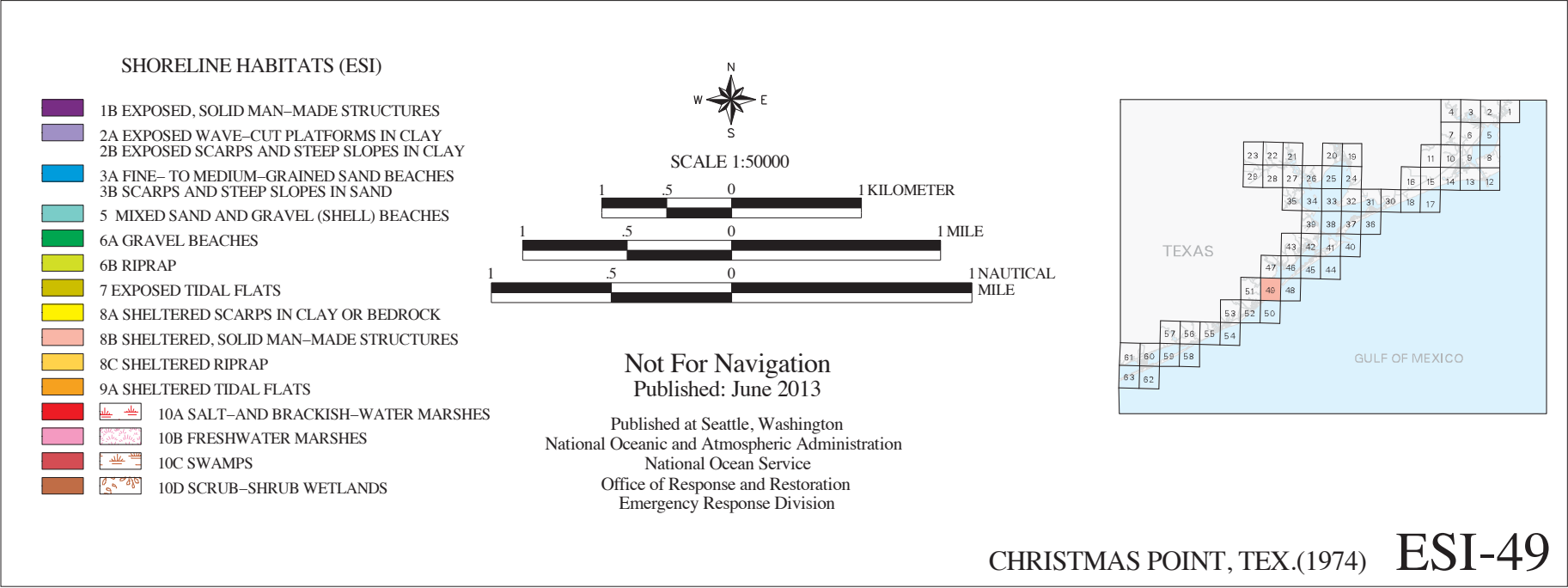
