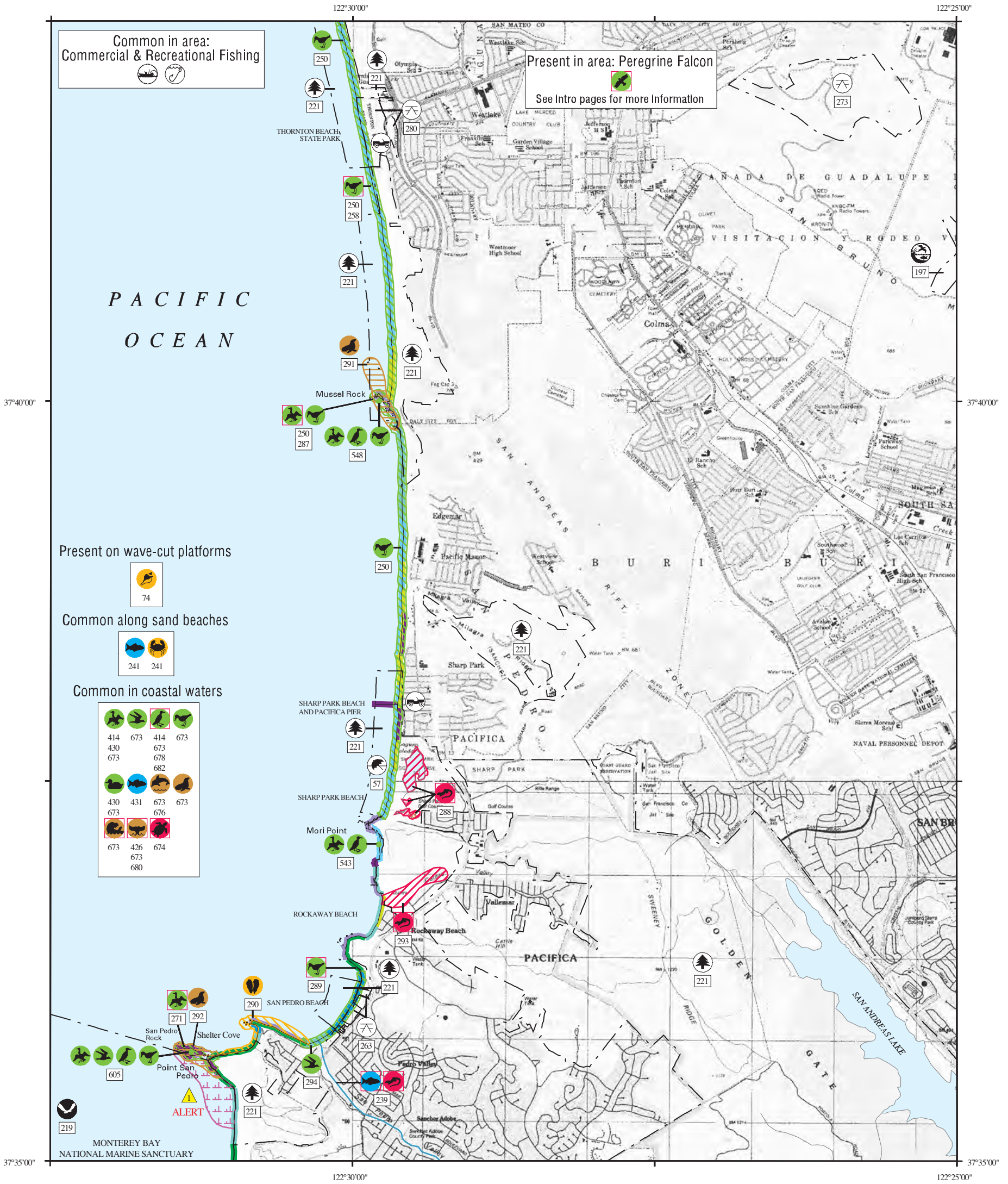
HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700

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	

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Central California **ESI-35**

Central California: ESIMAP 35

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
258	Western snowy plover		T		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	-
287	Brown pelican	E	E	0-40 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
289	Western snowy plover		T	MEDIUM	X	X	X	X			X	X	X	X	X	X	-	-	-
294	Gulls			HIGH	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	-	-
430	Grebes			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X					X	X	X	-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-DEC	-
543	Pelagic cormorant			31 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			18 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
548	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			10 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
605	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			70 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
678	Marbled murrelet	E	T	MODERATE	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				-	-	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
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	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
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
290	Pacific littleneck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	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
291	California sea lion			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
292	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
288	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
293	California red-legged frog		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle		E	HIGH					X	X	X	X	X	X			-	-	-	-	MAY-NOV

==========

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Keep all aircraft away, February-August.

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.

Central California: ESIMAP 35 (cont.)

HUMAN USE RESOURCES: (cont.)

BEACH:

HUN#	Name	Contact	Phone
57	PACIFICA STATE BEACHES		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
197	SAN BRUNO MOUNTAIN ER	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

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

NATIONAL PARK:

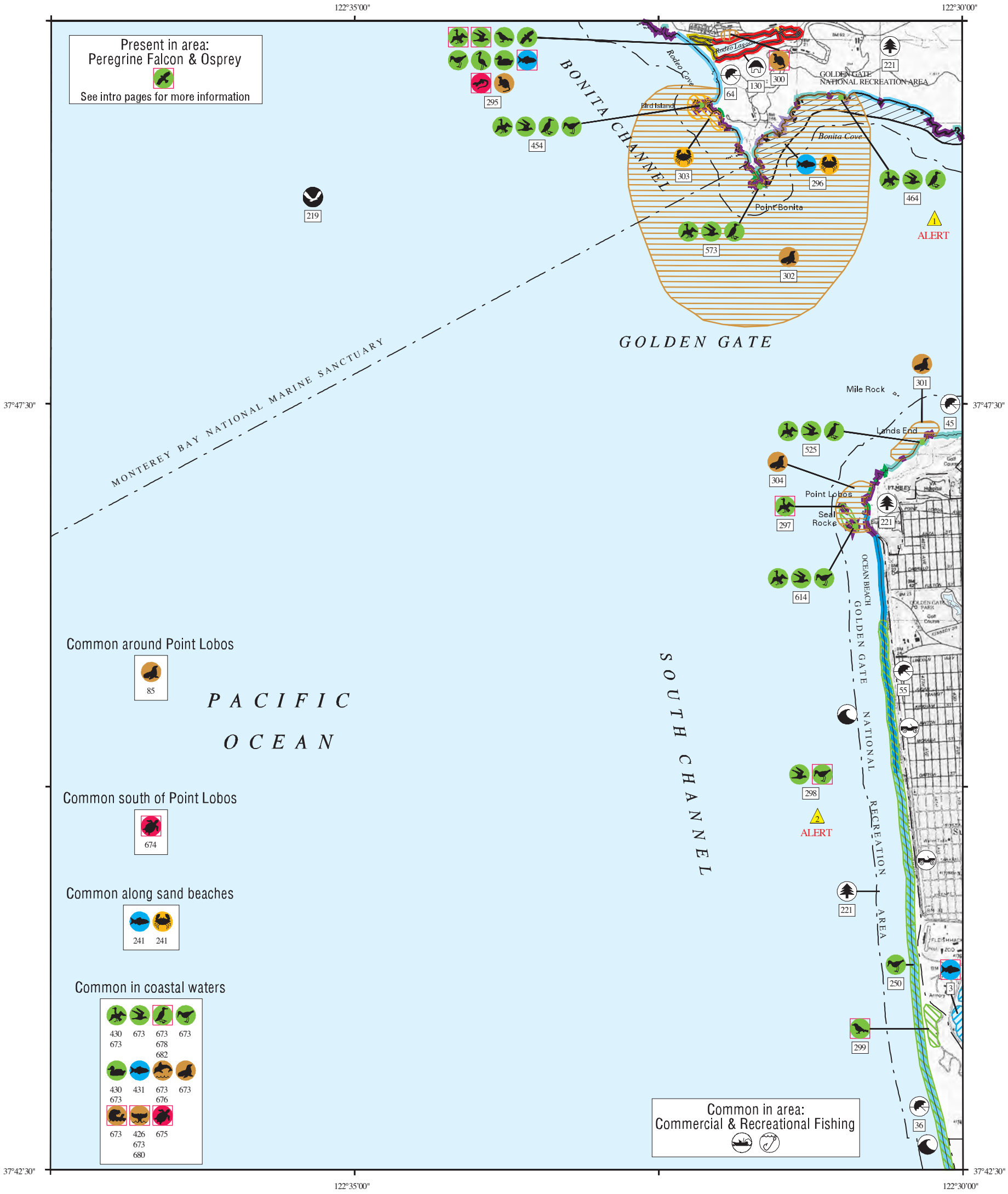
HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700

PARK:

HUN#	Name	Contact	Phone
263	PACIFICA SB	CA DEPT OF PARKS AND RECREATION	
273	SAN BRUNO MOUNTAIN SP	CA DEPT OF PARKS AND RECREATION	
280	THORNTON SB	CA DEPT OF PARKS AND RECREATION	

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N
W E
S

1 .5 0 1 KILOMETER
1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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Monterey Bay National Marine Sanctuary
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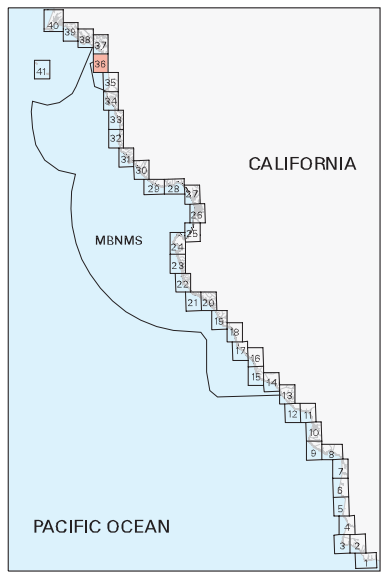
California Department of Fish and Game



Central California **ESI-36**

Central California: ESIMAP 36

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
295	Brown pelican	E	E	0-500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	California least tern	E	E					X	X	X	X	X	X				-	APR-SEP	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X	X	-	SEP-MAR	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Diving ducks				X	X	X	X	X			X	X	X	X	X	-	SEP-MAY	-
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Shorebirds				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	FEB-AUG	-	-
297	Brown pelican	E	E	13-1003 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
298	Gulls			1000S INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds			1000S INDIV.	X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Terns			COMMON								X	X	X	X		-	-	-
	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
299	Bank swallow	T					X	X	X	X	X	X					MAR-AUG	-	-
430	Grebes			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-DEC	-
454	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			5 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			56 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
464	Pelagic cormorant			2 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	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
525	Brandt's cormorant			117 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pigeon guillemot			18 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			14 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
573	Pelagic cormorant			95 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			66 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			10 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
614	Black oystercatcher			3 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			46 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	X		-	OCT-MAY	-
	Pelicans			MODERATE			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	-	-
682	Sooty shearwater			MODERATE		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
3	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
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	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
295	Striped bass				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	-	JAN-DEC
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
296	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
	Pacific herring			HIGH	X	X	X					X	X	X			OCT-MAR	-	-	-	OCT-MAR
	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	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
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	X					-	-	-	-	APR-SEP
	White shark				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
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
296	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
303	Tidepool invertebrates			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

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	X	-	-	-	-
301	Harbor seal			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
302	California sea lion			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Harbor seal			75-105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
304	California sea lion			311-402 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Harbor seal			75-105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-

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.

Central California: ESIMAP 36 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
295	California red-legged frog		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	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			-	-	-	-	MAY-NOV

TERRESTRIAL MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
295	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X
300	Salt-marsh harvest mouse	E	E		X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Colonial seabirds, keep aircraft away February-September.
2	Snowy plovers year-round, contact NPS for vehicle access.

BEACH:

HUN#	Name	Contact	Phone
36	FORT FUNSTON BEACH		
45	MILE ROCK BEACH		
55	OCEAN BEACH		
64	RECREATIONAL BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
130	PISCO:GGNRA	DARREN FONG	415/331-8716

MARINE SANCTUARY:

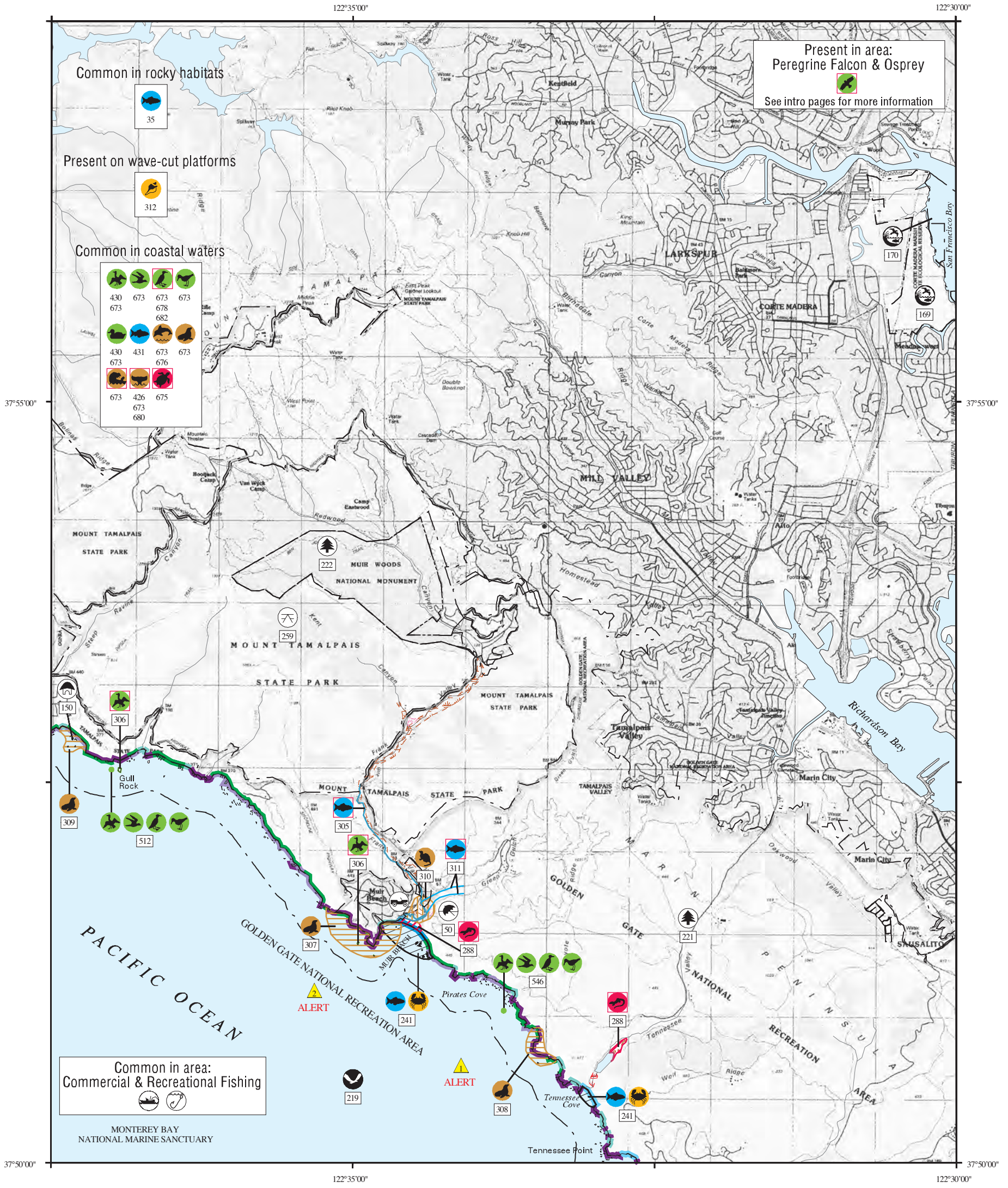
HUN#	Name	Contact	Phone
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

NATIONAL PARK:

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

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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Monterey Bay National Marine Sanctuary
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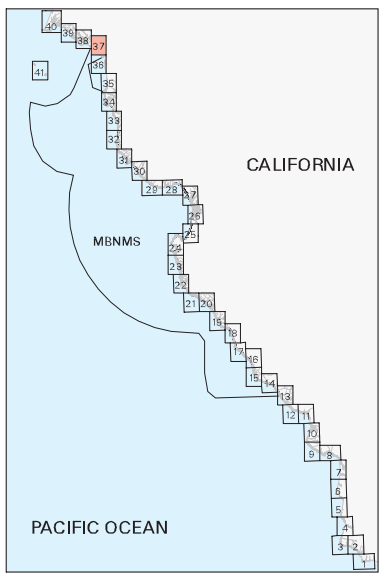
California Department of Fish and Game



Central California **ESI-37**

Central California: ESIMAP 37

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
306	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
430	Grebes			HIGH	X	X	X	X					X	X	X	X	-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X					X	X	X	-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X					X	X	X	X	-	MAR-APR SEP-DEC	-
512	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
546	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pelagic cormorant			42 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			34 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
678	Marbled murrelet	E	T	MODERATE	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			-	-	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
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
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						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
305	Coho salmon	E	E	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
311	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
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	X					-	-	-	-	APR-SEP
	White shark				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
241	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
312	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
307	California sea lion			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
308	Harbor seal			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
309	Harbor seal			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
288	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X			-	-	-	-	MAY-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.

Central California: ESIMAP 37 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

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

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal haul outs and colonial seabird nesting.
2	Potential peregrine falcon nesting around Muir Beach.

BEACH:

HUN#	Name	Contact	Phone
50	MUIR BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
150	PISCO:SLIDE RANCH	JAN ROLETTO	415/561-6622

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
169	CORTE MADERA MARSH - SMP	CDF&G	
170	CORTE MADERA MARSH NERR	CA DEPT OF FISH AND GAME	

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
222	MUIR WOODS NATIONAL MONUMENT	NATIONAL PARK SERVICE	

PARK:

HUN#	Name	Contact	Phone
259	MOUNT TAMALPAIS SP	CA DEPT OF PARKS AND RECREATION	

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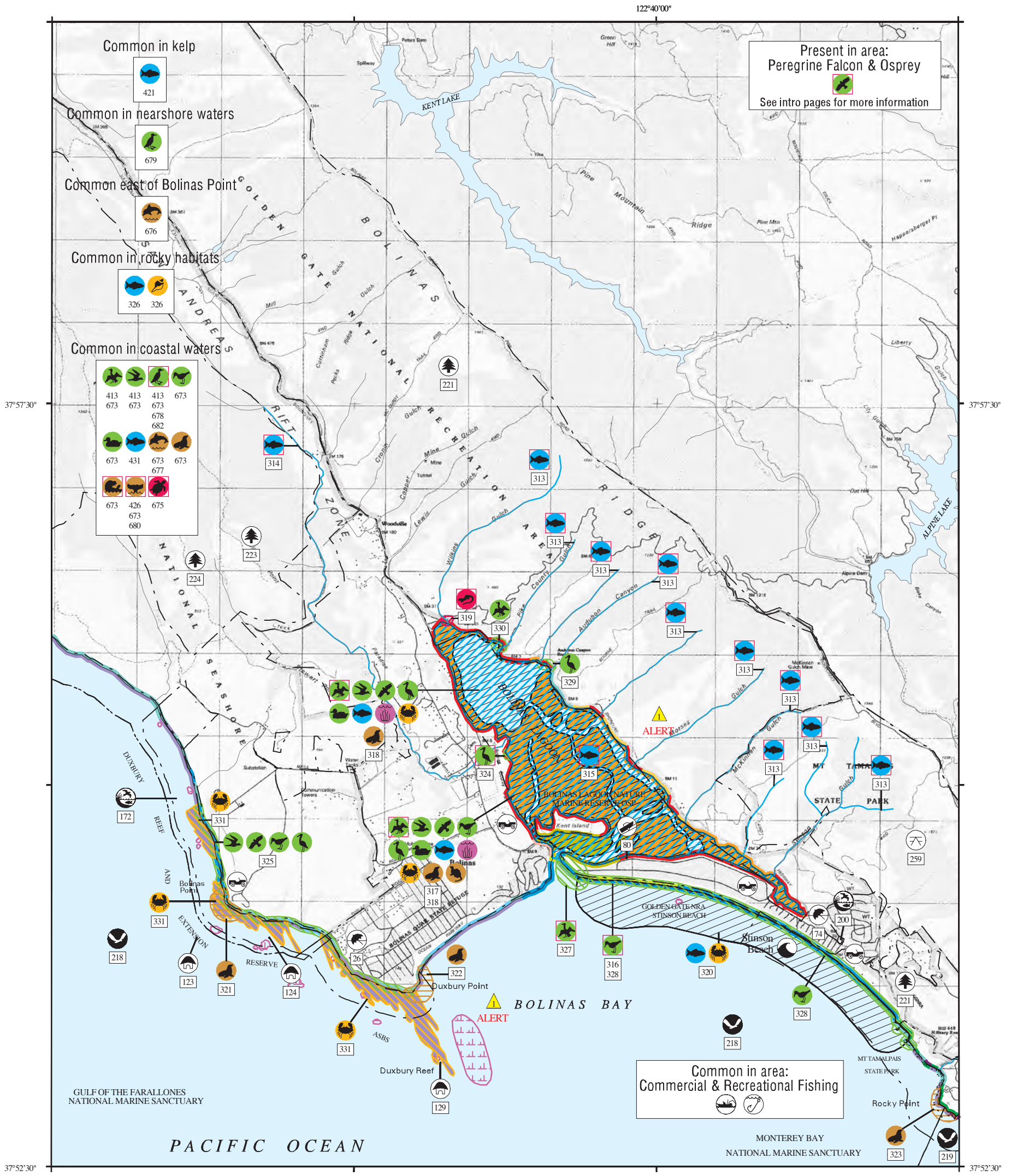
ENVIRONMENTAL SENSITIVITY INDEX MAP



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Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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and
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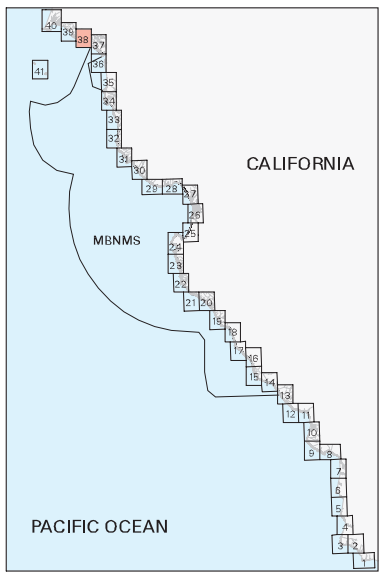
California Department of Fish and Game



Central California **ESI-38**

Central California: ESIMAP 38

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
316	Western snowy plover		T	MEDIUM	X	X	X	X			X	X	X	X	X	X	-	-	-
317	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
318	Brandt's cormorant			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E	17-5000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Diving ducks			HIGH	X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X	-	FEB-JUL	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Wading birds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
324	California black rail		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
325	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Shorebirds				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	-	-	-
327	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
328	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
329	Wading birds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
330	Double-crested cormorant			1 INDIV.	X	X	X	X	X			X	X	X	X		-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			300000 INDIV.		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	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	-
678	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
679	Sooty shearwater			HIGH					X	X	X	X					-	-	JUN-SEP
682	Sooty shearwater			MODERATE			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
313	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
314	Coho salmon	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
315	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-FEB
	Nursery fish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-APR
	Surfperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
318	Pacific herring			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	JAN-MAY	JAN-MAY	JAN-DEC	JAN-APR
320	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
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	White seabass					X	X	X	X	X	X	X	X	X			APR-AUG	-	-	-	MAR-NOV
326	Cabezon				X	X	X	X	X	X	X	X	X	X	X	X	OCT-APR	-	-	JAN-DEC	JAN-DEC
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Striped seaperch				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
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	X					-	-	-	-	APR-SEP
	White shark				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC

HABITAT:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
318	Eelgrass				X	X	X	X	X	X	X	X	X	X	X	X

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
318	Invertebrates				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
320	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
326	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
331	Invertebrates			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
318	Harbor seal			348-531 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
321	Harbor seal			45 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
322	Harbor seal			60-230 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
323	California sea lion			16 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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	-	-	-	-

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.

Central California: ESIMAP 38 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
673	Killer whale			LOW	X	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	X	-	-	-	-
	Minke whale			MODERATE	X	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	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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
677	Harbor porpoise			MODERATE	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
319	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					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
317	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X

==========

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal breeding area, March-July.

BEACH:

HUN#	Name	Contact	Phone
26	AGATE BEACH PARK		
74	STINSON BEACH		

BOAT RAMP:

HUN#	Name	Contact	Phone
80	BOAT RAMP		

SAMPLING SITE:

HUN#	Name	Contact	Phone
123	PISCO:BOLINAS POINT, NPS	PETE RAIMONDI	831/459-5674
124	PISCO:BOLINAS WRECK	PETE RAIMONDI	831/459-5674
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
172	DUXBURY REEF - SMCA	CDF&G	
200	STINSON BEACH	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

HUN#	Name	Contact	Phone
218	GULF OF THE FARALLONES NMS	NOAA	415/561-6622
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

NATIONAL PARK:

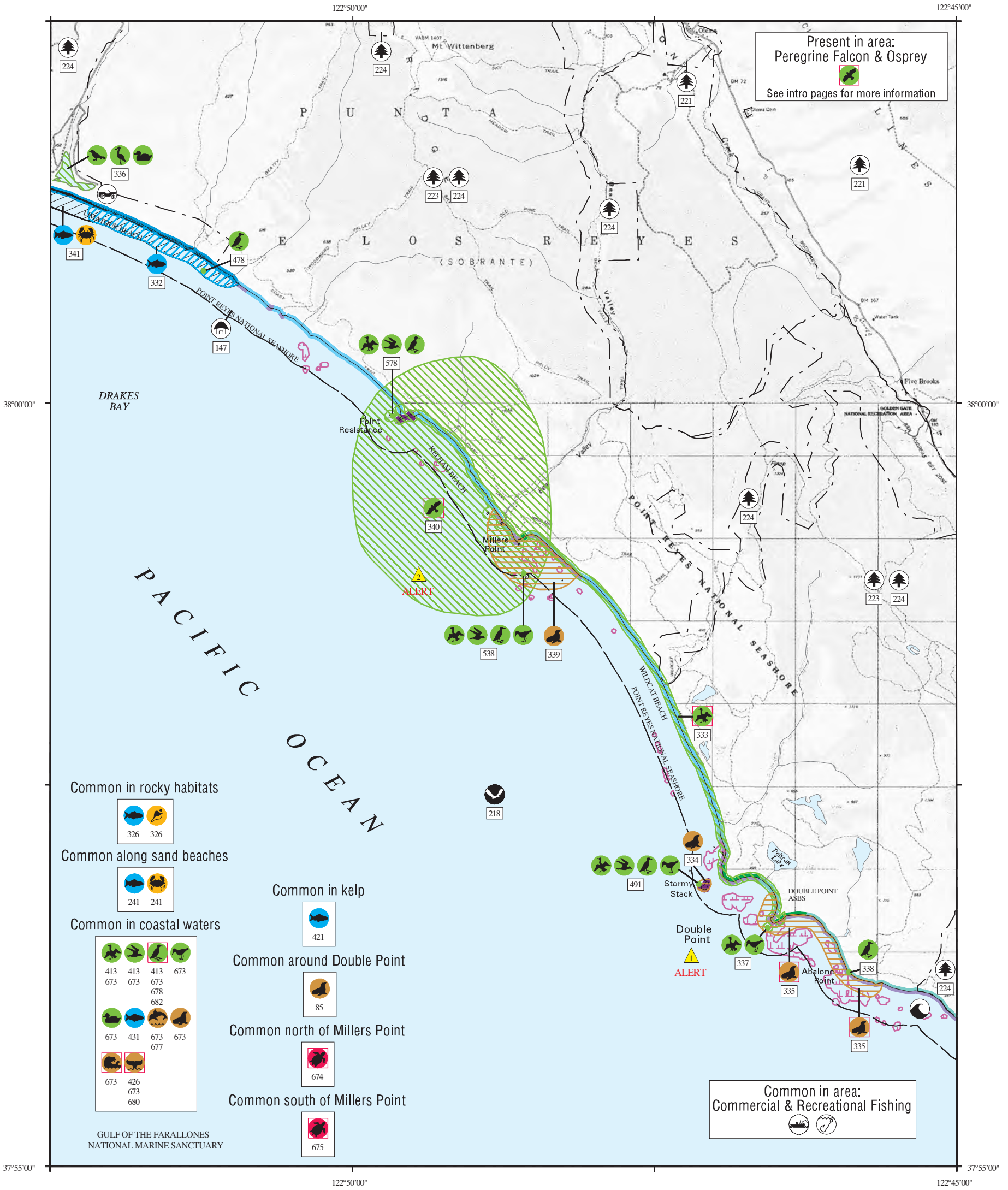
HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

PARK:

HUN#	Name	Contact	Phone
259	MOUNT TAMALPAIS SP	CA DEPT OF PARKS AND RECREATION	

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.

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N
W E
S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006

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and
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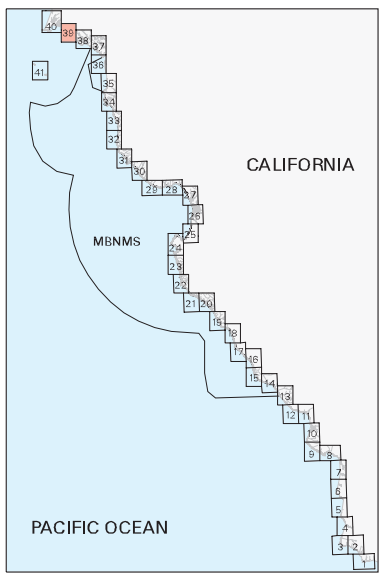
California Department of Fish and Game



Central California **ESI-39**

Central California: ESIMAP 39

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
333	Brown pelican	E	E	16-957 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
336	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
337	Black oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
338	Pigeon guillemot				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
340	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
478	Pigeon guillemot			63 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
491	Ashy storm-petrel			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			180 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			4464 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
538	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			114 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			358 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			59 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			55 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
578	Brandt's cormorant			46 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			3518 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			50 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
678	Marbled murrelet	E	T	MODERATE	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
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	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
326	Cabezon				X	X	X	X	X	X	X	X	X	X	X	X	OCT-APR	-	-	JAN-DEC	JAN-DEC
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Striped seaperch				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
332	Night smelt					X	X	X	X								FEB-JUN	-	-	-	FEB-JUN
	Surf smelt						X	X	X	X	X	X					APR-SEP	-	-	-	APR-SEP
341	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
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	White seabass						X	X	X	X	X	X	X	X			APR-AUG	-	-	-	MAR-NOV
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	X					-	-	-	-	APR-SEP
	White shark				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
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
326	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
341	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

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	X	-	-	-	-
334	California sea lion			94-300 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
335	Harbor seal			885-939 INDIV.	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.

Central California: ESIMAP 39 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
335	Steller sea lion		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
339	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X						X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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	Internesting	Juveniles	Adults
674	Leatherback sea turtle		E	HIGH				X	X	X	X	X	X	X	X		-	-	-	-	MAY-NOV
675	Leatherback sea turtle		E	MODERATE				X	X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Seabird colony and harbor seal breeding colony, keep aircraft away, March -July.
2	Seabird colony, keep helicopters away, March -July.

SAMPLING SITE:

HUN#	Name	Contact	Phone
147	PISCO:SANTA MARIA CREEK, NPS	PETE RAIMONDI	831/459-5674

MARINE SANCTUARY:

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

NATIONAL PARK:

HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

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.

ENVIRONMENTAL SENSITIVITY INDEX MAP

123°00'00" 122°55'00" 38°05'00" 38°00'00"

Present in area:
Peregrine Falcon & Osprey

See intro pages for more information

PACIFIC OCEAN

DRAKES BAY

POINT REYES NATIONAL SEASHORE

ESTERO DE LIMANTOUR RESERVE

TOMALES BAY STATE PARK

Abbotts Lagoon

Drakes Beach

POINT REYES HEADLAND RESERVE

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY

ALERT 5

ALERT 1

ALERT 1

ALERT 3

ALERT 4

ALERT 2

Common around headlands

363 363 85

Common in coastal waters

413 673 413 673 413 673 673 678 682 673 431 673 673 673 677 673 426 673 680 674

Common in area:
Commercial & Recreational Fishing

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

SCALE 1:55000

Not For Navigation

Published: May 2006

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

CALIFORNIA

MBNMS

PACIFIC OCEAN

Central California **ESI-40**

Central California: ESIMAP 40

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
336	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
346	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Geese				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-MAR	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
347	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
348	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
349	Brown pelican	E	E	108-288 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Seabirds			HIGH		X	X	X	X	X	X	X					FEB-AUG	-	-
350	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
351	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Ducks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	SEP-MAR	-
352	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brant			HIGH		X	X	X	X	X			X	X	X		-	FEB-JUN OCT-DEC	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X	-	FEB-JUL	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
353	Brown pelican	E	E	0-1000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
355	Shorebirds				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	-	-	-
359	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
579	Ashy storm-petrel			15 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			1522 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			15155 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			266 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			616 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Tufted puffin			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	-	-
	Western gull			178 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	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	-	-
682	Sooty shearwater			MODERATE		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
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	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	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
341	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
	Striped bass							X	X	X	X	X	X				-	-	-	MAY-SEP	MAY-SEP
	White seabass						X	X	X	X	X	X	X	X	X		APR-AUG	-	-	-	MAR-NOV
352	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
363	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
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	X					-	-	-	-	APR-SEP
	White shark				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC

HABITAT:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
358	Eelgrass				X	X	X	X	X	X	X	X	X	X	X	X

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
341	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

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.

Central California: ESIMAP 40 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
352	Pacific littleneck				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	JAN-DEC
357	Myrtle's Silverspot		E		X	X	X	X	X			X	X	X	X	X	AUG-SEP	AUG-NOV	MAR-MAY	-	AUG-SEP
360	Globose dune beetle				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
363	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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	X	-	-	-	-
350	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
352	Harbor seal			2000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
354	Northern elephant seal			2000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	-	DEC-MAR	MAY-JUN
361	California sea lion			11-1388 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Harbor seal			292-319 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
	Steller sea lion		T	0-13 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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	Internesting	Juveniles	Adults
351	California red-legged frog		T	100 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle		E	HIGH					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
352	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X
356	Point Reyes jumping mouse				X	X	X	X	X	X	X	X	X	X	X	X

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Snowy plovers, March-September, no vehicles without escort.
2	Colonial seabirds, keep aircraft away, March-August.
3	Seal and sea lion haul-outs and rookeries, no vehicles without escort along entire headlands.
4	Peregrine falcons nest along headlands.
5	Sensitive plant species present at high tide line and in dunes throughout area.

AQUACULTURE:

HUN#	Name	Contact	Phone
16	JOHNSON'S DRAKES BAY OYSTER CO.		415/669-1149

BEACH:

HUN#	Name	Contact	Phone
25	ABBOTTS BEACH		
35	DRAKES BEACH AND DRAKES BAY		
41	LIMANTOUR BEACH		
54	NORTH BEACH		
73	SOUTH BEACH		

BOAT RAMP:

HUN#	Name	Contact	Phone
79	BOAT RAMP		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
176	ESTERO DE LIMANTOUR - SMCA	CDF&G	
196	POINT REYES HEADLANDS - SMCA	CDF&G	

MARINE SANCTUARY:

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

NATIONAL PARK:

HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

PARK:

HUN#	Name	Contact	Phone
281	TOMALES BAY SP	CA DEPT OF PARKS AND RECREATION	

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.

