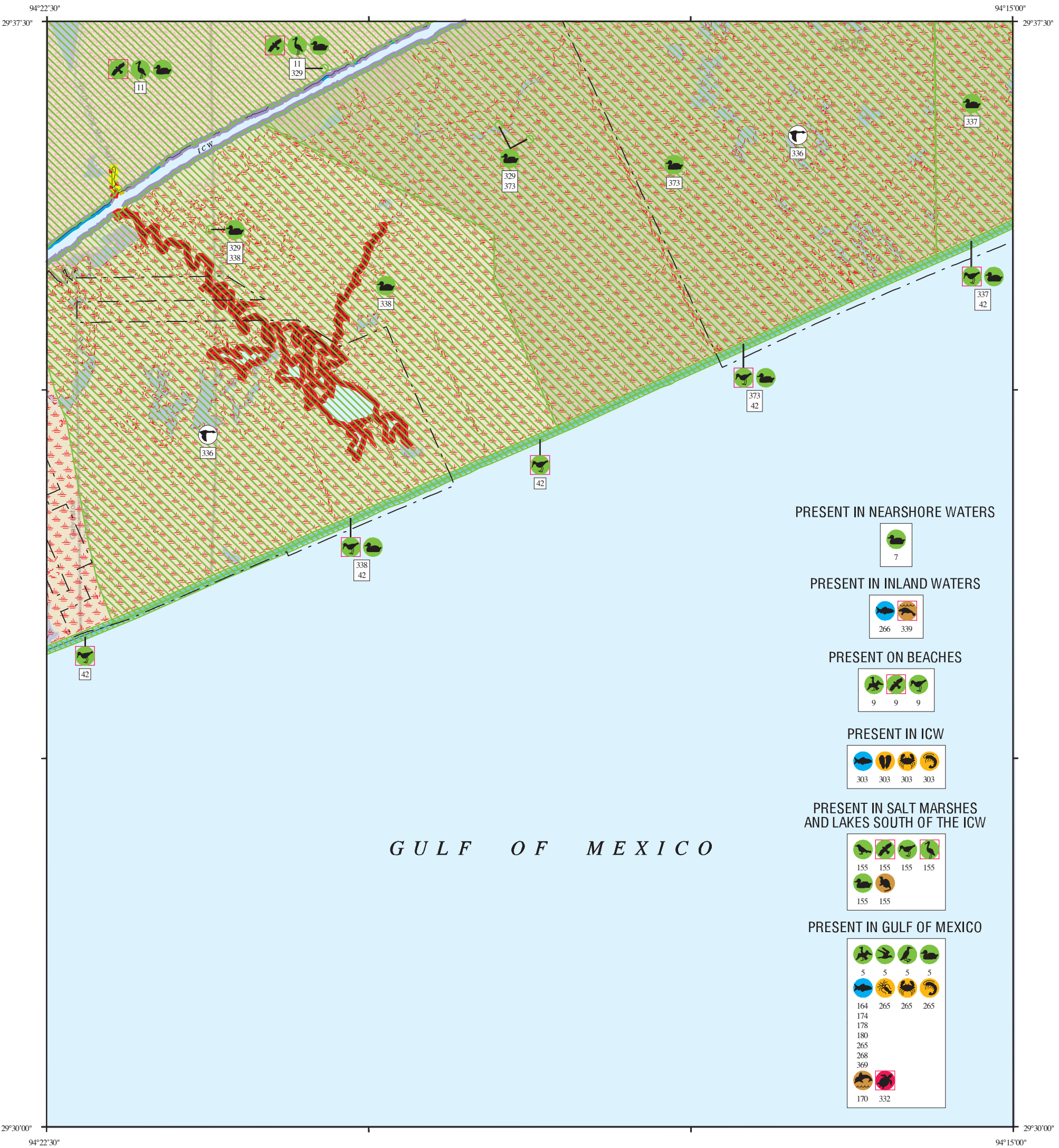


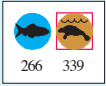
ENVIRONMENTAL SENSITIVITY INDEX MAP



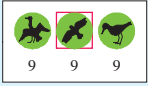
PRESENT IN NEARSHORE WATERS



PRESENT IN INLAND WATERS



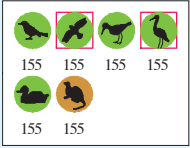
PRESENT ON BEACHES



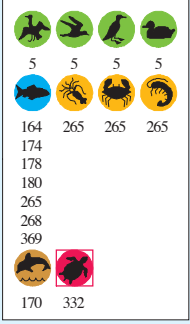
PRESENT IN ICW



PRESENT IN SALT MARSHES AND LAKES SOUTH OF THE ICW

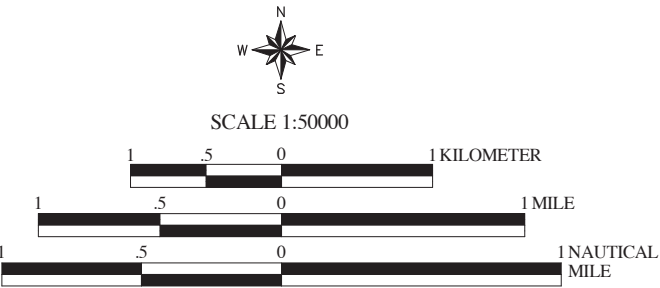


PRESENT IN GULF OF MEXICO



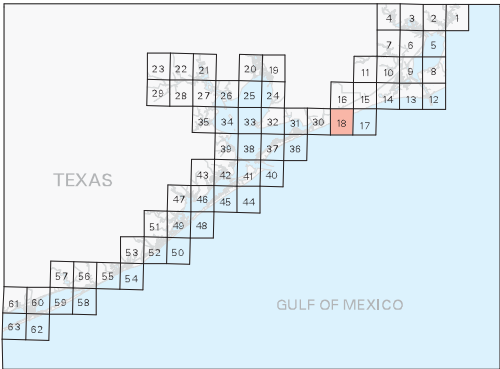
SHORELINE HABITATS (ESI)

- 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



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Upper Texas Coast: ESIMAP 18