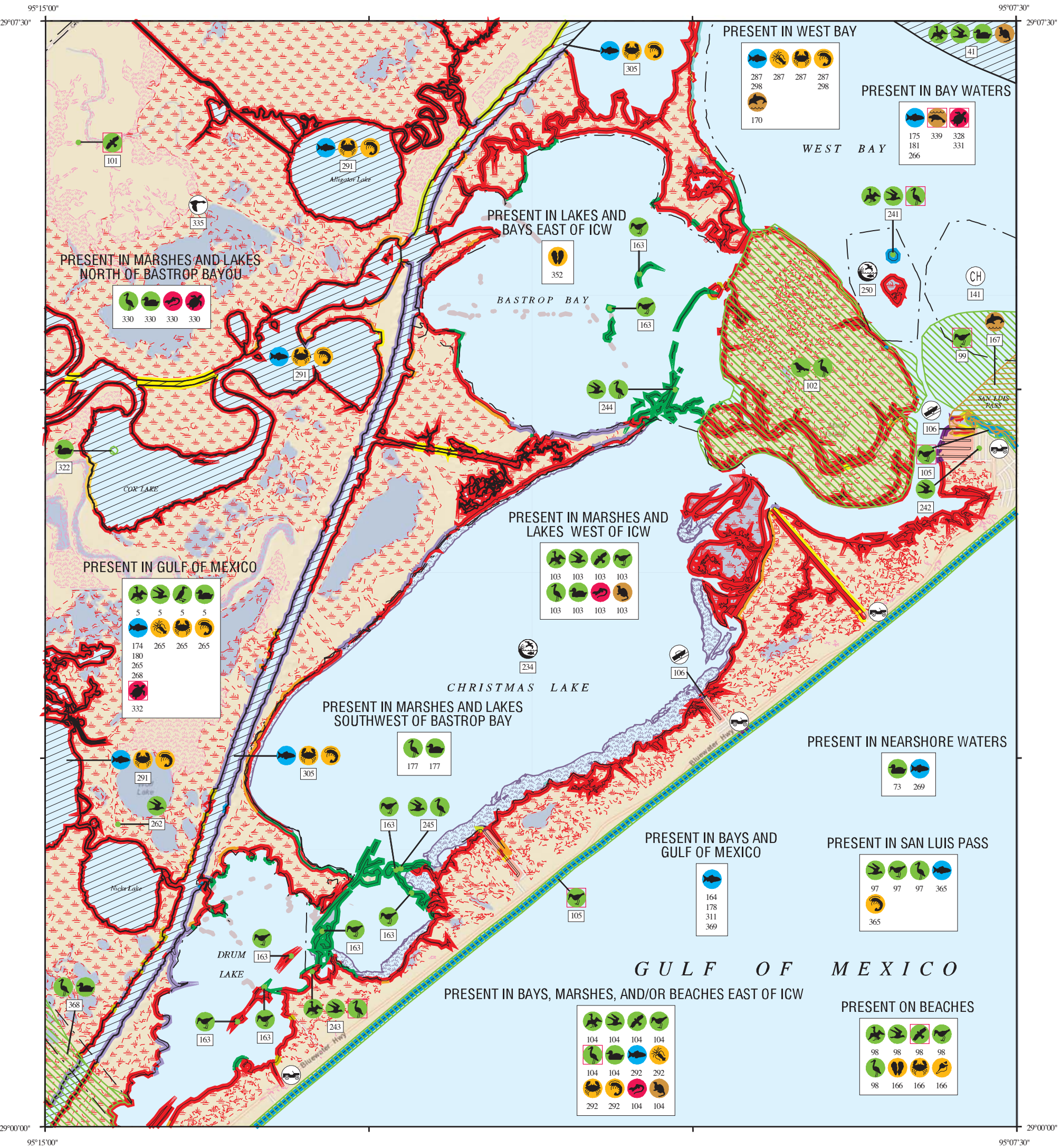