ENVIRONMENTAL SENSITIVITY INDEX MAP

123°05'00" 123°00'00" 37°45'00" 37°40'00"

FARALLON ISLANDS

FARALLON NATIONAL WILDLIFE REFUGE AND WILDERNESS (ISLANDS ONLY)

FARALLON ISLANDS STATE GAME REFUGE

PACIFIC OCEAN

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY

North Farallon
353
551
Isle of St James
353
1
ALERT
364
177

2
ALERT
218

353
Middle Farallon

1
ALERT

623
366
367
365
Maintop Bay
Fisherman Bay
Southeast Farallon
Maintop Island
137
368
Seal Rock
369
370
177

Common around Southeast Farallon
371 371 371 85

Common in offshore waters
693 693 693 693
696
697
699
693 693 693
699

Common around Farallon Islands
413 413 413 700
700 700 700
700 700 700 700
701

Common in area:
Commercial & Recreational Fishing

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
- 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
- 10A SALT– AND BRACKISH–WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMPS
- 10D SCRUB–SHRUB WETLANDS

Prepared by: Research Planning, Inc.
Columbia, South Carolina

N W E S

1 .5 0 1 KILOMETER
1 .5 0 1 MILE

SCALE 1:50000

Not For Navigation

Published: May 2006
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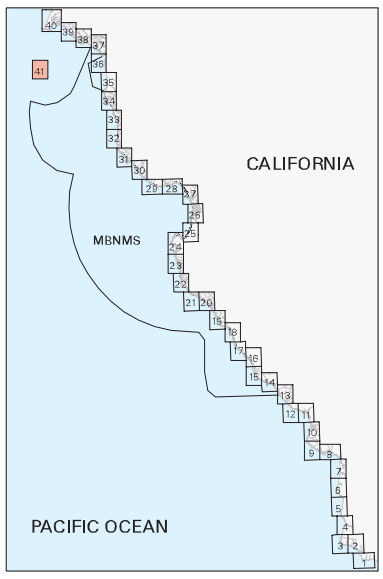
Monterey Bay National Marine Sanctuary
and
Office of Spill Prevention and Response
California Department of Fish and Game



Central California **ESI-41**

Central California: ESIMAP 41

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
370	Seabirds			HIGH		X	X	X	X	X	X						FEB-AUG	-	-
371	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
551	Brandt's cormorant			161 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			65000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			62 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			42 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			32 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
623	Ashy storm-petrel			1990 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			12000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Cassin's auklet			18807 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			103588 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Double-crested cormorant			486 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Leach's storm-petrel			1400 INDIV.		X	X	X	X	X	X	X	X	X	X	X	FEB-OCT	-	-
	Pelagic cormorant			442 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			1000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			516 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Tufted puffin			128 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	-	-
	Western gull			19000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
693	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X				X	-	-	-
	Common murre			LOW-MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUL-SEP
	Gulls			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Rhinoceros auklet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			LOW			X	X	X	X	X	X	X	X	X		-	-	APR-OCT
	Xantus' murrelet	T		MODERATE							X	X	X	X			-	-	-
696	Ashy storm-petrel			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Storm-petrels			MODERATE			X	X	X	X	X	X	X	X	X		-	-	-
697	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
700	Ashy storm-petrel			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X				X	-	-	-
	Brown pelican	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Common murre			HIGH	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	-	-	-
	Gulls			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Loons			LOW	X	X	X	X	X				X	X	X	X	-	OCT-MAY	-
	Pacific loon			LOW	X	X	X	X	X				X	X	X	X	-	OCT-MAY	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pigeon guillemot			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X	X		-	-	APR-OCT
	Storm-petrels			LOW			X	X	X	X	X	X	X	X	X		-	-	-
	Xantus' murrelet	T		LOW							X	X	X	X			-	-	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
371	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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	X	-	-	-	-
364	California sea lion			2-502 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Steller sea lion		T	2-55 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
365	California sea lion			1327-11553 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Steller sea lion		T	54-215 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
366	Harbor seal			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
367	Harbor seal			30-166 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
368	Harbor seal			105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
369	Northern elephant seal			200-800 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
	Northern fur seal			20-100 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
693	Baird's beaked whale			LOW				X	X	X	X	X					-	-	-	-
	California sea lion			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cuvier's beaked whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dwarf sperm whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Fin whale		E	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Guadalupe fur seal	T	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Harbor seal			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 common dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mesoplodont beaked whales			LOW	X	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	X	-	MAR-MAY	-	-
	Northern elephant seal			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern fur seal			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern right whale		E	LOW			X	X	X								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pygmy sperm whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sei whale		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	SEP-MAR	-	-
	Short-beaked common dolphin			MODERATE	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	-	-	-	-
	Sperm whale		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	JUN-OCT	-	-
	Steller sea lion		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
699	Blue whale		E	MODERATE					X	X	X	X	X				-	-	-	-
	Dall's porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dolphins			LOW-MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Humpback whale		E	MODERATE			X	X	X	X	X	X	X	X			-	-	-	-
700	Dall's porpoise			MODERATE	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	-	-	-	-
	Harbor porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
	Killer whale			LOW	X	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	X	-	-	-	-
	Minke whale			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-MAY	-	-
	Northern right whale		E	LOW			X	X	X								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			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 common dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

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.

Central California: ESIMAP 41 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
700	Short-finned pilot whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
701	Blue whale		E	MODERATE					X	X	X	X	X	X			-	-	-	-
	Humpback whale		E	MODERATE			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	Internesting	Juveniles	Adults
693	Leatherback sea turtle		E	LOW					X	X	X	X	X	X			-	-	-	-	MAY-NOV
700	Leatherback sea turtle		E	LOW					X	X	X	X	X	X			-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Marine sanctuary, keep aircraft away year round. Emergency helicopter landing by permission from the Incident Commander.
2	Major seabird and marine mammal hot spot, entire area.

SAMPLING SITE:

HUN#	Name	Contact	Phone
137	PISCO:MUSSEL FLAT, USFWS, PRBO	PETE RAIMONDI, JOELLE BUFFA	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
177	FARALLON ISLANDS - SMCA	CDF&G	

MARINE SANCTUARY:

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

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
353	FARALLON NWR	US FISH AND WILDLIFE SERVICE	510/792-0222

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.

CENTRAL CALIFORNIA

SHORELINE HABITATS

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

HUMAN-USE FEATURES

- ACCESS
- AIRPORT
- AQUACULTURE
- BOAT RAMP
- COAST GUARD
- COMMERCIAL FISHING
- DIVE SITE
- HISTORICAL SITE
- HOIST
- MANAGEMENT AREA
- MARINA
- MARINE SANCTUARY
- NATIONAL FOREST, NATIONAL PARK, OR NATURE CONSERVANCY
- PARK
- RECREATIONAL BEACH
- RECREATIONAL FISHING
- SAMPLING SITE
- SURFING
- WATER INTAKE
- WILDLIFE REFUGE
- 1 ALERT — ALERT
- 123 — HUMAN-USE NUMBER
- MANAGEMENT AREA
- 1 — MILE MARKER

SENSITIVE BIOLOGICAL RESOURCES

BIRD

- DIVING BIRD
- GULL / TERN
- PASSERINE BIRD
- RAPTOR
- SEABIRD
- SHOREBIRD
- WADING BIRD
- WATERFOWL
- NESTING SITE

TERRESTRIAL MAMMAL

- SMALL MAMMAL

MARINE MAMMAL

- DOLPHIN / PORPOISE
- PINNIPED
- SEA OTTER
- WHALE

INVERTEBRATE

- BIVALVE
- CEPHALOPOD
- CRAB / OTHER INVERTEBRATES
- GASTROPOD
- INSECT

REPTILE / AMPHIBIAN

- AMPHIBIAN / OTHER REPTILE
- TURTLE

FISH

- FISH
- ANADROMOUS STREAM (OTHER SPECIES MAY BE PRESENT)

HABITAT

- EELGRASS
- KELP

- MULTI-GROUP
- THREATENED / ENDANGERED
- 123 — RAR NUMBER

Guidelines for Interpreting ESI Maps

To help users interpret the ESI maps and tabular data, we offer the following guidelines for use in addition to the map legend:

• Shoreline Habitats. The "shoreline," representing the boundary between land and water, is color-coded with the ESI classification. Most shoreline habitats are shown as a line, with no areal dimension. Where there is more than one shoreline type (e.g., a beach in front of a seawall), the colors for each habitat are shown, with the color for the landward habitat on the land side of the shoreline and the color for the seaward habitat on the water side. In areas where the intertidal zone is wide (e.g., wide tidal flats, wave-cut rocky platforms), the habitat from high to low water is filled with the ESI classification color. When data are available, the entire extent of wetlands are filled with colored patterns. The seaward edge of the wetland is color-coded with the ESI classification; the landward extent of the wetland is indicated by a dashed, colored line.

• Biological Resources. The distribution of biological resources is shown using many different conventions. The major convention is an icon associated with a point, line, or polygon that shows the species' areal distribution. The icon's reference number corresponds to a data table with details on species and life history. Biological resource data are organized into six major groups, each with a reference color: birds (green), mammals (brown), fish (blue), shellfish (orange), reptiles (red), and rare/endangered plants and special habitats (purple). These colors are used to fill hatched polygons and the icons. Each major group has subgroups with unique icons to visually indicate the type of organism or feature present. The icon or group of icons is usually located inside the polygon it represents; however, sometimes a line is connected between the icon and the polygon or point to make it easier to relate the two. Note that icons are used to indicate the types of resources present, but the actual data are the points and polygons. A red box around an icon indicates the presence of a species on the state or Federal list of threatened or endangered species.

The number listed below each icon refers to the first column of a data table for each map. The data tables, organized by group (birds, fish, etc.), include the following information: species name, status as threatened or endangered on state and Federal lists, concentration (specifically for each point or polygon), presence by month, and special life-history time periods. When a polygon contains multiple groups, the one number under the group of icons is listed under each group heading in the data tables. Where possible, the same number is used on multiple maps. For example, all bald eagle nests with the same seasonality could have the same number throughout the atlas, or the same assemblage of fish would have the same number wherever it occurred.

A data table has a separate listing for every unique combination of species, concentration, seasonality, life-history stage, and source. By looking at the monthly seasonality data in the table for each map, the species present at the time of concern can be easily identified. An 'X' or number is placed under each month in which any life stage of the species is present in the area represented by the point or polygon. Numbers are used typically for fish and shellfish where data on relative abundance are available. The final columns in the data tables include the months when reproductive activities occur or early life stages are present. Users should pay close attention to the data tables because they contain much of the information needed to identify the most sensitive resources at different times of the year.

Points, lines, and polygons on a map represent the distribution of the resources. Green points show bird nesting sites, including bald eagle nests and dense colonial nesters (e.g., heron rookeries and seabird nesting colonies). Animals and habitats are also represented as: 1) hatched polygons in the color for the animal group (e.g., green for birds); 2) black hatched polygons which contain multiple groups of resources (birds and fish in the same tidal channels); 3) solid lines (usually used for fish in small streams); or 4) in "common in ..." boxes. When showing the biological resource polygons would make the maps too difficult to read (usually when multiple polygons cover a large area), the polygons are not plotted and the presence of the resource is indicated by placing the icon in a box labeled "common in ..." The box contains an appropriate geographic reference. Different boxes can be used on the same map when, for example: "common in Winyah Bay" or "common in tidal creeks." The data for these resources are still fully present in the database but are not shown to make the maps more readable.

• Human-use Resources. Most of the human-use resources are point features indicated by a black-and-white icon. Managed lands, such as refuges and sanctuaries, have their boundaries shown as a dot-dash line with an icon and name placed inside. Where the feature is a known point location (e.g., a drinking water intake, boat ramp, marina), the exact location is shown as a small black dot and a line is drawn from it to the icon. Activities such as commercial and recreational fishing and areas such as recreational beaches are also indicated by an icon placed in the general area without any lines to points or polygons since the boundaries are not readily defined.

Some features, like historic and archaeological sites, are location-sensitive: the agency managing the resource believes the exact location should not be shown in order to protect the site. In these cases, the icon is placed in the general area of the resource, but the exact location is not shown.

Central California: ESIMAP 30

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
122	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
153	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Western snowy plover		T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
208	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
216	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Waterfowl				X	X	X	X	X			X	X	X	X	X	-	-	-
	Western snowy plover		T	MEDIUM	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
221	Black oystercatcher				X	X	X					X	X	X	X	X	-	-	-
	Brown pelican	E	E	0-233 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
222	Brown pelican	E	E	0-215 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
227	California black rail	T			X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
229	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
415	Diving birds			8000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			1400 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			1300 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
494	Brandt's cormorant			308 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			313 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
507	Black oystercatcher			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			66 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			321 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
682	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X	X		-	-	APR-OCT
684	Cassin's auklet			MODERATE	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			HIGH	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	-
	Loons			MODERATE	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Pacific loon			MODERATE	X	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			MODERATE		X	X	X	X	X	X	X					-	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW-MODERATE	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			LOW	X	X	X	X					X	X	X		-	MAR-APR OCT-NOV	-
685	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-
687	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
76	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
218	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
219	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
220	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	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	-
427	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

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				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
223	Harbor seal			4-8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
224	Harbor seal			62-92 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
225	Harbor seal			200-261 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
226	Harbor seal			6-22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
228	Northern elephant seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
666	Sea otter		T	50 INDEP / 7 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
677	Harbor porpoise			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
684	Blue whale		E	LOW						X	X	X	X	X	X		-	-	-	-
	Bottlenose dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dall's porpoise			MODERATE	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	-	-	-	-

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.

Central California: ESIMAP 30 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
684	Humpback whale		E	MODERATE			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 common dolphin			LOW	X	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	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	X	-	-	-	-
	Risso's dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			MODERATE	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 common 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	-	-	-	-
686	Harbor porpoise			1600 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
76	California red-legged frog		T							X	X	X	X	X			-	-	-	JUN-OCT	-
218	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	X	-	-	-	JAN-DEC	JAN-DEC
	Western pond turtle									X	X	X	X	X			-	-	-	JUN-OCT	-
219	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	X	-	-	-	JAN-DEC	JAN-DEC
220	California red-legged frog		T							X	X	X	X	X			-	-	-	JUN-OCT	-
674	Leatherback sea turtle		E	HIGH					X	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 out of kelp when transiting. Note potential presence of sea otters if operating outboard motor.
2	Harbor seal breeding area, March-July.
3	Snowy plovers, March-July, no vehicles without escort.

AQUACULTURE:

HUN#	Name	Contact	Phone
18	MONTEREY BAY SALMON AND TROUT PROJECT		
21	SILVERKING OCEANIC FARMS		

BEACH:

HUN#	Name	Contact	Phone
29	BONNY DOON BEACH		
33	DAVENPORT BEACH		
34	DAVENPORT LANDING BEACH		
38	GREYHOUND ROCK BEACH		
58	PANTHER BEACH		
69	SCOTT CREEK BEACH		
76	WADDELL CREEK STATE BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
120	PISCO:ANO NUEVO	PETE RAIMONDI	831/459-5674
148	PISCO:SCOTT CREEK	PETE RAIMONDI	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
179	GREYHOUND ROCK FA	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
233	BIG BASIN REDWOODS SP	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 31

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
122	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
230	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
231	Western snowy plover		T	MEDIUM	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
232	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
233	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
235	Brown pelican	E	E	1388-5229 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
236	Brown pelican	E	E	12-77 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
237	Brown pelican	E	E	38-1438 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
415	Diving birds			8000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			1400 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			1300 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
444	Black oystercatcher			27 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Cassin's auklet			24 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Double-crested cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Pelagic cormorant			13 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			117 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			224 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Western gull			1382 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
453	Marbled murrelet	E	T	600 INDIV.			X	X	X	X	X	X					-	-	-
502	Pigeon guillemot			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
566	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
586	Pelagic cormorant			114 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			102 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	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	-
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			-	-	APR-OCT
684	Cassin's auklet			MODERATE	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			HIGH	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	-
	Loons			MODERATE	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Pacific loon			MODERATE	X	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			MODERATE		X	X	X	X	X	X	X					-	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW-MODERATE	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			LOW	X	X	X	X					X	X	X		-	MAR-APR OCT-NOV	-
685	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-
687	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
238	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	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						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
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

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.

Central California: ESIMAP 31 (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
421	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	-
427	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	X					-	-	-	-	APR-SEP
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
72	Harbor seal			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
85	Pinnipeds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
120	Harbor seal			15 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
234	Harbor seal			36-43 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
235	California sea lion			2301-9439 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-JUL	-
	Harbor seal			84-98 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
	Northern elephant seal				X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
	Steller sea lion		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
243	Harbor seal			87-232 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
244	Harbor seal			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-
246	Northern elephant seal			10000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
665	Sea otter		T	6 INDEP / 7 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
666	Sea otter		T	50 INDEP / 7 PUPS	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAR SEP-NOV	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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		-	-	-	-
684	Blue whale		E	LOW						X	X	X	X	X	X		-	-	-	-
	Bottlenose dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dall's porpoise			MODERATE	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	-	-	-	-
	Humpback whale		E	MODERATE			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 common dolphin			LOW	X	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	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	X	-	-	-	-
	Risso's dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			MODERATE	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 common 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	-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
238	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	X	-	-	-	JAN-DEC	JAN-DEC
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	X	-	-	-	JAN-DEC	JAN-DEC
240	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Keep aircraft away year-round. Restrict all vehicles except with escorts.

SAMPLING SITE:

HUN#	Name	Contact	Phone
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622
139	PISCO:PIGEON POINT	PETE RAIMONDI	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
165	ANO NUEVO INVERTEBRATE AREA	CDF&G	
178	GAZOS CREEK FA	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
229	ANO NUEVO SP	CA DEPT OF PARKS AND RECREATION	
230	ANO NUEVO SR	CA DEPT OF PARKS AND RECREATION	
233	BIG BASIN REDWOODS SP	CA DEPT OF PARKS AND RECREATION	
235	BUTANO SP	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 32

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
247	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
248	Diving birds				X	X	X	X	X			X	X	X	X		-	-	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
249	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving birds				X	X	X	X	X			X	X	X	X		-	-	-
	Diving ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Shorebirds				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	FEB-AUG	-	-
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
251	Black oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
258	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
584	Pigeon guillemot			20 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	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	-
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			-	-	APR-OCT
700	Ashy storm-petrel			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X			X		-	-	-
	Brown pelican	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Common murre			HIGH	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	-	-	-
	Gulls			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Loons			LOW	X	X	X	X	X			X	X	X			-	OCT-MAY	-
	Pacific loon			LOW	X	X	X	X	X			X	X	X			-	OCT-MAY	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X		-	-	-
	Pigeon guillemot			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X			-	-	APR-OCT
	Storm-petrels			LOW			X	X	X	X	X	X	X	X			-	-	-
	Xantus' murrelet	T		LOW						X	X	X	X				-	-	-

FISH:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
3	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
239	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
252	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	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	X							JAN-JUN	-	-	-	JAN-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
	Surf smelt						X	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
253	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
254	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Pacific lamprey				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
255	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	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
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	White seabass						X	X	X	X	X	X	X	X			APR-AUG	-	-	-	MAR-NOV
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
249	California brackishwater snail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
252	Dungeness crab									X	X	X					-	-	-	-	JUN-SEP
255	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
243	Harbor seal			87-232 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-MAY	-

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.

Central California: ESIMAP 32 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
256	Harbor seal			54-77 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
257	Harbor seal			163-320 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
677	Harbor porpoise			MODERATE	X	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			-	-	-	-
683	Blue whale		E	HIGH					X	X	X	X	X	X			-	-	-	-
	Humpback whale		E	HIGH			X	X	X	X	X	X	X	X			-	-	-	-
700	Dall's porpoise			MODERATE	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	-	-	-	-
	Harbor porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
	Killer whale			LOW	X	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	X	-	-	-	-
	Minke whale			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-MAY	-	-
	Northern right whale		E	LOW			X	X	X								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			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 common 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	-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
242	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
253	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	X	-	-	-	JAN-DEC	JAN-DEC
254	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	X	-	-	-	JAN-DEC	JAN-DEC
	Western pond turtle									X	X	X	X	X			-	-	-	JUN-OCT	-
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV
700	Leatherback sea turtle		E	LOW					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Snowy plovers, March-July, no vehicles without escort.
2	Harbor seal haulouts, pupping March-May.

SAMPLING SITE:

HUN#	Name	Contact	Phone
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
232	BEAN HOLLOW SB	CA DEPT OF PARKS AND RECREATION	
264	PESCADERO SB	CA DEPT OF PARKS AND RECREATION	
271	POMPONIO SB	CA DEPT OF PARKS AND RECREATION	
274	SAN GREGORIO SB	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 33

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
260	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
261	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Western snowy plover		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
262	Brown pelican	E	E	64-218 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
484	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
533	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			108 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
613	Brandt's cormorant			37 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant			123 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			12 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
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			-	-	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
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
252	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	X							JAN-JUN	-	-	-	JAN-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
	Surf smelt						X	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	X		APR-AUG	-	-	-	MAR-NOV
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	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	X							JAN-JUN	-	-	-	JAN-JUN
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	Surf smelt						X	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	X		APR-AUG	-	-	-	MAR-NOV
264	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	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	X							JAN-JUN	-	-	-	JAN-JUN
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	Surf smelt						X	X	X	X	X	X					APR-SEP	-	-	-	APR-SEP
	White seabass						X	X	X	X	X	X	X	X	X		APR-AUG	-	-	-	MAR-NOV
269	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JUN-OCT	OCT-JUN
270	Barred surfperch				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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	X				MAR-AUG	MAR-SEP	-	-	MAR-AUG
	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
	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 prickleback				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	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
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
252	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
263	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
264	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
270	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
265	Harbor seal			80-100 INDIV.	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.

Central California: ESIMAP 33 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
266	Harbor seal			139-273 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
267	Harbor seal			51-69 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
268	Harbor seal			27-41 INDIV.	X	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	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
269	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal breeding area, March-July.

MARINE SANCTUARY:

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

PARK:

HUN#	Name	Contact	Phone
234	BURLEIGH H. MURRAY RANCH	CA DEPT OF PARKS AND RECREATION	
242	HALF MOON BAY SB	CA DEPT OF PARKS AND RECREATION	

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.

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	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	X	-	-	-
	Diving ducks			HIGH	X	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	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	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	-
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				-	-	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	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	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	NOV-JUN	NOV-JUN
	Night smelt				X	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	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	X			APR-AUG	-	-	-	MAR-NOV
277	Barred surfperch				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	JAN-DEC	MAR-NOV
	Cabezon				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	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 prickleback				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	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	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 impacts to 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				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
263	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
276	Tidepool invertebrates			HIGH	X	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	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	X	-	-	-	-
279	California sea lion			94 INDIV.	X	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	X	-	-	MAR-JUN	-
281	Harbor seal			9 INDIV.	X	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	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X						X	X	-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
275	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
286	San Francisco garter snake	E	E		X	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	X		-	-	-	-	MAY-NOV
675	Leatherback sea turtle		E	MODERATE					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

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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	

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.

Central California: ESIMAP 35

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
258	Western snowy plover		T		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	-
287	Brown pelican	E	E	0-40 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
289	Western snowy plover		T	MEDIUM	X	X	X	X			X	X	X	X	X	X	-	-	-
294	Gulls			HIGH	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	-	-
430	Grebes			HIGH	X	X	X	X				X	X	X	X	X	-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X					X	X	X	-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X				X	X	X	X	X	-	MAR-APR SEP-DEC	-
543	Pelagic cormorant			31 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			18 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
548	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			10 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
605	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			70 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	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	X	-	OCT-APR	-
	Pacific loon			MODERATE	X	X	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	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	X	-	MAR-APR SEP-DEC	-
	Western grebe			MODERATE	X	X	X	X				X	X	X	X	X	-	MAR-APR SEP-NOV	-
	White-winged scoter			MODERATE	X	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	-	-
682	Sooty shearwater			MODERATE		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
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						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						-	-	-	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	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
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	X					-	-	-	-	APR-SEP
	White shark				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
74	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
290	Pacific littleneck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	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
291	California sea lion			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
292	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	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	X	-	-	-	JAN-DEC	JAN-DEC
288	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
293	California red-legged frog		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle		E	HIGH					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Keep all aircraft away, February-August.

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.

Central California: ESIMAP 35 (cont.)

HUMAN USE RESOURCES: (cont.)

BEACH:

HUN#	Name	Contact	Phone
57	PACIFICA STATE BEACHES		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
197	SAN BRUNO MOUNTAIN ER	CA DEPT OF FISH AND GAME	

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
263	PACIFICA SB	CA DEPT OF PARKS AND RECREATION	
273	SAN BRUNO MOUNTAIN SP	CA DEPT OF PARKS AND RECREATION	
280	THORNTON SB	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 36

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
250	Shorebirds			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-
295	Brown pelican	E	E	0-500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	California least tern	E	E					X	X	X	X	X	X				-	APR-SEP	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X	X	-	SEP-MAR	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Diving ducks				X	X	X	X	X			X	X	X	X	X	-	SEP-MAY	-
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Shorebirds				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	FEB-AUG	-	-
297	Brown pelican	E	E	13-1003 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
298	Gulls			1000S INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shorebirds			1000S INDIV.	X	X	X	X	X		X	X	X	X	X	X	-	-	-
	Terns			COMMON								X	X	X	X		-	-	-
	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
299	Bank swallow	T					X	X	X	X	X	X					MAR-AUG	-	-
430	Grebes			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X				X	X	X		-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-DEC	-
454	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			5 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			56 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
464	Pelagic cormorant			2 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	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
525	Brandt's cormorant			117 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Pigeon guillemot			18 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			14 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
573	Pelagic cormorant			95 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			66 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			10 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
614	Black oystercatcher			3 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			46 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	X		-	OCT-MAY	-
	Pelicans			MODERATE			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	-	-
682	Sooty shearwater			MODERATE		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
3	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
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
	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
295	Striped bass				X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	-	JAN-DEC
	Tidewater goby		E		X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	-	-	-	JAN-DEC
296	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
	Pacific herring			HIGH	X	X	X					X	X	X			OCT-MAR	-	-	-	OCT-MAR
	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
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	X					-	-	-	-	APR-SEP
	White shark				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
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
296	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
303	Tidepool invertebrates			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-

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	X	-	-	-	-
301	Harbor seal			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
302	California sea lion			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Harbor seal			75-105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
304	California sea lion			311-402 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Harbor seal			75-105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-

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.

Central California: ESIMAP 36 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
295	California red-legged frog		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle		E	HIGH					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV
675	Leatherback sea turtle		E	MODERATE					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
295	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X
300	Salt-marsh harvest mouse	E	E		X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Colonial seabirds, keep aircraft away February-September.
2	Snowy plovers year-round, contact NPS for vehicle access.

BEACH:

HUN#	Name	Contact	Phone
36	FORT FUNSTON BEACH		
45	MILE ROCK BEACH		
55	OCEAN BEACH		
64	RECREATIONAL BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
130	PISCO:GGNRA	DARREN FONG	415/331-8716

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

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.

Central California: ESIMAP 37

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
306	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
430	Grebes			HIGH	X	X	X	X					X	X	X	X	-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X					X	X	X	-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X					X	X	X	X	-	MAR-APR SEP-DEC	-
512	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			7 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
546	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pelagic cormorant			42 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			34 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
678	Marbled murrelet	E	T	MODERATE	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			-	-	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
35	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
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						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	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
305	Coho salmon	E	E	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
311	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
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

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
241	Dungeness crab								X	X	X	X					-	-	-	-	JUN-SEP
312	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
307	California sea lion			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
308	Harbor seal			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
309	Harbor seal			20 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
288	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE				X	X	X	X	X	X	X			-	-	-	-	MAY-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.

Central California: ESIMAP 37 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

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

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal haul outs and colonial seabird nesting.
2	Potential peregrine falcon nesting around Muir Beach.

BEACH:

HUN#	Name	Contact	Phone
50	MUIR BEACH		

SAMPLING SITE:

HUN#	Name	Contact	Phone
150	PISCO:SLIDE RANCH	JAN ROLETTO	415/561-6622

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
169	CORTE MADERA MARSH - SMP	CDF&G	
170	CORTE MADERA MARSH NERR	CA DEPT OF FISH AND GAME	

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
222	MUIR WOODS NATIONAL MONUMENT	NATIONAL PARK SERVICE	

PARK:

HUN#	Name	Contact	Phone
259	MOUNT TAMALPAIS SP	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 38

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
316	Western snowy plover		T	MEDIUM	X	X	X	X			X	X	X	X	X	X	-	-	-
317	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
318	Brandt's cormorant			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E	17-5000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Diving ducks			HIGH	X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X	-	FEB-JUL	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Wading birds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
324	California black rail	T			X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-
325	Gulls				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
	Shorebirds				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	-	-	-
327	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
328	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
329	Wading birds			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
330	Double-crested cormorant			1 INDIV.	X	X	X	X	X			X	X	X	X		-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Seabirds			300000 INDIV.		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	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	-
678	Marbled murrelet	E	T	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
679	Sooty shearwater			HIGH					X	X	X	X					-	-	JUN-SEP
682	Sooty shearwater			MODERATE			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
313	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
314	Coho salmon	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	NOV-FEB	NOV-FEB	DEC-MAR	JAN-DEC	NOV-FEB
	Steelhead		T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
315	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-FEB
	Nursery fish				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-APR
	Surfperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
318	Pacific herring			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	JAN-MAY	JAN-MAY	JAN-DEC	JAN-APR
320	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
	Striped bass						X	X	X	X	X						-	-	-	MAY-SEP	MAY-SEP
	White seabass					X	X	X	X	X	X	X	X				APR-AUG	-	-	-	MAR-NOV
326	Cabezon				X	X	X	X	X	X	X	X	X	X	X	X	OCT-APR	-	-	JAN-DEC	JAN-DEC
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Striped seaperch				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
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	X					-	-	-	-	APR-SEP
	White shark				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC

HABITAT:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
318	Eelgrass				X	X	X	X	X	X	X	X	X	X	X	X

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
318	Invertebrates				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
320	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
326	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
331	Invertebrates			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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
318	Harbor seal			348-531 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
321	Harbor seal			45 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
322	Harbor seal			60-230 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
323	California sea lion			16 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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	-	-	-	-

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.

Central California: ESIMAP 38 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
673	Killer whale			LOW	X	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	X	-	-	-	-
	Minke whale			MODERATE	X	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	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 common 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	-	-	-	-
676	Harbor porpoise			8500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
677	Harbor porpoise			MODERATE	X	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			-	-	-	-

REPTILE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting	Juveniles	Adults
319	California red-legged frog		T		X	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	X	-	-	-	JAN-DEC	JAN-DEC
675	Leatherback sea turtle		E	MODERATE					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
317	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Harbor seal breeding area, March-July.

BEACH:

HUN#	Name	Contact	Phone
26	AGATE BEACH PARK		
74	STINSON BEACH		

BOAT RAMP:

HUN#	Name	Contact	Phone
80	BOAT RAMP		

SAMPLING SITE:

HUN#	Name	Contact	Phone
123	PISCO:BOLINAS POINT, NPS	PETE RAIMONDI	831/459-5674
124	PISCO:BOLINAS WRECK	PETE RAIMONDI	831/459-5674
129	PISCO:GFNMS	JAN ROLETTO	415/561-6622

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
172	DUXBURY REEF - SMCA	CDF&G	
200	STINSON BEACH	CA DEPT OF FISH AND GAME	

MARINE SANCTUARY:

HUN#	Name	Contact	Phone
218	GULF OF THE FARALLONES NMS	NOAA	415/561-6622
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
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

PARK:

HUN#	Name	Contact	Phone
259	MOUNT TAMALPAIS SP	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 39

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
333	Brown pelican	E	E	16-957 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
336	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X	X	-	SEP-MAR	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
337	Black oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
338	Pigeon guillemot				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
340	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
478	Pigeon guillemot			63 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
491	Ashy storm-petrel			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			2 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			180 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			4464 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			9 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
538	Black oystercatcher			1 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			114 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			358 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			59 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			55 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			30 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
578	Brandt's cormorant			46 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			3518 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant				X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			50 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			8 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-
678	Marbled murrelet	E	T	MODERATE	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				-	-	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
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	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
326	Cabezon				X	X	X	X	X	X	X	X	X	X	X	X	OCT-APR	-	-	JAN-DEC	JAN-DEC
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Striped seaperch				X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	-	JAN-DEC
332	Night smelt					X	X	X	X	X							FEB-JUN	-	-	-	FEB-JUN
	Surf smelt						X	X	X	X	X	X					APR-SEP	-	-	-	APR-SEP
341	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
	Striped bass							X	X	X	X	X					-	-	-	MAY-SEP	MAY-SEP
	White seabass						X	X	X	X	X	X	X	X			APR-AUG	-	-	-	MAR-NOV
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	X					-	-	-	-	APR-SEP
	White shark				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
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
326	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
341	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

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	X	-	-	-	-
334	California sea lion			94-300 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
335	Harbor seal			885-939 INDIV.	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.

Central California: ESIMAP 39 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
335	Steller sea lion		T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
339	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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	Internesting	Juveniles	Adults
674	Leatherback sea turtle		E	HIGH					X	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	Seabird colony and harbor seal breeding colony, keep aircraft away, March -July.
2	Seabird colony, keep helicopters away, March -July.

SAMPLING SITE:

HUN#	Name	Contact	Phone
147	PISCO:SANTA MARIA CREEK, NPS	PETE RAIMONDI	831/459-5674

MARINE SANCTUARY:

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

NATIONAL PARK:

HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

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.

Central California: ESIMAP 40

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
259	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
336	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	Common yellowthroat				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	APR-MAY SEP-OCT	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Wading birds				X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
346	American bittern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Dabbling ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAR	-
	Diving ducks				X	X	X	X	X			X	X	X	X		-	SEP-MAY	-
	Geese				X	X	X	X	X	X	X	X	X	X	X	X	-	OCT-MAR	-
	Raptors				X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-NOV	-
347	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
348	Shorebirds				X	X	X	X	X		X	X	X	X	X	X	-	-	-
349	Brown pelican	E	E	108-288 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Seabirds			HIGH		X	X	X	X	X	X	X					FEB-AUG	-	-
350	Western snowy plover		T		X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
351	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brown pelican	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Ducks			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	SEP-MAR	-
352	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
	American white pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Brant			HIGH		X	X	X	X	X			X	X	X		-	FEB-JUN OCT-DEC	-
	Diving birds				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Osprey				X	X	X	X	X	X	X	X	X	X	X	X	-	FEB-JUL	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
353	Brown pelican	E	E	0-1000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
355	Shorebirds				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	-	-	-
359	Western snowy plover		T		X	X	X	X			X	X	X	X	X	X	-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
579	Ashy storm-petrel			15 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			1522 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			15155 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			266 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			616 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Tufted puffin			4 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	-	-
	Western gull			178 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	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	-	-
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
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	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
341	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
	Striped bass							X	X	X	X	X	X				-	-	-	MAY-SEP	MAY-SEP
	White seabass							X	X	X	X	X	X	X	X		APR-AUG	-	-	-	MAR-NOV
352	Coho salmon	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	NOV-FEB
	Steelhead		T		X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	NOV-APR	NOV-JUN	JAN-DEC	NOV-APR
363	Black-and-yellow rockfish				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	MAY-JUL	JAN-DEC
	Cabezon				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
	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
	Lingcod				X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	DEC-APR	-	JAN-DEC	JAN-DEC
	Monkeyface prickleback				X	X	X	X	X	X	X	X	X	X	X	X	JAN-APR	-	-	JAN-DEC	JAN-DEC
	Rubberlip seaperch				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	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
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	X					-	-	-	-	APR-SEP
	White shark				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC

HABITAT:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D
358	Eelgrass				X	X	X	X	X	X	X	X	X	X	X	X

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
241	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP
341	Dungeness crab									X	X	X	X				-	-	-	-	JUN-SEP

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.

