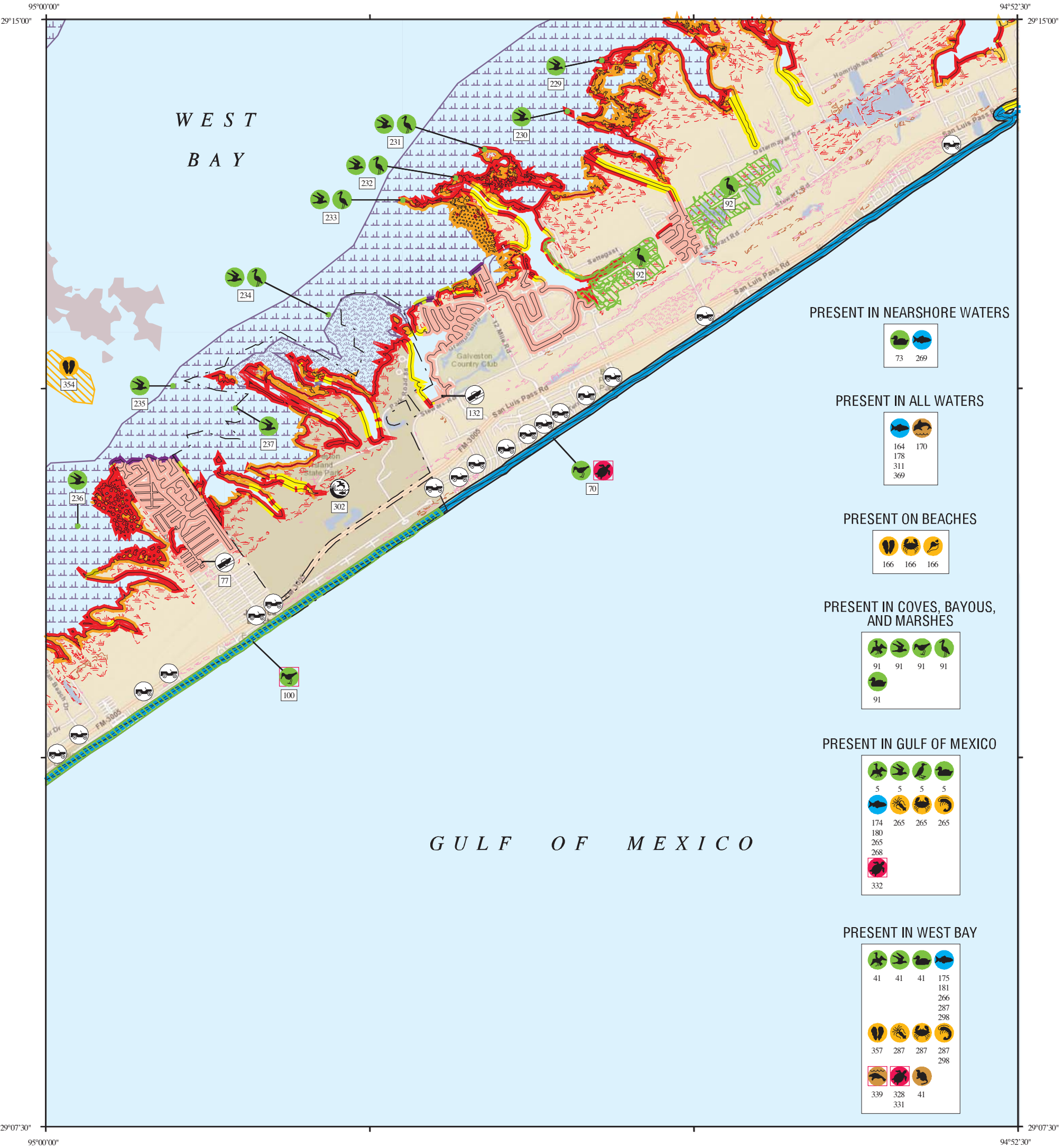


ENVIRONMENTAL SENSITIVITY INDEX MAP



**SHORELINE HABITATS (ESI)**

- 1B EXPOSED, SOLID MAN-MADE STRUCTURES
- 2A EXPOSED WAVE-CUT PLATFORMS IN CLAY
- 2B EXPOSED SCARPS AND STEEP SLOPES IN CLAY
- 3A FINE- TO MEDIUM-GRAINED SAND BEACHES
- 3B SCARPS AND STEEP SLOPES IN SAND
- 5 MIXED SAND AND GRAVEL (SHELL) BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED SCARPS IN CLAY OR BEDROCK
- 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

SCALE 1:50000

1 KILOMETER

1 MILE

1 NAUTICAL MILE

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Emergency Response Division

TEXAS

GULF OF MEXICO

Upper Texas Coast: ESIMAP 45

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Migrating	Molting
5	American white pelican	COMMON	X X X X X X X X X X	-	-	-
	Brown pelican	COMMON	X X X X X X X X X X	-	-	-
	Bufflehead	UNCOMMON	X X X X X X	-	-	-
	Canvasback	UNCOMMON	X X X X X X	-	-	-
	Cormorants	COMMON	X X X X X X X X X X	-	-	-
	Diving birds		X X X X X X X X X X	-	-	-
	Diving ducks		X X X X X X X X	-	-	-
	Greater scaup	UNCOMMON	X X X X X X	-	-	-
	Grebes	UNCOMMON	X X X X X X X X X X	-	-	-
	Gulls	COMMON-ABUNDANT	X X X X X X X X X X	-	-	-
	Lesser scaup	COMMON	X X X X X X X X	-	-	-
	Loons		X X X X X X X X	-	-	-
	Magnificent frigatebird	COMMON	X X X X X X X X	-	-	-
	Masked booby	UNCOMMON	X X X X X X X X	-	-	-
	Northern gannet	COMMON	X X X X X X X X	-	-	-
	Scoters	RARE	X X X X X X X X	-	-	-
	Shearwaters	UNCOMMON	X X X X X X X X	-	-	-
	Storm-petrels	RARE	X X X X X X X X	-	-	-
	Terns	COMMON-ABUNDANT	X X X X X X X X X X	-	-	-
41	Black skimmer		X X X X X X X X X X	-	-	-
	Cormorants		X X X X X X X X X X	-	-	-
	Diving birds		X X X X X X X X X X	-	-	-
	Diving ducks		X X X X X X X X	-	-	-
	Grebes		X X X X X X X X X X	-	-	-
	Gulls		X X X X X X X X X X	-	-	-
	Loons		X X X X X X X X	-	-	-
	Pelicans		X X X X X X X X X X	-	-	-
	Terns		X X X X X X X X X X	-	-	-
70	Black-bellied plover	100S	X X X X X X X X X X	-	MAR-MAY	-
	Sanderling	100S	X X X X X X X X X X	-	JUL-NOV	-
	Shorebirds	100S	X X X X X X X X X X	-	APR-MAY	-
	Wilson's plover		X X X X X X X X	-	AUG-AUG	-
73	Redhead	100-7000 BIRDS	X X X X X X X X	-	-	-
91	Black skimmer		X X X X X X X X X X	-	-	-
	Forster's tern		X X X X X X X X X X	-	-	-
	Gulls		X X X X X X X X X X	-	-	-
	Laughing gull		X X X X X X X X X X	-	-	-
	Marsh birds		X X X X X X X X X X	-	-	-
	Mottled duck		X X X X X X X X X X	FEB-AUG	-	JUN-AUG
	Pelicans		X X X X X X X X X X	-	-	-
	Plovers		X X X X X X X X X X	-	-	-
	Shorebirds		X X X X X X X X X X	-	-	-
	Terns		X X X X X X X X X X	-	-	-
	Wading birds		X X X X X X X X X X	-	-	-
	Waterfowl		X X X X X X X X X X	-	-	-
92	Sandhill crane		X X X X X X X X	-	-	-
100	Piping plover	T T 41 INDIV	X X X X X X X X X X	-	-	-