ENVIRONMENTAL SENSITIVITY INDEX MAP



Upper Texas Coast: ESIMAP 49

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	-	-	-
73	Redhead	100-7000 BIRDS	X X X X X X X X	-	-	-
97	Least tern		X X X X X X X X	-	-	-
	Roseate spoonbill		X X X X X X X X X X	-	-	-
	Snowy plover		X X X X X X X X X X	-	-	-
98	Brown pelican		X X X X X X X X X X	-	-	-
	Least tern		X X X X X X X X	-	-	-
	Peregrine falcon	T	X X X X X X X X X X	-	-	-
	Shorebirds		X X X X X X X X X X	-	-	-
	Snowy plover		X X X X X X X X X X	FEB-AUG	-	-
	Wading birds		X X X X X X X X X X	-	-	-
	Wilson's plover		X X X X X X X X	APR-JUL	-	-
99	Piping plover	T T 70 INDIV	X X X X X X X X X X	-	-	-
101	White-tailed hawk	T 1 NEST	X X X X X X X X X X	JAN-MAY	-	-
102	Migratory songbirds		X X	-	-	-
	Rails		X X X X X X X X X X	-	-	-
103	American white pelican		X X X X X X X X	-	-	-
	Clapper rail		X X X X X X X X X X	FEB-SEP	-	-
	Dabbling ducks		X X X X X X X X	-	-	-
	Gulls		X X X X X X X X X X	-	-	-
	Marsh birds		X X X X X X X X X X	-	-	-
	Rails	HIGH	X X X X X X X X X X	-	-	-
	Raptors	HIGH	X X X X X X X X X X	-	-	-
	Shorebirds	HIGH	X X X X X X X X X X	-	-	-
	Terns		X X X X X X X X X X	-	-	-
	Wading birds	HIGH	X X X X X X X X X X	-	-	-
	Waterfowl	HIGH	X X X X X X X X X X	-	-	-
104	American avocet	100S	X X X X X X X X X X	-	MAR-APR JUL-NOV	-
	American oystercatcher	PRESENT	X X X X X X X X X X	-	-	-
	American white pelican		X X X X X X X X	-	-	-
	Black skimmer	100S	X X X X X X X X X X	-	-	-
	Black-bellied plover	100S	X X X X X X X X X X	-	MAR-MAY JUL-NOV	-
	Dabbling ducks		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	-	-	-
	Dowitchers	1000S	X X X X X X X X X X	-	MAR-MAY JUL-NOV	-
	Dunlin	1000S	X X X X X X X X X X	-	-	-
	Gulls		X X X X X X X X X X	-	-	-
	Killdeer	10S	X X X X X X X X X X	-	DEC-MAR	-
	Long-billed curlew	PRESENT	X X X X X X X X X X	-	FEB-APR JUN-NOV	-
	Marbled godwit	100S	X X X X X X X X X X	-	MAR-APR JUL-NOV	-
	Marsh birds		X X X X X X X X X X	-	-	-
	Raptors		X X X X X X X X X X	-	-	-
	Reddish egret	T PRESENT	X X X X X X X X X X	-	-	-
	Redhead		X X X X X X X X	-	-	-
	Ruddy turnstone	PRESENT	X X X X X X X X X X	-	-	-
	Shorebirds	1000S	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	-	-	-
	Western sandpiper	1000S	X X X X X X X X X X	-	FEB-MAY JUL-NOV	-
	Willet	100S	X X X X X X X X X X	-	APR-APR AUG-AUG	-
	Yellowlegs	100S	X X X X X X X X X X	-	MAR-MAY JUL-NOV	-
105	Piping plover	T T 54 INDIV	X X X X X X X X X X	-	-	-
163	American oystercatcher	1 PAIR	X X X X X X X X X X	FEB-JUL	-	-
177	American coot	1000S	X X X X X X X X	-	-	-
	American wigeon	1000S	X X X X X X X X	-	-	-
	Blue-winged teal	1000S	X X X X X X X X X X	-	-	-
	Bufflehead	10S	X X X X X X	-	-	-
	Canada goose	100S	X X X X X X X X	-	-	-
	Canvasback	100S	X X X X X X X X	-	-	-
	Fulvous whistling-duck	10S	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 X X	-	-	-
	Green-winged teal	10000S	X X X X X X X X	-	-	-
	Lesser scaup	100S	X X X X X X X X	-	-	-
	Mallard	100S	X X 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	1000S	X X X X X X X X	-	-	-
	Northern shoveler	1000S	X X X X X X X X	-	-	-
	Redhead	1000S	X X X X X X X X	-	-	-
	Ring-necked duck	10S	X X X X X X X X	-	-	-
	Ruddy duck	100S	X X X X X X X X	-	-	-
	Sandhill crane	100S	X X X X X X X X	-	-	-
	Snow goose	1000S	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 49 (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
241	Black skimmer	78-500 PAIRS	X X X X X X X X X X X X	APR-SEP	-	-
	Black-crowned night-heron	3 PAIRS	X X X X X X X X X X X X	APR-AUG	APR-MAY	-
	Brown pelican	15-180 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	Caspian tern	28-140 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Forster's tern	21-70 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Great blue heron	8-18 PAIRS	X X X X X X X X X X X X	FEB-JUN	-	-
	Great egret	1-184 PAIRS	X X X X X X X X X X X X	MAR-JUL	MAR-APR	-
	Gull-billed tern	17-150 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	161-11300 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Least tern	200 PAIRS	X X X X X X X X	APR-SEP	-	-
	Reddish egret	T 2-12 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Roseate spoonbill	12-64 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	Royal tern	79-805 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Sandwich tern	250-563 PAIRS	X X X X X X X X X X	MAR-AUG	-	-
	Snowy egret	16-250 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Tricolored heron	14-762 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	White ibis	3-47 PAIRS	X X X X X X X X X X X X	FEB-JUL	-	-