Central California: ESIMAP 40 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
352	Pacific littleneck				X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	JAN-DEC
357	Myrtle's Silverspot		E		X	X	X	X	X		X	X	X	X	X	X	AUG-SEP	AUG-NOV	MAR-MAY	-	AUG-SEP
360	Globose dune beetle				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
363	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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	X	-	-	-	-
350	Harbor seal				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
352	Harbor seal			2000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
354	Northern elephant seal			2000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-MAR	-	DEC-MAR	MAY-JUN
361	California sea lion			11-1388 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Harbor seal			292-319 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
	Steller sea lion		T	0-13 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
426	Gray whale				X	X	X	X	X					X	X		-	DEC-FEB	-	-
673	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 common 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	-	-
	Northern 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 common 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	-	-	-	-
677	Harbor porpoise			MODERATE	X	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	Internesting	Juveniles	Adults
351	California red-legged frog		T	100 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-APR	-	-	JAN-DEC	JAN-DEC
674	Leatherback sea turtle		E	HIGH				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
352	Northern river otter				X	X	X	X	X	X	X	X	X	X	X	X
356	Point Reyes jumping mouse				X	X	X	X	X	X	X	X	X	X	X	X

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HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Snowy plovers, March-September, no vehicles without escort.
2	Colonial seabirds, keep aircraft away, March-August.
3	Seal and sea lion haul-outs and rookeries, no vehicles without escort along entire headlands.
4	Peregrine falcons nest along headlands.
5	Sensitive plant species present at high tide line and in dunes throughout area.

AQUACULTURE:

HUN#	Name	Contact	Phone
16	JOHNSON'S DRAKES BAY OYSTER CO.		415/669-1149

BEACH:

HUN#	Name	Contact	Phone
25	ABBOTTS BEACH		
35	DRAKES BEACH AND DRAKES BAY		
41	LIMANTOUR BEACH		
54	NORTH BEACH		
73	SOUTH BEACH		

BOAT RAMP:

HUN#	Name	Contact	Phone
79	BOAT RAMP		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
176	ESTERO DE LIMANTOUR - SMCA	CDF&G	
196	POINT REYES HEADLANDS - SMCA	CDF&G	

MARINE SANCTUARY:

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

NATIONAL PARK:

HUN#	Name	Contact	Phone
221	GOLDEN GATE NATIONAL RECREATION AREA	NATIONAL PARK SERVICE	415/561-4700
223	PHILIP BURTON WILDERNESS	NATIONAL PARK SERVICE	415/464-5100
224	POINT REYES NATIONAL SEASHORE	NATIONAL PARK SERVICE	415/464-5100

PARK:

HUN#	Name	Contact	Phone
281	TOMALES BAY SP	CA DEPT OF PARKS AND RECREATION	

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.

Central California: ESIMAP 41

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
370	Seabirds			HIGH		X	X	X	X	X	X						FEB-AUG	-	-
371	American peregrine falcon	E			X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
413	Diving birds			15000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
551	Brandt's cormorant			161 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			65000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Pelagic cormorant			62 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			42 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Western gull			32 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
623	Ashy storm-petrel			1990 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-NOV	-	-
	Black oystercatcher			22 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Brandt's cormorant			12000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Cassin's auklet			18807 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Common murre			103588 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	DEC-JUL	-	-
	Double-crested cormorant			486 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
	Leach's storm-petrel			1400 INDIV.		X	X	X	X	X	X	X	X	X	X	X	FEB-OCT	-	-
	Pelagic cormorant			442 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-
	Pigeon guillemot			1000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			516 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Tufted puffin			128 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	APR-NOV	-	-
	Western gull			19000 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	-	-
693	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X			X		-	-	-
	Common murre			LOW-MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUL-SEP
	Gulls			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Rhinoceros auklet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			LOW			X	X	X	X	X	X	X	X	X		-	-	APR-OCT
	Xantus' murrelet	T		MODERATE							X	X	X	X			-	-	-
696	Ashy storm-petrel			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Storm-petrels			MODERATE			X	X	X	X	X	X	X	X	X		-	-	-
697	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
700	Ashy storm-petrel			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-footed albatross			MODERATE	X	X	X	X	X	X	X	X			X		-	-	-
	Brown pelican	E	E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	JUL-NOV	-
	Cassin's auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Common murre			HIGH	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	-	-	-
	Gulls			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Loons			LOW	X	X	X	X	X			X	X	X	X	X	-	OCT-MAY	-
	Pacific loon			LOW	X	X	X	X	X			X	X	X	X	X	-	OCT-MAY	-
	Phalaropes			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Pigeon guillemot			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	-
	Rhinoceros auklet			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Shearwaters			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sooty shearwater			MODERATE			X	X	X	X	X	X	X	X	X		-	-	APR-OCT
	Storm-petrels			LOW			X	X	X	X	X	X	X	X	X		-	-	-
	Xantus' murrelet	T		LOW							X	X	X	X			-	-	-

INVERTEBRATE:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
371	Black abalone				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	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	X	-	-	-	-
364	California sea lion			2-502 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Steller sea lion		T	2-55 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
365	California sea lion			1327-11553 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
	Steller sea lion		T	54-215 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
366	Harbor seal			6 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
367	Harbor seal			30-166 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
368	Harbor seal			105 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-JUN	-
369	Northern elephant seal			200-800 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	-	DEC-MAR	APR-JUL
	Northern fur seal			20-100 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	-
693	Baird's beaked whale			LOW				X	X	X	X	X	X				-	-	-	-
	California sea lion			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cuvier's beaked whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dwarf sperm whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Fin whale		E	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Guadalupe fur seal	T	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Harbor seal			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 common dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mesoplodont beaked whales			LOW	X	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	X	-	MAR-MAY	-	-
	Northern elephant seal			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern fur seal			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern right whale		E	LOW			X	X	X								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pygmy sperm whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sei whale		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	SEP-MAR	-	-
	Short-beaked common dolphin			MODERATE	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	-	-	-	-
	Sperm whale		E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	JUN-OCT	-	-
	Steller sea lion		T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
699	Blue whale		E	MODERATE					X	X	X	X	X	X			-	-	-	-
	Dall's porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dolphins			LOW-MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Humpback whale		E	MODERATE			X	X	X	X	X	X	X	X			-	-	-	-
700	Dall's porpoise			MODERATE	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	-	-	-	-
	Harbor porpoise			LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
	Killer whale			LOW	X	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	X	-	-	-	-
	Minke whale			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	MAR-MAY	-	-
	Northern right whale		E	LOW			X	X	X								-	-	-	-
	Northern right-whale dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pacific white-sided dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Risso's dolphin			MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sea lions			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 common dolphin			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

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.

Central California: ESIMAP 41 (cont.)

BIOLOGICAL RESOURCES: (cont.)

MARINE MAMMAL: (cont.)

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
700	Short-finned pilot whale			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
701	Blue whale		E	MODERATE					X	X	X	X	X	X			-	-	-	-
	Humpback whale		E	MODERATE			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	Internesting	Juveniles	Adults
693	Leatherback sea turtle		E	LOW					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV
700	Leatherback sea turtle		E	LOW					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

ALERT:

ID#	Description
1	Marine sanctuary, keep aircraft away year round. Emergency helicopter landing by permission from the Incident Commander.
2	Major seabird and marine mammal hot spot, entire area.

SAMPLING SITE:

HUN#	Name	Contact	Phone
137	PISCO:MUSSEL FLAT, USFWS, PRBO	PETE RAIMONDI, JOELLE BUFFA	831/459-5674

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
177	FARALLON ISLANDS - SMCA	CDF&G	

MARINE SANCTUARY:

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

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
353	FARALLON NWR	US FISH AND WILDLIFE SERVICE	510/792-0222

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.

Central California: Sanctuary Map

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
413	Diving birds			15000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Gulls			20000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Seabirds			300000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
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	-	-
415	Diving birds			8000 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Gulls			1400 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
	Seabirds			1300 INDIV.		X	X	X	X	X	X	X					FEB-AUG	-	-
416	Diving birds			15000 INDIV.			X	X	X	X	X						APR-AUG	-	-
	Gulls			200 INDIV.			X	X	X	X	X						APR-AUG	-	-
417	Diving birds			1500 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Gulls			100 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			2000 INDIV.		X	X	X	X	X	X						FEB-AUG	-	-
418	Diving birds			HIGH		X	X	X	X	X	X						FEB-AUG	-	-
	Seabirds			HIGH		X	X	X	X	X	X						FEB-AUG	-	-
429	California condor	E	E		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
430	Grebes			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-NOV	-
	Loons			HIGH	X	X	X	X	X					X	X	X	-	OCT-MAY	-
	Scoters			HIGH	X	X	X	X				X	X	X	X		-	MAR-APR SEP-DEC	-
679	Sooty shearwater			HIGH						X	X	X	X				-	-	JUN-SEP
681	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	-	-
687	Marbled murrelet	E	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUL	AUG-MAR	-
694	Ashy storm-petrel			HIGH								X	X	X	X		-	-	-
	Storm-petrels			HIGH								X	X	X	X		-	-	-
695	Cassin's auklet			HIGH					X	X	X						-	-	-
698	Ashy storm-petrel			HIGH							X	X	X				-	-	-

MARINE MAMMAL:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
426	Gray whale				X	X	X	X	X						X	X	-	DEC-FEB	-	-
676	Harbor porpoise			8500 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
683	Blue whale	E		HIGH						X	X	X	X	X	X		-	-	-	-
	Humpback whale	E		HIGH				X	X	X	X	X	X	X	X		-	-	-	-
686	Harbor porpoise			1600 INDIV.	X	X	X	X	X	X	X	X	X	X	X	X	JUL-SEP	JUN-AUG	-	-
690	Blue whale	E		HIGH						X	X	X	X	X	X		-	-	-	-
	Dall's porpoise			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dolphins			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Humpback whale	E		HIGH			X	X	X	X	X	X	X	X	X		-	-	-	-
	Sea lions			HIGH	X	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	Internesting	Juveniles	Adults
674	Leatherback sea turtle		E	HIGH					X	X	X	X	X	X	X		-	-	-	-	MAY-NOV

HUMAN USE RESOURCES:

MARINE SANCTUARY:

HUN#	Name	Contact	Phone
217	CORDELL BANK NATIONAL MARINE SANCTUARY	NOAA	415/663-0314
218	GULF OF THE FARALLONES NMS	NOAA	415/561-6622
219	MONTEREY BAY NATIONAL MARINE SANCTUARY	SUPERINTENDENT	831/647-4201

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.

ENVIRONMENTAL SENSITIVITY INDEX: Central California

INTRODUCTION

Environmental Sensitivity Index (ESI) maps have been developed for the coastal areas of Central California from Point Conception to Point Reyes National Seashore. The ESI maps are a compilation of information from three main categories: shoreline types, sensitive biological resources, and human-use resources.

The individual map pages in this atlas are divided according to the U.S. Geological Survey (USGS) 7.5-minute, 1-24,000-scale topographic quadrangle index. Black and white scanned images of these maps are used as a backdrop for each map page in the atlas.

SHORELINE MAPPING

The shoreline habitats on the original ESI maps, published in 1994, were re-examined and updated by a coastal geologist using two methods: interpretation of contiguous oblique digital aerial photography acquired in 2004 (www.californiacoastline.org) and verification via overflights and ground surveys conducted in April 2005. The overflights were conducted at elevations of 400-600 feet and slow air speed. During these overflights, the ESI shoreline classification was verified and changes were denoted on hardcopy 1:24,000-scale USGS topographic maps. Where appropriate, revisions to the existing shoreline were made. Where necessary, multiple types were described for each shoreline segment.

To determine the sensitivity of a particular intertidal shoreline type, the following factors are integrated:

1) Shoreline type (substrate, grain size, tidal elevation, origin)
2) Exposure to wave and tidal energy
3) Biological productivity and sensitivity
4) Ease of cleanup

Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affect the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury and ease of cleanup of spilled oil are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking. The list below includes the shoreline types delineated for the Central California region, presented in order of increasing sensitivity to spilled oil.

1A) Exposed Rocky Shores
1B) Exposed, Solid Man-made Structures
2A) Exposed Wave-cut Platforms
3A) Fine- to Medium-grained Sand Beaches
4) Coarse-grained Sand Beaches
5) Mixed Sand and Gravel Beaches
6A) Gravel Beaches
6B) Riprap
6D Boulder Rubble
7) Exposed Tidal Flats
8A) Sheltered Rocky Shores
8B) Sheltered, Solid Man-made Structures
8C) Sheltered Riprap
9A) Sheltered Tidal Flats
10A) Salt- and Brackish-water Marshes
10B) Freshwater Marshes
10C) Swamps
10D) Scrub-Shrub Wetlands

Each shoreline type is described on pages 12-18 in terms of their physical description, predicted oil behavior, and response considerations.

In addition to the field mapped ESI shoreline types, wetland habitat types derived from the U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory, and wetlands previously mapped in the 1994 Central California ESI Atlas were included in the atlas and in the digital data. These polygonal wetland types were not checked or edited extensively as a part of this project.

SENSITIVE BIOLOGICAL RESOURCES

Biological and human-use information presented in this atlas was collected, compiled, and reviewed with the assistance of biologists and resource managers from the following agencies:

- California Department of Fish and Game (CDF&G), Office of Spill Prevention and Response (OSPR), Marine Region (MR), and Habitat Conservation Planning Division (HCPD)
- National Oceanic and Atmospheric Administration (NOAA), Monterey Bay National Marine Sanctuary (MBNMS)
- NOAA National Marine Fisheries Service (NMFS)
- Moss Landing Marine Laboratories (MLML)
- U.S. Geological Survey (USGS)
- NOAA Gulf of the Farallones National Marine Sanctuary (GFNMS)
- National Park Service (NPS), Point Reyes National Seashore (PRNS), and Golden Gate National Recreation Area (GGNRA)
- University of California Santa Cruz (UCSC), Long Marine Laboratory
- Point Reyes Bird Observatory (PRBO)
- U.S. Fish and Wildlife Service (USFWS)
- UCSC, Santa Cruz Predatory Bird Research Group (SCPBRG)
- Vandenberg Air Force Base
- H.T. Harvey and Associates
- Pacific Eco Logic
- Ventana Wildlife Society
- Pepperdine University
- Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO)
- University of California Santa Barbara (UCSB)
- NOAA National Centers for Coastal Ocean Science Biogeography Team (NCCOS)
- Elkhorn Slough National Estuarine Research Reserve (ESNERR)

The above agencies and organizations provided the majority of information included in the atlas. Other participating individuals and agencies will be cited throughout the atlas and in the metadata accompanying the digital product.

KEY FEATURES ON ESI MAPS

1) Animal and plant species that are at risk during oil spills and/or spill response are represented on the maps by polygons, points, or arcs.
2) Species have been divided into groups and subgroups based on their behavior, morphology, taxonomic classification, and spill vulnerability and sensitivity. The icons below reflect this grouping scheme.

3) Polygons, points, and arcs are color-coded based on the species composition of each feature, as shown below:

ELEMENT	COLOR AND HATCH PATTERN
Marine mammals	Brown horizontal hatch
Birds	Green diagonal hatch

Terrestrial mammals	Brown vertical hatch
Fish	Blue diagonal hatch
Invertebrates	Orange diagonal hatch
Reptiles	Red diagonal hatch
Kelp	Purple 'simplified wetland pattern'
Eelgrass	Purple horizontal hatch
Multi-element group	Black diagonal hatch

4) There is a Resources at Risk number (RAR#) located under each icon or group of icons. The RAR# references a table on the reverse side of the map with a complete list of species associated with the feature. No icons are associated with kelp plotted on the maps.

5) Also associated with each species in the table is the state and federal protected status as threatened (T) or endangered (E) as well as concentration, seasonality, and life-history information.

6) For species that are found throughout general geographical areas or habitat types on certain maps, displaying the polygons for these species would cover large areas or would obscure the shoreline and biological features, making the maps very difficult to read. In these cases, a small box is shown on the map which states that the species are "Common in ..." (e.g., "Common in Monterey Bay" or "Common Nearshore"). The geographical extent of the polygons is depicted in the digital data available on the CD-ROM.

OFFSHORE SENSITIVITY MAP

In addition to the 41 detailed maps in the atlas, an Offshore Sensitivity Map was created. This map is intended to provide a regional overview of the environmentally sensitive nearshore and offshore marine resources of the Central California Coast, Monterey Bay National Marine Sanctuary, and Gulf of the Farallones National Marine Sanctuary. All of the biological data displayed on the offshore map are included in the digital data available on the CD-ROM. Nearshore biological data shown on the offshore map that overlaps with the detailed maps are also displayed on the individual map sheets. Please refer to the detailed species group (e.g., marine mammals, birds) and human-use resource summaries below for more information on the mapped offshore resources.

MARINE MAMMALS

Marine mammals depicted in the Central California Atlas include selected species of dolphins, porpoises, pinnipeds, sea otters, and whales. Marine mammal concentration areas are mapped based on interviews with local resource experts from UCSC Long Marine Lab, NPS PRNS, NOAA GFNMS, NOAA MBNMS, NMFS, CDF&G, MLML, USFWS, USGS, and the digital and hardcopy data sources they provided. Marine mammal data are included on the 41 detailed maps and/or on the regional offshore map. All data are included digitally on the CD-ROM.

Cetacean migration routes and "hot spots" – Nearshore and offshore zones used for migration by whales, dolphins, and porpoises commonly found in Central California waters are mapped. In addition, known "hot spots" where animals are reported to concentrate are shown, as well as areas known to contain discrete, resident stocks. For instance, harbor porpoise (*Phocoena phocoena),* from three stocks occur in the study area: San Francisco-Russian River stock (~8,500 animals), Monterey Bay stock (~1,600 animals), and Morro Bay stock (~1,600 animals). Nearshore zones and concentration areas are depicted on the 41 detailed maps, or in "Common in Coastal Waters" boxes. Offshore zones and concentration areas are shown on the regional offshore map.

Pinniped haul-outs and rookeries – California sea lion (*Zalophus californianus*), harbor seal (*Phoca vitulina*), northern elephant seal (*Mirounga angustirostris*), and Steller sea lion (*Eumetopias jubatus,* federally threatened*)* haul-outs and rookeries are shown. Location and concentration information for California sea lion, harbor seal, and Steller sea lion is based primarily on surveys conducted by NMFS from 1998-2004. For sites only surveyed during one calendar year, one numeric value is shown, and that is the maximum single day count recorded during the year surveyed (in some cases a site was surveyed two or three times a year, in other cases it was surveyed once a year). For sites surveyed over multiple years, a range of values is shown (e.g. 250-350 INDIV.). The first number represents the maximum single day count from the year with the lowest concentration, and the second number represents the maximum single day count from the year with the highest concentration. In areas where individual haul-out sites nearly overlap due to the scale at which the maps are produced, the individual locations and corresponding concentration information are combined into a single polygon to ensure readability. Local resource experts provided information on northern elephant seal haul-outs and rookeries, as well as supplementary information for the species surveyed by NMFS. USFWS and NMFS personnel provided information on northern fur seal (*Callorhinus ursinus*) and Guadalupe fur seal (*Arctocephalus townsendi,* state and federally threatened).

Sea otters – Southern sea otter (*Enhydra lutris nereis*, federally threatened) distribution is depicted in the atlas. UCSC, along with partners from other universities and agencies, conduct semi-annual shipboard surveys of sea otters and provided spring/fall range-wide census data for use in this atlas. The data show "sea otter habitat" (defined as bottom from the coastline to the 40-meter isobath) divided into 17 coastline sections. The sections delineate areas of similar bottom habitat. The census data represent a 3-year average (2003-2005) from the spring census data. The 3-year average is the "official gauge of sea otter population dynamics" (T. Tinker, UCSC, pers. comm.). The concentration field contains a numeric 'independents' field, which corresponds to males, females, and pups over 6 months old (the age at which pups are considered to be 'independent' from their mothers) per segment. Population level effects from oil spills are due to female and pup mortality, so a 'pups' concentration field is also included to indicate those segments with higher vulnerability for female and pup oiling. Highest total concentrations of sea otters during the 2003-2005 surveys were in Monterey Bay segments.

Data providers and expert contacts* for Central California marine mammals are:

Name	Agency	City	Phone	Species
Tim Tinker	UCSC Long Marine Lab	Santa Cruz	831/459 -2357	Sea otters
Mark Lowry	NMFS	La Jolla	858/546 -7174	Seals, sea lions
Karin Forney	NMFS	Moss Landing	831/420 -3908	Cetaceans
Scott Benson	NMFS	Moss Landing	831/771 -4354	Marine mammals
Jim Harvey	Moss Landing Marine Labs	Moss Landing	831/771 -4434	Marine mammals
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464 -5187	Point Reyes NS species
Jan Roletto	NOAA GFNMS	San Francisco	415/561 -6622	GFNMS species
Joelle Buffa	USFWS	Newark	510/792 -0222	Gulf of Farallones NWR species
Michele Roest	NOAA MBNMS	San Simeon	805/927 -2145	Elephant seals
Melissa Boggs-Blalack	CDF&G	Morro Bay	805/772 -7569	SLO County species
Christine Pattison	CDF&G	Morro Bay	805/772 -0114	SLO County species

***Note:** this is not a comprehensive list of Central California marine mammal experts. Contact state and federal agencies, universities, and other appropriate entities in the event of an incident.

Major Data Sources Consulted: Marine Mammals

Brown, J. 2005. Blue whale (Eastern North Pacific stock) *Balaenoptera musculus*. NOAA MBNMS, unpublished draft report, 15 pp.

Brown, J. 2005. Gray whale (Eastern North Pacific stock) *Eschrichtius robustus*. NOAA MBNMS, unpublished draft report, 15 pp.

Brown, J. 2005. Guadalupe fur seal *Arctocephalus townsendi*. NOAA MBNMS, unpublished draft report, 15 pp.

Brown, J. 2005. Harbor porpoise (San Francisco-Russian River, Monterey Bay, and Morro Bay stocks) *Phocoena phocoena*. NOAA MBNMS, unpublished draft report, 11 pp.

Brown, J. 2005. Humpback whale (Eastern North Pacific stock) *Megaptera movaeangliae*. NOAA MBNMS, unpublished draft report, 14 pp.

Brown, J. 2005. Northern elephant seal *Mirounga angustirostris*. NOAA MBNMS, unpublished draft report, 14 pp.

Brown, J. 2005. Sei whale (Eastern North Pacific stock) *Balaenoptera borealis*. NOAA MBNMS, unpublished draft report, 10 pp.

Brown, J. 2005. Sperm whale (California/Oregon/Washington stock) *Physeter macrocephalus*. NOAA MBNMS, unpublished draft report, 17 pp.

Brown, J. 2005. Steller sea lion (Eastern U.S. stock) *Eumetopias jubatus*. NOAA MBNMS, unpublished draft report, 16 pp.

California Department of Fish and Game Office of Spill Prevention and Response (CDF&G OSPR) and U.S. Coast Guard. 2005. 2005 Sector LA/LB – Area Contingency Plan (ACP) Volume II: Section 9810-Area Contingency Plan 4, LA/LB North Area Committee, USCG Sector LA/LB, San Luis Obispo, Santa Barbara, and Ventura Counties and Channel Islands. CDF&G OSPR and USCG, pp 9811-1 – 9812. 3-24.

CDF&G OSPR and U.S. Coast Guard. 2005. 2005 Sector San Francisco – Area Contingency Plan (ACP) Volume II: Section 9800-Area Committee Detail for: ACP 3 – Central Coast. CDF&G OSPR and USCG, 206 pp.

Caretta, J.V., K.A. Forney, M.M. Muto, J. Barlow, J. Baker, B. Hanson, and M.S. Lowry. 2005. U.S. Pacific marine mammal stock assessments 2004. NOAA-TM-NMFS-SWFSC-375, U.S. DOC, NOAA, NMFS, SWFSC, 323 pp.

Lowry, M. 2005. California and Steller sea lion and harbor seal haul-out locations. NOAA NMFS, La Jolla, CA, tabular digital data.

NOAA. 2001. Central California ESI Atlas. CD-ROM, Seattle, WA; adapted from RPI, 1994, Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California, Columbia, SC, 41 maps +introductory text.

Tinker, T. 2005. Sea otter spring censuses (2003, 2004, and 2005). UCSC Long Marine Lab, Santa Cruz, CA, vector digital data.

TERRESTRIAL MAMMALS

Northern river otter (*Lontra canadensis*), Point Reyes jumping mouse (*Zapustrinotatus orarius*), and salt-marsh harvest mouse (*Reithrodontomys raviventris*, state and federally endangered) are mapped in this atlas. Location information was provided by NPS PRNS, NPS GGNRA, and NOAA GFNMS. The California Natural Diversity Database (CNDDB), provided by CDF&G, was used to supplement data from resource experts. Only species that are state and/or federally listed and records that were recent since the first draft of the Central California ESI Atlas (published in 1994) were added.

Data providers and expert contacts* for Central California terrestrial mammals are:

Name	Agency	City	Phone	Species
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464 -5187	Point Reyes NS species
Jan Roletto	NOAA GFNMS	San Francisco	415/561 -6622	GFNMS species
Darren Fong	NPS GGNRA	San Francisco	415/331 -8716	GGNRA species

***Note:** this is not a comprehensive list of Central California terrestrial mammal experts. Contact state and federal agencies, universities, and other appropriate entities in the event of an incident.

Major Data Sources Consulted: Terrestrial Mammals

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

BIRDS

Birds mapped in this atlas include pelagic birds, shorebirds, wading birds, diving birds, waterfowl, gulls, terns, raptors, and select passerine birds. Species that are federally and state listed and coastal nesting, roosting, and rafting locations are specifically emphasized.

Bird concentration areas are based primarily on information gathered at interviews with local resource experts from USGS, PRBO, MLML, NPS PRNS, NOAA GFNMS, NPS GGNRA, Pacific Eco Logic, Ventana Wildlife Society, SCPBRG, CDF&G, and H.T. Harvey and Associates. Additional sources are listed below and are included in the metadata accompanying the CD-ROM.

American peregrine falcons - Due to the sensitive nature of displaying peregrine falcon (*Falco peregrinus anatum*, state endangered) nest locations, "Present in Area" boxes are shown on maps where falcons are likely to occur. Please contact the SCPBRG for more detailed information in the event of an incident. Potential nesting areas along Point Reyes National Seashore were identified by NPS trustees.

Raptor concentration areas – Nearshore and inland "hot spots" for California condor (*Gymnogyps californianus*, federally and state endangered) are depicted on the maps. The spatial extent shown was generated from tagging data provided by Ventana Wildlife Society.

Pelagic species general distribution and concentration areas – Eight 'zones' were created by USGS, NOAA, and MLML marine bird experts in order to depict the overall distribution of pelagic species throughout the study area from the nearshore environment to offshore MBNMS waters. The zones differ in depth, distance from shore, and other habitat features. A variety of species occur in the zones, including: waterfowl, diving birds, gulls, terns, seabirds, and pelagic shorebirds. In addition, nearshore and offshore on-water seasonal "hot spots" for pelagic species were mapped.

Nesting colonies – Locations of seabird, gull, tern, and shorebird colonies are mapped. NOAA NCCOS provided the majority of colony size and location data on the Biogeographic Assessment CD-ROM (see references on the NCCOS CD-ROM for full details on the existing datasets that were compiled to create the coverage used). Vandenberg Air Force Base and local experts (USFWS, NOAA, etc.) provided additional data and updates.

Western snowy plover nesting and wintering areas and shorebird concentration areas – Western snowy plover (*Charadrius alexandrinus nivosus,* federally threatened) nesting and wintering areas along beaches are shown. Snowy plovers are vulnerable to disturbance during response activities, as well as oiling. Migratory shorebirds stage in the intertidal zone and along beaches in certain areas during fall and spring. Some species overwinter and/or are present during the summer. Location and seasonality information was provided via reports and expert knowledge.

Estuarine, wetland, and upland concentration areas – Waterfowl, diving birds, wading birds, shorebirds, raptors, and passerine species that concentrate in estuaries and wetlands (e.g., Elkhorn Slough, Drakes Estero) or sensitive upland areas are mapped. The information was provided via reports and local expert knowledge.

Brown pelican roost locations – Brown pelican (*Pelecanus occidentalis,* state and federally endangered) roost sites are depicted on the maps. Location and concentration information was compiled from a report documenting aerial surveys conducted from 1998-2000 in MBNMS and GFNMS. The surveys were supported by CDF&G and the American Trader Oilspill Restoration Trustee Council. Ranges shown in the concentration field were the minimum and maximum counts across the 3-year survey period. Roost sites outside of the study area covered by the report were provided by Vandenberg Air Force Base and other resource experts. American white pelican (*Pelecanus erythrorhynchos*) concentration areas are also mapped.

Threatened and endangered species – The California Natural Diversity Database (CNDDB) was used to supplement the data described above with additional location information for threatened and endangered coastal bird species. Only species that are state and/or federally listed and records that were recent since the first draft of the Central California ESI Atlas (published in 1994) were added.

In some cases, individual species are lumped into species 'assemblages' for summary purposes. Table 1 is a list of species 'assemblages' used in the atlas and representative species in each group.

Table 1. Bird assemblages in the Central California ESI Atlas.

Assemblage	Species Examples
Seabirds	Auklets, murres, murrelets, storm-petrels, albatrosses, shearwaters, guillemots, etc.
Diving birds	Pelicans, cormorants, grebes, and loons
Raptors	Condor, osprey, falcons, hawks, etc.
Shorebirds	Plovers, oystercatchers, phalaropes, yellowlegs, sandpipers, willet, tattlers, killdeer, stilt, avocet, curlews, whimbrel, godwits, turnstones, surfbird, knot, sanderling, dunlin, dowitcher, snipe, etc.
Wading birds	Rails, bitterns, herons, egrets, etc.
Waterfowl	Brant, dabbling ducks, diving ducks, geese, etc.
Dabbling ducks	Mallard, gadwall, wigeons, teals, shoveler, pintail, etc.
Diving ducks	Canvasback, ring-necked duck, scaup, scoters, bufflehead, goldeneye, mergansers, ruddy duck, etc.
Gulls	California gull, western gull, herring gull, glaucous-winged gull, Sabine's gull, etc.
Terns	Caspian tern, elegant tern, common tern, Forster's tern, California least tern, etc.

Concentration and density information for bird points and polygons – When available, concentration information for birds in this atlas was based on survey data and is shown either as a single numeric value from the most recent survey date (e.g., 4,000 INDIV.) or a range of numeric values (e.g., 200-400 INDIV.). Please see the references and accompanying metadata for dates of individual data sets. If no survey data were available or appropriate, concentration information was provided by the resource experts, and was typically subjective (e.g., low, moderate, high). The density terminology is considered to be relative to each individual species; a 'high' density of loons (e.g., thousands) may be a smaller number of birds than a 'high' density of sooty shearwaters, which, for instance, may occur in the 100,000s on the water. It was not always possible to use numeric values because of variability between seasons and years. Please contact the local resource experts for further clarification in the event of an incident.

Data providers and expert contacts* for Central California birds are:

Name	Agency	City	Phone/web site	Species
Josh Adams	USGS	Moss Landing	831/633-7259	Seabirds
Gary Page	PRBO	Stinson Beach	415/868-0371	Snowy plovers, shorebirds, waterbirds
Jim Harvey	Moss Landing Marine Labs	Moss Landing	831/771-4434	Seabirds
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464-5187	Point Reyes NS species
Jan Roletto	NOAA GFNMS	San Francisco	415/561-6622	GFNMS species
Bill Merkle	NPS GGNRA	San Francisco	415/331-2894	GGNRA species
Laird Henkel	H.T. Harvey & Assoc.	Watsonville	831/786-1700 x104	Seabirds
Deborah Jaques	Pacific Eco Logic	Crescent City	707/464-5878	Brown pelican
Kelly Sorenson	Ventana Wildlife Society	Salinas	831/455-9514	California condor
SCPBRG	Long Marine Lab	Santa Cruz	http://www2.ucsc.edu/scpbrg/	Peregrine falcon/ raptors
Melissa Boggs-Blalack	CDF&G	Morro Bay	805/772-7569	SLO County species
Christine Pattison	CDF&G	Morro Bay	805/772-0114	SLO County species

***Note:** this is not a comprehensive list of Central California bird experts. Please contact state and federal agencies, universities, and other appropriate entities in the case of an incident.

Major Data Sources Consulted: Birds

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

California Department of Fish and Game Office of Spill Prevention and Response (CDF&G OSPR) and U.S. Coast Guard. 2005. 2005 Sector LA/LB – Area Contingency Plan (ACP) Volume II: Section 9810-Area Contingency Plan 4, LA/LB North Area Committee, USCG Sector LA/LB, San Luis Obispo, Santa Barbara, and Ventura Counties and Channel Islands. CDF&G OSPR and USCG, pp 9811-1 – 9812.3-24.

CDF&G OSPR and U.S. Coast Guard. 2005. 2005 Sector San Francisco – Area Contingency Plan (ACP) Volume II: Section 9800-Area Committee Detail for: ACP 3 – Central Coast. CDF&G OSPR and USCG, 206 pp.

Golden Gate National Recreation Area. 1998. Snowy plover management plan: Ocean Beach, San Francisco. Draft report. GGNRA, 58 pp. + appendices.

NOAA National Centers for Coastal Ocean Science (NCCOS). 2003. A Biogeographic Assessment off North/Central California: To Support the Joint Management Plan Review for Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries: Phase I – Marine Fishes, Birds and Mammals. Prepared by NCCOS's Biogeography Team in Cooperation with the National Marine Sanctuary Program, Silver Spring, MD, 145 pp.

Robeson, D. 2002. Monterey Birds. Monterey Peninsula Audubon Society, Carmel, CA, 536 pp.

Strong, C.S. and D.J. Jaques. 2000. Aerial surveys of brown pelicans at roost sites within the Monterey Bay and Gulf of the Farallones National Marine Sanctuaries, 1998-2000. A report to the Monterey Bay NMS and Gulf of the Farallones NMS, the American Trader Oilspill Restoration Trustee Council, and California Dept. of Fish and Game, unpublished report, 5 pp.

U.S. Air Force, Vandenberg Air Force Base. 2005. Seabird, brown pelican, and least tern locations, vector digital data.

Ventana Wildlife Society. 2005. Locations of GPS marked California condors: Big Sur release area, digital map.

REPTILES and AMPHIBIANS

Documented nearshore and offshore concentration areas for leatherback sea turtles (*Dermochelys coriacea*, federally endangered) are included in this atlas. In addition, a few sensitive terrestrial and freshwater/brackishwater species are mapped, including California red-legged frog (*Rana aurora draytonii*, federally threatened), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, state and federally endangered), western pond turtle (*Clemmys marmorata*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*, state and federally endangered), and California legless lizard (*Anniella pulchra*).

Reptile and amphibian concentration areas are mapped based on interviews with resource experts from CDF&G, NMFS, and NPS. The CNDDB was used to supplement data from resource experts. Only species that are state and/or federally listed and records that were recent since the first draft of the Central California ESI Atlas (published in 1994) were added.

Data providers and expert contacts* for Central California reptiles and amphibians are:

Name	Agency	City	Phone	Species
Scott Benson	NMFS	Moss Landing	831/771-4354	Leatherback sea turtle
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464-5187	Point Reyes NS species
Darren Fong	NPS GGNRA	San Francisco	415/331-8716	Aquatic species
Jennifer Nelson	CDF&G	Aptos	831/688-6768	Terrestrial/ estuarine species
Melissa Boggs-Blalack	CDF&G	Morro Bay	805/772-7569	SLO County species

***Note:** this is not a comprehensive list of Central California reptile and amphibian experts. Contact state and federal agencies, universities, and other appropriate entities in the event of an incident.

Major Data Sources Consulted: Reptiles and Amphibians

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

CDF&G OSPR and U.S. Coast Guard. 2005. 2005 Sector LA/LB – Area Contingency Plan (ACP) Volume II: Section 9810-Area Contingency Plan 4, LA/LB North Area Committee, USCG Sector LA/LB, San Luis Obispo, Santa Barbara, and Ventura Counties and Channel Islands. CDF&G OSPR and USCG, pp. 9811-1 – 9812.3-24.

CDF&G OSPR and U.S. Coast Guard. 2005. 2005 Sector San Francisco – Area Contingency Plan (ACP) Volume II: Section 9800-Area Committee Detail for: ACP 3 – Central Coast. CDF&G OSPR and USCG, 206 pp.