229	Black skimmer	81 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	42-60 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Laughing gull	6-24 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
230	Forster's tern	7-98 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Laughing gull	2-43 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
231	Black skimmer	267 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Caspian tern	2-31 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Forster's tern	4-60 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	21 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	3-495 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Least tern	10 PAIRS	X X X X X X X X	APR-SEP	-	-
	Royal tern	122 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Snowy egret	1 PAIR	X X X X X X X X X X	APR-JUL	-	-
	Tricolored heron	7-9 PAIRS	X X X X X X X X X X	APR-AUG	-	-
232	Black skimmer	29 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Caspian tern	14 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Forster's tern	1-73 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	7 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	61-370 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Royal tern	82 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Sandwich tern	14 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Tricolored heron	10 PAIRS	X X X X X X X X X X	APR-AUG	-	-
233	Black skimmer	20 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	4-59 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Great blue heron	2 PAIRS	X X X X X X X X X X	FEB-JUN	-	-
	Laughing gull	27-98 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Least tern	20 PAIRS	X X X X X X X X	APR-SEP	-	-
234	Forster's tern	7-59 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Laughing gull	5-109 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Tricolored heron	6 PAIRS	X X X X X X X X X X	APR-AUG	-	-
235	Caspian tern	60 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Forster's tern	4-42 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Laughing gull	13-1257 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Royal tern	84-420 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
236	Black skimmer	5-134 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	11-140 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	8-17 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Royal tern	9 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Sandwich tern	75 PAIRS	X X X X X X X X	MAR-AUG	-	-
237	Black skimmer	22-151 PAIRS	X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	3-67 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	2-6 PAIRS	X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	18 PAIRS	X X X X X X X X X X	FEB-AUG	-	-
	Least tern	118 PAIRS	X X X X X X X X	APR-SEP	-	-