242	Forster's tern	50 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Royal tern	40 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
243	Black-crowned night-heron	1-110 PAIRS	X X X X X X X X X X X X	APR-AUG	APR-MAY	-
	Brown pelican	6-105 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	Cattle egret	4-158 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Forster's tern	20-102 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Great blue heron	1-77 PAIRS	X X X X X X X X X X X X	FEB-JUN	-	-
	Great egret	1-1401 PAIRS	X X X X X X X X X X X X	MAR-JUL	MAR-APR	-
	Laughing gull	126-1062 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Little blue heron	3-8 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Neotropic cormorant	32-78 PAIRS	X X X X X X X X X X X X	FEB-OCT	-	-
	Reddish egret	T 4-15 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Roseate spoonbill	33-195 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	Royal tern	25 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Snowy egret	6-230 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Tricolored heron	119-680 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
	White ibis	1-253 PAIRS	X X X X X X X X X X X X	FEB-JUL	-	-
	Yellow-crowned night-heron	2 PAIRS	X X X X X X X X	APR-SEP	-	-
244	Black skimmer	42-170 PAIRS	X X X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	3-25 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	14 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	3-378 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Royal tern	4-7 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Tricolored heron	14 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
245	Laughing gull	110 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Snowy egret	14 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Tricolored heron	53 PAIRS	X X X X X X X X X X X X	APR-AUG	-	-
262	Black skimmer	53-514 PAIRS	X X X X X X X X X X X X	APR-SEP	-	-
	Forster's tern	2-40 PAIRS	X X X X X X X X X X X X	MAR-AUG	-	-
	Gull-billed tern	30-434 PAIRS	X X X X X X X X X X X X	APR-JUL	-	-
	Laughing gull	5-117 PAIRS	X X X X X X X X X X X X	FEB-AUG	-	-
	Least tern	21-70 PAIRS	X X X X X X X X	APR-SEP	-	-
322	Ross's goose	10S	X X X X X X X X	-	-	-
	Snow goose	10S	X X X X X X X X	-	-	-
330	American coot	1000S	X X X X X X X X	-	-	-
	American wigeon	1000S	X X X X X X X X	-	-	-
	Blue-winged teal	10000S	X X X X X X X X	-	-	-
	Bufflehead	10S	X X X X X X X X	-	-	-
	Canada goose	100S	X X X X X X X X	-	-	-
	Canvasback	10S	X X 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 X X	-	-	-
	Greater white-fronted goose	100S	X X 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 X	-	-	-
	Mallard	100S	X X 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 X X X X	-	-	-
	Northern shoveler	1000S	X X X X X X X X X X	-	-	-
	Redhead	1000S	X X X X X X X X	-	-	-
	Ring-necked duck	1000S	X X X X X X X X	-	-	-
	Ruddy duck	10S	X X X X X X X X	-	-	-
	Sandhill crane	100S	X X X X X X X X	-	-	-
	Snow goose	10000S	X X X X X X X X	-	-	-
	Wood duck	PRESENT	X X X X X X X X X X X X	FEB-JUL	-	-
368	American coot	100S	X X X X X X X X X X	-	-	-
	American wigeon	100S	X X X X X X X X	-	-	-
	Blue-winged teal	1000S	X X X X X X X X X X	-	-	-
	Bufflehead	100S	X X X X X X X X	-	-	-
	Canada goose	10S	X X X X X X X X	-	-	-
	Canvasback	100S	X X X X X X X X	-	-	-
	Gadwall	1000S	X X X X X X X X X X	-	-	-
	Greater white-fronted goose	100S	X X X X X X X X X X	-	-	-
	Green-winged teal	1000S	X X X X X X X X X X	-	-	-
	Lesser scaup	100S	X X X X X X X X	-	-	-
	Mallard	10S	X X X X X X X X	-	-	-
	Mottled duck	10S	X X X X X X X X X X X X	FEB-AUG	-	JUN-AUG
	Northern pintail	10S	X X X X X X X X X X	-	-	-
	Northern shoveler	100S	X X X X X X X X X X	-	-	-
	Redhead	10S	X X X X X X X X	-	-	-
	Ruddy duck	100S	X X X X X X X X	-	-	-
	Sandhill crane	PRESENT	X X X X X X X X	-	-	-
	Snow goose	1000S	X X X X 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
164	Atlantic sharpnose shark		X X X X X X X X	-	-	-	APR-OCT	-
174	Bonnethead shark		X X X X X X X X	-	SEP-NOV	-	FEB-MAR	-
							NOV-DEC	
	Tarpon	RARE	X X X X X X	-	-	-	-	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 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 X X	MAY-JUN	MAY-JUN	MAY-NOV	MAR-NOV	MAY-JUN
265	Atlantic bumper		X X X X X X X X	-	-	-	-	MAY-NOV
	Atlantic croaker	HIGHLY ABUNDANT	X X 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 X X	-	-	-	APR-NOV	JAN-DEC
	Atlantic tripletail		X X X X X X X X X X X X	-	-	-	-	-
	Banded drum		X X 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