FISH

Finfish depicted in this atlas include selected marine, estuarine, and anadromous species. Species of commercial, recreational, ecological, and/or conservation interest are emphasized. Species using habitats that are more likely to be impacted by oil spills were prioritized for inclusion over widely distributed, mobile, and offshore species.

Tidewater goby - Tidewater goby (*Eucyclogobius newberryi*, federally endangered) inhabit coastal lagoons and the uppermost brackish zone of larger estuaries. Streams documented by USFWS as occupied by gobies in or prior to 2005 are mapped.

Anadromous populations – The Central California Coast coho salmon (*Oncorhynchus kisutch*) ESU (federally and state endangered) occurs

in streams and rivers from north of the study area to Monterey Bay. The Central California Coast (federally threatened), South-Central California Coast (federally threatened), and Southern California (federally endangered) steelhead (*Oncorhynchus mykiss*) ESUs occur in the study area. Pacific lamprey (*Lampetra tridentata*) occurs in the study area, but is not federally or state listed. Adult steelhead and coho would be most at risk from late October to mid-June as they congregate at river mouths waiting for sand bars to breach. Migration from creeks to the ocean occurs around June 15. During the summer and fall, juveniles are rearing in lagoons and adults and juveniles may be nearshore. Anadromous species distribution information was provided by CDF&G.

Marine and estuarine species – Concentration areas and some general distributions of coastal (e.g., California halibut, *Paralichthys californicus*), kelp-bed associated (e.g., rockfish), sandy habitat associated (e.g., California grunion, *Leuresthes tenuis*), and rocky habitat associated species (e.g., seaperch), particularly those that spawn nearshore during part of the year (e.g., surfperch), are mapped. Species associated with important estuarine systems (e.g., Elkhorn Slough, Morro Bay) are also highlighted. The lists of fish species associated with sensitive, mapped habitats should be considered representative only. Many of these species have distributions beyond those mapped in the nearshore environment. Local fisheries experts should be contacted for more complete information in the event of an incident.

Concentration and density information - Concentration information was provided by the resource experts or was cited in reports and was typically subjective (e.g., low, high).

Mapping all fish species that are potentially vulnerable to oil spills in Central California was not possible, due to the wide distribution of some species and a lack of specific spatial and temporal data. Table 2 lists some representative species that occur in potentially sensitive habitats. This is not a comprehensive list of species that occur in the area, but rather highlights some key habitats and species associated with them.

Table 2. Representative fish species and sensitive habitats in Central California

Common Name	**Scientific Name**	**General Habitat and Distribution**	**Species 'Group'**
Pacific sardine	*Sardinops sagax*	Schooling, pelagic	Forage fish – concentrate in bird/marine mammal 'feeding areas'
Northern anchovy	*Engraulis mordax*	Within 160 km of shore; surface to 300 m	Forage fish – concentrate in bird/marine mammal 'feeding areas'
Basking shark	*Cetorhinus maximus*	On or near the surface, near plankton concentrations	Species vulnerable to surface slicks
Ocean sunfish	*Mola mola*	At or near the surface, singly or in small groups	Species vulnerable to surface slicks
Swordfish	*Xiphias gladius*	Surface to 125 m; move between inshore and offshore	Pelagic
California grunion	*Leuresthes tenuis*	Pelagic, schooling, surf line to 18 m; spawn out of water on beach	Beach spawners
Surf smelt	*Hypomesus pretiosus*	Spawn in upper intertidal, coarse-sand/ gravel beaches	Beach spawners
Nursery species	Numerous	Larval and juvenile fish use eelgrass beds as refuge	Eelgrass beds, estuaries
Rockfish (certain species)	*Sebastes spp.*	Juveniles, in particular, use shallow water kelp beds	Kelp beds
Rubberlip seaperch	*Rhacochilus toxotes*	Mid-water to bottom in lower kelp canopy, hard structures	Kelp beds, rocky reefs, manmade structures
Monkeyface prickleback	*Cebisichthys violaceus*	Crevices and caves in upper intertidal zone, shallow subtidal rocky areas	Rocky intertidal
Rockfish (certain species)	*Sebastes spp.*	Tide pools, around rocks, structure	Rocky intertidal
Larval fishes (rockfishes, etc.)	Numerous	Coastal waters out to 80-100 km offshore (typically late winter to early spring)	Open water

Data providers and expert contacts* for Central California fish are:

Name	**Agency**	**City**	**Phone**	**Species**
Ken Oda	CDF&G	Monterey	831/649 -2884	Marine fish
Darren Fong	NPS GGNRA	San Francisco	415/331 -8716	Aquatic species
Jennifer Nelson	CDF&G	Aptos	831/688 -6768	Anadromous species
Paul Reilly	CDF&G	Monterey	831/649 -2879	Marine fish
Milton Love	UCSB	Santa Barbara	805/893 -2935	Marine fish
Linda Snook	UCSB	Santa Cruz	831/457 -9291	Marine fish
Christine Pattison	CDF&G	Morro Bay	805/772 -0114	SLO County species
Melissa Boggs-Blalack	CDF&G	Morro Bay	805/772 -7569	SLO County species
Karen Martin	Pepperdine	Malibu	310/506 -4808	Grunion
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464 -5187	Point Reyes NS species
Jan Roletto	NOAA GFNMS	San Francisco	415/561 -6622	GFNMS species

***Note:** this is not a comprehensive list of Central California fish experts. Contact state and federal agencies, universities, and other appropriate entities in the event of an incident.

Major Data Sources Consulted: Fish

Brown, J.A. 2002. A plan for monitoring the fish assemblage in Elkhorn Slough. Elkhorn Slough Technical Report Series 2002:1.

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

CDF&G OSPR, and U.S. Coast Guard. 2005. 2005 Sector LA/LB – Area Contingency Plan (ACP) Volume II: Section 9810-Area Contingency Plan 4, LA/LB North Area Committee, USCG Sector LA/LB, San Luis Obispo, Santa Barbara, and Ventura Counties and Channel Islands. CDF&G OSPR and USCG, pp 9811-1 – 9812.3-24.

CDF&G OSPR and U.S. Coast Guard. 2005. 2005 Sector San Francisco – Area Contingency Plan (ACP) Volume II: Section 9800-Area Committee Detail for: ACP 3 – Central Coast. CDF&G OSPR and USCG, 206 pp.

Love, M. 1996. Probably More Than You Want To Know About the Fishes of the Pacific Coast. Really Big Press, Santa Barbara, CA, 381 pp.

Miller, D.J. and R.N. Lea. 1972. Guide to the Coastal Marine Fishes of California, Fish Bulletin No. 157. California Department of Fish and Game, Sacramento, CA, 249 pp.

Monaco, M.E., R.L. Emmett, D.M. Nelson, and S.A. Hinton. 1990. Distribution and abundance of fishes and invertebrates in west coast estuaries, Volume I: Data Summaries. ELMR Rep. No. 4. NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD, 232 pp.

NOAA. 2001. Central California ESI Atlas. CD-ROM, Seattle, WA; adapted from RPI, 1994, Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California, Columbia, SC, 41 maps +introductory text.

U.S. Fish and Wildlife Service. 2005. Recovery Plan for the Tidewater Goby (*Eucyclogobius newberryi*). U.S. Fish and Wildlife Service, Portland, Oregon. vi+199 pp.

INVERTEBRATES

Invertebrates depicted in this atlas include selected intertidal, subtidal, marine, and terrestrial species. Species of commercial, recreational, ecological, and/or conservation interest were emphasized. Invertebrate distributions are based on information gathered at interviews with NPS, CDF&G, and NOAA staff and the digital and hardcopy data they provided.

A limited number of marine invertebrate are mapped due to broad extents of distribution and/or a lack of specific location information appropriate for this atlas and database. A few nearshore hot spots are identified for squid, an important commercial resource, and Dungeness crab females that may be in the surf zone along sandy beaches during the summer months. Beaches where pismo clams, a recreationally harvested species, occur were also highlighted. A few other bivalves are mapped in discrete areas like estuaries.

Because the California coast has very diverse tidepool and other nearshore invertebrate communities, it is not practical or possible to map the extent of all invertebrate species that may be impacted by oil spills. We attempted to show the distributions of a few species (e.g., black abalone) that are considered to be "target species" by PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans, www.pisco.org) and MARINe (Multi-Agency Rocky Intertidal Network, www.marine.gov). In addition, we included a socio-economic feature called "Sampling Sites" that provides information on the locations of long-term rocky intertidal survey sites. In the event of a spill, the principal investigators may be contacted for additional information on individual sites or areas of interest. Some intertidal species have long recovery periods following oil spills.

Rare and/or listed species of gastropods and insects in coastal areas were mapped. The California Natural Diversity Database (CNDDB), provided by CDF&G, was used to supplement data from resource experts. Only species that were state and/or federally listed and records that were recent since the first draft of the Central California ESI Atlas (published in 1994) were added.

Table 3 includes some basic information on representative invertebrate species in sensitive intertidal and subtidal habitats. This is not a comprehensive list of species that occur in the area, but rather highlights key habitats and species associated with them.

Table 3. Representative invertebrate species and sensitive habitats in Central California

Common Name	Scientific Name	Habitat	Species 'Group'
Black abalone	*Haliotis cracherodii*	High intertidal zone to 6 m depth	Rocky intertidal
Red abalone	*Haliotis rufescens*	Subtidal waters to 20 m depth	Subtidal
Anenomes	*Anthopleura spp.*	Intertidal zone, tidepools	Rocky intertidal
Barnacles	Multiple species	Intertidal zone	Rocky intertidal
Owl limpet	*Lottia gigantea*	Intertidal zone	Rocky intertidal
California mussel	*Mytilus californianus*	Intertidal and subtidal zones, form beds that create habitat for other spp.	Rocky intertidal
Sea stars	Multiple species	Intertidal and subtidal zones	Rocky intertidal

Data providers and expert contacts* for Central California invertebrates are:

Name	Agency	City	Phone	Species
Ken Oda	CDF&G	Monterey	831/649-2884	Marine invertebrates
Steve Lonhart	NOAA MBNMS	Monterey	831/647-4222	Marine invertebrates, PISCO
Paul Reilly	CDF&G	Monterey	831/649-2879	Marine invertebrates
Pete Raimondi	UCSC	Santa Cruz	831/459-5674	Marine invertebrates, PISCO
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464-5187	Point Reyes NS species
Christine Pattison	CDF&G	Morro Bay	805/772-0114	SLO County species
Jan Roletto	NOAA GFNMS	San Francisco	415/561-6622	GFNMS species
Melissa Boggs-Blalack	CDF&G	Morro Bay	805/772-7569	SLO County species

***Note:** this is not a comprehensive list of Central California invertebrate experts. Please contact state and federal agencies, universities, and other appropriate entities in the case of an incident.

Major Data Sources Consulted: Invertebrates

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

http://www.fitzgeraldreserve.org/

NOAA. 2001. Central California ESI Atlas. CD-ROM, Seattle, WA; adapted from RPI, 1994, Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California, Columbia, SC, 41 maps +introductory text.

HABITATS

Kelp and eelgrass are mapped in this atlas.

Kelp - Kelp distribution included in this atlas is based on 1999, 2002, and 2003 digital coverages provided by CDF&G Marine Resources GIS. We joined and processed the three separate coverages, buffered the aggregate, and produced the distribution shown on the maps. Multiple years of data were combined in order to display a nearshore zone within which kelp may be present, rather than a single year of data. A purple pattern was used to display kelp. No icons or RAR numbers are used. The kelp canopy is most often present from March to November. Storms often knock down the plants during winter months.

Eelgrass – Eelgrass is mapped in Morro Bay and Drakes Estero.

Terrestrial plants are not specifically mapped in this atlas. "Alerts" (see human-use resources) were placed in some known locations of endangered, threatened, or rare plants or communities that may be vulnerable to oil or response activities. Please contact CDF&G and/or refer to the CNDDB for more information.

Data providers and expert contacts* for Central California habitats are:

Name	Agency	City	Phone	Species
Judd Muskat	CDF&G	Sacramento	916/324-3411	GIS – CNDDB
Sarah Allen	NPS Point Reyes NS	Point Reyes	415/464-5187	Point Reyes NS species
Jan Roletto	NOAA GFNMS	San Francisco	415/561-6622	GFNMS species
Paul Reilly	CDF&G	Monterey	831/649-2879	Kelp and associated fish species
Deborah Hillyard	CDF&G	Morro Bay	805/772-4318	Terrestrial plants

***Note:** this is not a comprehensive list of Central California habitat experts. Contact state and federal agencies, universities, and other appropriate entities in the event of an incident.

Major Data Sources Consulted: Habitats

CDF&G, Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch. 2005. California Natural Diversity Database (CNDDB), vector digital data.

CDF&G Marine Region GIS Unit. 2003. California coastal kelp surveys: 1999, 2002, 2003, vector digital data.

Morro Bay Volunteer Monitoring Program. 2005. Eelgrass monitoring update, 1 map.

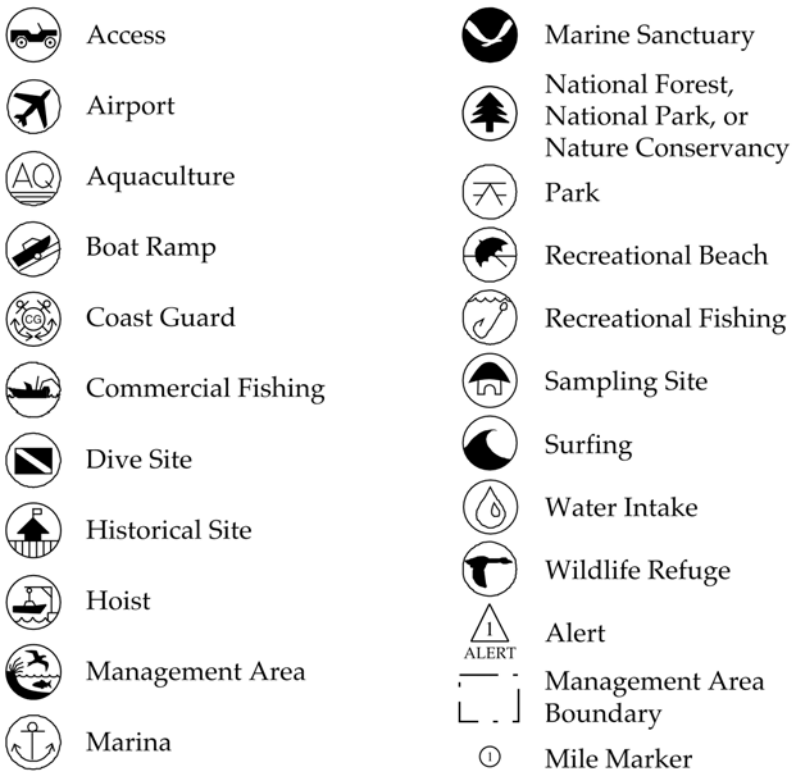
NOAA. 2001. Central California ESI Atlas. CD-ROM, Seattle, WA; adapted from RPI, 1994, Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California, Columbia, SC, 41 maps +introductory text.

HUMAN-USE RESOURCES

Management areas such as national marine sanctuaries, wildlife refuges, and national parks are mapped as polygons, with the boundaries indicated as a black dot-dash line with the corresponding icon placed near the center of the polygon. Where the feature is a known point location (e.g., water intake, marina), the location is shown as a small black dot and a leader line is drawn from it to the icon. In cases of sensitive resources or features in more general locations (e.g., dive sites, beaches), an icon without a leader line may be placed in the vicinity of the feature.

A human-use number (HU#) can be found below the icon for some human-use resources, such as management areas,

recreational beaches, and aquaculture sites. The HU# references a table on the reverse side of the map and may provide more information (i.e., name, contact) for that particular resource. The types of human use resources mapped in this atlas are depicted below.



Access: Sites where beach access by vehicle is possible.

Airport: Location of airports, airfields, landing strips, helipads, etc., whether they are manned or unmanned.

Aquaculture: Location of aquaculture facilities including hatcheries and oyster farms.

Boat Ramp: Location of boat ramps.

Coast Guard: Location of U.S. Coast Guard stations.

Commercial Fishing: Areas used for commercial fishing.

Dive Site: Location of popular dive sites.

Historical Site: A very limited number of historical sites are shown on NPS lands. Most cultural resource information is confidential and is, therefore, not displayed on the maps. Please consult with the Office of Historic Preservation of the California Department of Parks and Recreation and the Native American Heritage Commission for more information in the event of an incident.

Hoist: Location of facilities that have the capability to hoist boats in and out of the water.

Management Area: Locations of coastal CDF&G managed properties. For more information and updates regarding state marine protected areas, including, marine reserves, state marine parks, and state marine conservation areas, please refer to the CDF&G Marine Life Protection Act Initiative website, http://www.dfg.ca.gov/mrd/mlpa/.

Marina: Location of marinas.

Marine Sanctuary: Boundaries of National Marine Sanctuaries managed by NOAA.

Mile Marker: Mile markers in 2-mile intervals are shown on Highway 1 along the Big Sur coast as reference points. More detailed 0.1-mile intervals are available within the original data set included on the CD-ROM.

National Forest: Boundaries of National Forest lands.

National Park: Boundaries of National Park lands.

National Park Service Wilderness: Boundaries of wilderness lands managed by NPS.

Nature Conservancy: Boundaries of Nature Conservancy lands.

Park: Boundaries of state parks managed by California Department of Parks and Recreation.

Recreational Beach: Location of recreational beaches.

Recreational Fishing: Areas utilized for recreational fishing and/or harvesting invertebrates.

Sampling Site: Location of survey sites for scientific monitoring (e.g., PISCO sites used for intertidal community studies).

Surfing: Location of popular surfing spots.

Water Intake: Location of seawater intakes.

Wildlife Refuge: Location of wildlife refuges managed by USFWS and CDF&G.

Alert: CDF&G provided a list of "Alerts" or locations that should be highlighted for protection due to the presence of certain highly vulnerable resources. Additional "Alerts" were added to maps with similar resources that were not highlighted in the previous atlas, published in 1994. A yellow triangle representing the "Alert" is shown on the map and a description of the resource(s) of concern is provided in the table. For all maps with specific "Alerts", the following information should also be considered:

"All natural resources indicated are sensitive to the adverse effects of oil spills and response activities.

The resources highlighted on the map are ultra-sensitive to disturbance by response activities and may be harmed to a greater degree by misguided or uncoordinated response activities than by the spill itself. These impacts are avoidable if understood. Many of the plants and wildlife identified are either state or federally listed as threatened or endangered or represent wildlife populations whose numbers are declining.

Disturbance to colonial nesting seabirds by helicopters is potentially the most damaging result from spill response activities. In seconds, all eggs and young can be destroyed when the adults are flushed from a colony. 4-wheel drive vehicles and ATVs must operate with caution to avoid disturbing or destroying ground nesting birds. During the months shown, vehicles will need to be escorted until nesting areas are delineated with barrier tape and flags. Also be aware of the potential presence of sea otters when operating outboard motors, etc., in a sea otter habitat zone.

When responding in this area, be aware that uncoordinated response activities can cause great substantial damage to wildlife resources. See areas of greatest concern. Consult CDFG-OSPR, USFWS, NPS, or NOAA for details."

Major Data Sources Used: Human-Use Resources

California DOT. 1997. Airports. California Environmental Resources Evaluation System (CERES), vector digital data.

CDF&G Marine Region GIS Lab. 2005. California Marine Protected Areas, vector digital data.

CDF&G OSPR. 2005. Economic sites for counties in study area, vector digital data.

CDF&G OSPR. 2005. MBNMS boundary, vector digital data.

California Resources Agency Legacy Project. 2005. Public, conservation, and land trust ownership in the state of California, vector digital data.

NOAA. 2001. Central California ESI Atlas. CD-ROM, Seattle, WA; adapted from RPI, 1994, Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California, Columbia, SC, 41 maps +introductory text.

NOAA MBNMS. 2005. Marine Zones, vector digital data.

Point Reyes National Seashore GIS. 2006. Golden Gate National Recreation Area boundaries, Point Reyes National Seashore boundary, and Philip Burton Wilderness boundary, vector digital data.

ADDITIONAL DATA SETS

Several additional data sets are included either in the atlas, offshore map, and/or on the CD-ROM as separate data layers, including:

State Operational Divisions: OSPR provided a digital coverage of state operational divisions used for oil spill response and planning by county. Figure 1 contains an image of the Central California shoreline with the ESI map index overlaid. The operational segments (numbered 1-49) correspond to pre-determined response divisions (see table in Figure 1).

Bridge Annotation: State bridges along a 75-mile portion of California State Route 1 along the Big Sur Coast are designated by points and annotated for reference. Bridge names are displayed on the maps.

Beach Names: Coastal beach names are annotated on the maps. The data were created to help standardize beach names during spill response. Beach names are displayed in the atlas.

Marine Zones: MBNMS provided digital coverages of marine zones, including: military areas, restricted overflight zones, and wildlife protection area boundaries. Marine zones are included as separate digital data layers. Restricted overflight zones are depicted on the offshore map. Wildlife protection area boundaries are included in the ESI management layer and are depicted on the maps.

Dispersant Zones: The "RRT Approval Required" zone is included as a separate digital data layer. The zone includes a 3-mile buffer along the entire California coast and the offshore extent of all National Marine Sanctuaries.

Shipping Lanes: Shipping lanes outside of the San Francisco Bay entrance are displayed on the offshore map and are included as a separate digital data layer.

Shipwrecks: Shipwreck location data was deemed to be too sensitive and not of appropriate geographical accuracy to be shown on the maps or included as a digital data layer. For more information please contact NOAA.

Beach Comber and Beach Watch: These data layers represent beach comber (MBNMS) and beach watch (GFNMS) survey segments. They were developed to visualize beach segments and

link survey data to a geographic location. They are included as separate digital data layers.

GEOGRAPHIC INFORMATION SYSTEM

The entire atlas product is stored in digital form in a Geographic Information System (GIS) as spatial data layers and associated databases. The format for the data varies depending on the type of information or features for which the data are being stored.

Under separate cover is a metadata document that details the data dictionary, processing techniques, data lineage, and other descriptive information for the digital data sets and maps that were used to create this atlas. Below is a brief synopsis of the information contained in the digital version. Refer to the metadata file for a full explanation of the data and its structure.

SHORELINE CLASSIFICATIONS

The ESI shoreline habitat classification is stored as lines and polygons with associated attributes. In many cases, a shoreline may have two or three different classifications or colored lines. These multiple classifications are represented on the maps by double and triple line patterns and in the database by ESI#1/ESI#2, where ESI#1 is the landward-most classification and ESI#2 is the seaward-most classification. In addition to the line features, tidal flats (ESI = 7, ESI = 9A) and salt-and brackish-water marshes (ESI = 10A) are also stored as polygons. Therefore, the legend on each map may contain two patterns depicted on a map, a linear feature as well as a polygonal feature. Freshwater marshes (ESI = 10B), swamps (ESI = 10C), and scrub-shrub wetlands (ESI = 10D) were only mapped as polygonal features.

SENSITIVE BIOLOGICAL RESOURCES

Biological resources are stored as polygons, points, or arcs. Associated with each feature is a unique identification number that is linked to a series of data tables that further identify the resources. The main biological resource table consists of a list of species identification numbers for each site, the concentration of each species at each site, and identification codes for seasonality and source information. This data table is linked to other tables that describe the seasonality and life-history time-periods for each species (at month resolution) for the specified map feature. Other data tables linked to the first table include: the species identification table, which includes common and scientific names; the species status table, which gives information for state and/or federal threatened or endangered listings; and the source database, which provides source metadata at the feature-species level (specific sources are listed for each species occurring at each mapped feature in the biology coverages).

HUMAN-USE FEATURES

Human-use features are represented as points or polygons. The resource name, a contact, and phone number are included in the database for management areas, water intakes, recreational beaches, aquaculture sites, etc. when available. All metadata sources are documented at the feature level.

ACKNOWLEDGMENTS

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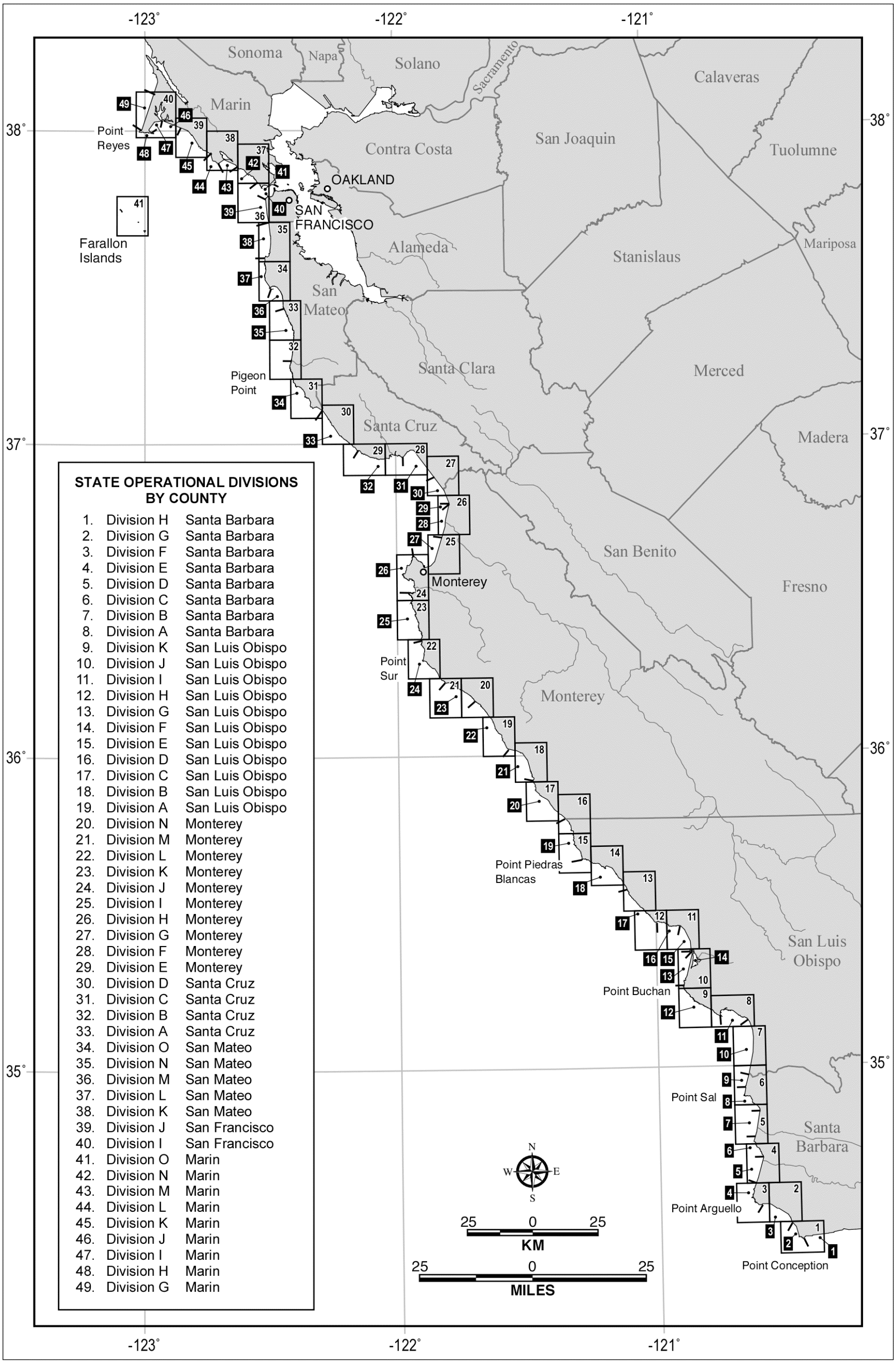
The biological and human-use data included on the maps were provided by numerous individuals and agencies. Staff with NOAA (NMFS, MBNMS, GFNMS, and NCCOS), CDF&G, National Park Service (PRNS and GGNRA), UCSC (Long Marine Lab), USFWS, Moss Landing Marine Labs, USGS, Vandenberg Air Force Base, Pacific Eco Logic, Ventana Wildlife Society, PRBO, and PISCO contributed a vast amount of information to this effort, including first-hand expertise, unpublished data, reports, published documents, maps, and digital data.

At Research Planning, Inc. (RPI) of Columbia, South Carolina, numerous scientific, GIS, and graphic staff were involved with different phases of the project. Christine Lord Boring, biologist, was Project Manager. Shoreline habitat mapping was conducted by Zach Nixon. The biological and human-use data were collected and compiled onto base maps by Christine Boring. Lee Diveley, Chris Locke, Mark White, and Katy Riggins entered, processed, and produced the GIS data and hardcopy atlas. Graphic art production was conducted by Joe Holmes. Christine Boring, Chris Locke, Mark White, Wendy Early, and Joe Holmes prepared the final text documents and metadata.

APPROPRIATE USE OF ATLAS AND DATA

This atlas and the associated database were developed to provide summary information on sensitive natural and human-use resources for the purposes of oil and chemical spill planning and response. Although the atlas and database should be very useful for other environmental and natural resource planning purposes, it should not be used in place of data held by participating agencies. Likewise, information contained in the atlas and database cannot be used in place of consultations with natural and cultural resource agencies or in place of field surveys. Also, this atlas should not be used for navigation.



STATE OPERATIONAL DIVISIONS BY COUNTY

1.	Division H	Santa Barbara
2.	Division G	Santa Barbara
3.	Division F	Santa Barbara
4.	Division E	Santa Barbara
5.	Division D	Santa Barbara
6.	Division C	Santa Barbara
7.	Division B	Santa Barbara
8.	Division A	Santa Barbara
9.	Division K	San Luis Obispo
10.	Division J	San Luis Obispo
11.	Division I	San Luis Obispo
12.	Division H	San Luis Obispo
13.	Division G	San Luis Obispo
14.	Division F	San Luis Obispo
15.	Division E	San Luis Obispo
16.	Division D	San Luis Obispo
17.	Division C	San Luis Obispo
18.	Division B	San Luis Obispo
19.	Division A	San Luis Obispo
20.	Division N	Monterey
21.	Division M	Monterey
22.	Division L	Monterey
23.	Division K	Monterey
24.	Division J	Monterey
25.	Division I	Monterey
26.	Division H	Monterey
27.	Division G	Monterey
28.	Division F	Monterey
29.	Division E	Monterey
30.	Division D	Santa Cruz
31.	Division C	Santa Cruz
32.	Division B	Santa Cruz
33.	Division A	Santa Cruz
34.	Division O	San Mateo
35.	Division N	San Mateo
36.	Division M	San Mateo
37.	Division L	San Mateo
38.	Division K	San Mateo
39.	Division J	San Francisco
40.	Division I	San Francisco
41.	Division O	Marin
42.	Division N	Marin
43.	Division M	Marin
44.	Division L	Marin
45.	Division K	Marin
46.	Division J	Marin
47.	Division I	Marin
48.	Division H	Marin
49.	Division G	Marin

FIGURE 1. State operational divisions used for oil spill response and planning by county. Data provided by OSPR and MBNMS.