FISH:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
164	Atlantic sharpnose shark		X X X X X X X	-	-	-	APR-OCT	-
174	Bonnethead shark		X X X X X X X	-	SEP-NOV	-	FEB-MAR	-
	Tarpon	RARE	X X X X X X	-	-	-	NOV-DEC	JUN-OCT
175	Bonnethead shark		X X X X X X X X	-	SEP-NOV	-	APR-NOV	-
178	Bull shark	ABUNDANT	X X X X X X X X X X	-	MAY-AUG	MAY-AUG	APR-NOV	JAN-DEC
180	Blacktip shark		X X X X X X X X X X	-	-	-	MAR-DEC	MAR-DEC
181	Blacktip shark		X X X X X X X X	MAY-JUN	MAY-JUN	MAY-NOV	MAR-NOV	MAY-JUN
265	Atlantic bumper		X X X X X X X	-	-	-	-	MAY-NOV
	Atlantic croaker	HIGHLY ABUNDANT	X X X X X X X X X X	AUG-APR	-	-	APR-NOV	JAN-DEC
	Atlantic spadefish		X X X X X X X X X X	-	-	-	APR-NOV	JAN-DEC
	Atlantic tripletail		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.

Upper Texas Coast: ESIMAP 45 (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
265	Banded drum				X	X	X	X	X	X					-	-	-	-	-
	Bay anchovy		X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Black drum		X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	MAR-JUL	AUG-JAN	JAN-DEC
	Blackfin tuna						X	X	X	X	X	X			-	-	-	-	MAY-OCT
	Cobia						X	X	X	X					-	-	-	-	-
	Crevalle jack		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-NOV	-	JAN-DEC
	Florida pompano		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-AUG	MAY-DEC	JAN-DEC
	Gafftopsail catfish							X	X	X	X	X			-	-	-	-	-
	Gray snapper		X	X	X	X	X	X	X	X	X	X	X	X	-	-	APR-NOV	JAN-DEC	JAN-DEC
	Gray triggerfish	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Greater amberjack		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Gulf butterflyfish	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Gulf menhaden				X	X	X	X	X	X	X				JUL-OCT	-	-	-	MAR-OCT
	Hardhead catfish		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	-	-	-	JAN-DEC
	King mackerel						X	X	X	X	X				-	-	-	-	MAY-OCT
	Lane snapper		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Pinfish		X	X	X	X	X	X	X	X	X	X	X	X	AUG-APR	-	-	-	JAN-DEC
	Red drum		X	X	X	X	X	X	X	X	X	X	X	X	AUG-OCT	-	-	-	JAN-DEC
	Red snapper		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Sand seatrout	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	MAR-SEP	MAR-SEP	-	SEP-FEB
	Sheepshead		X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-MAY	-	JAN-DEC
	Silver perch	HIGHLY ABUNDANT	X	X										X	-	-	-	-	DEC-FEB
	Silver seatrout		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Southern flounder		X	X						X	X	X	X		SEP-FEB	-	-	OCT-DEC	SEP-FEB
	Southern kingfish						X	X	X	X	X				-	-	-	-	JUN-OCT
	Spanish mackerel	ABUNDANT			X	X	X	X	X	X	X	X	X		MAY-SEP	MAY-SEP	-	MAR-NOV	MAR-NOV