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 49 (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	Blackfin tuna							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				-	-	-	-	-
	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		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		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	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	X	X	-	-	-	-	JAN-DEC
266	Tarpon	RARE		X	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	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				-	-	-	-	-
	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	-
291	Alligator gar	COMMON	X	X	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	X	X	-	-	JAN-JUN	JAN-DEC	JAN-DEC
	Bay anchovy	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAR-NOV	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Bay whiff	COMMON	X	X	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	X	X	-	-	-	JAN-DEC	JAN-DEC
	Gafftopsail catfish	COMMON						X	X	X	X	X	X		APR-MAY	-	-	APR-OCT	APR-OCT
	Gizzard shad	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Gulf killifish	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	MAR-SEP	MAR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Gulf menhaden	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-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	COMMON		X	X	X	X	X	X	X	X				-	-	-	MAR-NOV	MAR-NOV
	Red drum	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	SEP-NOV	JAN-DEC	JAN-DEC
	Sand seatrout	COMMON	X	X	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	X	X	-	-	-	MAY-JUL	JAN-DEC
																		NOV-FEB	
	Silversides	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-AUG	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Southern kingfish	RARE						X							-	-	-	AUG-AUG	-
	Spot	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-NOV	JAN-DEC
	Spotfin mojarra	RARE						X	X	X					-	-	-	-	-
	Spotted seatrout	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	APR-OCT	APR-OCT	SEP-NOV	JAN-DEC
	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		-	-	-	APR-NOV	-
292	Atlantic bumper	RARE									X	X			-	-	-	-	SEP-OCT
	Atlantic croaker	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	JAN-JUN	JAN-DEC	JAN-DEC
	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	MAR-NOV	JAN-DEC
	Bay whiff	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-OCT	JAN-DEC
	Black drum	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	APR-MAY	APR-MAY	JAN-DEC	JAN-DEC
	Crevalle jack	COMMON		X	X	X	X	X	X	X					-	-	-	MAR-NOV	SEP-NOV
	Gafftopsail catfish	COMMON		X	X	X	X	X	X	X					APR-MAY	-	-	APR-OCT	APR-OCT
	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 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	APR-NOV
	Hardhead catfish	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	MAY-AUG	MAY-SEP	MAY-SEP	MAY-SEP	JAN-DEC
	Pinfish	HIGHLY ABUNDANT		X	X	X	X	X	X	X	X	X	X	X	-	-	-	FEB-NOV	FEB-DEC
	Red drum	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	SEP-NOV	JAN-DEC	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-SEP	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 flounder	ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Southern kingfish	RARE						X	X	X					-	-	-	JUL-OCT	-
	Spanish mackerel	RARE						X	X	X	X	X			-	-	-	MAY-OCT	MAY-OCT
	Spot	HIGHLY ABUNDANT	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	FEB-OCT	JAN-DEC
	Spotfin mojarra	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
	Spotted seatrout	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	APR-OCT	APR-OCT	APR-OCT	JUN-NOV	JAN-DEC
	Striped mullet	COMMON	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	White mullet	ABUNDANT						X	X	X	X	X			-	-	-	APR-OCT	-
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
305	Atlantic croaker	HIGHLY ABUNDANT	X</																