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	X	X	-	-	-
	Bufflehead	UNCOMMON	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	X	X	-	-	-
	Diving birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Diving ducks		X	X	X	X					X	X	X		-	-	-
	Greater scaup	UNCOMMON	X	X	X								X	X	-	-	-
	Grebes	UNCOMMON	X	X	X	X	X			X	X	X	X		-	-	-
	Gulls	COMMON-ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Lesser scaup	COMMON	X	X	X	X					X	X	X		-	-	-
	Loons		X	X	X	X					X	X	X		-	-	-
	Magnificent frigatebird	COMMON					X	X	X	X	X	X	X		-	-	-
	Masked booby	UNCOMMON			X	X	X	X	X	X	X	X	X		-	-	-
	Northern gannet	COMMON	X	X	X	X					X	X	X		-	-	-
	Scoters	RARE	X	X	X	X							X	X	-	-	-
	Shearwaters	UNCOMMON								X	X	X	X		-	-	-
	Storm-petrels	RARE					X	X	X						-	-	-
	Terns	COMMON-ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
7	Redhead	0-300 BIRDS	X	X	X								X	X	X	-	-
9	Pelicans		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Peregrine falcon	T	X	X	X	X				X	X	X	X	X	-	-	-
	Plovers		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Ruddy turnstone		X	X	X	X	X			X	X	X	X	X	-	-	-
	Sanderling		X	X	X	X	X			X	X	X	X	X	-	APR-MAY AUG-AUG	-
	Shorebirds		X	X	X	X	X			X	X	X	X	X	-	-	-
	Snowy plover		X	X	X	X	X			X	X	X	X	X	-	-	-
	Willet		X	X	X	X	X	X	X	X	X	X	X	X	-	APR-APR AUG-AUG	-
11	Dabbling ducks		X	X	X	X	X				X	X	X	X	-	-	-
	Marsh birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Osprey		X	X	X	X					X	X	X	X	-	-	-
	Peregrine falcon	T	X	X	X	X				X	X	X	X	X	-	-	-
	Wading birds		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	-	-	-
42	Piping plover	T T POTENTIAL	X	X	X	X	X			X	X	X	X	X	-	-	-
155	American bittern		X	X	X	X	X				X	X	X	X	-	-	-
	Black rail		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Black-necked stilt	10S	X	X	X	X	X	X	X	X	X	X	X		-	-	-
	Clapper rail		X	X	X	X	X	X	X	X	X	X	X	X	FEB-SEP	-	-
	Common moorhen		X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	-	-
	Dowitchers	100S	X	X	X	X	X			X	X	X	X	X	-	MAR-MAY JUL-NOV	-
	Dunlin	100S	X	X	X	X	X				X	X	X	X	-	-	-
	Killdeer	100S	X	X	X	X	X	X	X	X	X	X	X	X	-	DEC-MAR	-
	King rail		X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-
	Marsh birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Migratory songbirds					X	X								-	-	-
	Peregrine falcon	T	X	X	X	X				X	X	X	X	X	-	-	-
	Shorebirds	1000S	X	X	X	X	X			X	X	X	X	X	-	-	-
	Sora		X	X	X	X	X			X	X	X	X	X	-	-	-
	Wading birds		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Waterfowl	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Western sandpiper	100S	X	X	X	X	X	X	X	X	X	X	X	X	-	FEB-MAY JUL-NOV APR-APR AUG-AUG	-
	Willet	100S	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Wood stork	T OCCASIONAL								X	X	X	X	X	-	-	-
	Yellow rail		X	X	X	X					X	X	X	X	-	-	-
	Yellowlegs	10S	X	X	X	X	X			X	X	X	X	X	-	MAR-MAY JUL-NOV	-
329	Greater white-fronted goose		X	X	X	X						X	X	X	-	-	-
	Snow goose		X	X	X							X	X	X	-	-	-
337	American coot	10000S	X	X	X	X					X	X	X	X	-	-	-