	Spot		X	X	X	X	X	X	X	X				X	DEC-APR	-	-	-	DEC-SEP
	Spotted seatrout		X	X							X	X	X		-	-	-	-	SEP-FEB
	Star drum	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
266	Tarpon	RARE			X	X	X	X	X	X	X				-	-	-	MAR-NOV	-
268	Striped mullet	ABUNDANT	X	X							X	X	X	X	OCT-DEC	-	-	-	SEP-FEB
269	Striped mullet	HIGHLY ABUNDANT				X	X	X	X	X	X				-	-	-	-	MAY-NOV
287	Atlantic bumper	COMMON									X				-	-	-	-	SEP-SEP
	Atlantic spadefish	RARE						X	X	X	X				-	-	-	JUL-NOV	-
	Bay anchovy	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-NOV	MAR-NOV	APR-NOV	JAN-DEC
	Bay whiff	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	MAR-SEP	JAN-DEC
	Crevalle jack	COMMON			X	X	X	X	X	X	X	X			-	-	-	MAR-NOV	-
	Gafftopsail catfish	COMMON			X	X	X	X	X	X	X				APR-MAY	-	-	APR-NOV	MAR-NOV
	Gizzard shad	RARE	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Gray snapper	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	AUG-OCT	JAN-DEC
	Gulf butterflyfish	RARE			X	X	X								-	-	-	-	-
	Gulf killifish	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	MAR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Gulf menhaden	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	FEB-DEC
	Hardhead catfish	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-SEP	MAY-SEP	MAY-OCT	JAN-DEC
	Pinfish	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	MAR-NOV	JAN-DEC
	Sand seatrout	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	NOV-AUG	JAN-DEC
	Silver perch	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	MAY-SEP	FEB-DEC	JAN-DEC
	Silversides	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	JAN-DEC	JAN-DEC
	Southern kingfish	COMMON					X	X	X	X	X				-	-	-	JUL-NOV	-
	Spanish mackerel	COMMON					X	X	X	X	X	X			-	-	-	MAY-NOV	MAY-NOV
	Spotfin mojarra	COMMON					X	X	X	X	X				-	-	-	-	-
	Striped mullet	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	White mullet	COMMON					X	X	X	X	X	X			-	-	-	MAY-NOV	-
298	Atlantic croaker	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-JUN	JAN-DEC	JAN-DEC
	Black drum	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Red drum	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	SEP-NOV	JAN-DEC	JAN-DEC
	Southern flounder	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Spot	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	FEB-NOV	JAN-DEC
	Spotted seatrout	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	APR-OCT	APR-OCT	JUL-NOV	JAN-DEC
311	Finetooth shark						X	X	X	X	X				-	MAY-JUN	MAY-OCT	-	MAY-JUN
369	Spinner shark						X	X	X	X	X				MAY-JUN	MAY-JUN	MAY-JUL	MAY-OCT	MAY-OCT