SPECIES LIST

Common Name*	Scientific Name*
BIRDS	
ALCID	
Cassin's auklet	*Ptychoramphus aleuticus*
Common murre	*Uria aalge*
Marbled murrelet	*Brachyramphus marmoratus*
Pigeon guillemot	*Cepphus columba*
Rhinoceros auklet	*Cerorhinca monocerata*
Tufted puffin	*Fratercula cirrhata*
Xantus' murrelet	*Synthliboramphus hypoleucus*
DIVING BIRD	
American white pelican	*Pelecanus erythrorhynchos*
Brandt's cormorant	*Phalacrocorax penicillatus*
Brown pelican	*Pelecanus occidentalis*
Clark's grebe	*Aechmophorus clarkii*
Cormorant	*Phalacrocorax sp.*
Diving birds	-
Double-crested cormorant	*Phalacrocorax auritus*
Eared grebe	*Podiceps nigricollis*
Grebes	-
Horned grebe	*Podiceps auritus*
Loons	*Gavia spp.*
Pelagic cormorant	*Phalacrocorax pelagicus*
Pelicans	*Pelecanus spp.*
Western grebe	*Aechmophorus occidentalis*
GULL / TERN	
California gull	*Larus californicus*
California least tern	*Sterna antillarum browni*
Caspian tern	*Sterna caspia*
Gulls	-
Terns	-
Western gull	*Larus occidentalis*
PASSERINE BIRD	
Bank swallow	*Riparia riparia*
Common yellowthroat	*Geothlypis trichas*
PELAGIC	
Ashy storm-petrel	*Oceanodroma homochroa*
Black-footed albatross	*Phoebastria nigripes*
Leach's storm-petrel	*Oceanodroma leucorhoa*
Seabirds	-
Shearwaters	-
Sooty shearwater	*Puffinus griseus*
Storm-petrels	*Oceanodroma spp.*
RAPTOR	
American peregrine falcon	*Falco peregrinus anatum*
California condor	*Gymnogyps californianus*
Osprey	*Pandion haliaetus*
Raptors	-
SHOREBIRD	
American avocet	*Recurvirostra americana*
Black oystercatcher	*Haematopus bachmani*
Black-necked stilt	*Himantopus mexicanus*
Killdeer	*Charadrius alexandrinus nivosus*
Phalaropes	*Phalaropus spp.*
Shorebirds	-
Western snowy plover	*Charadrius alexandrinus nivosus*
WADING BIRD	
American bittern	*Botaurus lentiginosus*
California black rail	*Laterallus jamaicensis coturniculus*
Wading birds	-
WATERFOWL	
Brant	*Branta bernicla*
Dabbling ducks	
Diving ducks	-
Ducks	-
Gadwall	*Anas strepera*
Geese	-
Mallard	*Anas platyrhynchos*
Scoters	*Melanitta spp.*
Surf scoter	*Melanitta perspicillata*
Waterfowl	-
White-winged scoter	*Melanitta fusca*
FISH	
FISH	
Barred surfperch	*Amphistichus argenteus*
Bat ray	*Myliobatis californica*
Black rockfish	*Sebastes melanops*
Black-and-yellow rockfish	*Sebastes chrysomelas*
Blue rockfish	*Sebastes mystinus*
Bocaccio	*Sebastes paucispinis*
Cabezon	*Scorpaenichthys marmoratus*
Calico surfperch	*Amphistichus koelzi*

Common Name*	Scientific Name*
FISH, cont.	
FISH, cont.	
California grunion	*Leuresthes tenuis*
California halibut	*Paralichthys californicus*
Canary rockfish (orange)	*Sebastes pinniger*
China rockfish	*Sebastes nebulosus*
Coho salmon	*Oncorhynchus kisutch*
Copper rockfish	*Sebastes caurinus*
English sole	*Parophrys vetulus*
Gobies	-
Gopher rockfish	*Sebastes carnatus*
Grass rockfish	*Sebastes rastrelliger*
Jacksmelt	*Atherinopsis californiensis*
Kelp rockfish	*Sebastes atrovirens*
Leopard shark	*Triakis semifasciata*
Lingcod	*Ophiodon elongatus*
Monkeyface prickleback	*Cebidichthys violaceus*
Night smelt	*Spirinchus starksi*
Northern anchovy	*Engraulis mordax*
Nursery fish	-
Olive rockfish	*Sebastes serranoides*
Pacific chub mackerel	*Scomber japonicus*
Pacific herring	*Clupea pallasii pallasii*
Pacific lamprey	*Lampetra tridentata*
Pacific sanddab	*Citharichthys sordidus*
Pacific sardine	*Sardinops sagax*
Pacific staghorn sculpin	*Leptocottus armatus*
Redtail surfperch	*Amphistichus rhodoterus*
Rockfish	*Sebastes spp.*
Rubberlip seaperch	*Rhacochilus toxotes*
Salmon	-
Shiner surfperch	*Cymatogaster aggregata*
Speckled sanddab	*Citharichthys stigmaeus*
Starry flounder	*Platichthys stellatus*
Steelhead	*Oncorhynchus mykiss*
Striped bass	*Morone saxatilis*
Striped seaperch	*Embiotoca lateralis*
Surf smelt	*Hypomesus pretiosus*
Surfperch	-
Tidewater goby	*Eucyclogobius newberryi*
Topsmelt	*Atherinops affinis*
Vermilion rockfish	*Sebastes miniatus*
Walleye surfperch	*Hyperprosopon argenteum*
White croaker	*Genyonemus lineatus*
White seabass	*Atractoscion nobilis*
White seaperch	*Phanerodon furcatus*
White shark	*Carcharodon carcharias*
Widow rockfish	*Sebastes entomelas*
Yellowtail rockfish	*Sebastes flavidus*
HABITATS	
KELP	
Kelp	-
SAV	
Eelgrass	*Zostera marina*
INVERTEBRATES	
BIVALVE	
Clams	-
Pacific littleneck	*Protothaca staminea*
Pismo clam	*Tivela stultorum*
CEPHALOPOD	
Squid	*Loligo spp.*
CRAB	
Dungeness crab	*Cancer magister*
GASTROPOD	
Black abalone	*Haliotis cracherodii*
California brackishwater snail	*Tryonia imitator*
Morro shoulderband	*Helminthoglypta walkeriana*
INSECT	
Globose dune beetle	*Coelus globosus*
Myrtle's Silverspot	*Speyeria zerene myrtleae*
INVERT	
Invertebrates	-
Tidepool invertebrates	-

***** Threatened and endangered species are designated by underlining

Common Name*	Scientific Name*

MARINE MAMMALS

DOLPHIN/PORPOISE

Bottlenose dolphin	*Tursiops truncatus*
Dall's porpoise	*Phocoenoides dalli dalli*
Dolphins	-
Harbor porpoise	*Phocoena phocoena*
Long-beaked common dolphin	*Delphinus capensis*
Northern right-whale dolphin	*Lissodelphis borealis*
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*
Risso's dolphin	*Grampus griseus*
Short-beaked common dolphin	*Delphinus delphis*

PINNIPED

California sea lion	*Zalophus californianus*
Guadalupe fur seal	*Arctocephalus townsendi*
Harbor seal	*Phoca vitulina*
Northern elephant seal	*Mirounga angustirostris*
Northern fur seal	*Callorhinus ursinus*
Pinnipeds	-
Sea lions	-
Seals	-
Steller sea lion	*Eumetopias jubatus*

SEA OTTER

Sea otter	*Enhydra lutris*

WHALE

Baird's beaked whale	*Berardius bairdii*
Blue whale	*Balaenoptera musculus*
Cuvier's beaked whale	*Ziphius cavirostris*
Dwarf sperm whale	*Kogia simus*
Fin whale	*Balaenoptera physalus*
Gray whale	*Eschrichtius robustus*
Humpback whale	*Megaptera novaeangliae*
Killer whale	*Orcinus orca*
Mesoplodont beaked whales	*Mesoplodon spp.*
Minke whale	*Balaenoptera acutorostrata*
Northern right whale	*Eubalaena glacialis*
Pygmy sperm whale	*Kogia breviceps*
Sei whale	*Balaenoptera borealis*
Short-finned pilot whale	*Globicephala macrorhynchus*
Sperm whale	*Physeter macrocephalus*

REPTILES / AMPHIBIANS

AMPHIBIAN

California red-legged frog	*Rana aurora draytonii*
Santa Cruz long-toed salamander	*Ambystoma macrodactylum croceum*

LIZARD

California legless lizard	*Anniella pulchra*

SNAKE

San Francisco garter snake	*Thamnophis sirtalis tetrataenia*

TURTLE

Leatherback sea turtle	*Dermochelys coriacea*
Western pond turtle	*Clemmys marmorata*

TERRESTRIAL MAMMALS

SMALL MAMMAL

Northern river otter	*Lontra canadensis*
Point Reyes jumping mouse	*Zapus trinotatus orarius*
Salt-marsh harvest mouse	*Reithrodontomys raviventris*

***** Threatened and endangered species are designated by underlining

SHORELINE DESCRIPTIONS

EXPOSED ROCKY SHORES **ESI = 1A**

DESCRIPTION

- The intertidal zone is steep (greater than 30° slope), with very little width
- Sediment accumulations are uncommon and usually ephemeral, because waves remove the debris that has slumped from the eroding cliffs
- There is strong vertical zonation of intertidal biological communities
- Species density and diversity vary greatly, but barnacles, snails, mussels, seastars, limpets, sea anemones, shore crabs, polychaetes, and macroalgae are often very abundant
- Common throughout Central California

PREDICTED OIL BEHAVIOR

- Oil is held offshore by waves reflecting off the steep cliffs
- Any oil that is deposited is rapidly removed from exposed faces
- The most resistant oil would remain as a patchy band at or above the high-tide line
- Impacts to intertidal communities are expected to be short-term; an exception would be where heavy concentrations of a light refined product came ashore very quickly

RESPONSE CONSIDERATIONS

- Cleanup is usually not required
- Access can be difficult and dangerous

EXPOSED, SOLID MAN-MADE STRUCTURES **ESI = 1B**

DESCRIPTION

- These structures are solid, man-made structures such as seawalls, groins, revetments, piers, and port facilities
- Many structures are constructed of concrete, wood, or metal
- Often there is no exposed substrate at low tide, but multiple habitats are indicated if present
- They are built to protect the shore from erosion by waves, boat wakes, and currents, and thus are exposed to rapid natural removal processes
- Organisms, such as barnacles, mussels, and algae, may be common on the lower levels, whereas biota along the upper intertidal zones are sparse
- They are present in harbors and developed areas along the open coast

PREDICTED OIL BEHAVIOR

- Oil can penetrate into the joints of the structures
- Oil tends to persist as a band along the high-tide line
- Biota can be impacted under heavy accumulations

RESPONSE CONSIDERATIONS

- High-pressure spraying may be required in order to:
  - remove oil;

  - prepare substrate for recolonization of attached communities;
  - minimize aesthetic damage;
  - prevent the chronic leaching of oil from the structure

EXPOSED WAVE-CUT PLATFORMS IN BEDROCK **ESI = 2A**

DESCRIPTION

- The intertidal zone consists of a flat rock bench of highly variable width
- The shoreline may be backed by a steep scarp or low bluff
- There may be a perched beach of sand- to boulder-sized sediments at the base of the scarp
- The platform surface is irregular and tidal pools are common
- Small accumulations of gravel can be found in the tidal pools and crevices in the platform
- These habitats can support large populations of encrusting animals and plants, with rich tidal pool communities. Dominant species include barnacles, snails, mussels, seastars, limpets, sea anemones, shore crabs, and polychaetes
- Very common in Central California

PREDICTED OIL BEHAVIOR

- Oil will not adhere to the rock platform, but rather be transported across the platform and accumulate along the high-tide line
- Oil can penetrate in beach sediments, if present
- Persistence of oiled sediments is usually short-term, except in wave shadows or larger sediment accumulations

RESPONSE CONSIDERATIONS

- Cleanup is usually not required
- Where the high-tide area is accessible, it may be feasible to remove heavy oil accumulations and oiled debris

FINE- TO MEDIUM-GRAINED SAND BEACHES ESI = 3A

DESCRIPTION

- These beaches are generally flat, wide, and hard-packed
- They can occur at the upper intertidal zone on wave-cut platforms
- There can be significant seasonal changes in the beach sediments
- Upper beach fauna are scarce; lower beach fauna can be dense, but are highly variable; they are important areas for shorebirds
- Very common in Central California

PREDICTED OIL BEHAVIOR

- Light oil accumulations will be deposited as oily swashes or bands along the upper intertidal zone
- Heavy oil accumulations will cover the entire beach surface; the oil will be lifted off the lower beach with the rising tide
- Maximum penetration of oil into fine- to medium-grained sand is about 10-15 cm
- Burial of oiled layers by clean sand within the first few weeks will be less than 30 cm along the upper beach face
- Organisms living in the beach may be killed by smothering or lethal oil concentrations in the interstitial water
- Biological impacts include temporary declines in infaunal populations, which can also affect important shorebird foraging areas

RESPONSE CONSIDERATIONS

- These beaches are among the easiest beach types to clean
- Cleanup should concentrate on the removal of oil from the upper swash zone after all oil has come ashore
- Activity through both oiled and dune areas should be severely limited, to prevent contamination of clean areas
- Manual cleanup, rather than road graders and front-end loaders, is advised to minimize the volume of sand removed from the shore and requiring disposal
- All efforts should focus on preventing the mixture of oil deeper into the sediments by vehicular and foot traffic

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COARSE-GRAINED SAND BEACHES ESI = 4

DESCRIPTION

- These beaches are moderate-to-steep, of variable width, and have soft sediments; these characteristics combine to lower their trafficability
- They are commonly backed by dunes or rocky cliffs along exposed, outer coasts
- There can be significant seasonal changes in the beach sediments
- Generally species density and diversity is lower than on fine-grained sand beaches
- Common in Central California

PREDICTED OIL BEHAVIOR

- During small spills, oil will be deposited primarily as a band along the high-tide line
- Under very heavy accumulations, oil may spread across the entire beach face, though the oil will be lifted off the lower part of the beach with the rising tide
- Penetration of oil into coarse-grained sand can reach 25 cm
- Burial of oiled layers by clean sand can be rapid, and to depths of 60 cm or more
- Burial to depths over one meter is possible if the oil comes ashore at the start of a depositional period
- Biological impacts include temporary declines in infaunal populations, which can also affect important shorebird foraging areas

RESPONSE CONSIDERATIONS

- Remove oil primarily from the upper swash lines
- Removal of sediment should be limited to avoid erosion problems
- Mechanical reworking of the sediment into the surf zone may be used to release the oil without sediment removal
- Activity in the oiled sand should be limited to prevent mixing oil deeper into the beach
- Use of heavy equipment for oil/sand removal may result in the removal of excessive amounts of sand; manual cleanup may be more effective

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MIXED SAND AND GRAVEL BEACHES ESI = 5

DESCRIPTION

- Moderately sloping beach composed of a mixture of sand and gravel (gravel component should comprise between 20 to 80 percent of total sediments)
- Because of the mixed sediment sizes, there may be zones of pure sand, pebbles, or cobbles
- There can be large-scale changes in the sediment distribution patterns depending upon season, because of the transport of the sand offshore during storms
- Because of sediment mobility and desiccation, on exposed beaches there are low densities of attached animals and plants
- The presence of attached algae, mussels, and barnacles indicates beaches that are relatively sheltered, with the more stable substrate supporting a richer biota
- Relatively common in Central California

PREDICTED OIL BEHAVIOR

- During small spills, oil will be deposited along and above the high-tide swash
- Large spills will spread across the entire intertidal area
- Oil penetration into the beach sediments may be up to 50 cm; however, the sand fraction can be quite mobile, and oil behavior is much like on a sand beach if the sand fraction exceeds about 40 percent
- Burial of oil may be deep at and above the high-tide line, where oil tends to persist, particularly where beaches are only intermittently exposed to waves
- In sheltered pockets on the beach, pavements of asphalted sediments can form if there is no removal of heavy oil accumulations, because most of the oil remains on the surface
- Once formed, these asphalt pavements can persist for years
- Oil can be stranded in the coarse sediments on the lower part of the beach, particularly if the oil is weathered or emulsified

RESPONSE CONSIDERATIONS

- Remove heavy accumulations of pooled oil from the upper beachface
- All oiled debris should be removed
- Sediment removal should be limited as much as possible
- Low-pressure flushing can be used to lift oil from the sediments for recovery by skimmers or sorbents. High-pressure spraying should be avoided because of potential for transporting contaminated finer sediments (sand) to the lower intertidal or subtidal zones
- Mechanical reworking of oiled sediments from the high-tide zone to the upper intertidal zone can be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide zone
- In-place tilling may be used to reach deeply buried oil layers in the middle zone on exposed beaches

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GRAVEL BEACHES **ESI = 6A**

DESCRIPTION

- Gravel beaches are composed of sediments ranging in size from pebbles to boulders
- They can be very steep, with multiple wave-built berms forming the upper beach
- Attached biota are usually restricted to the lowest parts of the beach, where the sediments are less mobile
- The presence of attached biota indicates beaches that are relatively sheltered, with the more stable substrate supporting richer biological communities
- Common adjacent to cliffs and platforms

PREDICTED OIL BEHAVIOR

- Deep penetration and rapid burial of stranded oil is likely on gravel beaches
- On exposed beaches, oil can be pushed over the high-tide and storm berms, pooling and persisting above the normal zone of wave wash
- Long-term persistence will be controlled by the depth of penetration versus the depth of routine reworking by storm waves
- On the more sheltered portions of beaches, formation of asphalt pavements is likely where accumulations are heavy

RESPONSE CONSIDERATIONS

- Heavy accumulations of pooled oil should be removed quickly from the upper beach
- All oiled debris should be remove
- Sediment removal should be limited as much as possible

- Low- to high-pressure flushing can be used to lift oil from the sediments for recovery by skimmers or sorbents
- Mechanical reworking of oiled sediments from the high-tide zone to the upper intertidal zone can be effective in areas regularly exposed to wave activity (as evidenced by storm berms). However, oiled sediments should not be relocated below the mid-tide zone
- In-place tilling may be used to reach deeply buried oil layers in the middle intertidal zone on exposed beaches

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RIPRAP **ESI = 6B**

DESCRIPTION

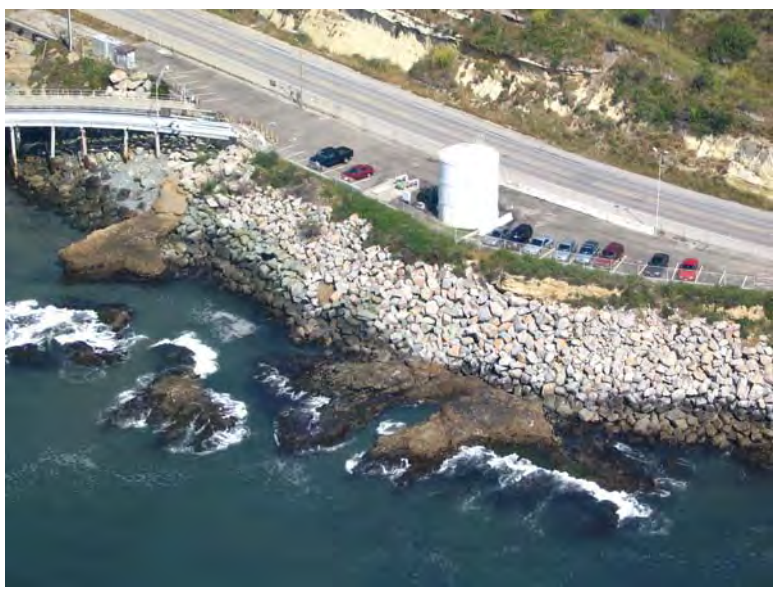
- Riprap structures are composed of cobble- to boulder-sized rock fragments
- Riprap structures are placed for shoreline protection and inlet stabilization
- Attached biota may be common at lower intertidal levels, whereas biota along the upper intertidal zones are sparse
- Relatively uncommon in Central California; associated with harbors and developed areas along the open coast

PREDICTED OIL BEHAVIOR

- Deep penetration of oil between the boulders is likely
- Oil adheres readily to the rough rock surfaces
- If oil is left uncleaned, it may cause chronic leaching until the oil hardens
- Resident fauna and flora may be killed by the oil

RESPONSE CONSIDERATIONS

- When the oil is fresh and liquid, high-pressure spraying and/or water flooding may be effective, making sure to recover all released oil
- Heavy and weathered oils are more difficult to remove, requiring scraping and/or hot-water spraying
- It may be necessary to remove heavily oiled riprap and replace it



BOULDER RUBBLE **ESI = 6D**

DESCRIPTION

- Relatively steep rocky shores with accumulations of angular boulder rubble displaying limited evidence of re-working by waves or sediment transport
- Attached biota may be common at lower intertidal levels, whereas biota along the upper intertidal zones are sparse
- Can co-occur with gravel beaches or exposed rocky shorelines; associated gravel beaches can be either at the upper or the lower half of the intertidal zone, depending on the nature of the rock outcrop
- Relatively uncommon in Central California; associated with actively eroding zones and talus fields

PREDICTED OIL BEHAVIOR

- Oil tends to adhere to the upper intertidal zone where the rock surface dries out during low tide, and the algal cover is sparse
- On solid bedrock surfaces, the oil can occur as a surface coating
- Oil can pool and penetrate crevices in the surface rubble
- Where the rubble is loosely packed, oil can penetrate deeply, causing long-term contamination of the subsurface

RESPONSE CONSIDERATIONS

- Thick accumulations of pooled oil should be of high priority for removal, to prevent re-mobilization and/or penetration

- Flushing techniques will be most effective when oil is still fresh and liquid; restrict operations to tidal levels that will prevent oily effluents from impacting lower tidal elevations with rich intertidal communities
- Access can be difficult and dangerous

EXPOSED TIDAL FLATS **ESI = 7**

DESCRIPTION

- Exposed tidal flats are broad, flat intertidal areas composed primarily of sand and mud
- The presence of sand indicates that tidal currents and waves are strong enough to mobilize the sediments
- They are usually associated with another shoreline type on the landward side of the flat, though they can occur as separate shoals; they are commonly associated with tidal inlets
- The sediments are water-saturated, with only the topographically higher ridges drying out during low tide
- Biological utilization can be very high, with large numbers of infauna, heavy use by birds for roosting and foraging, by fish for feeding and migration, and use as haulouts for marine mammals
- Present in and near estuary, slough or river inlet mouths

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the surface of exposed tidal flats, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil does not penetrate water-saturated sediments
- Biological damage may be severe, primarily to infauna, thereby reducing food sources for birds and other predators

RESPONSE CONSIDERATIONS

- Currents and waves can be very effective in natural removal of the oil
- Cleanup is very difficult (and possible only during low tides)
- The use of heavy machinery should be restricted to prevent mixing of oil into the sediments
- Manual removal methods are preferred, taking care to minimize sediment removal and mixing oil deeper into the sediments

SHELTERED ROCKY SHORES **ESI = 8A**

DESCRIPTION

- They are bedrock shores of variable slope (from vertical cliffs to wide, rocky ledges) that are sheltered from exposure to most wave and tidal energy
- The wider shores may have some surface sediments, but the bedrock is the dominant substrate type
- Species density and diversity vary greatly, but attached biota may be present at high densities at lower tidal elevations
- Relatively rare in Central California; associated with high-relief areas along estuaries, sloughs, and rivers

PREDICTED OIL BEHAVIOR

- Oil will adhere readily to the rough rocky surface, particularly along the high-tide line, forming a distinct oil band
- Even on wide ledges, the lower intertidal zone usually stays wet (particularly when algae covered), preventing oil from adhering to the rock surface
- Heavy and weathered oils can cover the upper zone with little impacts to the rich biological communities of the lower zone
- Where the rubble is loosely packed, oil will penetrate deeply, causing long-term contamination of the subsurface sediments

- Where surface sediments are abundant, oil will penetrate into the crevices formed by the surface rubble and pool at the contact of the sediments and the rock surface

RESPONSE CONSIDERATIONS

- Low- to high-pressure spraying at ambient water temperatures is most effective when the oil is fresh
- Extreme care must be taken not to spray in the biologically rich lower intertidal zone or when the tidal level reaches that zone
- Cutting of oiled, attached algae is not recommended; tidal action will eventually float this oil off, so sorbents should be deployed

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SHELTERED, SOLID MAN-MADE STRUCTURES **ESI = 8B**

DESCRIPTION

- These structures are solid man-made structures such as seawalls, groins, revetments, piers, and port facilities; Composition, design, and condition may be highly variable
- Most structures are constructed of concrete, wood, or metal
- Often there is no exposed beach at low tide, but multiple habitats are indicated if present
- High densities of attached biota may be present at lower tidal elevations
- Relatively uncommon in Central California

PREDICTED OIL BEHAVIOR

- Oil will adhere readily to rough surfaces, particularly along the high-tide line, forming a distinct oil band; chronic leaching may occur
- The lower intertidal zone usually stays wet (particularly if algae covered), preventing oil from adhering to the surface

RESPONSE CONSIDERATIONS

- Cleanup of seawalls is usually conducted for aesthetic reasons or to prevent leaching of oil
- Low- to high-pressure spraying at ambient water temperatures is most effective when the oil is fresh

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SHELTERED RIPRAP **ESI = 8C**

DESCRIPTION

- Riprap structures are composed of cobble- to boulder-sized blocks of bedrock or concrete
- These structures are found inside harbors and bays in developed areas, sheltered from direct exposure to waves
- High densities of attached biota may be present at lower tidal elevations
- Relatively uncommon in Central California

PREDICTED OIL BEHAVIOR

- Deep penetration of oil between the boulders is likely
- Oil adheres readily to the rough surfaces
- If oil is left uncleaned, it may cause chronic leaching until the oil hardens

RESPONSE CONSIDERATIONS

- High-pressure spraying may be required to remove oil for aesthetic reasons and to prevent leaching of oil from the structure
- Cleanup crews should make sure to recover all released oil

SHELTERED TIDAL FLATS **ESI = 9A**

DESCRIPTION

- Sheltered tidal flats are broad, flat intertidal areas composed primarily of mud, silt and clay
- They are present in calm-water habitats, sheltered from major wave activity, and are frequently fronted by marshes
- Wave energy is very low, although there may be strong tidal currents on parts of the flat and in channels across the flat
- The sediments are very soft and cannot support even light foot traffic in many areas
- Large concentrations of shellfish, worms, and snails can be found on and in the sediments
- Bird life is seasonally abundant, and flats are heavily utilized by birds for feeding
- Present in major bays, such as Morro Bay, Elkhorn Slough, and Drake's Estero

PREDICTED OIL BEHAVIOR

- Oil does not usually adhere to the wet, muddy sediments, but rather moves across the flat and accumulates at the high-tide line
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy
- Oil will not penetrate the water-saturated sediments, but can penetrate into borrows and root cavities
- In areas of high suspended sediments, sorption of oil can result in deposition of contaminated sediments on the flats.
- Biological damage may be severe

RESPONSE CONSIDERATIONS

- These are high-priority areas necessitating the use of spill protection devices to limit oil-spill impact; deflection or sorbent booms and open water skimmers should be used
- Cleanup of the flat surface is very difficult because of the soft substrate and many methods may be restricted
- Low-pressure flushing and deployment of sorbents from shallow-draft boats may be helpful

SALT- AND BRACKISH-WATER MARSHES ESI = 10A

DESCRIPTION

- These are grassy wetlands composed of emergent herbaceous vegetation in salt water settings
- Width of the marsh can vary widely, from a narrow fringe to extensive areas
- They are relatively sheltered from waves and strong tidal currents
- Resident flora and fauna are abundant with numerous species with high utilization by birds, fish, and shellfish
- Present in major bays, such as Morro Bay, Elkhorn Slough, and Drake's Estero

PREDICTED OIL BEHAVIOR

- Oil adheres readily to marsh vegetation
- The band of coating will vary widely, depending upon the tidal stage at the time oil slicks are in the vegetation; there may be multiple bands
- Large slicks will persist through multiple tidal cycles and coat the entire stem from the high-tide line to the base
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, with penetration and lighter oiling to the limit of tidal influence
- Medium to heavy oils do not readily adhere or penetrate the fine sediments, but can pool on the surface and penetrate into burrows and root cavities
- Light oils can penetrate the top few centimeters of sediment and deeply into burrows and cracks (up to one meter)

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery

- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore
- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments; trampling of the roots must be minimized
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

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FRESHWATER MARSHES ESI = 10B

DESCRIPTION

- These are grassy wetlands composed of emergent herbaceous vegetation in freshwater settings
- Width of the marsh can vary widely, from a narrow fringe to extensive areas
- They are relatively sheltered from waves and tidal currents
- Resident flora and fauna are abundant
- Relatively uncommon in Central California; present along upstream portions of estuaries, sloughs, and rivers

PREDICTED OIL BEHAVIOR

- Oil adheres readily to marsh vegetation
- The band of coating will vary widely, depending upon the water level changes at the time oil slicks are in the vegetation
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, although lighter oils can penetrate deeper
- Medium to heavy oils do not readily adhere or penetrate the fine sediments, but can pool on the surface or in burrows
- Light oils can penetrate the top few centimeters of sediment and deeply into burrows and cracks (up to one meter)

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery; natural removal processes and rates should be evaluated prior to conducting cleanup
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing

- Cleanup activities should be carefully supervised to avoid vegetation damage
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Cutting of oiled vegetation should only be considered when other resources present are at great risk from leaving the oiled vegetation in place

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SWAMPS ESI = 10C

DESCRIPTION

- Swamps consist of shrubs and forested wetlands, essentially flooded forests; vegetation is taller than 6 meters, on average
- The sediment tends to be silty clay with large amounts of organic debris
- They are seasonally flooded, though there are many low, permanently flooded areas. In California, most are located above normal spring high tides, thus they are seldom inundated by salt water
- Resident flora and fauna are abundant with numerous species
- This shoreline type occurs along upstream portions of estuaries, sloughs, and rivers

PREDICTED OIL BEHAVIOR

- Though generally not a risk of oiling from marine spills because of their position above normal high tides, they could become oiled during very high water levels, from land-based spills, or during cleanup of adjacent areas
- Oil behavior depends on whether the swamp is flooded or not

PREDICTED OIL BEHAVIOR, cont.

- During floods, most of the oil passes through the forest, coating the vegetation at the waterline, which changes levels throughout the flood event
- Oiled woody vegetation is less sensitive than grasses to oil coating
- Some oil can be trapped and pooled on the swamp floodplain as water levels drop
- Penetration into the floodplain soils is usually limited because of high water levels, saturated soils, muddy composition, surface organic debris, and vegetation cover
- Large amounts of oily debris can remain
- During dry periods, terrestrial spills flow downhill and accumulate in depressions or reach waterbodies

RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is to let the area recover naturally
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing. During flushing, care must be taken to prevent transporting oil to sensitive areas down slope or along shore
- Under stagnant water conditions, herding of oil with water spray may be needed to push oil to collection areas
- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments
- Woody vegetation should not be cut

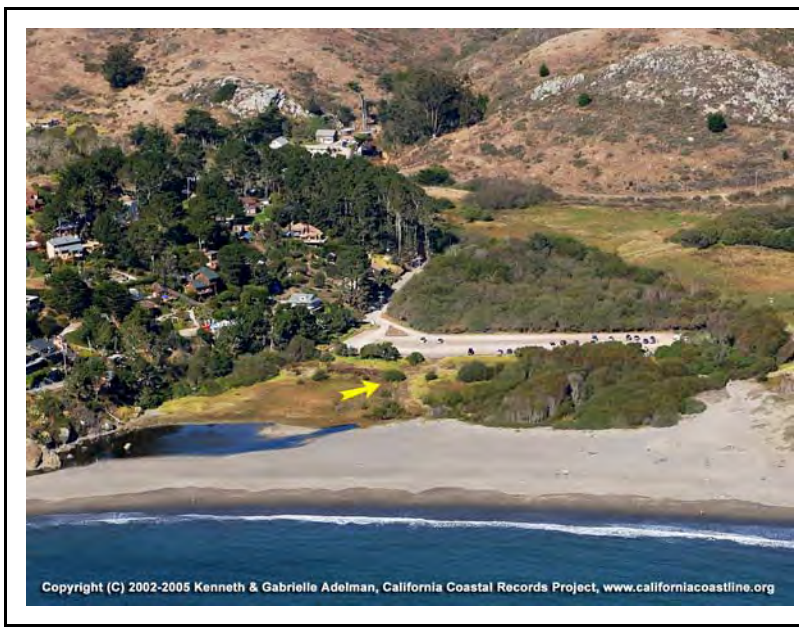
SCRUB-SHRUB WETLANDS **ESI = 10D**

DESCRIPTION

- Scrub-shrub wetlands consist of woody vegetation less than 6 meters tall including true shrubs, small trees, and trees and shrubs that are stunted due to environmental conditions
- The sediments are silty clay mixed with organic debris
- They are seasonally flooded, though there are many low, permanently flooded areas. In California, most are located above normal spring high tides, thus they are seldom inundated by salt water
- Resident flora and fauna are abundant
- Relatively uncommon in Central California; present along upstream portions of estuaries, sloughs, and rivers

PREDICTED OIL BEHAVIOR

- Though generally not a risk of oiling from marine spills because of their position above normal high tides, they could become oiled during very high water levels, from land-based spills, or during cleanup of adjacent areas
- Oil behavior depends on whether the wetland is flooded or not
- During floods, most of the oil passes through the wetland, coating the vegetation at the waterline, which changes levels throughout the flood event
- Woody vegetation is less sensitive than grasses to oil
- Some oil can be trapped and pooled on the floodplain as water levels drop
- Penetration into the floodplain soils is usually limited because of high water levels, muddy composition, surface organic debris, and vegetation cover
- Large amounts of oily debris can remain in the wetland
- During dry periods, terrestrial spills flow downhill and accumulate in depressions or reach waterbodies



RESPONSE CONSIDERATIONS

- Under light oiling, the best practice is natural recovery
- Heavy accumulations of pooled oil can be removed by vacuum, sorbents, or low-pressure flushing
- Oily debris can be removed where there is access
- Any cleanup activity must not mix the oil deeper into the sediments. Trampling of the roots must be minimized
- Woody vegetation should not be cut

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: HYDRO (Hydrography Lines and Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:

Citation:

Citation_Information:

Originator:

Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Publication_Date: 200606

Title:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: HYDRO (Hydrography Lines and Polygons)

Edition: Second

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Central California

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains vector lines and polygons representing coastal hydrography used in the creation of the Environmental Sensitivity Index (ESI) for Central California. The HYDRO data layer contains all annotation used in producing the atlas. The annotation features are categorized into three subclasses in order to simplify the mapping and quality control procedures: GEOG, for geographic features; SOC, for socioeconomic features; and HYDRO, for water features.

This data set comprises a portion of the ESI data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2001

Ending_Date: 2006

Currentness_Reference:

The data were compiled during 2005-2006. The currentness dates for the data ranges from 2001 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Hydrography

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such

data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent linear and polygonal hydrography for Central California.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The hydrography data set was developed from pre-existing digital data and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 U.S. Geological Survey (USGS) topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: KENNETH AND GABRIELLE ADELMAN
Publication_Date: 2005
Title: COASTAL OBLIQUE PHOTOGRAPHY DATABASE
Geospatial_Data_Presentation_Form: PHOTOGRAPH
Other_Citation_Details: CALIFORNIA COASTAL RECORDS PROJECT

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2004
Ending_Date: 2005

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE

Source_Contribution: HYDRO INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 2001
Title: DIGITAL SHORELINE
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details:

CENTRAL CALIFORNIA ESI ATLAS, MAPS AND GIS DATA, NOAA, SEATTLE, WASH.

Source_Scale_Denominator: 24,000

Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2001
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 2006
Title: GENERATED INDEX ARCS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Source_Scale_Denominator: 24,000
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION
Process_Step:
Process_Description:

The shoreline was derived primarily from the original ESI maps, published in 1994. Where appropriate, revisions to the existing shoreline were made by a coastal geologist using two methods: interpretation of contiguous oblique digital aerial photography acquired in 2004 (www.californiacoastline.org) and verification via overflights and ground surveys conducted in April 2005.

The above digital and/or hardcopy sources were compiled to create the HYDRO data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) hardcopy maps are digitized at their source scale; (2) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources; and (3) overflight changes are digitized from the scanned and registered hardcopy field maps or aerial photography. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the HYDRO data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:

Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 5626
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 5627
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 9389
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 265294
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Label Point
Point_and_Vector_Object_Count: 529
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 9191

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, one relational attribute or data table, SOURCES, is used to store the source data information in the ESI data structure. The geographic data layer containing resource information (in this case, HYDRO) is linked to the SOURCES table using the SOURCE_ID. The entity-relationship diagram describes the relationships between the attribute tables in the ESI data structure.

Detailed_Description:

Entity_Type:

Entity_Type_Label: HYDRO.AAT

Entity_Type_Definition:

The HYDRO.AAT table contains attribute information for the vector lines representing linear hydrography features in the HYDRO data layer.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: LINE

Attribute_Definition: Type of geographic feature.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: H

Enumerated_Domain_Value_Definition: Hydrography

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: I

Enumerated_Domain_Value_Definition: Index

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: P

Enumerated_Domain_Value_Definition: Pier

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:

Enumerated_Domain_Value: S

Enumerated_Domain_Value_Definition: Shoreline

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Spatial data source for the data layer lines that link to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Detailed_Description:

Entity_Type:

Entity_Type_Label: HYDRO.PAT

Entity_Type_Definition:

The HYDRO.PAT table contains attribute information for the vector polygons

representing polygonal hydrography features in the HYDRO data layer.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: WATER_CODE
Attribute_Definition: Specifies a polygon as either water or land.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: L
Enumerated_Domain_Value_Definition: Land
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: W
Enumerated_Domain_Value_Definition: Water
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: ANNO.GEOG
Entity_Type_Definition:
The spatial data layer HYDRO contains label points representing annotation for geographic features.
Entity_Type_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: ANNO.HYDRO
Entity_Type_Definition:
The spatial data layer HYDRO contains label points representing annotation for water features.
Entity_Type_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: ANNO.SOC
Entity_Type_Definition:
The spatial data layer HYDRO contains label points representing annotation for socioeconomic features.
Entity_Type_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data

layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:

Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.

City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 21:35:30 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: ESI (Environmental Sensitivity Index Shoreline Types - Lines and Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: ESI (Environmental Sensitivity Index Shoreline Types - Lines and Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay

National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains vector lines and polygons representing the shoreline and coastal habitats of Central California classified according to the Environmental Sensitivity Index (ESI) classification system. This data set comprises a portion of the ESI data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2001

Ending_Date: 2006

Currentness_Reference:

The data were compiled during 2005-2006. The currentness dates for the data range from 2001 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Shoreline habitats

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used

to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary node, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent coastal shorelines and habitats classified according to the Environmental Sensitivity Index (ESI) classification system.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The ESI data set was developed from pre-existing digital sources and reflects the positional accuracy of these original data. The horizontal positional accuracy of the 1:24,000 U.S. Geological Survey (USGS) topographic quads should conform to National Map Accuracy Standards at scales of 1:24,000. The minimum mapping unit (MMU) of the actual shoreline classification segments is estimated at 50 meters where mapping is conducted using 1:24,000 hardcopy fieldmaps. Field verification has shown that the absolute positional accuracy of breaks between shoreline ESI types with a 95-percent error bound is approximately 58 meters. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: KENNETH AND GABRIELLE ADELMAN
Publication_Date: 2005
Title: COASTAL OBLIQUE PHOTOGRAPHY DATABASE
Geospatial_Data_Presentation_Form: PHOTOGRAPH
Other_Citation_Details: CALIFORNIA COASTAL RECORDS PROJECT

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2004
Ending_Date: 2005

Source_Currentness_Reference: DATE OF SURVEY

Source_Citation_Abbreviation: NONE

Source_Contribution: ESI INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 2001
Title: DIGITAL SHORELINE
Geospatial_Data_Presentation_Form: DIGITAL VECTOR DATA
Other_Citation_Details:

CENTRAL CALIFORNIA ESI ATLAS, MAPS AND GIS DATA, NOAA, SEATTLE, WASH.

Source_Scale_Denominator: 24,000
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2001
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ESI INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 2006
Title: GENERATED INDEX ARCS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Source_Scale_Denominator: 24,000
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ESI INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. FISH & WILDLIFE SERVICE (USFWS)
Publication_Date: 2006
Title: NATIONAL WETLANDS INVENTORY (NWI)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: NWI VECTOR WETLANDS POLYGONS
Source_Scale_Denominator: UNKNOWN
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ESI INFORMATION
Process_Step:
Process_Description:
The shoreline habitats on the original ESI maps, published in 1994, were re-examined and updated by a coastal geologist using two methods: interpretation of contiguous oblique digital aerial photography acquired in 2004 (www.californiacoastline.org) and verification via overflights and ground surveys conducted in April 2005. The overflights were conducted at elevations of 400-600 feet and slow air speed. During these overflights, the ESI shoreline classification

was verified and changes were denoted on hardcopy 1:24,000-scale U.S. Geological Survey (USGS) topographic maps. Where appropriate, revisions to the existing shoreline were made. Where necessary, multiple types were described for each shoreline segment.