Upper Texas Coast: ESIMAP 49 (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
305	Bay anchovy	COMMON	X X X X X X X X X X X	MAR-NOV	MAR-NOV	MAR-NOV	JAN-NOV	JAN-DEC
	Bay whiff	COMMON	X X X X X X X X X X X	-	-	-	-	JAN-DEC
	Black drum	COMMON	X 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 X	-	MAY-AUG	MAY-AUG	APR-NOV	JAN-DEC
	Gafftopsail catfish	COMMON	X X X X X X X X	APR-MAY	-	-	APR-OCT	APR-OCT
	Gray snapper	COMMON	X X X X X X X X X X X	-	-	-	AUG-OCT	JAN-DEC
	Gulf menhaden	COMMON	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
	Hardhead catfish	ABUNDANT	X X X X X X X X X X X	MAY-AUG	MAY-SEP	MAY-SEP	MAY-OCT	JAN-DEC
	Pinfish	RARE	X X X X X X X X	-	-	-	MAR-NOV	MAR-NOV
	Red drum	ABUNDANT	X X X X X X X X X X X	-	-	SEP-NOV	JAN-DEC	JAN-DEC
	Sand seatrout	COMMON	X 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 X	-	-	-	OCT-JUN	JAN-DEC
	Silver perch	RARE	X X X X X X X X X X X	MAY-SEP	MAY-SEP	MAY-SEP	OCT-FEB	JAN-DEC
	Southern flounder	COMMON	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	-	-	-	FEB-NOV	JAN-DEC
	Spotted seatrout	COMMON	X X X X X X X X X X X	MAR-OCT	MAR-OCT	MAR-OCT	SEP-NOV	JAN-DEC
	Striped mullet	COMMON	X X X X X X X X X X X	-	-	-	JAN-DEC	JAN-DEC
311	Finetooth shark		X X X X X X	-	MAY-JUN	MAY-OCT	-	MAY-JUN
365	Atlantic croaker	HIGHLY ABUNDANT	X X X X X X X X X X X	-	DEC-APR	DEC-APR	DEC-APR	APR-NOV
	Black drum	COMMON	X X X X X X X X X X X	FEB-JUL	-	MAR-JUL	AUG-JAN	JAN-DEC
	Red drum	COMMON	X X X X X X X X X X X	-	-	SEP-NOV	-	JAN-DEC
	Southern flounder	ABUNDANT	X X X X X X X	-	-	-	-	OCT-NOV
	Spot	HIGHLY ABUNDANT	X X X X X X X X X X X	-	-	FEB-JUN	FEB-JUN	JAN-DEC
	Spotted seatrout	COMMON	X X X X X X X X X X X	FEB-OCT	FEB-OCT	-	-	JAN-DEC
369	Spinner shark		X 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	APR-APR AUG-AUG	-	-	-	JAN-DEC
	Atlantic surfclam		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	-	-	-	-	-
	Mole crab		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 X	-	-	-	-	-
265	Atlantic seabob shrimp		X X X X X X X	-	-	-	-	OCT-JAN
	Blue crab	ABUNDANT	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	MAR-DEC	MAR-DEC	MAR-DEC	JAN-DEC	JAN-DEC
	Brown shrimp		X X X X X X X X X	-	-	-	-	MAR-OCT
	Lesser blue crab		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	MAR-SEP	-	-	-	JAN-DEC
287	Blue crab	ABUNDANT	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	MAR-DEC	MAR-DEC	MAR-DEC	JAN-DEC	JAN-DEC
	Grass shrimp	ABUNDANT	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	NOV-MAR	MAR-NOV	MAR-DEC	JAN-DEC	JAN-DEC
	Lesser blue crab	COMMON	X X X X X X X	-	-	-	APR-OCT	APR-OCT
291	Blue crab	ABUNDANT	X X X X X X X X X X X	MAR-OCT	MAR-OCT	MAR-NOV	JAN-DEC	JAN-DEC
	Brown shrimp	HIGHLY ABUNDANT	X X X X X X X X X X X	-	-	FEB-APR	APR-JAN	-
	Grass shrimp	ABUNDANT	X X X X X X X X X X X	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC	JAN-DEC
	Gulf stone crab	RARE	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 X	-	-	-	APR-OCT	APR-OCT
	White shrimp	HIGHLY ABUNDANT	X X X X X X X X X X X	-	-	JUN-OCT	JUN-JAN	JAN-DEC
292	Blue crab	ABUNDANT	X X X X X X X X X X X	MAR-OCT	MAR-OCT	MAR-NOV	JAN-DEC	JAN-DEC
	Brief squid	COMMON	X X X X X X X X X X X	MAR-DEC	MAR-DEC	MAR-DEC	JAN-DEC	JAN-DEC
	Brown shrimp	ABUNDANT	X X X X X X X X X X X	-	-	FEB-APR	JAN-DEC	-
	Grass shrimp	ABUNDANT	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	NOV-MAR	MAR-NOV	MAR-DEC	JAN-DEC	JAN-DEC
	Lesser blue crab	COMMON	X X X X X X X	-	-	-	APR-OCT	-
	White shrimp	ABUNDANT	X X X X X X X X X X	-	-	JUN-OCT	JUN-DEC	APR-DEC
298	Brown shrimp	ABUNDANT	X X 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	-	-	JUN-OCT	JUN-DEC	JAN-DEC
305	Blue crab	HIGHLY ABUNDANT	X X X X X X X X X X X	MAY-NOV	MAY-NOV	MAY-DEC	JAN-DEC	JAN-DEC
	Brown shrimp	ABUNDANT	X X X X X X X X X X X	-	-	FEB-APR	APR-DEC	-
	Gulf stone crab	COMMON	X X X X X X X X X X X	NOV-MAR	MAR-NOV	MAR-DEC	JAN-DEC	JAN-DEC
	White shrimp	ABUNDANT	X X X X X X X	-	-	JUN-OCT	JUN-DEC	MAY-JUN
352	Eastern oyster	REEF	X X X X X X X X X X X	MAR-DEC	MAR-DEC	-	-	JAN-DEC
365	Brown shrimp	ABUNDANT	X X X X X X X X X	-	-	FEB-APR	-	MAR-OCT
	White shrimp	ABUNDANT	X X X X X X X	-	-	MAY-NOV	-	-