	American wigeon	1000S	X	X	X						X	X	X	X	-	-	-
	Blue-winged teal	10000S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Bufflehead	10S	X	X	X								X	X	-	-	-
	Canada goose	100S	X	X	X							X	X	X	-	-	-
	Canvasback	100S	X	X	X							X	X	X	-	-	-
	Fulvous whistling-duck	10S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	-	-
	Gadwall	10000S	X	X	X	X					X	X	X	X	-	-	-
	Greater white-fronted goose	100S	X	X	X							X	X	X	-	-	-
	Green-winged teal	10000S	X	X	X	X					X	X	X	X	-	-	-
	Lesser scaup	1000S	X	X	X	X						X	X	X	-	-	-
	Mallard	100S	X	X	X							X	X	X	-	-	-
	Mottled duck	100S	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	JUN-AUG
	Northern pintail	1000S	X	X	X							X	X	X	-	-	-
	Northern shoveler	10000S	X	X	X	X					X	X	X	X	-	-	-
	Redhead	10S	X	X	X							X	X	X	-	-	-
	Ring-necked duck	1000S	X	X	X							X	X	X	-	-	-
	Ruddy duck	1000S	X	X	X							X	X	X	-	-	-
	Snow goose	10000S	X	X	X								X	X	-	-	-
	Wood duck	10S	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-
338	American coot	1000S	X	X	X	X					X	X	X	X	-	-	-
	American wigeon	100S	X	X	X						X	X	X	X	-	-	-
	Blue-winged teal	10000S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Bufflehead	10S	X	X	X								X	X	-	-	-
	Canada goose	100S	X	X	X							X	X	X	-	-	-
	Fulvous whistling-duck	10S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	-	-
	Gadwall	1000S	X	X	X	X					X	X	X	X	-	-	-
	Greater white-fronted goose	100S	X	X	X							X	X	X	-	-	-
	Green-winged teal	10000S	X	X	X	X					X	X	X	X	-	-	-
	Lesser scaup	100S	X	X	X	X						X	X	X	-	-	-
	Mallard	100S	X	X	X							X	X	X	-	-	-
	Mottled duck	100S	X	X	X	X	X	X	X	X	X	X	X	X	FEB-AUG	-	JUN-AUG
	Northern pintail	1000S	X	X	X							X	X	X	-	-	-
	Northern shoveler	1000S	X	X	X	X						X	X	X	-	-	-
	Redhead	10S	X	X	X							X	X	X	-	-	-
	Ruddy duck	10S	X	X	X							X	X	X	-	-	-
	Snow goose	1000S	X	X	X								X	X	-	-	-
373	American coot	1000S	X	X	X	X					X	X	X	X	-	-	-
	American wigeon	1000S	X	X	X							X	X	X	-	-	-
	Blue-winged teal	10000S	X	X	X	X				X	X	X	X	X	-	-	-
	Canada goose	10S	X	X	X							X	X	X	-	-	-
	Canvasback	PRESENT	X	X	X							X	X	X	-	-	-
	Fulvous whistling-duck	10S	X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	-	-
	Gadwall	1000S	X	X	X	X					X	X	X	X	-	-	-
	Greater white-fronted goose	1000S	X	X	X							X	X	X	-	-	-
	Green-winged teal	10000S	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 18 (cont.)

BIOLOGICAL RESOURCES: (cont.)

BIRD: (cont.)

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Migrating	Molting
373	Lesser scaup	100S	X X X X - - - X X X	-	-	-
	Mallard	100S	X X X - - - X X X	-	-	-
	Mottled duck	100S	X X X X X X X X X X	FEB-AUG	-	JUN-AUG
	Northern pintail	100S	X X X - - - X X X	-	-	-
	Northern shoveler	10000S	X X X X - - X X X	-	-	-
	Redhead	PRESENT	X X X - - - X X X	-	-	-
	Ring-necked duck	PRESENT	X X X - - - X X X	-	-	-
	Ruddy duck	10S	X X X - - - X X X	-	-	-
	Snow goose	10000S	X X X - - - X X	-	-	-
	Woad duck	PRESENT	X X X X X X X X X X	FEB-JUL	-	-