The above digital and/or hardcopy sources were compiled to create the ESI data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) hardcopy maps are digitized at their source scale; (2) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources; and (3) overflight classifications are digitized from the scanned and registered hardcopy field maps. After the initial shoreline classification, these data are edgematched and checked for logical consistency errors. Review maps are plotted at 1:24,000 scale for verification of polygonal and linear attributes. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the ESI data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 452
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 453
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 3365
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link

Point_and_Vector_Object_Count: 129869
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 3236

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, one relational attribute or data table, SOURCES, is used to store the source data information in the ESI data structure. The geographic data layer containing resource information (in this case, ESI) is linked to the SOURCES table using the SOURCE_ID. The entity-relationship diagram describes the relationships between the attribute tables in the ESI data structure.
Detailed_Description:
Entity_Type:
Entity_Type_Label: ESI.AAT
Entity_Type_Definition:
The ESI.AAT table contains attribute information for the vector lines representing linear shoreline features with ESI classification.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ESI
Attribute_Definition:
The item ESI contains values representing the ESI shoreline type. In many cases, shorelines are ranked with multiple codes, such as "6B/3A" (listed landward to seaward from left to right). The first code, "6B", is the most landward shoreline type and the second code, "3A", is the shoreline type closest to the water. Singular shoreline types are listed below. No multiple codes are listed, but all multiple codes included in the data set can be assembled from the codes described. The ESI rankings progress from low to high susceptibility to oil spills. To determine the sensitivity of a particular intertidal shoreline habitat, the following factors are integrated: (1) Shoreline type (substrate, grain size, tidal elevation, origin); (2) Exposure to wave and tidal energy; (3) Biological productivity and sensitivity; (4) Ease of cleanup. Prediction of the behavior and persistence of oil in intertidal habitats is based on an understanding of the dynamics of the coastal environments, not just the substrate type and grain size. The intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the

persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the slowness of natural processes in removal of oil stranded on the shoreline. The potential for biological injury, and ease of cleanup of spilled oil, are also important factors in the ESI ranking. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity rank low on the scale, whereas sheltered areas with associated high biological activity have the highest ranking.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: 1A
Enumerated_Domain_Value_Definition: Exposed Rocky Shores
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 1B
Enumerated_Domain_Value_Definition: Exposed, Solid Man-made Structures
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 2A
Enumerated_Domain_Value_Definition: Exposed Wave-cut Platforms
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 3A
Enumerated_Domain_Value_Definition: Fine- to Medium-grained Sand Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 4
Enumerated_Domain_Value_Definition: Coarse-grained Sand Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 5
Enumerated_Domain_Value_Definition: Mixed Sand and Gravel Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 6A
Enumerated_Domain_Value_Definition: Gravel Beaches
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 6B
Enumerated_Domain_Value_Definition: Riprap
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 6D
Enumerated_Domain_Value_Definition: Boulder Rubble
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Enumerated_Domain:
Enumerated_Domain_Value: 8A
Enumerated_Domain_Value_Definition: Sheltered Rocky Shores
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 8B
Enumerated_Domain_Value_Definition: Sheltered, Solid Man-made Structures
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 8C
Enumerated_Domain_Value_Definition: Sheltered Riprap
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10A
Enumerated_Domain_Value_Definition: Salt- and Brackish-water marshes
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10B
Enumerated_Domain_Value_Definition: Freshwater Marshes
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10D
Enumerated_Domain_Value_Definition: Scrub-shrub Wetlands
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: LINE
Attribute_Definition: Type of geographic feature.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: F
Enumerated_Domain_Value_Definition: Flat
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: H
Enumerated_Domain_Value_Definition: Hydrography
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: I
Enumerated_Domain_Value_Definition: Index
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:

Enumerated_Domain_Value: M
Enumerated_Domain_Value_Definition: Marsh
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: P
Enumerated_Domain_Value_Definition: Pier
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: S
Enumerated_Domain_Value_Definition: Shoreline
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Spatial data source for the data layer lines that link to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ENVIR
Attribute_Definition: Type of regional environment.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Estuarine
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: ESI.PAT
Entity_Type_Definition:
The ESI.PAT table contains attribute information for the vector polygons representing polygonal features with ESI classification.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ESI
Attribute_Definition: The item ESI contains values representing the ESI polygon type.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 2A
Enumerated_Domain_Value_Definition: Exposed Wave-cut Platforms
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:

Enumerated_Domain_Value: 7
Enumerated_Domain_Value_Definition: Exposed Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 9A
Enumerated_Domain_Value_Definition: Sheltered Tidal Flats
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10A
Enumerated_Domain_Value_Definition: Salt- and Brackish-water marshes
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10B
Enumerated_Domain_Value_Definition: Freshwater Marshes
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10C
Enumerated_Domain_Value_Definition: Swamps
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: 10D
Enumerated_Domain_Value_Definition: Scrub-shrub Wetlands
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: U
Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: WATER_CODE
Attribute_Definition: Specifies a polygon as either water or land.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: L
Enumerated_Domain_Value_Definition: Land
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: W
Enumerated_Domain_Value_Definition: Water
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ENVIR
Attribute_Definition: Type of regional environment.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Estuarine
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Enumerated_Domain:
Enumerated_Domain_Value: U

Enumerated_Domain_Value_Definition: Unranked
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the

NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:46:53 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: INDEX (Index Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: INDEX (Index Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains vector polygons representing the boundaries of all hardcopy cartographic products produced as part of the Environmental Sensitivity Index (ESI) for Central California. This data set comprises a portion of the ESI data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2006

Currentness_Reference:

The INDEX data were compiled during 2005-2006. The currentness date for the data is 2006 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of

consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is

made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent the boundaries of all hardcopy cartographic products produced as part of the ESI for Central California, as well as the digital data extents.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The polygons in this data layer were generated in ArcInfo from the coordinates of the U.S. Geological Survey (USGS) 1:24,000 topographic map corners. Some small amount of positional error may be present along the arcs forming the boundaries of these polygons, particularly away from the polygon corners. Some boundaries were developed from pre-existing digital and hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original source data and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 2006
Title: GENERATED INDEX ARCS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED

Source_Scale_Denominator: 24,000
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2006

Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HYDRO INFORMATION

Process_Step:

Process_Description:

Primarily, 1:24,000 U.S. Geological Survey (USGS) topographic maps were used to provide boundaries for cartographic products. In some cases the polygons represent USGS topographic maps that were re-tiled, moved, or extended to provide better cartographic coverage of the study area.

Process_Date: 200605
Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle

State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 42
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 43
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 193
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 212
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 153

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: INDEX.PAT
Entity_Type_Definition:
The INDEX.PAT table contains attribute information for the vector polygons representing the boundaries of the maps and digital data used in the creation of the ESI.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: TILE-NAME

Attribute_Definition: The map number according to the specified layout of the atlas.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 40

Attribute:
Attribute_Label: TOPO-NAME
Attribute_Definition:
USGS Topographic map name, short description of location, or atlas name.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition:
The value of the denominator of the scale at which the map is plotted in the final map product.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: MAPANGLE
Attribute_Definition:
The value to rotate the final map product so that it is situated straight up and down.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: -1.4690
Range_Domain_Maximum: 0.0310
Attribute_Units_of_Measure: Degree

Attribute:
Attribute_Label: PAGESIZE
Attribute_Definition:
The value of the width and height of the map in the final map product.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 11,17
Enumerated_Domain_Value_Definition: Page size= 11" by 17"
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 21:39:09 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: BIRDS (Bird Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: BIRDS (Bird Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for alcids, diving birds, gulls, terns, passerine birds, pelagic birds, raptors, shorebirds, wading birds, and waterfowl in Central California. Vector polygons in this data set represent nesting and roosting sites, rare species occurrences, and concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the NESTS (Nest Points) data layer, part of the larger Central California ESI database, for additional bird information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1994

Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1994 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Birds

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or

concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge, available hardcopy documents (published and gray literature), survey data, maps, and digital data on nesting and roosting sites, rare species occurrences, and concentration areas. See also the NESTS (Nest Points) data layer, part of the larger Central California ESI database, for additional bird information. These data do not necessarily represent all bird occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 5, Horned grebe, Podiceps auritus; 6, Eared grebe, Podiceps nigricollis; 7, Western grebe, Aechmophorus occidentalis; 8, Double-crested cormorant, Phalacrocorax auritus; 9, Brandt's cormorant, Phalacrocorax penicillatus; 10, Pelagic cormorant, Phalacrocorax pelagicus; 13, Brant, Branta bernicla; 16, Mallard, Anas platyrhynchos; 29, White-winged scoter, Melanitta fusca; 30, Surf scoter, Melanitta perspicillata; 31, Pacific loon, Gavia pacifica; 37, Western gull, Larus occidentalis; 46, Common murre, Uria aalge; 47, Pigeon guillemot, Cepphus columba; 48, Marbled murrelet, Brachyramphus marmoratus; 49, Cassin's auklet, Ptychoramphus aleuticus; 50, Rhinoceros auklet, Cerorhinca monocerata; 68, Black oystercatcher, Haematopus bachmani; 70, Killdeer, Charadrius vociferus; 77, Osprey, Pandion haliaetus; 79, Cormorants, Phalacrocorax sp.; 85, California least tern, Sterna antillarum browni; 118, Brown pelican, Pelecanus occidentalis; 136, Caspian tern, Sterna caspia; 141, American avocet, Recurvirostra americana; 142, Black-necked stilt, Himantopus mexicanus; 143, Xantus' murrelet, Synthliboramphus hypoleucus; 144, Ashy storm-petrel, Oceanodroma homochroa; 162, Gadwall, Anas strepera; 173, American white pelican, Pelecanus erythrorhynchos; 177, Bank swallow, Riparia riparia; 185, American bittern, Botaurus lentiginosus; 200, Sooty shearwater, Puffinus griseus; 206, California black rail, Laterallus jamaicensis coturniculus; 239, Clark's grebe, Aechmophorus clarkii; 255, Black-footed albatross, Phoebastria nigripes; 270, Western snowy plover, Charadrius alexandrinus nivosus; 273, Geese, n/a; 302, Scoters, Melanitta spp.; 345, Storm-petrels, Oceanodroma spp.; 396, Phalaropes, Phalaropus spp.; 462, Loons, Gavia spp.; 626, American peregrine falcon, Falco peregrinus anatum; 722, Common yellowthroat, Geothlypis trichas; 847,

California condor, Gymnogyps californianus; 1001, Gulls, n/a; 1002, Shorebirds, n/a; 1003, Waterfowl, n/a; 1004, Wading birds, n/a; 1005, Raptors, n/a; 1006, Diving birds, n/a; 1008, Terns, n/a; 1009, Shearwaters, n/a; 1013, Dabbling ducks, n/a; 1014, Diving ducks, n/a; 1021, Ducks, n/a; 1022, Seabirds, n/a; 1026, Grebes, n/a; 1035, Pelicans, Pelecanus spp.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ADAMS, J. (U.S. GEOLOGICAL SURVEY [USGS], MOSS LANDING)

Publication_Date: 2005

Title:

DISTRIBUTION OF SEABIRDS AND MARINE MAMMALS IN CENTRAL CALIFORNIA

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)

Publication_Date: 2005

Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BENSON, S. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF MARINE RESOURCES IN CALIFORNIA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BUFFA, J. (U.S. FISH & WILDLIFE SERVICE [USFWS])
Publication_Date: 2006
Title: NATIONAL WILDLIFE REFUGE SPECIES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:

Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: ELKHORN SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE (ESNERR)
Publication_Date: 2005
Title: ELKHORN SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE BIRD LIST
Geospatial_Data_Presentation_Form: SPREADSHEET
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE

Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: GOLDEN GATE NATIONAL RECREATION AREA (GGNRA)
Publication_Date: 1998
Title:
GGNRA SNOWY PLOVER MANAGEMENT PLAN: OCEAN BEACH, SAN FRANCISCO-DRAFT
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: HENKEL, L.
Publication_Date: 2005
Title: DISTRIBUTION OF MARINE BIRDS IN CALIFORNIA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
MERKLE, B. (NATIONAL PARK SERVICE [NPS], GOLDEN GATE NATIONAL RECREATION AREA [GGNRA])
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: PAGE, G. (POINT REYES BIRD OBSERVATORY [PRBO])
Publication_Date: 2005
Title: BIRD DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: PAGEL, J. (SANTA CRUZ PREDATORY BIRD RESEARCH GROUP [SCPBRG])
Publication_Date: 2005
Title: PEREGRINE FALCON SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PATTISON, C. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: ROBESON, D.
Publication_Date: 2002
Title: MONTEREY BIRDS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: MONTEREY PENINSULA AUDUBON SOCIETY, CARMEL, CA, 536 PP.
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2002
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA], GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC, FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: SORENSON, K. (VENTANA WILDLIFE SOCIETY)
Publication_Date: 2005
Title: CONDOR SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: STRONG, C.S. AND JAQUES, D.L.
Publication_Date: 2000
Title:
AERIAL SURVEYS OF BROWN PELICANS AT ROOST SITES WITHIN MBNMS/GFNMS, 1998-2000
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
A REPORT TO MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS) AND GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY (GFNMS), THE AMERICAN TRADER OIL SPILL RESTORATION TRUSTEE COUNCIL, AND CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1998
Ending_Date: 2000
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. FISH & WILDLIFE SERVICE (USFWS) (SALINAS NATIONAL WILDLIFE REFUGE [NWR])
Publication_Date: 2006
Title: SALINAS NWR SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. GEOLOGICAL SURVEY (USGS), NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), MOSS LANDING MARINE LABORATORIES (MLML)
Publication_Date: 2006
Title: MARINE MAMMAL, SEABIRD, AND SEA TURTLE 'ZONES' AND HOT SPOTS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: VANDENBERG AIR FORCE BASE
Publication_Date: 2005
Title: LEAST TERN
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: U.S. AIR FORCE, VANDENBERG AIR FORCE BASE
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: VENTANA WILDLIFE SOCIETY
Publication_Date: 2005
Title: LOCATIONS OF GPS MARKED CALIFORNIA CONDORS
Geospatial_Data_Presentation_Form: MAP
Other_Citation_Details: VENTANA WILDERNESS SOCIETY, 2005
Source_Scale_Denominator: 1900000
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: BIRDS INFORMATION
Process_Step:
Process_Description:

Three main sources of data were used to depict bird distribution and seasonality for this data layer: (1) personal interviews with resource experts from: U.S. Geological Survey (USGS), Point Reyes Bird Observatory (PRBO), Moss Landing Marine Laboratories (MLML), National Park Service (NPS), Gulf of the Farallones National Marine Sanctuary (GFNMS), Golden Gate National Recreation Area (GGNRA), National Oceanic and Atmospheric Administration (NOAA), U.S. Fish & Wildlife Service (USFWS), California Department of Fish and Game (CDF&G), H.T. Harvey and Associates, and Ventana Wildlife Society; (2) numerous published and unpublished documents and maps provided by Monterey Peninsula Audubon Society, Pacific Eco Logic, GGNRA, Elkhorn Slough National Estuarine Research Reserve (ESNERR), Ventana Wildlife Society, CDF&G, and Research Planning, Inc. (RPI); and (3) vector digital data sets provided by Vandenberg Air Force Base. See the Lineage section for details.

The above digital and/or hardcopy sources were compiled by the project biologist to create the BIRDS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the BIRDS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 5942
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 5943
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 6979
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 364225
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 6505

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, BIRDS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIRDS.PAT

Entity_Type_Definition:

The BIRDS.PAT table contains attribute information for the vector polygons in this data set representing nesting and roosting sites, rare species occurrences, and concentration areas. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080100002

Range_Domain_Maximum: 080105943

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08000617

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT

Entity_Type_Definition:

The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08001257

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (1), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values. The field may contain counts or ranges of individuals (XX INDIV. or XX-XXXX INDIV.) or in cases where no quantitative count data were available, the field may contain descriptive terms, such as "HIGH" or "COMMON". Descriptive terms were provided by resource experts and are considered relative to the individual species (e.g. a 'high' concentration of one species is not necessarily relative to a 'high' concentration of another). If no concentration information was available from any source, the CONC field is populated with "-". Counts were derived from a variety of surveys, and may range in date (see Lineage).
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:

Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:

The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

Attribute_Definition: Species scientific name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine

Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: waterfowl

Enumerated_Domain_Value_Definition: Waterfowl

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: whale

Enumerated_Domain_Value_Definition: Whale

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.

Attribute_Definition_Source: Network of Natural Heritage Program

Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute

is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then

BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram,

which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

Date of source material, publication, or date of personal communication with expert source.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 13:38:28 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: NESTS (Nest Points)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: NESTS (Nest Points)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for alcids, diving birds, gulls, terns, pelagic birds, and shorebirds in Central California. Vector points in this data set represent bird nesting and roosting sites. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the BIRDS (Bird Polygons) data layer, part of the larger Central California ESI database, for additional bird information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1989
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1989 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.47000
North_Bounding_Coordinate: 39.45000
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Nest

Theme_Keyword: Birds

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or

concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of digital data, hardcopy documents, and expert knowledge on bird nesting and roosting sites. See also the BIRDS (Bird Polygons) data layer, part of the larger Central California ESI database, for additional bird information. These data do not necessarily represent all nest occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 8, Double-crested cormorant, Phalacrocorax auritus; 9, Brandt's cormorant, Phalacrocorax penicillatus; 10, Pelagic cormorant, Phalacrocorax pelagicus; 37, Western gull, Larus occidentalis; 39, California gull, Larus californicus; 46, Common murre, Uria aalge; 47, Pigeon guillemot, Cepphus columba; 48, Marbled murrelet, Brachyramphus marmoratus; 49, Cassin's auklet, Ptychoramphus aleuticus; 50, Rhinoceros auklet, Cerorhinca monocerata; 51, Tufted puffin, Fratercula cirrhata; 68, Black oystercatcher, Haematopus bachmani; 85, California least tern, Sterna antillarum browni; 96, Leach's storm-petrel, Oceanodroma leucorhoa; 118, Brown pelican, Pelecanus occidentalis; 136, Caspian tern, Sterna caspia; 144, Ashy storm-petrel, Oceanodroma homochroa; 1022, Seabirds, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital

objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ADAMS, J. (U.S. GEOLOGICAL SURVEY [USGS], MOSS LANDING)

Publication_Date: 2005

Title:

DISTRIBUTION OF SEABIRDS AND MARINE MAMMALS IN CENTRAL CALIFORNIA

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: NESTS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)

Publication_Date: 2006

Title: SLO COUNTY SPECIES DISTRIBUTION

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2006

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: NESTS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: BUFFA, J. (U.S. FISH & WILDLIFE SERVICE [USFWS])

Publication_Date: 2006

Title: NATIONAL WILDLIFE REFUGE SPECIES DISTRIBUTION AND SEASONALITY

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE (NCCOS) AND NATIONAL MARINE FISHERIES SERVICE (NMFS)

Publication_Date: 2003
Title: COLONIES
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
A BIOGEOGRAPHIC ASSESSMENT OFF NORTH/CENTRAL CALIFORNIA: PHASE 1. SILVER SPRING, MD, CD-ROM.
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1989
Ending_Date: 1991
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE (NCCOS) AND NATIONAL MARINE FISHERIES SERVICE (NMFS)
Publication_Date: 2003
Title: MAJOR COLONIES
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
A BIOGEOGRAPHIC ASSESSMENT OFF NORTH/CENTRAL CALIFORNIA: PHASE 1. SILVER SPRING, MD, CD-ROM.
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1989
Ending_Date: 1991
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: PAGE, G. (POINT REYES BIRD OBSERVATORY [PRBO])
Publication_Date: 2005
Title: BIRD DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: ROBESON, D.
Publication_Date: 2002
Title: MONTEREY BIRDS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: MONTEREY PENINSULA AUDUBON SOCIETY, CARMEL, CA, 536 PP.
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2002
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. FISH & WILDLIFE SERVICE (SALINAS NATIONAL WILDLIFE REFUGE [NWR])
Publication_Date: 2006
Title: SALINAS NWR SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:

Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: VANDENBERG AIR FORCE BASE
Publication_Date: 2005
Title: BROWN PELICAN
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: U.S. AIR FORCE, VANDENBERG AIR FORCE BASE
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: VANDENBERG AIR FORCE BASE
Publication_Date: 2005
Title: SEABIRDS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: U.S. AIR FORCE, VANDENBERG AIR FORCE BASE
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: NESTS INFORMATION
Process_Step:
Process_Description:
Three main sources of data were used to depict bird nesting and roosting sites and seasonality for this data layer: (1) personal interviews with resource experts from: U.S. Geological Survey (USGS), California Department of Fish and Game (CDF&G), Point Reyes Bird Observatory (PRBO), National Oceanic and Atmospheric Administration (NOAA), and U.S. Fish & Wildlife Service (USFWS); (2) published and unpublished documents provided by CDF&G and Monterey Peninsula Audubon Society; and (3) vector digital data sets provided by NOAA National Centers for Coastal Ocean Science (NCCOS) and Vandenberg Air Force Base.

The above digital and/or hardcopy sources were compiled by the project biologist to create the NESTS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the NESTS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Entity Point
Point_and_Vector_Object_Count: 278

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, NESTS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: NESTS.PAT

Entity_Type_Definition:

The NESTS.PAT table contains attribute information for the vector points in this data set representing bird nesting and roosting sites. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which

describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (5), and record number.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080500001

Range_Domain_Maximum: 080500278

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000014

Range_Domain_Maximum: 08000352

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT

Entity_Type_Definition:

The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in the polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08001257

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (5), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values. The field may contain counts of individuals (XX INDIV.) or, if no concentration information was available, will contain "-". Counts were derived from a variety of surveys, and may range in date (see Lineage).
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic

Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: whale

Enumerated_Domain_Value_Definition: Whale

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.

Attribute_Definition_Source: Network of Natural Heritage Program

Attribute_Domain_Values:

Codeset_Domain:

Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g.

ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: BREED5
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID

Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

Date(s) of data collection that the source material is based upon.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National

Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

Custom_Order_Process:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:

Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:07:11 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: FISH (Fish Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:

Citation:

Citation_Information:

Originator:

Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Publication_Date: 200606

Title:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: FISH (Fish Polygons)

Edition: Second

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Central California

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for marine, estuarine, and anadromous fish species in Central California. Vector polygons in this data set represent general distribution, nearshore concentration areas, spawning areas, and rare species occurrences. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the FISHL (Fish Lines) data layer, part of the larger Central California ESI database, for additional fish information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1990
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1990 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife

Theme_Keyword: Fish

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or

concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge, published and unpublished reports and documents, and hardcopy maps on general distribution, nearshore concentration areas, spawning areas, and rare species occurrences for fish. See also the FISHL (Fish Lines) data layer, part of the larger Central California ESI database, for additional fish information. These data do not necessarily represent all fish occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 2, Lingcod, Ophiodon elongatus; 3, Pacific sanddab, Citharichthys sordidus; 11, English sole, Parophrys vetulus; 12, Starry flounder, Platichthys stellatus; 26, Copper rockfish, Sebastes caurinus; 28, Yellowtail rockfish, Sebastes flavidus; 29, Black rockfish, Sebastes melanops; 30, Bocaccio, Sebastes paucispinis; 32, Canary rockfish (orange), Sebastes pinniger; 51, Pacific staghorn sculpin, Leptocottus armatus; 53, Cabezon, Scorpaenichthys marmoratus; 54, Redtail surfperch, Amphistichus rhodoterus; 56, Shiner surfperch, Cymatogaster aggregata; 57, Striped seaperch, Embiotoca lateralis; 58, Walleye surfperch, Hyperprosopon argenteum; 60, White seaperch, Phanerodon furcatus; 66, Pacific herring, Clupea pallasii pallasii; 67, Northern anchovy, Engraulis mordax; 69, Coho salmon, Oncorhynchus kisutch; 74, Steelhead, Oncorhynchus mykiss; 75, Surf smelt, Hypomesus pretiosus; 79, White seabass, Atractoscion nobilis; 83, Salmon, n/a; 104, Striped bass, Morone saxatilis; 106, California grunion, Leuresthes tenuis; 177, Leopard shark, Triakis semifasciata; 192, Topsmelt, Atherinops affinis; 193, Jacksmelt, Atherinopsis californiensis; 196, Blue rockfish, Sebastes mystinus; 197, Grass rockfish, Sebastes rastrelliger; 219, Pacific lamprey, Lampetra tridentata; 223, Rockfish, Sebastes spp.; 224, Surfperch, n/a; 225, California halibut, Paralichthys californicus; 226, Tidewater goby, Eucyclogobius newberryi; 228, Night smelt, Spirinchus starksi; 473, Bat ray, Myliobatis californica; 494, White croaker, Genyonemus lineatus; 894, Barred surfperch, Amphistichus argenteus; 899, Rubberlip seaperch, Rhacochilus toxotes; 1004, Nursery fish, n/a; 1014, Speckled sanddab, Citharichthys stigmaeus; 1029, Gobies, n/a; 1072, Vermilion rockfish, Sebastes miniatus; 1075, Black-and-yellow rockfish, Sebastes chrysomelas; 1076, Olive

rockfish, Sebastes serranoides; 1077, China rockfish, Sebastes nebulosus; 1078, Gopher rockfish, Sebastes carnatus; 1079, Kelp rockfish, Sebastes atrovirens; 1082, Widow rockfish, Sebastes entomelas; 1083, Calico surfperch, Amphistichus koelzi; 1084, Monkeyface prickleback, Cebidichthys violaceus; 1085, Pacific chub mackerel, Scomber japonicus; 1086, Pacific sardine, Sardinops sagax; 1087, White shark, Carcharodon carcharias.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: BROWN, J.
Publication_Date: 2002
Title: A PLAN FOR MONITORING THE FISH ASSEMBLAGE IN ELKHORN SLOUGH
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ELKHORN SLOUGH TECHNICAL REPORT SERIES 2002: 1

Type_of_Source_Media: DISC
Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2002
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CDF&G
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)

Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LEA, B. (RETIRED)
Publication_Date: 2005
Title: DISTRIBUTION OF FISH IN MONTEREY BAY AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LOVE, M.
Publication_Date: 1996
Title:
PROBABLY MORE THAN YOU WANT TO KNOW ABOUT THE FISHES OF THE PACIFIC COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: REALLY BIG PRESS, SANTA BARBARA, CA
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1996
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: MARTIN, K. (PEPPERDINE UNIVERSITY)
Publication_Date: 2006

Title: GRUNION DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: MONACO, EMMETT, NELSON, HINTON
Publication_Date: 1990
Title:
DISTRIBUTION AND ABUNDANCE OF FISHES AND INVERTEBRATES IN WEST COAST ESTUARIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
VOLUME 1: DATA SUMMARIES. ELMR REP. NO. 4. NOAA/NOS STRATEGIC ENVIRONMENTAL ASSESSMENT DIVISION, SILVER SPRING, MD, 232P
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1990
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NELSON, J. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], APTOS)
Publication_Date: 2005
Title:
DISTRIBUTION OF STEELHEAD, SALMON, AND T/E REPTILES AND AMPHIBIANS IN STREAMS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE

Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ODA, K. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], BELMONT)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF FISH AND INVERTEBRATES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PATTISON, C. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
REILLY, P. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MONTEREY)
Publication_Date: 2005
Title: DISTRIBUTION OF SPECIES IN MONTEREY BAY AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:

Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION
Source_Information:
Source_Citation:
Citation_Information:

Originator: U.S. FISH AND WILDLIFE SERVICE
Publication_Date: 2005
Title: RECOVERY PLAN FOR THE TIDEWATER GOBY (EUCYCLOGOBIUS NEWBERRYI)
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON. VI + 199 PP.

Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH INFORMATION

Process_Step:
Process_Description:

Two main sources of data were used to depict fish distribution and seasonality for this data layer: (1) personal interviews with resource experts from: California Department of Fish and Game (CDF&G), Pepperdine University, National Park Service (NPS), and the National Oceanic and Atmospheric Administration (NOAA), and (2) numerous reports, documents, and books provided by the University of California Santa Barbara (UCSB), CDF&G, Elkhorn Slough National Estuarine Research Reserve (ESNERR), Research Planning, Inc. (RPI), NOAA, and the U.S. Fish & Wildlife Service (USFWS). See the Lineage section for details.

The above digital and/or hardcopy sources were compiled by the project biologist to create the FISH data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the FISH data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way, N.E.
City: Seattle
State_or_Province: Washington

Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 6995
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 6996
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 9505
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 375309
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 8301

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISH) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For

each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: FISH.PAT

Entity_Type_Definition:

The FISH.PAT table contains attribute information for the vector polygons in this data set representing general distribution, nearshore concentration areas, spawning areas, and rare species occurrences. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080200002
Range_Domain_Maximum: 080206996
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000618
Range_Domain_Maximum: 08000693
Detailed_Description:
Entity_Type:
Entity_Type_Label: BIO_LUT
Entity_Type_Definition:
The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08001257
Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (2), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053
Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 008000001

Range_Domain_Maximum: 008001257

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for fish, so the concentration field may contain a descriptive term, such as "HIGH" or "COMMON". If no concentration information was available from any source, the CONC field is populated with "-".

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

Geographic source identifier that links records in the BIORES data table to records

in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP

Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in January

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: FEB

Attribute_Definition: February

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAR

Attribute_Definition: March

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in March

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: APR

Attribute_Definition: April

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in April

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY

Attribute_Definition: May

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in May

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUN

Attribute_Definition: June

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: DEC

Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats

include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:08:58 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: FISHL (Fish Lines)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: FISHL (Fish Lines)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA),

National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for anadromous fish and rare fish species occurrences in Central California. Vector lines in this data set represent the beginning points for coastal anadromous runs, juvenile rearing and adult congregation areas for anadromous species, and sensitive habitat for rare species (tidewater goby). Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the FISH (Fish Polygons) data layer, part of the larger Central California ESI database, for additional fish information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1999
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1999 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Fish

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely

in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge and hardcopy reports on anadromous and rare species occurrences. See also the FISH (Fish Polygons) data layer, part of the larger Central California ESI database, for additional fish information. These data do not necessarily represent all fish occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 69, Coho salmon, Oncorhynchus kisutch; 74, Steelhead, Oncorhynchus mykiss; 219, Pacific lamprey, Lampetra tridentata; 226, Tidewater goby, Eucyclogobius newberryi.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: FISH LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE

Source_Contribution: FISH LINE INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

NELSON, J. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], APTOS)

Publication_Date: 2005

Title:

DISTRIBUTION OF STEELHEAD, SALMON, AND T/E REPTILES AND AMPHIBIANS IN STREAMS

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PAPER

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: FISH LINE INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator: U.S. FISH AND WILDLIFE SERVICE

Publication_Date: 2005

Title: RECOVERY PLAN FOR THE TIDEWATER GOBY (EUCYCLOGOBIUS NEWBERRYI)

Geospatial_Data_Presentation_Form: HARDCOPY TEXT

Other_Citation_Details: U.S. FISH AND WILDLIFE SERVICE, PORTLAND, OREGON. VI + 199 PP.

Type_of_Source_Media: EMAIL

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: FISH LINE INFORMATION

Process_Step:

Process_Description:

Two main sources of data were used to depict fish distribution and seasonality for this data layer: (1) personal interviews with resource experts from California Department of Fish and Game (CDF&G) and National Park Service (NPS), and (2) U.S. Fish & Wildlife Service (USFWS) and CDF&G reports.

The above digital and/or hardcopy sources were compiled by the project biologist to create the FISHL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy

maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the FISHL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 103
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 5389
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 182

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:

Overview_Description:

Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, FISHL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: FISHL.AAT

Entity_Type_Definition:

The FISHL.AAT table contains attribute information for the vector lines in this data set representing the beginning points for coastal anadromous runs, juvenile rearing

and adult congregation areas for anadromous species, and sensitive habitat for rare species (tidewater goby). Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (22; 20 because it is a line feature, plus 2, the element value for FISH), and record number.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 082200001

Range_Domain_Maximum: 082200103

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000618

Range_Domain_Maximum: 08000639

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT

Entity_Type_Definition:

The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08001257

Attribute:

Attribute_Label: ID

Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (22; 20 because it is a line feature, plus 2, the element value for FISH), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values of a species at a particular location. No quantitative data were available for fish, so the CONC field may contain a descriptive term, such as "HIGH" or "LOW". If no concentration information was available from any source, the CONC field is populated with "-".
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:

Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:

The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

Attribute_Definition: Species scientific name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine

Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL

Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute

is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then

BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram,

which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

Date of source material, publication, or date of personal communication with expert source.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:

Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:12:15 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: HABITATS (Habitat Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: HABITATS (Habitat Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for benthic habitats in Central California. Vector polygons in this data set represent kelp and eelgrass distribution. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1994
Ending_Date: 2005

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1994 to 2005 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Habitats

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources

listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of digital data, expert knowledge, and maps on kelp and eelgrass distribution. These data do not necessarily represent all habitats occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Eelgrass, Zostera marina; 1056, Kelp, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPT. OF FISH AND GAME (CDF&G)
Publication_Date: 2003
Title: CALIFORNIA COASTAL KELP SURVEYS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: CDF&G MARINE REGION GIS UNIT
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1999
Ending_Date: 2003
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: MORRO BAY VOLUNTEER MONITORING PROGRAM
Publication_Date: 2005
Title: EELGRASS MONITORING UPDATE
Geospatial_Data_Presentation_Form: MAP
Other_Citation_Details:
HTTP://WWW.MBNEP.ORG/FILES/PDFS/EELGRASS SUMMARY 2005-05.PDF
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
REILLY, P. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MONTEREY)
Publication_Date: 2005

Title: DISTRIBUTION OF SPECIES IN MONTEREY BAY AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994

Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: HABITATS INFORMATION
Process_Step:
Process_Description:
Three main sources of data were used to depict habitat distribution and seasonality for this data layer: (1) digital data provided by California Department of Fish and Game (CDF&G), (2) hardcopy maps, and (3) personal interviews with resource experts from National Park Service (NPS), National Oceanic and Atmospheric Administration (NOAA), and California Department of Fish and Game (CDF&G).

