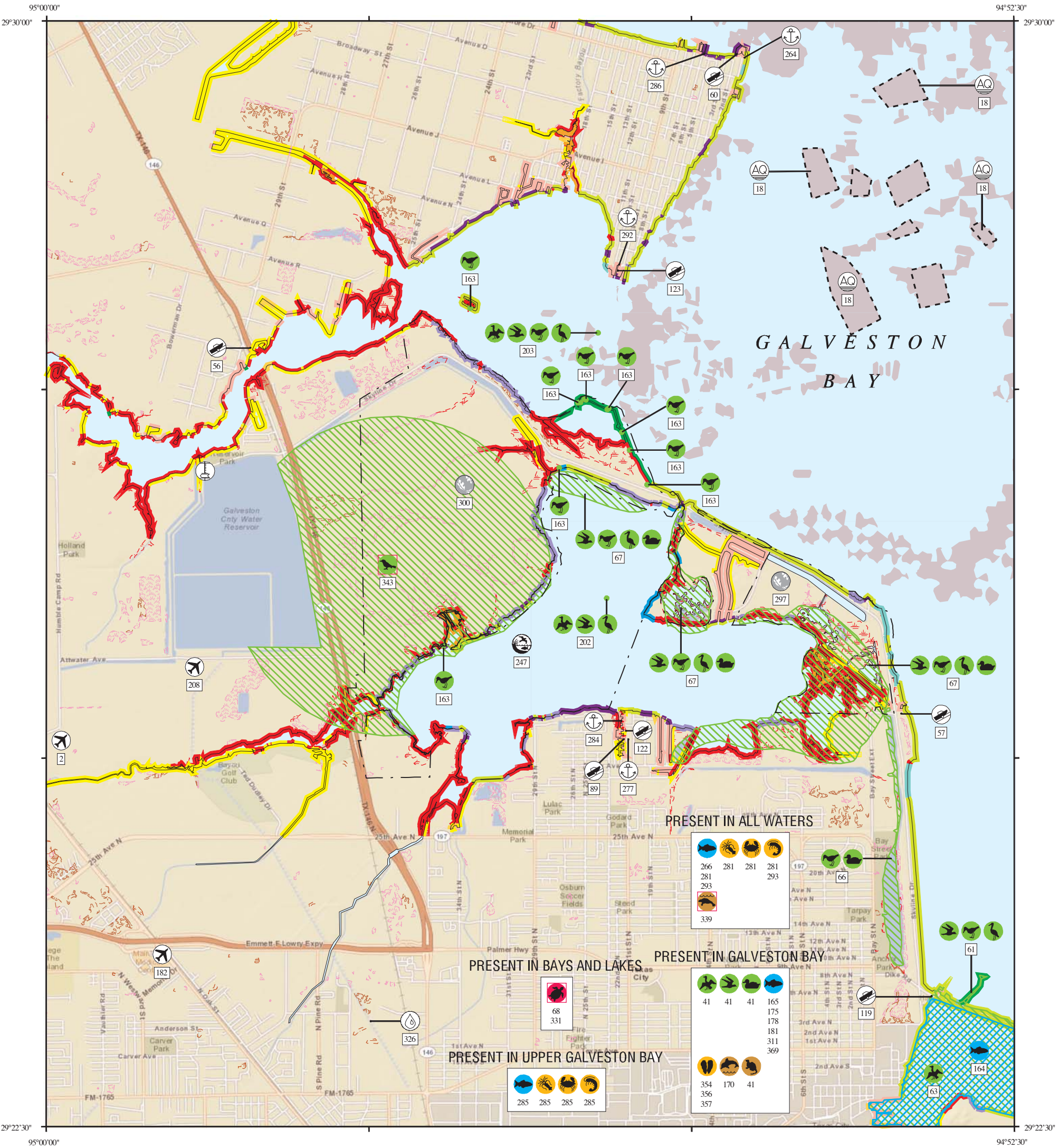


ENVIRONMENTAL SENSITIVITY INDEX MAP



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

W N E S

SCALE 1:50000

1 0.5 0 1 KILOMETER

1 0.5 0 1 MILE

1 0.5 0 1 NAUTICAL MILE

Not For Navigation
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National Ocean Service
Office of Response and Restoration
Emergency Response Division