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	-	SEP-NOV	-	FEB-MAR	-
							NOV-DEC	
	Tarpon	RARE	- - - X X X X X	-	-	-	-	JUN-OCT
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	-	-	-	MAR-DEC	MAR-DEC
265	Atlantic bumper		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	-	-	-	-	-
	Banded drum		X X X X X	-	-	-	-	-
	Bay anchovy		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	FEB-JUL	-	MAR-JUL	AUG-JAN	JAN-DEC
	Blackfin tuna		- - - X X X X	-	-	-	-	MAY-OCT
	Cobia		- - - X X X X	-	-	-	-	-
	Crevalle jack		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	-	-	MAY-AUG	MAY-DEC	JAN-DEC
	Gafftopsail catfish		- - - X X X X	-	-	-	-	-
	Gray snapper		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	-	-	-	-	JAN-DEC
	Greater amberjack		X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Gulf butterfish	HIGHLY ABUNDANT	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	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	-	-	-	-	-
	Pinfish		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	AUG-OCT	-	-	-	JAN-DEC
	Red snapper		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	MAR-SEP	MAR-SEP	MAR-SEP	-	SEP-FEB
	Sheepshead		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	-	-	-	-	-
	Southern flounder		X X - - - X X X	SEP-FEB	-	-	OCT-DEC	SEP-FEB
	Southern kingfish		- - - X X X X	-	-	-	-	JUN-OCT
	Spanish mackerel	ABUNDANT	- - - 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 X	-	-	-	-	SEP-FEB
	Star drum	COMMON	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
303	Alligator gar		X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Atlantic croaker	HIGHLY ABUNDANT	X X X X X X X X X X	-	-	JAN-JUN	JAN-DEC	JAN-DEC
	Atlantic spadefish	RARE	- - - X X X X X X	-	-	-	MAY-DEC	-
	Bay anchovy	COMMON	X X X X X X X X X X	MAR-NOV	MAR-NOV	MAR-NOV	FEB-DEC	JAN-DEC
	Bay whiff	RARE	X X X X X X X X X X	-	-	-	APR-SEP	JAN-DEC
	Black drum	COMMON	X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Blue catfish	ABUNDANT	X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Bull shark	COMMON	X X X X X X X X X X	-	MAY-AUG	MAY-AUG	APR-NOV	JAN-DEC
	Gafftopsail catfish	COMMON	- - - X X X X X	APR-MAY	-	-	APR-OCT	APR-OCT
	Gizzard shad	RARE	X X X X X X X X X X	-	-	-	-	JAN-DEC
	Gulf menhaden	ABUNDANT	X X X X X X X X X X	-	-	-	JAN-DEC	APR-OCT
	Hardhead catfish	ABUNDANT	X X X X X X X X X X	MAY-AUG	MAY-SEP	MAY-SEP	MAY-SEP	JAN-DEC
	Red drum	COMMON	X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Sand seatrout	RARE	X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead	COMMON	X X X X X X X X X X	-	-	-	DEC-JAN	JAN-DEC
	Silver perch	RARE	X X X X X X X X X X	MAY-SEP	MAY-SEP	MAY-SEP	JUN-DEC	JUN-DEC
	Southern flounder	COMMON	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	-	-	-	FEB-NOV	APR-NOV
	Spotted seatrout	COMMON	X X X X X X X X X X	-	-	-	AUG-NOV	JAN-DEC
	Striped mullet	COMMON	X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
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
265	Atlantic seabob shrimp		X - - - - - X X X	-	-	-	-	OCT-JAN
	Blue crab	ABUNDANT	X X X X X X X X X X	-	-	JAN-DEC	-	-
	Brief squid		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	-	-	-	-	MAR-OCT
	Lesser blue crab		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	MAR-SEP	-	-	-	JAN-DEC
303	Atlantic rangia		X X X X X X X X X X	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Atlantic seabob shrimp	RARE	- - - X X X X	-	-	-	-	AUG-NOV
	Blue crab	ABUNDANT	X X X X X X X X X X	MAR-NOV	-	MAR-NOV	JAN-DEC	JAN-DEC
	Brown shrimp	COMMON	- - - X X X X X X	-	-	MAR-APR	MAY-NOV	-
	White shrimp	ABUNDANT	X X X X X X X X X X	-	-	MAY-JUN	MAY-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	-	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	Internesting	Juveniles	Adults
332	Green sea turtle	T T OCCASIONAL	X X X X X X X X	-	-	-	MAR-NOV	-
	Hawksbill sea turtle	E E OCCASIONAL	X X 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	-	-	-	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 18 (cont.)

BIOLOGICAL RESOURCES: (cont.)

TERRESTRIAL MAMMAL:

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

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HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
336	MCFADDIN NATIONAL WILDLIFE REFUGE		

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.