The above digital and/or hardcopy sources were compiled by the project biologist to create the HABITATS data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the HABITATS data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 2845
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 2846

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 3036
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 196792
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 3030

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, HABITATS) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly

generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: HABITATS.PAT

Entity_Type_Definition:

The HABITATS.PAT table contains attribute information for the vector polygons in this data set representing kelp and eelgrass distribution. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080300002

Range_Domain_Maximum: 080302846

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in the polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000694

Range_Domain_Maximum: 08000700

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIO_LUT
Entity_Type_Definition:
The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08001257
Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (3), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053
Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:

Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values of a habitat at a particular location. No quantitative or qualitative information on concentrations of kelp were available, so the CONC field is populated with "-". Descriptive terms, such as "PATCHY-DENSE" were used to describe eelgrass concentrations and were based on hardcopy sources.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SPECIES

Entity_Type_Definition:

The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

Attribute_Definition: Species scientific name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian

Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM

for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12
Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED5
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

Publication date of source material used to assign international status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data

table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:

Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:28:08 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: INVERT (Invertebrate Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:

Citation:

Citation_Information:

Originator:

Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Publication_Date: 200606

Title:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: INVERT (Invertebrate Polygons)

Edition: Second

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Central California

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for marine, intertidal/subtidal, and terrestrial invertebrate species in Central California. Vector polygons in this data set represent invertebrate distribution and concentration areas. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1994
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1994 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Invertebrates

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources

listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge, available hardcopy documents, maps, and digital data on invertebrate distribution and concentration areas. These data do not necessarily represent all invertebrate occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 14, Dungeness crab, Cancer magister; 18, Pismo clam, Tivela stultorum; 29, Pacific littleneck, Protothaca staminea; 62, Black abalone, Haliotis cracherodii; 87, California brackishwater snail, Tryonia imitator; 322, Squid, Loligo spp.; 555, Globose dune beetle, Coelus globosus; 1028, Tidepool invertebrates, n/a; 1043, Invertebrates, n/a; 1048, Clams, n/a.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)

Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BENSON, S. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF MARINE RESOURCES IN CALIFORNIA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:

Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: FRIENDS OF FITZGERALD MARINE RESERVE
Publication_Date: 2005
Title: DISTRIBUTION OF SPECIES IN FITZGERALD MARINE RESERVE
Geospatial_Data_Presentation_Form: ONLINE TEXT
Other_Citation_Details: <http://www.fitzgeraldreserve.org/>
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2004
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
LONHART, S. (NOAA, MONTEREY BAY NATIONAL MARINE SANCTUARY [MBNMS], MONTEREY)
Publication_Date: 2005
Title: DISTRIBUTION OF TIDEPOOL AND NEARSHORE INVERTEBRATES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ODA, K. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], BELMONT)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF FISH AND INVERTEBRATES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
REILLY, P. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MONTEREY)
Publication_Date: 2005
Title: DISTRIBUTION OF SPECIES IN MONTEREY BAY AND ENVIRONS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: INVERT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE

Source_Contribution: INVERT INFORMATION

Process_Step:

Process_Description:

Two main sources of data were used to depict invertebrate distribution and seasonality for this data layer: (1) personal interviews with resource experts from California Department of Fish and Game (CDF&G), National Park Service (NPS), and National Oceanic and Atmospheric Administration (NOAA), and (2) hardcopy and online documents provided by CDF&G, Research Planning, Inc. (RPI), and Fitzgerald Marine Reserve.

The above digital and/or hardcopy sources were compiled by the project biologist to create the INVERT data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the INVERT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605

Process_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Person: Jill Petersen

Contact_Address:

Address_Type: Physical address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6944

Contact_Facsimile_Telephone: (206) 526-6329

Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains

Point_and_Vector_Object_Count: 3047

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Area point

Point_and_Vector_Object_Count: 3048

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 3325
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 166107
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 3264

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, INVERT) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact

version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: INVERT.PAT

Entity_Type_Definition:

The INVERT.PAT table contains attribute information for the vector polygons in this data set representing invertebrate distribution and concentration areas. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080700002

Range_Domain_Maximum: 080703051

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000701

Range_Domain_Maximum: 08000737

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT
Entity_Type_Definition:
The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08001257
Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (7), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053
Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values. Descriptive terms, such as "HIGH" and "LOW" were used to describe the relative abundance of particular invertebrate species at specific locations. In cases where no qualitative concentration information was available, the field contains "-".
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SPECIES

Entity_Type_Definition:

The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: NAME

Attribute_Definition: Species common name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: GEN_SPEC

Attribute_Definition: Species scientific name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird

Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12
Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED5
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager

Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:20:42 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: M_MAMMAL (Marine Mammal Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: M_MAMMAL (Marine Mammal Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for dolphins, porpoises, whales, seals, sea lions, and sea otters in Central California. Vector polygons in this data set represent marine mammal distribution, migration routes, concentration areas, haul-out sites, and rookeries. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1994

Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1994 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Marine Mammals

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such

data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge, available hardcopy and online documents, survey data, maps, and digital data on marine mammal distribution, haul-out sites, and rookeries. These data do not necessarily represent all marine mammal occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 1, Steller sea lion, Eumetopias jubatus; 2, Harbor seal, Phoca vitulina; 3, Northern fur seal, Callorhinus ursinus; 4, Killer whale, Orcinus orca; 6, Harbor porpoise, Phocoena phocoena; 7, Sea otter, Enhydra lutris; 11, Fin whale, Balaenoptera physalus; 12, Minke whale, Balaenoptera acutorostrata; 13, Humpback whale, Megaptera novaeangliae; 17, Bottlenose dolphin, Tursiops truncatus; 18, Pygmy sperm whale, Kogia breviceps; 19, Short-finned pilot whale, Globicephala macrorhynchus; 20, Northern right-whale dolphin, Lissodelphis borealis; 22, California sea lion, Zalophus californianus; 23, Guadalupe fur seal, Arctocephalus townsendi; 24, Northern elephant seal, Mirounga angustirostris; 26, Gray whale, Eschrichtius robustus; 27, Sei whale, Balaenoptera borealis; 29, Blue whale, Balaenoptera musculus; 45, Pacific white-sided dolphin, Lagenorhynchus obliquidens; 46, Risso's dolphin, Grampus griseus; 47, Dall's porpoise, Phocoenoides dalli dalli; 48, Sperm whale, Physeter macrocephalus; 60, Short-beaked common dolphin, Delphinus delphis; 81, Northern right whale, Eubalaena glacialis; 82, Dwarf sperm whale, Kogia simus; 96, Cuvier's beaked whale, Ziphius cavirostris; 98, Baird's beaked whale, Berardius bairdii; 106, Long-beaked common dolphin, Delphinus capensis; 1001, Dolphins, n/a; 1002, Seals, n/a; 1003, Pinnipeds, n/a; 1004, Sea lions, n/a; 1005, Mesoplodont beaked whales, Mesoplodon spp.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the

spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)

Publication_Date: 2005

Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: M_MAMMAL INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BENSON, S. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA])

Publication_Date: 2005

Title: DISTRIBUTION AND SEASONALITY OF MARINE RESOURCES IN CALIFORNIA

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: M_MAMMAL INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)

Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title: SEI WHALE (EASTERN NORTH PACIFIC STOCK) BALAENOPTERA BOREALIS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title:
HUMPBACK WHALE (EASTERN NORTH PACIFIC STOCK) MEGAPTERA NOVAEANGLIAE
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.

Publication_Date: 2005
Title: BLUE WHALE (EASTERN NORTH PACIFIC STOCK) BALAENOPTERA MUSCULUS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title: GUADALUPE FUR SEAL (ARCTOCEPHALUS TOWNSENDI)
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title: NORTHERN ELEPHANT SEAL MIROUNGA ANGUSTIROSTRIS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title: STELLER SEA LION (EASTERN U.S. STOCK) EUMETOPIAS

JUBATUS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title:
SPERM WHALE (CALIFORNIA/OREGON/WASHINGTON STOCK) PHYSETER MACROCEPHALUS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J.
Publication_Date: 2005
Title:
GRAY WHALE (EASTERN NORTHERN PACIFIC STOCK) ESCHRICHTIUS ROBUSTUS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BROWN, J. (NOAA)

Publication_Date: 2005
Title:
HARBOR PORPOISE: SAN FRANCISCO-RUSSIAN RIVER, MONTEREY BAY, AND MORRO BAY STOCKS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: BUFFA, J. (U.S. FISH & WILDLIFE SERVICE [USFWS])
Publication_Date: 2006
Title: NATIONAL WILDLIFE REFUGE SPECIES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CARETTA, FORNEY, MUTO, ET AL
Publication_Date: 2005
Title: U.S. PACIFIC MARINE MAMMAL STOCK ASSESSMENTS: 2005
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details:
U.S. DOC, NOAA, NATIONAL MARINE FISHERIES SERVICE (NMFS), NOAA-TM-NMFS-SWFSC-375, 323 PP.
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:

Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: FRIENDS OF THE ELEPHANT SEAL
Publication_Date: 2006
Title: ELEPHANT SEAL SEASONALITY INFORMATION
Geospatial_Data_Presentation_Form: WEBSITE
Other_Citation_Details: WWW.ELEPHANTSEAL.ORG
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: HARVEY, J. (MOSS LANDING MARINE LABORATORIES)
Publication_Date: 2005
Title: DISTRIBUTION OF MARINE MAMMALS IN CALIFORNIA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LOWRY, M. (NATIONAL MARINE FISHERIES SERVICE [NMFS])
Publication_Date: 2005
Title: PINNIPED SEASONALITY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: LOWRY, M. (NATIONAL MARINE FISHERIES SERVICE [NMFS], LA JOLLA)
Publication_Date: 2005
Title:
CALIFORNIA AND STELLER SEA LION AND HARBOR SEAL HAUL-OUT LOCATIONS
Geospatial_Data_Presentation_Form: TABULAR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1998
Ending_Date: 2004
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
MERKLE, B. (NATIONAL PARK SERVICE [NPS], GOLDEN GATE NATIONAL RECREATION AREA [GGNRA])
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PATTISON, C. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
REILLY, P. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MONTEREY)
Publication_Date: 2005
Title: DISTRIBUTION OF SPECIES IN MONTEREY BAY AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE

TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
TINKER, T. (UNIVERSITY OF CALIFORNIA, SANTA CRUZ [UCSC], LONG MARINE LAB)
Publication_Date: 2005
Title: SEA OTTER SPRING CENSUSES (2003, 2004, AND 2005)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 2003
Ending_Date: 2005
Source_Currentness_Reference: DATE OF SURVEY
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. GEOLOGICAL SURVEY (USGS), NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), MOSS LANDING MARINE LABORATORIES (MLML)
Publication_Date: 2006
Title: MARINE MAMMAL, SEABIRD, AND SEA TURTLE 'ZONES' AND HOT SPOTS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:

Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: M_MAMMAL INFORMATION
Process_Step:
Process_Description:

Three main sources of data were used to depict marine mammal distribution and seasonality for this data layer: (1) personal interviews with resource experts from: National Park Service (NPS), National Oceanic and Atmospheric Administration (NOAA), California Department of Fish and Game (CDF&G), National Marine Fisheries Service (NMFS), U.S. Fish & Wildlife Service (USFWS), Moss Landing Marine Laboratories (MLML), and U.S. Geological Survey (USGS); (2) numerous published and unpublished hardcopy and digital reports; and (3) digital survey data provided by University of California Santa Cruz (UCSC) and NMFS.

The above digital and/or hardcopy sources were compiled by the project biologist to create the M_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the M_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 5764
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 5765
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 6551
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 260070
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 6146

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, M_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file

are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: M_MAMMAL.PAT

Entity_Type_Definition:

The M_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing marine mammal distribution, migration routes, concentration areas, haul-out sites, and rookeries. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080400002

Range_Domain_Maximum: 080405765

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000738
Range_Domain_Maximum: 08001227

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIO_LUT
Entity_Type_Definition:
The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08001257
Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (4), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIORES
Entity_Type_Definition:
The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: RARNUM
Attribute_Definition:

An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 008000001

Range_Domain_Maximum: 008001257

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. The field may contain counts of individuals (XX INDIV.) or a range of peak counts of individuals (XX-XX INDIV.). For sea otters, counts are by independents (juveniles over 6 months and adults) and pups (juveniles under 6 months). Sea otter abundance is displayed as follows: "XX INDEP/X PUPS". If no quantitative count data were available, the field may contain a descriptive term, such as "HIGH" or "MODERATE". If no concentration information was available from any source, the CONC field contains "-". Counts were derived from a variety of surveys and range in date. See the Lineage section for survey dates.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: G_SOURCE

Attribute_Definition:

Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: S_SOURCE

Attribute_Definition:

Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank

Codeset_Source: Natural Heritage Program

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition: Date of NHP listing.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: 0

Enumerated_Domain_Value_Definition: Date unspecified

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE

Attribute_Definition:

Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED2

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: BREED5
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or

endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: I

Attribute_Definition: International threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on international list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: S_DATE

Attribute_Definition:

Publication date of source material used to assign state status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: F_DATE

Attribute_Definition:

Publication date of source material used to assign federal status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: I_DATE

Attribute_Definition:

Publication date of source material used to assign international status values for each species, if used.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information

on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:24:14 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: REPTILES (Reptile and Amphibian Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: REPTILES (Reptile and Amphibian Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for amphibians and reptiles in Central California. Vector polygons in this data set represent sea turtle distribution and rare reptile and amphibian species occurrences. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the REPTILEL (Reptile and Amphibian Lines) data layer, part of the larger Central California ESI database, for additional amphibian and reptile information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1999
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005- 2006. The currentness dates for the data range from 1999 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife
Theme_Keyword: Reptiles

Theme_Keyword: Amphibians

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or

concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge, available hardcopy documents, and digital data on reptile and amphibian distribution and rare species occurrences. See also the REPTILEL (Reptile and Amphibian Lines) data layer, part of the larger Central California ESI database, for additional amphibian and reptile information. These data do not necessarily represent all amphibian and reptile occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 5, Leatherback sea turtle, Dermochelys coriacea; 54, California red-legged frog, Rana aurora draytonii; 57, San Francisco garter snake, Thamnophis sirtalis tetrataenia; 58, Western pond turtle, Clemmys marmorata; 174, Santa Cruz long-toed salamander, Ambystoma macrodactylum croceum.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:
Source_Citation:
Citation_Information:
Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BENSON, S. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF MARINE RESOURCES IN CALIFORNIA
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 2001
Title:
THE CALIFORNIA RED-LEGGED FROG INFORMATION PAGE AND PHOTOGRAPHS, USFWS, 2001.
Geospatial_Data_Presentation_Form: ONLINE TEXT
Other_Citation_Details:
<http://www.dfg.ca.gov/hcpb/cgi-bin/more_info.asp?idKey=ssc_tespp&s
aurora draytonii>
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2001
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) HAB. CONS. DIV., WHDAB
Publication_Date: 2005
Title: CALIFORNIA NATURAL DIVERSITY DATABASE (CNDDB)
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
CDF&G'S HABITAT CONSERVATION DIVISION, WILDLIFE AND HABITAT DATA ANALYSIS BRANCH (WHDAB), SACRAMENTO, CA
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G),

U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ELLICOTT SLOUGH NATIONAL WILDLIFE REFUGE (NWR), U.S. FISH & WILDLIFE SERVICE (USFWS)
Publication_Date: 2006
Title: ELLICOTT SLOUGH NWR SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NELSON, J. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], APTOS)
Publication_Date: 2005
Title:
DISTRIBUTION OF STEELHEAD, SALMON, AND T/E REPTILES AND AMPHIBIANS IN STREAMS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
U.S. GEOLOGICAL SURVEY (USGS), NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), MOSS LANDING MARINE LABORATORIES (MLML)
Publication_Date: 2006
Title: MARINE MAMMAL, SEABIRD, AND SEA TURTLE 'ZONES' AND HOT SPOTS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILES INFORMATION
Process_Step:
Process_Description:

Three main sources of data were used to depict reptile and amphibian distribution and seasonality for this data layer: (1) personal interviews with resource experts from: National Park Service (NPS), California Department of Fish and Game (CDF&G), National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), Moss Landing Marine Laboratories (MLML), and U.S. Fish & Wildlife Service (USFWS), (2) reports and maps provided by CDF&G and USFWS, and (3) digital data provided by CDF&G.

The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILES data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the REPTILES data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 5382
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 5383
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 5671
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 192396
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 5648

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILES) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also

post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: REPTILES.PAT

Entity_Type_Definition:

The REPTILES.PAT table contains attribute information for the vector polygons in this data set representing sea turtle distribution and rare reptile and amphibian species occurrences. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080600003

Range_Domain_Maximum: 080605126

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in the polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08001228

Range_Domain_Maximum: 08001253

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT

Entity_Type_Definition:

The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08001257

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (6), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080100002

Range_Domain_Maximum: 082600053

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIORES

Entity_Type_Definition:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values. No quantitative data were available for reptiles and amphibians, so the concentration field may contain a descriptive term, such as "HIGH" or "MODERATE". If no concentration information was available from any source, the CONC field is populated with "-".
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE

Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: JAN

Attribute_Definition: January

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL

Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: BREED

Entity_Type_Definition:

The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: EL_SPE_SEA

Attribute_Definition:

Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#######

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH

Attribute_Definition:

Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: 12

Attribute:

Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED3

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Detailed_Description:
Entity_Type:
Entity_Type_Label: STATUS
Entity_Type_Definition:
The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic

section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:15:07 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: REPTILEL (Reptile and Amphibian Lines)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: REPTILEL (Reptile and Amphibian Lines)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for amphibians and reptiles in Central California. Vector lines in this data set represent general stream locations and sensitive habitats for the California red-legged frog, Western pond turtle, and San Francisco garter snake. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the REPTILES (Reptile and Amphibian Polygons) data layer, part of the larger Central California ESI database, for additional amphibian and reptile information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1999
Ending_Date: 2006

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness dates for the data range from 1999 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife

Theme_Keyword: Reptiles
Theme_Keyword: Amphibians
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Central California
Access_Constraints: None
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.
Browse_Graphic:
Browse_Graphic_File_Name: datafig.jpg
Browse_Graphic_File_Description:
Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.
Browse_Graphic_File_Type: JPEG
Data_Set_Credit:
This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical

consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent expert knowledge and available hardcopy documents on reptile and amphibian rare species occurrences. See also the REPTILES (Reptile and Amphibian Polygons) data layer, part of the larger Central California ESI database, for additional amphibian and reptile information. These data do not necessarily represent all amphibian and reptile occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 5, Leatherback sea turtle, Dermochelys coriacea; 54, California red-legged frog, Rana aurora draytonii; 57, San Francisco garter snake, Thamnophis sirtalis tetrataenia; 58, Western pond turtle, Clemmys marmorata; 174, Santa Cruz long-toed salamander, Ambystoma macrodactylum croceum.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:
Source_Citation:
Citation_Information:
Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 1999
Title:
4612 SITE SUMMARY & STRATEGY SHEETS - SANTA BARBARA COUNTY, VENTURA COUNTY
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: LA-LB 200
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 1999
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NELSON, J. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], APTOS)
Publication_Date: 2005
Title:
DISTRIBUTION OF STEELHEAD, SALMON, AND T/E REPTILES AND AMPHIBIANS IN STREAMS
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: REPTILE LINE INFORMATION
Process_Step:
Process_Description:
Two main sources of data were used to depict reptile and amphibian distribution and seasonality for this data layer: (1) personal interviews with resource experts from National Park Service (NPS) and California Department of Fish and Game (CDF&G), and (2) reports provided by CDF&G.

The above digital and/or hardcopy sources were compiled by the project biologist to create the REPTILEL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the REPTILEL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 53
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 2424
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 94

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, REPTILEL) is linked to the Biological

Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: REPTILEL.AAT

Entity_Type_Definition:

The REPTILEL.AAT table contains attribute information for the vector lines in this data set representing general stream locations and sensitive habitats for the California red-legged frog, Western pond turtle, and San Francisco garter snake. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (26; 20 because it is a line feature, plus 6, the element value for REPTILES), and record number.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 082600001
Range_Domain_Maximum: 082600053

Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links directly to the BIORES table or the flat format BIOFILE table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08001228
Range_Domain_Maximum: 08001240

Detailed_Description:
Entity_Type:
Entity_Type_Label: BIO_LUT
Entity_Type_Definition:
The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: RARNUM
Attribute_Definition:
An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in polygonsand do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08001257

Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (26; 20 because it is a line feature, plus 6, the element value for REPTILES), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:

Range_Domain_Minimum: 080100002
Range_Domain_Maximum: 082600053

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIORES

Entity_Type_Definition:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 008000001
Range_Domain_Maximum: 008001257

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:

Attribute_Label: CONC

Attribute_Definition:

The field CONC refers to "concentration," abundance, or density values. No concentration data were available for REPTILEL, so the CONC field is populated with "-".

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SEASON_ID

Attribute_Definition:

Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a

nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale

Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the SPECIES data table to records in the BIORES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SEASONAL
Entity_Type_Definition:
The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:

Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X

Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED4
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: BREED5
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data

layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

Date of source material, publication, or date of personal communication with expert source.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

Date(s) of data collection that the source material is based upon.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and Plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T_MAMMAL

Enumerated_Domain_Value_Definition: Terrestrial Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: STATE

Attribute_Definition: Two-letter state abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: COUNTRY

Attribute_Definition: Three-letter country abbreviation.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: S

Attribute_Definition: State threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: T

Enumerated_Domain_Value_Definition: Threatened on state list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: C

Enumerated_Domain_Value_Definition: Species of Special Concern

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:

Attribute_Label: F

Attribute_Definition: Federal threatened or endangered status.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E

Enumerated_Domain_Value_Definition: Endangered on federal list

Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM

for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by

computer-input peripherals, or when the physical medium is delivered in damaged condition.

Custom_Order_Process:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:

Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:17:56 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: T_MAMMAL (Terrestrial Mammal Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: T_MAMMAL (Terrestrial Mammal Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains sensitive biological resource data for rare/sensitive species occurrences of terrestrial mammals in Central California. Vector polygons in this data set represent rare/sensitive terrestrial mammal occurrences. Species-specific abundance, seasonality, status, life history, and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Currentness_Reference:

The biological data were compiled during 2005-2006. The currentness date for the data is 2005 and is documented in the Lineage section.

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000

East_Bounding_Coordinate: -120.37500

North_Bounding_Coordinate: 38.12500

South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: ESI

Theme_Keyword: Sensitivity maps

Theme_Keyword: Coastal resources

Theme_Keyword: Oil spill planning

Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife

Theme_Keyword: Terrestrial Mammals

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in that data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written.

After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks. In the process of checking for topological and database consistencies, new ID's and RARNUM's or HUNUM's are also generated. The new ID's are a combination of atlas number, element number, and record number. In addition, the value used to represent the element is modified to reflect the type of feature being mapped. In the case of an element that is normally represented by a point or polygon, a value of 20 is added to the standard element value for mapping of linear features. In the case where an element usually mapped as a polygon is represented by a point, a value of 30 is added to the regular element value. The RARNUM's are also modified to include the atlas number, so multiple atlases can be combined and RARNUM's remain unique. RARNUM's are redefined on an element basis, so "resource at risk" groupings will contain only a single element. HUNUM's are also modified to include the atlas number.

Completeness_Report:

These data represent a synthesis of expert knowledge and digital data on rare/sensitive terrestrial mammal occurrences. The data do not necessarily represent all terrestrial mammal occurrences in Central California. The following species are included in this data set: (Species_ID, Common Name, Scientific Name [n/a if not applicable]): 8, Northern river otter, Lontra canadensis; 41, Salt-marsh harvest mouse, Reithrodontomys raviventris.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the biological data layers can come from expert interviews, hardcopy, or digital sources. Some of the spatial components of the biological data layers may have been developed using regional experts who estimate concentration areas. It is difficult to estimate the positional accuracy of such data, except to state that they are compiled on hardcopy base maps with a scale of 1:24,000. Some of the spatial components of the biological data sets are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set. Note that biological resource data by their very nature are considered "fuzzy", and this should be understood when considering the positional accuracy of vector digital objects representing these resources.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF SPECIES ON NPS LANDS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: T_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: T_MAMMAL INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
ROLETTO, J. (NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION [NOAA], GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title: DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: T_MAMMAL INFORMATION
Process_Step:
Process_Description:
The main source of data used to depict terrestrial mammal distribution and seasonality for this data layer was personal interviews with resource experts from

the National Park Service (NPS) and the National Oceanic and Atmospheric Administration (NOAA).

The above digital and/or hardcopy sources were compiled by the project biologist to create the T_MAMMAL data layer. Depending on the type of source data, three general approaches are used for compiling a biology data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the T_MAMMAL data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 14
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 15
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 20
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 4260
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph

Point_and_Vector_Object_Count: 19

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:

In addition to the geographic data layers, six relational attribute or data tables, BIORES, BREED, SEASONAL, SOURCES, SPECIES, and STATUS, are used to store the complex biological data in the ESI data structure. The geographic data layer containing biological resource information (in this case, T_MAMMAL) is linked to the Biological Resources table (BIORES) using the unique ID and the lookup table BIO_LUT, or it can be linked directly using RARNUM. The ID is a unique combination of the atlas number (for the Central California atlas, the number is 8), an element/layer specific number (BIRDS are layer 1, FISH are layer 2, etc.), and a unique record number. The RARNUM represents a unique combination of species, seasonalities, concentrations, and source information. For each of these groupings, a number is generated. That number is concatenated with the atlas number to create a "resource at risk" number that is unique across atlases. BIORES and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Due to the complexity of the relational database model, the data items are also post-processed into a flat file format. This table, called BIOFILE, may be used in place of the relational files described below to ease simple data queries. The items in the flat file are ELEMENT, SUBELEMENT, NAME, GEN_SPEC, S, F, NHP, DATE_PUB, CONC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, BREED1, BREED2, BREED3, BREED4, BREED5, RARNUM, G_SOURCE, S_SOURCE, and BREED. All of these items are the same as their counterparts in the individual data tables described below, except the BREED1-BREED5 and BREED items. BREED is a newly generated variable used to link to the BREED_DT data table, a modified, more compact version of the relational BREED data table. BREED1-BREED5 give a text summary of when each life stage occurs within the associated map object. The life stages referred to are the same as those listed in the Detailed_Description of the BREED data table. The link to the BIOFILE may be made through the BIO_LUT, using ID to link to RARNUM, or BIOFILE may be linked directly to the RARNUM in each of the geographic layer's attribute data tables. As mentioned, BREED_DT is an auxiliary support data table to the flat file structure, which allows the user to do searches based on month for seasonal

breeding activities. The link from the flat file to BREED_DT is the BREED item.

A second supporting data table is SOURCES. This is the same as the source file described above, and the link from the flat file is both G_SOURCE and S_SOURCE. It should be noted that although the flat file eases data query, it is not a normalized database structure, and actual updates performed by the states and other responsible agencies should be done using the relational data tables. The entity-relationship diagram, describing relationships between attribute tables in the ESI data structure, does NOT include the BIOFILE data table, and this data table is NOT described in detail below.

Detailed_Description:

Entity_Type:

Entity_Type_Label: T_MAMMAL.PAT

Entity_Type_Definition:

The T_MAMMAL.PAT table contains attribute information for the vector polygons in this data set representing rare/sensitive terrestrial mammal occurrences. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (9), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080900002

Range_Domain_Maximum: 080900014

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links directly to the BIORES table or the flat format BIOFILE table. RARNUM values of 0 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000254

Range_Domain_Maximum: 08000257

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIO_LUT

Entity_Type_Definition:

The data table BIO_LUT is a lookup table that contains items necessary for linking vector objects in the biological data layers with the BIORES data table. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIO_LUT data table to records in the BIORES data table or the flat format BIOFILE data table. RARNUM values of 0 are holes in the polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 08000001

Range_Domain_Maximum: 08001257

Attribute:

Attribute_Label: ID

Attribute_Definition:

An identifier that links vector objects in the biology data layers to records in the BIO_LUT data table. ID is a concatenation of atlas number (8), element number (9), and record number. ID values of 9999 are holes in polygons and do not contain information.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 080100002

Range_Domain_Maximum: 082600053

Detailed_Description:

Entity_Type:

Entity_Type_Label: BIORES

Entity_Type_Definition:

The data table BIORES contains both biological attribute data and items necessary for linking vector objects in the biological data layers via the BIO_LUT data table to other associated data tables. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: RARNUM

Attribute_Definition:

An identifier that links records in the BIORES data table to records in the BIO_LUT data table or the flat format BIOFILE data table.

Attribute_Definition_Source: NOAA

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 008000001

Range_Domain_Maximum: 008001257

Attribute:

Attribute_Label: SPECIES_ID

Attribute_Definition:

Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: CONC
Attribute_Definition:
The field CONC refers to "concentration," abundance, or density values. No concentration information was available for terrestrial mammals, so the CONC field is populated with "-".
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: S_SOURCE
Attribute_Definition:
Seasonality source identifier that links records in the BIORES data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the BIORES data table to records in the SPECIES and STATUS data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BIORES data table to records in the SEASONAL and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:
Entity_Type_Label: SPECIES
Entity_Type_Definition:
The data table SPECIES identifies all species in the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure. Refer to the Completeness_Report for a list of layer-specific species.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: NAME
Attribute_Definition: Species common name for the entire ESI data set
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: GEN_SPEC
Attribute_Definition: Species scientific name for the entire ESI data set
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: ELEMENT
Attribute_Definition: Major categories of biological data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BIRD
Enumerated_Domain_Value_Definition: Birds
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: FISH
Enumerated_Domain_Value_Definition: Fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SUBELEMENT
Attribute_Definition: Element subgroup delineating a logical grouping of species.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: alcid
Enumerated_Domain_Value_Definition: Alcid
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: amphibian
Enumerated_Domain_Value_Definition: Amphibian
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: bivalve
Enumerated_Domain_Value_Definition: Bivalve
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: cephalopod
Enumerated_Domain_Value_Definition: Cephalopod

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: crab
Enumerated_Domain_Value_Definition: Crab
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diadromous
Enumerated_Domain_Value_Definition: Diadromous fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: diving
Enumerated_Domain_Value_Definition: Diving bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: dolphin
Enumerated_Domain_Value_Definition: Dolphin
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_nursery
Enumerated_Domain_Value_Definition: Estuarine nursery fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: e_resident
Enumerated_Domain_Value_Definition: Estuarine resident
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gastropod
Enumerated_Domain_Value_Definition: Gastropod
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: gull_tern
Enumerated_Domain_Value_Definition: Gull or tern
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: insect
Enumerated_Domain_Value_Definition: Insect
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: kelp
Enumerated_Domain_Value_Definition: Kelp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_benthic
Enumerated_Domain_Value_Definition: Marine benthic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: m_pelagic
Enumerated_Domain_Value_Definition: Marine pelagic fish
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: passerine
Enumerated_Domain_Value_Definition: Passerine bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pelagic
Enumerated_Domain_Value_Definition: Pelagic bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: pinniped
Enumerated_Domain_Value_Definition: Pinniped
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: raptor
Enumerated_Domain_Value_Definition: Raptor
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sav
Enumerated_Domain_Value_Definition: Submerged aquatic vegetation
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sea otter
Enumerated_Domain_Value_Definition: Sea otter
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: shorebird
Enumerated_Domain_Value_Definition: Shorebird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: sm_mammal
Enumerated_Domain_Value_Definition: Small mammal
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: snake
Enumerated_Domain_Value_Definition: Snake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: turtle
Enumerated_Domain_Value_Definition: Turtle
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: wading
Enumerated_Domain_Value_Definition: Wading bird
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: waterfowl
Enumerated_Domain_Value_Definition: Waterfowl
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: whale
Enumerated_Domain_Value_Definition: Whale
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NHP
Attribute_Definition: Natural Heritage Program global ranking.
Attribute_Definition_Source: Network of Natural Heritage Program
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name: NHP Global Conservation Status Rank
Codeset_Source: Natural Heritage Program

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition: Date of NHP listing.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Date unspecified
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links records in the

SPECIES data table to records in the BIORES and STATUS data tables.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: E#####

Enumerated_Domain_Value_Definition:

Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SEASONAL

Entity_Type_Definition:

The data table SEASONAL contains information on the seasonal presence of each species associated with each spatial vector object. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT

Enumerated_Domain_Value_Definition: Habitats and plants

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: INVERT

Enumerated_Domain_Value_Definition: Invertebrates

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M_MAMMAL

Enumerated_Domain_Value_Definition: Marine Mammals

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: REPTILE

Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: SEASON_ID
Attribute_Definition:
Numeric identifier for the unique monthly presence and life history characteristics of each species at a given location.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: JAN
Attribute_Definition: January
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in January
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: FEB
Attribute_Definition: February
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in February
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAR
Attribute_Definition: March
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in March
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: APR
Attribute_Definition: April
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in April
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MAY
Attribute_Definition: May
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in May
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUN
Attribute_Definition: June
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in June
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: JUL
Attribute_Definition: July
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in July
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: AUG
Attribute_Definition: August
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in August
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SEP
Attribute_Definition: September

Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in September
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: OCT
Attribute_Definition: October
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in October
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NOV
Attribute_Definition: November
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in November
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: DEC
Attribute_Definition: December
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: X
Enumerated_Domain_Value_Definition: Present in December
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the SEASONAL data table to records in the BIORES and BREED data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:
Entity_Type:

Entity_Type_Label: BREED
Entity_Type_Definition:
The data table BREED identifies the monthly presence of certain life-history stages or activities for each species at a given location.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE_SEA
Attribute_Definition:
Concatenation of ELEMENT, SPECIES_ID, and SEASON_ID. This item links records in the BREED data table to records in the BIORES and SEASONAL data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#######
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT, the next five characters are SPECIES_ID, and the last two characters are SEASON_ID (e.g. ELEMENT = 'BIRD', SPECIES_ID = 1 and SEASON_ID = 1; EL_SPE_SEA = 'B0000101').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: MONTH
Attribute_Definition:
Two-digit calendar month. Each life history stage or activity type for a particular species can have up to 12 records to account for each month of the year.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: 12

Attribute:
Attribute_Label: BREED1
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED1 = nesting; if ELEMENT is "FISH" then BREED1 = spawning; if ELEMENT is "INVERT" then BREED1 = spawning; if ELEMENT is "REPTILE" then BREED1 = nesting; if ELEMENT is "M_MAMMAL" then BREED1 = mating. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED2
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED2 = migrating; if ELEMENT is "FISH" then BREED2 = eggs; if ELEMENT is "INVERT" then BREED2 = eggs; if ELEMENT is "REPTILE" then BREED2 = hatching; if ELEMENT is "M_MAMMAL" then BREED2 = calving. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: -
Enumerated_Domain_Value_Definition:
Breed category not used or not appropriate for record(s) in question
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: BREED3
Attribute_Definition:
Life history stage or activity type, where: if ELEMENT is "BIRD" then BREED3 = molting; if ELEMENT is "FISH" then BREED3 = larvae; if ELEMENT is "INVERT" then BREED3 = larvae; if ELEMENT is "REPTILE" then BREED3 = internesting; if ELEMENT is "M_MAMMAL" then BREED3 = pupping. This attribute is not used for HABITAT or T_MAMMAL elements.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: Y
Enumerated_Domain_Value_Definition: Life-history stage or activity present
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: N
Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED4

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED4 = juveniles; if ELEMENT is "INVERT" then BREED4 = juveniles; if ELEMENT is "REPTILE" then BREED4 = juveniles; if ELEMENT is "M_MAMMAL" then BREED4 = molting. This attribute is not used for BIRD, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: BREED5

Attribute_Definition:

Life history stage or activity type, where: if ELEMENT is "FISH" then BREED5 = adults; if ELEMENT is "INVERT" then BREED5 = adults; if ELEMENT is "REPTILE" then BREED5 = adults. This attribute is not used for BIRD, M_MAMMAL, HABITAT, or T_MAMMAL elements.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: Y

Enumerated_Domain_Value_Definition: Life-history stage or activity present

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: N

Enumerated_Domain_Value_Definition: Life-history stage or activity not present or not reported

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: -

Enumerated_Domain_Value_Definition:

Breed category not used or not appropriate for record(s) in question

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOURCES

Entity_Type_Definition:

The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SOURCE_ID

Attribute_Definition:

Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Range_Domain:

Range_Domain_Minimum: 1

Range_Domain_Maximum: N

Attribute:

Attribute_Label: ORIGINATOR

Attribute_Definition: Author or developer of source material or data set.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATE_PUB

Attribute_Definition:

Date of source material, publication, or date of personal communication with expert source.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: YYYYMM

Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TITLE

Attribute_Definition: Title of source material or data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: DATA_FORMAT

Attribute_Definition: The format of the source material.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PUBLICATION

Attribute_Definition: Additional citation information.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: SCALE

Attribute_Definition: Description of the source scale.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: TIME_PERIOD

Attribute_Definition:

Date(s) of data collection that the source material is based upon.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Detailed_Description:

Entity_Type:

Entity_Type_Label: STATUS

Entity_Type_Definition:

The data table STATUS identifies the species that are listed as threatened or endangered by a state, federal, or international authority. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: ELEMENT

Attribute_Definition: Major categories of biological data.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BIRD

Enumerated_Domain_Value_Definition: Birds

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FISH

Enumerated_Domain_Value_Definition: Fish

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: HABITAT
Enumerated_Domain_Value_Definition: Habitats and Plants
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: INVERT
Enumerated_Domain_Value_Definition: Invertebrates
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M_MAMMAL
Enumerated_Domain_Value_Definition: Marine Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REPTILE
Enumerated_Domain_Value_Definition: Reptiles and Amphibians
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T_MAMMAL
Enumerated_Domain_Value_Definition: Terrestrial Mammals
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: SPECIES_ID
Attribute_Definition:
Numeric identifier for each species that is unique within each element and refers to a nationwide master ESI species list maintained at NOAA.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: STATE
Attribute_Definition: Two-letter state abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: COUNTRY
Attribute_Definition: Three-letter country abbreviation.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: S
Attribute_Definition: State threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on state list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: F
Attribute_Definition: Federal threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on federal list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: I
Attribute_Definition: International threatened or endangered status.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E
Enumerated_Domain_Value_Definition: Endangered on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: T
Enumerated_Domain_Value_Definition: Threatened on international list
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: C
Enumerated_Domain_Value_Definition: Species of Special Concern
Enumerated_Domain_Value_Definition_Source: NOAA ESI Guidelines

Attribute:
Attribute_Label: S_DATE
Attribute_Definition:
Publication date of source material used to assign state status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: F_DATE
Attribute_Definition:
Publication date of source material used to assign federal status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: I_DATE
Attribute_Definition:
Publication date of source material used to assign international status values for each species, if used.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: EL_SPE
Attribute_Definition:
Concatenation of ELEMENT and SPECIES_ID. This item links the STATUS data table to the BIORES and SPECIES data tables.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: E#####
Enumerated_Domain_Value_Definition:
Where E is the first character of ELEMENT and the next five characters are SPECIES_ID (e.g. ELEMENT = 'BIRD' and SPECIES_ID = 1; EL_SPE = 'B00001').
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:26:07 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: MGT (Management Area Polygons)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: MGT (Management Area Polygons)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains boundaries of Coast Guard facilities; management areas; marinas; marine sanctuaries; national forests; national, regional, and state parks; Nature Conservancy lands; and wildlife refuges in Central California. Vector polygons in this data set represent the management area boundaries. Location-specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the SOCECON (Socioeconomic Resource Points) data layer, part of the larger Central California ESI database, for additional human-use information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1996
Ending_Date: 2006

Currentness_Reference:

The MGT data were compiled during 2005-2006. The currentness dates for the data range from 1996 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife

Theme_Keyword: Management areas
Theme_Keyword: Human use resources
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Central California
Access_Constraints: None
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.
Browse_Graphic:
Browse_Graphic_File_Name: datafig.jpg
Browse_Graphic_File_Description:
Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.
Browse_Graphic_File_Type: JPEG
Data_Set_Credit:
This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical

consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent a synthesis of digital boundaries for management areas. See also the SOCECON (Socioeconomic Resource Points) data layer, part of the larger Central California ESI database, for additional human-use information. These data do not necessarily represent all management areas in Central California.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the human-use data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: CA RESOURCES AGENCY LEGACY PROJECT

Publication_Date: 2005

Title:

PUBLIC, CONSERVATION AND LAND TRUST OWNERSHIP IN THE STATE OF CALIFORNIA

Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA

Other_Citation_Details: CA RESOURCES AGENCY LEGACY PROJECT

Source_Scale_Denominator: 100,000

Type_of_Source_Media: ONLINE

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF PUBLICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: MGT INFORMATION

Source_Information:

Source_Citation:
Citation_Information:
Originator: CDF&G MARINE REGION GIS
Publication_Date: 2005
Title: CALIFORNIA MARINE PROTECTED AREAS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), MARINE REGION GIS LAB
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2004
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CDF&G OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR)
Publication_Date: 2005
Title: MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS) BOUNDARY
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NOAA MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS)
Publication_Date: 2005
Title: MARINE ZONES
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE

Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: NOAA, NMSP
Publication_Date: 2004
Title: NATIONAL MARINE SANCTUARY PROGRAM DIGITAL BOUNDARY FILES
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details:
NOAA, NATIONAL MARINE SANCTUARY PROGRAM (NMSP), SILVER SPRING, MD
Source_Scale_Denominator: VARIES
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 1996
Ending_Date: 2003
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: POINT REYES NATIONAL SEASHORE GIS
Publication_Date: 2006
Title: GOGA_TRACTS_LANDS04; PORE_ADMIN46; PHILIP_BURTON_WILDERNESS2
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: WONG, F.L., EITTREIM, S.E.
Publication_Date: 2001
Title:
CONTINENTAL SHELF GIS FOR THE MONTEREY BAY NATIONAL MARINE SANCTUARY
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: U.S. GEOLOGICAL SURVEY (USGS), MENLO PARK, CA
Source_Scale_Denominator: UNPUBLISHED

Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1998
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: MGT INFORMATION
Process_Step:
Process_Description:
Digital coverages provided by the following agencies were used to depict management areas for this data layer: California Department of Fish and Game (CDF&G) Marine Resources GIS, CDF&G Office of Spill Prevention and Response (OSPR), California Resources Agency Legacy Project, National Oceanic and Atmospheric Administration (NOAA) Monterey Bay National Marine Sanctuary (MBNMS), Point Reyes National Seashore (NS) GIS, U.S. Geological Survey (USGS), and NOAA National Marine Sanctuary Program (NMSP).