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
166	Atlantic ghost crab		X	X	X	X	X	X	X	X	X	X	X	X	APR-APR AUG-AUG	-	-	-	JAN-DEC
	Atlantic surfclam		X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY SEP-NOV	-	-	-	JAN-DEC
	Lettered olive		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Mole crab		X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-	-	JAN-DEC
	Speckled swimming crab	COMMON	X	X	X	X	X	X	X	X	X	X			-	-	-	-	-
265	Atlantic seabob shrimp		X							X	X	X			-	-	-	-	OCT-JAN
	Blue crab	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-DEC	-	-
	Brief squid		X	X	X	X	X	X	X	X	X	X	X	X	MAR-DEC	MAR-DEC	MAR-DEC	JAN-DEC	JAN-DEC
	Brown shrimp				X	X	X	X	X	X	X				-	-	-	-	MAR-OCT
	Lesser blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAR-DEC	-	-
	White shrimp	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	-	-	-	JAN-DEC
287	Blue crab	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	MAR-OCT	MAR-NOV	JAN-DEC	JAN-DEC
	Brief squid	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-DEC	MAR-DEC	MAR-DEC	JAN-DEC	JAN-DEC
	Grass shrimp	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Gulf stone crab	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	NOV-MAR	MAR-NOV	MAR-DEC	JAN-DEC	JAN-DEC
	Lesser blue crab	COMMON			X	X	X	X	X	X					-	-	-	APR-OCT	APR-OCT
298	Brown shrimp	ABUNDANT	X	X	X	X	X	X	X	X	X				-	-	FEB-APR	MAR-NOV	-
	White shrimp	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JUN-OCT	JUN-DEC	JAN-DEC
354	Eastern oyster	LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-DEC	MAR-DEC	-	-	JAN-DEC
357	Eastern oyster	REEF	X	X	X	X	X	X	X	X	X	X	X	X	MAR-DEC	MAR-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
170	Bottlenose dolphin		X	X	X	X	X	X	X	X	X	X	X	X	-	JAN-DEC	-	-
339	West Indian manatee	E E VERY RARE					X	X	X						-	-	-	-

REPTILE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Interesting	Juveniles	Adults
70	Kemp's ridley sea turtle	E E 7-15 NESTS			X	X	X	X	X	X					MAR-JUL	APR-SEP	-	APR-SEP	MAR-JUL
328	Diamondback terrapin		X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	JUN-SEP	-	JAN-DEC	JAN-DEC
	Green sea turtle	T T OCCASIONAL			X	X	X	X	X	X	X	X			-	-	-	MAR-NOV	-
331	Kemp's ridley sea turtle	E E COMMON			X	X	X	X	X	X	X				-	-	-	APR-NOV	-
332	Green sea turtle	T T OCCASIONAL			X	X	X	X	X	X	X				-	-	-	MAR-NOV	-
	Hawksbill sea turtle	E E OCCASIONAL			X	X	X	X	X	X					-	-	-	MAR-OCT	-
	Kemp's ridley sea turtle	E E COMMON			X	X	X	X	X	X	X				-	-	-	APR-NOV	APR-NOV
	Loggerhead sea turtle	T T OCCASIONAL	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.

Upper Texas Coast: ESIMAP 45 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

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

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HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
77	JAMACIA BEACH BOAT RAMP		
132	WATERMANS		

PARK:

HUN#	Name	Contact	Phone
302	GALVESTON ISLAND SP	TPWD	

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