MARINE MAMMAL:

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Mating	Calving	Pupping	Molting
167	Bottlenose dolphin	HIGH	X X X X X X X X X X X	-	JAN-DEC	-	-
170	Bottlenose dolphin		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	Internesting	Juveniles	Adults
103	Gulf salt marsh snake		X X X X X X X X X X X	MAR-MAY	JUL-AUG	-	JAN-DEC	JAN-DEC
104	Gulf salt marsh snake		X X X X X X X X X X X	MAR-MAY	JUL-AUG	-	JAN-DEC	JAN-DEC
328	Diamondback terrapin		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	-
330	Diamondback terrapin		X X X X X X X X X X X	APR-MAY	JUN-SEP	-	JAN-DEC	JAN-DEC
	Gulf salt marsh snake		X X X X X X X X X X X	MAR-MAY	JUL-AUG	-	JAN-DEC	JAN-DEC
331	Kemp's ridley sea turtle	E E COMMON	X X X X X X X X	-	-	-	APR-NOV	-
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	-	-	-	MAR-OCT	-
	Kemp's ridley sea turtle	E E COMMON	X 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	-	-	-	JAN-DEC	-

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
103	Northern river otter		X X X X X X X X X X X
104	Northern river otter		X X X X X X X X X X X

HUMAN USE RESOURCES:

BOAT RAMP:

HUN#	Name	Contact	Phone
106	SAN LUIS PASS COUNTY PARK		

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 49 (cont.)

HUMAN USE RESOURCES: (cont.)

CRITICAL HABITAT:

HUN#	Name	Contact	Phone
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141	PIPING PLOVER CRITICAL HABITAT	USFWS	

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
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234	CHRISTMAS BAY COASTAL PRESERVE	TGLO-TPWD	
250	WEST BAY BIRD ISLAND	HOUSTON AUDUBON (RICAHRD GIBBONS)	713/932-1639

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
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335	BRAZORIA 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.