The above digital and/or hardcopy sources were compiled by the project biologist to create the MGT data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) information gathered during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the MGT data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 517
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Area point
Point_and_Vector_Object_Count: 518
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Complete chain
Point_and_Vector_Object_Count: 1119
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Link
Point_and_Vector_Object_Count: 107070
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Node, planar graph
Point_and_Vector_Object_Count: 805

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:
In addition to the geographic data layers, two relational attribute or data tables, SOC_DAT, and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, MGT) is linked to the Socioeconomic Resources table (SOC_DAT) using the unique ID and the lookup table SOC_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Central California, the number is 8). ID is a unique combination of the atlas number (8), an element specific number (MGT = 11), and a unique record number. SOC_DAT and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.
Detailed_Description:
Entity_Type:
Entity_Type_Label: MGT.PAT
Entity_Type_Definition:
The MGT.PAT table contains attribute information for the vector polygons

representing boundaries of Coast Guard facilities; management areas; marinas; marine sanctuaries; national forests; national, regional, and state parks; Nature Conservancy lands; and wildlife refuges. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TYPE

Attribute_Definition:

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: CG

Enumerated_Domain_Value_Definition: Coast Guard facility

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: FO

Enumerated_Domain_Value_Definition: National Forest

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: M

Enumerated_Domain_Value_Definition: Marina

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MA

Enumerated_Domain_Value_Definition: Management Area

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MS

Enumerated_Domain_Value_Definition: Marine Sanctuary

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: MR

Enumerated_Domain_Value_Definition:

Multiple Records - Signifies that multiple types overlap in the polygon

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: NC

Enumerated_Domain_Value_Definition: Nature Conservancy Lands

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: NP
Enumerated_Domain_Value_Definition: National Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: P
Enumerated_Domain_Value_Definition: Regional or State Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WR
Enumerated_Domain_Value_Definition: Wildlife Refuge
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (8), element number (11), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 081100002
Range_Domain_Maximum: 081100529

Attribute:
Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links directly to the SOC_DAT table. HUNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000087
Range_Domain_Maximum: 08000411

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOC_LUT
Entity_Type_Definition:
The data table SOC_LUT is a lookup table that contains items necessary for linking vector objects in the human-use data layers with the SOC_DAT data table. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08000411
Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (8), element number (SOCECON=10; MGT=11), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 081000001
Range_Domain_Maximum: 081000529
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOC_DAT
Entity_Type_Definition:
The data table SOC_DAT contains both human-use attribute data and items necessary for linking the human-use spatial data layers to the SOURCES data table. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links records in the SOC_DAT data table to records in the SOC_LUT data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08000411
Attribute:
Attribute_Label: TYPE
Attribute_Definition: Identifies the feature type.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: AIRPORT
Enumerated_Domain_Value_Definition: Airport
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: ACCESS
Enumerated_Domain_Value_Definition: Access
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: AQUACULTURE
Enumerated_Domain_Value_Definition: Aquaculture
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BEACH
Enumerated_Domain_Value_Definition: Beach
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BOAT RAMP
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: COMMERCIAL FISHING
Enumerated_Domain_Value_Definition: Commercial Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: COAST GUARD
Enumerated_Domain_Value_Definition: Coast Guard Facility
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: DIVING SITE
Enumerated_Domain_Value_Definition: Diving Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FIELD STATION
Enumerated_Domain_Value_Definition: Field Station
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HOIST
Enumerated_Domain_Value_Definition: Hoist
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HISTORICAL SITE
Enumerated_Domain_Value_Definition: Historical Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MANAGEMENT AREA
Enumerated_Domain_Value_Definition: Management Area
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MARINA

Enumerated_Domain_Value_Definition: Marina
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MARINE SANCTUARY
Enumerated_Domain_Value_Definition: Marine Sanctuary
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: NATIONAL FOREST
Enumerated_Domain_Value_Definition: National Forest
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: NATIONAL PARK
Enumerated_Domain_Value_Definition: National Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: NATURE CONSERVANCY
Enumerated_Domain_Value_Definition: Nature Conservancy Lands
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: RECREATIONAL FISHING
Enumerated_Domain_Value_Definition: Recreational Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REGIONAL OR STATE PARK
Enumerated_Domain_Value_Definition: Regional or State Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: SURFING
Enumerated_Domain_Value_Definition: Surfing Location
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WATER INTAKE
Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WILDLIFE REFUGE
Enumerated_Domain_Value_Definition: Wildlife Refuge
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NAME
Attribute_Definition: The feature name.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: CONTACT
Attribute_Definition: Contact person or entity.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: PHONE
Attribute_Definition: Contact telephone number.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: A_SOURCE
Attribute_Definition:
Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N

Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington

Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:30:29 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: SOCECON (Socioeconomic Resource Points)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Publication_Date: 200606
Title:
Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: SOCECON (Socioeconomic Resource Points)
Edition: Second
Geospatial_Data_Presentation_Form: Vector digital data
Series_Information:
Series_Name: None
Issue_Identification: Central California
Publication_Information:
Publication_Place: Seattle, Washington
Publisher:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Other_Citation_Details:
Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains socioeconomic resource data for the following types of locations in Central California: access, airport, aquaculture, beach, boat ramp, USCG station, commercial fishing, diving, sampling site, historical site, hoist, marina, recreational fishing, surfing, and water intake. Vector points in this data set represent the socioeconomic site locations. Location-specific type and source information are stored in relational data tables (described below) designed to be used in conjunction with this spatial data layer.

This data set comprises a portion of the Environmental Sensitivity Index (ESI) data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources. See also the MGT (Management Area Polygons) data layer, part of the larger Central California ESI database, for additional human-use information.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 1994
Ending_Date: 2006

Currentness_Reference:

The SOCECON data were compiled during 2005-2006. The currentness dates for the data range from 1994 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management

Theme_Keyword: Wildlife
Theme_Keyword: Socioeconomic resources
Theme_Keyword: Human use resources
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Central California
Access_Constraints: None
Use_Constraints:
DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.
Browse_Graphic:
Browse_Graphic_File_Name: datafig.jpg
Browse_Graphic_File_Description:
Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.
Browse_Graphic_File_Type: JPEG
Data_Set_Credit:
This project was supported by Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.
Native_Data_Set_Environment:
The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final

Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and consistency checks.

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy reports, maps, and digital data on socioeconomic resources. See also the MGT (Management Area Polygons) data layer, part of the larger Central California ESI database, for additional human-use information. These data do not necessarily represent all human-use sites in Central California.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the human-use data layers can come from expert interviews, hardcopy, or digital sources. Most of the spatial components of the human-use data layers are developed from pre-existing digital or hardcopy sources and reflect the positional accuracy of these original data. Some of the spatial components of the human-use data layers are compiled on hardcopy base maps with a scale of 1:24,000. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: ALLEN, S. (NATIONAL PARK SERVICE [NPS], POINT REYES)

Publication_Date: 2005

Title:

DISTRIBUTION AND SEASONALITY OF SPECIES AND SOC_ECON FEATURES ON NPS LANDS

Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE

Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2005

Source_Currentness_Reference: DATE OF COMMUNICATION

Source_Citation_Abbreviation: NONE

Source_Contribution: SOCECON INFORMATION

Source_Information:
Source_Citation:
Citation_Information:
Originator:
BOGGS-BLALACK, M. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title: SLO COUNTY SPECIES AND SOC_ECON FEATURES DISTRIBUTION
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CA DEPARTMENT OF TRANSPORTATION (DOT)
Publication_Date: 1997
Title: AIRPORTS
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: CALIFORNIA ENVIRONMENTAL RESOURCES EVALUATION SYSTEM (CERES)
Source_Scale_Denominator: 100,000
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1997
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR)
Publication_Date: 2005
Title: ECON SITES FOR COUNTIES IN STUDY AREA
Geospatial_Data_Presentation_Form: VECTOR DIGITAL DATA
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:

Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), U.S. COAST GUARD (USCG)
Publication_Date: 2005
Title:
SAN FRANCISCO GEOGRAPHIC RESPONSE AREA 1 SONOMA AND NORTH MARIN COAST
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: ACP 2 SF BAY & DELTA - GRA 1
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: CENTRAL COAST AREA COMMITTEE (AC)
Publication_Date: 2005
Title:
9870 CENTRAL COAST AREA COMMITTEE - SANTA CRUZ AND MONTEREY COUNTIES
Geospatial_Data_Presentation_Form: HARDCOPY TEXT
Other_Citation_Details: CENTRAL COAST AC
Type_of_Source_Media: DISC
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
FONG, D. (NATIONAL PARK SERVICE, GOLDEN GATE NATIONAL RECREATION AREA [NPS-GGNRA], SAN FRANCISCO)
Publication_Date: 2005
Title: DISTRIBUTION OF GGNRA SPECIES AND SOC_ECON

FEATURES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: KOGAN, I. (GOLDEN GATE NATIONAL RECREATION AREA [GFNMS])
Publication_Date: 2005
Title: LOCATIONS OF SOC_ECON FEATURES IN GFNMS AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
LONHART, S. (NOAA, MONTEREY BAY NATIONAL MARINE SANCTUARY [MBNMS], MONTEREY)
Publication_Date: 2005
Title:
DISTRIBUTION OF TIDEPOOL AND NEARSHORE INVERTEBRATES AND PISCO SITES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:

Citation_Information:
Originator:
ODA, K. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], BELMONT)
Publication_Date: 2005
Title:
DISTRIBUTION AND SEASONALITY OF FISH AND INVERTEBRATES AND SOC_ECON FEATURES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PATTISON, C. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MORRO BAY)
Publication_Date: 2006
Title:
SLO COUNTY SPECIES AND SOC_ECON FEATURES DISTRIBUTION AND SEASONALITY
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
PARTNERSHIP FOR INTERDISCIPLINARY STUDIES OF COASTAL OCEANS (PISCO)
Publication_Date: 2005
Title: LOCATIONS OF PISCO SITES
Geospatial_Data_Presentation_Form: SPREADSHEET
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: EMAIL
Source_Time_Period_of_Content:
Time_Period_Information:

Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator:
REILLY, P. (CALIFORNIA DEPARTMENT OF FISH AND GAME [CDF&G], MONTEREY)
Publication_Date: 2005
Title:
DISTRIBUTION OF SPECIES AND SOC_ECON FEATURES IN MONTEREY BAY AND ENVIRONS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: RESEARCH PLANNING, INC. (RPI)
Publication_Date: 1994
Title:
SENSITIVITY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL: CENTRAL CA
Geospatial_Data_Presentation_Form: ATLAS
Other_Citation_Details:
BY RESEARCH PLANNING INC., COLUMBIA, SC FOR CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G) OFFICE OF SPILL PREVENTION AND RESPONSE (OSPR) AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), 41 MAPS
Source_Scale_Denominator: 46,500
Type_of_Source_Media: PAPER
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1994
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:

Citation_Information:
Originator:
ROLETTO, J. (NOAA, GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY [GFNMS])
Publication_Date: 2005
Title:
DISTRIBUTION AND SEASONALITY OF GFNMS SPECIES AND SOC_ECON FEATURES
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED
Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Source_Information:
Source_Citation:
Citation_Information:
Originator: WANNASURF.COM
Publication_Date: 2005
Title: SAN LUIS OBISPO COUNTY SURF SPOTS MAP
Geospatial_Data_Presentation_Form: WEBSITE
Other_Citation_Details:
WannaSurf <http://www.wannasurf.com/spot/North_America/USA_California/San_I
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2005
Source_Currentness_Reference: DATE OF PUBLICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: SOCECON INFORMATION
Process_Step:
Process_Description:
Three main sources of data were used to depict human-use resources for this data layer: (1) personal interviews with resource experts from: National Park Service (NPS), California Department of Fish and Game (CDF&G), and National Oceanic and Atmospheric Administration (NOAA); (2) published and unpublished reports and online documents provided by CDF&G, Research Planning, Inc. (RPI), and wannasurf.com, and (3) digital data provided by CDF&G Office of Spill Prevention and Response (OSPR), California Department of Transportation (DOT), California Environmental Resources Evaluation System (CERES), and Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO).

The above digital and/or hardcopy sources were compiled by the project biologist to create the SOCECON data layer. Depending on the type of source data, three general approaches are used for compiling the data layer: (1) information gathered

during initial interviews and from hardcopy sources are compiled onto U.S. Geological Survey 1:24,000 topographic quadrangles and digitized; (2) hardcopy maps are digitized at their source scale; (3) digital data layers are evaluated and used "as is" or integrated with the hardcopy data sources. See the Lineage section for additional information on the type of source data for this data layer. The compiled ESI, biology, and human-use data are plotted onto hardcopy draft maps. Following the delivery of draft maps to the participating resource experts, a second set of interviews is conducted to review the maps. If necessary, edits to the SOCECON data layer are made based on the recommendations of the resource experts, and final hardcopy maps and digital data are created.

Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Entity Point
Point_and_Vector_Object_Count: 428

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview:

In addition to the geographic data layers, two relational attribute or data tables, SOC_DAT and SOURCES, are used to store the complex socioeconomic data in the ESI data structure. The geographic data layer containing socioeconomic data resource information (in this case, SOCECON) is linked to the Socioeconomic Resources table (SOC_DAT) using the unique ID and the lookup table SOC_LUT, or it can be linked directly using HUNUM. HUNUM is a unique reference number concatenated with the atlas number (for Central California, the number is 8). ID is a unique combination of the atlas number (8), an element specific number (SOCECON = 10), and a unique record number. SOC_DAT and the other relational data tables are described below in detail. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way these tables relate to the geographic data layers and other attribute tables in the ESI data structure.

Detailed_Description:

Entity_Type:

Entity_Type_Label: SOCECON.PAT

Entity_Type_Definition:

The SOCECON.PAT table contains attribute information for the vector points representing access, airport, aquaculture, beach, boat ramp, USCG station, commercial fishing, diving, sampling site, historical site, hoist, marina, recreational fishing, surfing, and water intake locations. Note that all attribute information is stored in a series of relational files, described below. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the relationships between attribute tables in the ESI data structure.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: TYPE

Attribute_Definition:

The human-use features depicted on the maps are those that could be impacted by an oil spill or could provide access for response operations.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: A

Enumerated_Domain_Value_Definition: Airport

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: A2

Enumerated_Domain_Value_Definition: Access

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: AQ

Enumerated_Domain_Value_Definition: Aquaculture

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: B

Enumerated_Domain_Value_Definition: Beach

Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: BR
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: CF
Enumerated_Domain_Value_Definition: Commercial Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: CG
Enumerated_Domain_Value_Definition: Coast Guard
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: DV
Enumerated_Domain_Value_Definition: Diving Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FS
Enumerated_Domain_Value_Definition: Field Station
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: H
Enumerated_Domain_Value_Definition: Hoist
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HS
Enumerated_Domain_Value_Definition: Historical Site STE
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: M
Enumerated_Domain_Value_Definition: Marina
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: RF
Enumerated_Domain_Value_Definition: Recreational Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: S2
Enumerated_Domain_Value_Definition: Surfing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WI

Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (8), element number (10), and record number.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 081000001
Range_Domain_Maximum: 081000428

Attribute:
Attribute_Label: HUNUM
Attribute_Definition: An identifier that links directly to the SOC_DAT table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08000350

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOC_LUT
Entity_Type_Definition:
The data table SOC_LUT is a lookup table that contains items necessary for linking vector objects in the human-use data layers with the SOC_DAT data table. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links records in the SOC_LUT data table to records in the SOC_DAT data table. HUNUM values of 0 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08000411

Attribute:
Attribute_Label: ID
Attribute_Definition:
An identifier that links vector objects in the human-use data layers to records in the SOC_LUT data table. ID is a concatenation of atlas number (8), element number (SOCECON=10; MGT=11), and record number. ID values of 9999 are holes in polygons and do not contain information.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:

Range_Domain_Minimum: 081000001
Range_Domain_Maximum: 081000529

Detailed_Description:
Entity_Type:
Entity_Type_Label: SOC_DAT
Entity_Type_Definition:
The data table SOC_DAT contains both human-use attribute data and items necessary for linking the human-use spatial data layers to the SOURCES data table. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: HUNUM
Attribute_Definition:
An identifier that links records in the SOC_DAT data table to records in the SOC_LUT data table.
Attribute_Definition_Source: NOAA
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 08000001
Range_Domain_Maximum: 08000411
Attribute:
Attribute_Label: TYPE
Attribute_Definition: Identifies the feature type.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: AIRPORT
Enumerated_Domain_Value_Definition: Airport
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: ACCESS
Enumerated_Domain_Value_Definition: Access
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: AQUACULTURE
Enumerated_Domain_Value_Definition: Aquaculture
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BEACH
Enumerated_Domain_Value_Definition: Beach
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: BOAT RAMP
Enumerated_Domain_Value_Definition: Boat Ramp
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:

Enumerated_Domain:
Enumerated_Domain_Value: COMMERCIAL FISHING
Enumerated_Domain_Value_Definition: Commercial Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: COAST GUARD
Enumerated_Domain_Value_Definition: Coast Guard Facility
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: DIVING SITE
Enumerated_Domain_Value_Definition: Diving Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: FIELD STATION
Enumerated_Domain_Value_Definition: Field Station
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HOIST
Enumerated_Domain_Value_Definition: Hoist
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: HISTORICAL SITE
Enumerated_Domain_Value_Definition: Historical Site
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MANAGEMENT AREA
Enumerated_Domain_Value_Definition: Management Area
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MARINA
Enumerated_Domain_Value_Definition: Marina
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: MARINE SANCTUARY
Enumerated_Domain_Value_Definition: Marine Sanctuary
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: NATIONAL FOREST
Enumerated_Domain_Value_Definition: National Forest
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:

Enumerated_Domain_Value: NATIONAL PARK
Enumerated_Domain_Value_Definition: National Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: NATURE CONSERVANCY
Enumerated_Domain_Value_Definition: Nature Conservancy Lands
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: RECREATIONAL FISHING
Enumerated_Domain_Value_Definition: Recreational Fishing
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: REGIONAL OR STATE PARK
Enumerated_Domain_Value_Definition: Regional or State Park
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: SURFING
Enumerated_Domain_Value_Definition: Surfing Location
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WATER INTAKE
Enumerated_Domain_Value_Definition: Water Intake
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: WILDLIFE REFUGE
Enumerated_Domain_Value_Definition: Wildlife Refuge
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.

Attribute:
Attribute_Label: NAME
Attribute_Definition: The feature name.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: CONTACT
Attribute_Definition: Contact person or entity.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: PHONE
Attribute_Definition: Contact telephone number.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:
Attribute_Label: G_SOURCE
Attribute_Definition:
Geographic source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: A_SOURCE
Attribute_Definition:
Attribute source identifier that links records in the SOC_DAT data table to records in the SOURCES data table.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Detailed_Description:
Entity_Type:
Entity_Type_Label: SOURCES
Entity_Type_Definition:
The data table SOURCES contains the primary sources used to create the ESI data set. See the Browse_Graphic section for a link to the entity-relationship diagram, which describes the way this table relates to other attribute tables in the ESI data structure.
Entity_Type_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: SOURCE_ID
Attribute_Definition:
Source identifier that links records in the SOURCES data table to the items G_SOURCE and A_SOURCE in the SOC_DAT table; G_SOURCE and S_SOURCE in the BIORES table; and SOURCE_ID in the ESI and HYDRO data layers.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 1
Range_Domain_Maximum: N
Attribute:
Attribute_Label: ORIGINATOR
Attribute_Definition: Author or developer of source material or data set.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATE_PUB
Attribute_Definition:
Date of source material, publication, or date of personal communication with expert

source.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: YYYYMM
Enumerated_Domain_Value_Definition: YYYY for year and optionally MM for month
Enumerated_Domain_Value_Definition_Source: Research Planning, Inc.
Attribute:
Attribute_Label: TITLE
Attribute_Definition: Title of source material or data.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: DATA_FORMAT
Attribute_Definition: The format of the source material.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: PUBLICATION
Attribute_Definition: Additional citation information.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: SCALE
Attribute_Definition: Description of the source scale.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.
Attribute:
Attribute_Label: TIME_PERIOD
Attribute_Definition:
Date(s) of data collection that the source material is based upon.
Attribute_Definition_Source: Research Planning, Inc.
Attribute_Domain_Values:
Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: John Kaperick
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle

State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6400
Contact_Facsimile_Telephone: (206) 526-6329
Resource_Description: ESI Atlas for Central California
Distribution_Liability:
Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.
Custom_Order_Process:
Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:
Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

Generated by mp version 2.8.21 on Tue Jul 04 20:40:58 2006

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: ALERTS (Vulnerable Resource Location Points)

Metadata also available as - [Parseable text] - [SGML]

Metadata:

Identification_Information:

Citation:

Citation_Information:

Originator:

Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Publication_Date: 200606

Title:

Sensitivity of Coastal Environments and Wildlife to Spilled Oil: Central California: ALERTS (Vulnerable Resource Location Points)

Edition: Second

Geospatial_Data_Presentation_Form: Vector digital data

Series_Information:

Series_Name: None

Issue_Identification: Central California

Publication_Information:

Publication_Place: Seattle, Washington

Publisher:

National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Other_Citation_Details:

Prepared by Research Planning, Inc., Columbia, South Carolina for Monterey Bay National Marine Sanctuary, Sanctuary Integrated Monitoring Network (SIMoN), Monterey, California; Department of Fish and Game, Office of Spill Prevention and

Response, Sacramento, California; Monterey Bay Sanctuary Foundation, Monterey, California; and the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Description:

Abstract:

This data set contains vector points representing locations in Central California that should be highlighted for protection due to the presence of certain highly vulnerable resources. This data set comprises a portion of the ESI data for Central California. ESI data characterize the marine and coastal environments and wildlife by their sensitivity to spilled oil. The ESI data include information for three main components: shoreline habitats, sensitive biological resources, and human-use resources.

Purpose:

The ESI data were collected, mapped, and digitized to provide environmental data for oil spill planning and response. The Clean Water Act with amendments by the Oil Pollution Act of 1990 requires response plans for immediate and effective protection of sensitive resources.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 2000
Ending_Date: 2006

Currentness_Reference:

The data were compiled during 2005-2006. The currentness dates for the data range from 2000 to 2006 and are documented in the Lineage section.

Status:

Progress: Complete
Maintenance_and_Update_Frequency: None Scheduled

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -123.50000
East_Bounding_Coordinate: -120.37500
North_Bounding_Coordinate: 38.12500
South_Bounding_Coordinate: 34.21700

Keywords:

Theme:

Theme_Keyword_Thesaurus: None
Theme_Keyword: ESI
Theme_Keyword: Sensitivity maps
Theme_Keyword: Coastal resources
Theme_Keyword: Oil spill planning
Theme_Keyword: Coastal Zone Management
Theme_Keyword: Wildlife

Place:

Place_Keyword_Thesaurus: None
Place_Keyword: Central California

Access_Constraints: None

Use_Constraints:

DO NOT USE MAPS FOR NAVIGATIONAL PURPOSES. Besides the above warning, there are no use constraints on these data. Note that the ESI database should not be used to the exclusion of other pertinent data or information held by state or federal agencies or other

organizations. Likewise, information contained in the database cannot be used in place of consultations with environmental, natural resource, and cultural resource agencies, or in place of field surveys. Recognize that the information contained in the ESI database represents known concentration areas or occurrences of natural, cultural, and human-use resources, but does not necessarily represent the full distribution or range of each species or resource. This is particularly important to recognize when considering potential impacts to protected resources, such as endangered species, wetlands, etc. Acknowledgment of the originators, publishers, contributors, and sources listed would be appreciated in products derived from these data.

Browse_Graphic:

Browse_Graphic_File_Name: datafig.jpg

Browse_Graphic_File_Description:

Depicts the relationships between spatial data layers and attribute data tables for the Central California ESI data.

Browse_Graphic_File_Type: JPEG

Data_Set_Credit:

This project was supported by the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of Response and Restoration, Hazardous Materials Response Division, Seattle, Washington.

Native_Data_Set_Environment:

The software packages used to develop the atlas are Environmental Systems Research Institute's ARC/INFO(r) (version 9.1) and SQL SERVER(r) (version 2000). The hardware configuration is PC's with Windows Operating System (2000/XP/2003).

The Spatial_Data_Organization Information section refers only to the source files in the ARC export format. The following files are included in the data set: alerts.e00, birds.e00, esi.e00, fish.e00, fishl.e00, habitats.e00, hydro.e00, index.e00, invert.e00, m_mammal.e00, mgt.e00, nests.e00, reptilel.e00, reptiles.e00, socecon.e00, and t_mammal.e00. Associated relational and desktop data tables provided in Arc export and text format are bio_lut, biofile, biores, breed, breed_dt, seasonal, soc_dat, soc_lut, sources, species, and status.

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

A multi-stage error checking process is used to verify both attribute accuracy and logical consistency throughout data production. The process includes a standardized data entry methodology, hardcopy data review by in-house and external resource experts, a final Quality Assurance/Quality Control (QA/QC) process, and multiple automated logical consistency checks. Quantitative data (such as densities, counts, abundances, or concentrations) provided by resource experts for inclusion in the data set may vary widely in attribute accuracy, depending upon the methodology used to collect and compile such data. For a more detailed evaluation of source data attribute accuracy, contact the sources listed in the Lineage section.

Logical_Consistency_Report:

A multi-stage error checking process, described in the above Attribute_Accuracy_Report, is used to verify both attribute accuracy and logical consistency throughout data production. This process includes multiple automated logical consistency checks that test the files for missing or duplicate data, rules for proper coding, GIS topological consistencies (such as dangles, unnecessary nodes, etc.), and SQL SERVER(r) to ARC/INFO(r) consistencies. A final review is made by the GIS manager, where the data are written to CD-ROM and the metadata are written. After the data are delivered to NOAA, they are again subjected to a number of quality and

consistency checks.

Completeness_Report:

These data represent a synthesis of expert knowledge and available hardcopy maps on ALERT (vulnerable resource) locations.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

Spatial components for the ALERTS data layer come from harcopy sources and reflect the positional accuracy of these original data. See the Lineage and Process_Description sections for more information on the original data source and how these data were integrated or manipulated to create the final data set.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G)
Publication_Date: 2000
Title: ALERTS
Geospatial_Data_Presentation_Form: HARDCOPY MAP
Other_Citation_Details: CDF&G

Source_Scale_Denominator: 46,500
Type_of_Source_Media: ONLINE
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2000

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ALERTS INFORMATION

Source_Information:

Source_Citation:

Citation_Information:

Originator:

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDF&G), NATIONAL PARK SERVICE (NPS), NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), U.S. GEOLOGICAL SURVEY (USGS)

Publication_Date: 2006
Title: ALERTS
Geospatial_Data_Presentation_Form: EXPERT KNOWLEDGE
Other_Citation_Details: UNPUBLISHED

Type_of_Source_Media: PERSONAL COMMUNICATION
Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: 2006

Source_Currentness_Reference: DATE OF COMMUNICATION
Source_Citation_Abbreviation: NONE
Source_Contribution: ALERTS INFORMATION

Process_Step:

Process_Description:
Two main sources of data were used to depict ALERT (vulnerable resource) locations for this data layer: (1) hardcopy maps provided by California Department of Fish and Game (CDF&G), and (2) information provided at interviews with CDF&G, National Park Service (NPS), National Oceanic and Atmospheric Administration (NOAA), and U.S. Geological Survey (USGS).
Process_Date: 200605
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Person: Jill Petersen
Contact_Address:
Address_Type: Physical address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: Entity Point
Point_and_Vector_Object_Count: 83

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.0000001
Longitude_Resolution: 0.0000001
Geographic_Coordinate_Units: Decimal degrees
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1927
Ellipsoid_Name: Clark 1866
Semi-major_Axis: 6378206.400000
Denominator_of_Flattening_Ratio: 294.978698

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: ALERTS.PAT
Entity_Type_Definition:
The ALERTS.PAT table contains attribute information for the vector points representing locations that should be highlighted for protection due to the presence

of certain highly vulnerable resources.

Entity_Type_Definition_Source: Research Planning, Inc.

Attribute:

Attribute_Label: SITE_ID

Attribute_Definition:

Unique identifier for each ALERT description. There may be multiple points with the same SITE_ID, if they have the same ALERT information. This value is formatted as "AL-", followed by the map number, another dash, and then the PLOT_ID number. So for map 24, a SITE_ID may look like "AL-24-2".

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PLOT_ID

Attribute_Definition:

A number that is plotted on the map to reference the appropriate ALERT text on the back of the map. These numbers are unique for each ALERT text on the map, but not unique across the atlas. The numbers range from 1 to 5.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: PLOT_TEXT

Attribute_Definition: The text that is plotted on the ALERT box on the map.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Attribute:

Attribute_Label: ALERT_TEXT

Attribute_Definition:

The detailed description of the ALERT that appears on the back of the map.

Attribute_Definition_Source: Research Planning, Inc.

Attribute_Domain_Values:

Unrepresentable_Domain: Acceptable values change from atlas to atlas.

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Person: John Kaperick

Contact_Organization: NOAA, Office of Response and Restoration

Contact_Address:

Address_Type: Physical Address

Address: 7600 Sand Point Way N.E.

City: Seattle

State_or_Province: Washington

Postal_Code: 98115-6349

Contact_Voice_Telephone: (206) 526-6400

Contact_Facsimile_Telephone: (206) 526-6329

Resource_Description: ESI Atlas for Central California

Distribution_Liability:

Although these data have been processed successfully on a computer system at the National Oceanic and Atmospheric Administration, no warranty, expressed or implied, is made by NOAA regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. NOAA warrants the delivery of this product in computer-readable format, and will offer a replacement copy of the product when the product is determined unreadable by computer-input peripherals, or when the physical medium is delivered in damaged condition.

Custom_Order_Process:

Contact NOAA for distribution options (see Distributor). ESI data are processed into multiple formats to make them useful to a wider community of GIS/mapping users. Distribution formats include a Geodatabase; ARC export, MOSS, and Shape files; and MARPLOT map folders. An ArcMap .mxd file, an ArcView 3.x ESI project, and an ESI_Viewer product are also included on the distribution CDs for ease of use of the ESI data. The database files are distributed both in the NOAA standard relational database format (see NOAA Technical Memorandum NOS ORCA 115) and in a simplified desktop flat file format. This metadata document includes information on both of these database formats.

Metadata_Reference_Information:

Metadata_Date: 200606
Metadata_Review_Date: 200606
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Jill Petersen
Contact_Organization: NOAA, Office of Response and Restoration
Contact_Position: GIS Manager
Contact_Address:
Address_Type: Physical Address
Address: 7600 Sand Point Way N.E.
City: Seattle
State_or_Province: Washington
Postal_Code: 98115-6349
Contact_Voice_Telephone: (206) 526-6944
Contact_Facsimile_Telephone: (206) 526-6329
Contact_Electronic_Mail_Address: Jill.Petersen@noaa.gov
Metadata_Standard_Name: Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998

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Central California ESI Entity Relationship Diagram

Relationships between spatial data layers and attribute data tables