TEXAS

GULF OF MEXICO

Upper Texas Coast: 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 |
|------|------------------------------------|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|
| 41 | Black skimmer | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| | Cormorants | | 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 | X | | - | - | - |
| | Grebes | | X | X | X | X | X | | | X | X | X | X | | - | - | - |
| | Gulls | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| | Loons | | X | X | X | X | | | | | X | X | X | | - | - | - |
| | Pelicans | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| | Terns | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| 61 | 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 | X | - | - | - |
| | Terns | | 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 | - | - | - |
| 63 | Grebes | HIGH | X | X | X | X | X | | | | X | X | X | X | - | - | - |
| | Loons | HIGH | X | X | X | X | | | | | X | X | X | X | - | - | - |
| 66 | Shorebirds | | 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 | - | - | - |
| 67 | Marsh birds | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| | Shorebirds | | X | X | X | X | X | X | X | X | X | X | X | X | - | - | - |
| | Terns | | 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 | - | - | - |
| | Waterfowl | | X | X | 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 | X | X | FEB-JUL | - | - |
| 202 | American white pelican | 8 INDIV | X | X | X | | | | | | X | X | X | | - | - | - |
| | Brown pelican | 7 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG | - | - |
| | Forster's tern | 4-79 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | MAR-AUG | - | - |
| | Laughing gull | 18-34 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | FEB-AUG | - | - |
| | Least tern | 4 PAIRS | | X | X | X | X | X | X | X | X | | | | APR-SEP | - | - |
| | Sandwich tern | 5 PAIRS | | X | X | X | X | X | X | X | X | X | X | | MAR-AUG | - | - |
| | Snowy egret | 2 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | APR-JUL | - | - |
| | Tricolored heron | 1 PAIR | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG | - | - |
| 203 | American oystercatcher | 1-4 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | FEB-JUL | - | - |
| | Black skimmer | 150 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | APR-SEP | - | - |
| | Brown pelican | 7 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG | - | - |
| | Caspian tern | 1 PAIR | X | X | X | X | X | X | X | X | X | X | X | X | APR-JUL | - | - |
| | Forster's tern | 6-525 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | MAR-AUG | - | - |
| | Great egret | 1 PAIR | X | X | X | X | X | X | X | X | X | X | X | X | MAR-JUL | MAR-APR | - |
| | Laughing gull | 16-145 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | FEB-AUG | - | - |
| | Least tern | 16 PAIRS | | X | X | X | X | X | X | X | X | | | | APR-SEP | - | - |
| | Royal tern | 2 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | FEB-AUG | - | - |
| | Sandwich tern | 2 PAIRS | | X | X | X | X | X | X | X | X | X | X | | MAR-AUG | - | - |
| | Snowy egret | 1 PAIR | X | X | X | X | X | X | X | X | X | X | X | X | APR-JUL | - | - |
| | Tricolored heron | 25 PAIRS | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG | - | - |
| 343 | Attwater's greater prairie chicken | E E | X | X | X | X | X | X | X | X | X | X | X | X | MAR-MAY | - | - |

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 | | | | | - | - | - | APR-OCT | - |
| 165 | Atlantic sharpnose shark | | | | X | X | X | X | X | X | | | | | JUN-JUN | MAY-JUN | JUN-OCT | - | APR-OCT |
| 175 | Bonnethead shark | | | | 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 | | - | MAY-AUG | MAY-AUG | APR-NOV | JAN-DEC |
| 181 | Blacktip shark | | | | X | X | X | X | X | X | X | | | | MAY-JUN | MAY-JUN | MAY-NOV | MAR-NOV | MAY-JUN |
| 266 | Tarpon | RARE | | | X | X | X | X | X | X | X | | | | - | - | - | MAR-NOV | - |
| 281 | Atlantic bumper | ABUNDANT | | | | | | X | X | X | X | | | | - | - | - | - | JUN-OCT |
| | Atlantic spadefish | RARE | | | | | | X | X | | | | | | - | - | - | AUG-SEP | - |
| | Bay anchovy | HIGHLY 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 | | - | - | - | APR-MAY | 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 | | | | | APR-MAY | - | - | APR-OCT | APR-OCT |
| | Gizzard shad | RARE | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | - | JAN-DEC |
| | Gulf butterfish | RARE | X | X | X | X | | | | | | X | | | - | - | - | - | - |
| | Gulf killifish | COMMON | 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 | | - | - | - | 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 | COMMON | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | FEB-OCT | JUN-FEB |
| | 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 | | - | - | - | DEC-MAR | JAN-DEC |
| | Silver perch | COMMON | X | X | X | X | X | X | X | X | X | X | X | | MAY-SEP | MAY-SEP | MAY-SEP | MAR-JUN | JAN-DEC |
| | | | | | | | | | | | | | | | | | | OCT-DEC | |
| | Silversides | COMMON | 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 | X | X | | | | - | - | - | APR-NOV | - |
| | Spanish mackerel | COMMON | | | X | X | X | X | X | X | | | | | - | - | - | APR-NOV | APR-NOV |
| | Spotfin mojarra | RARE | | | | | | X | X | X | | | | | - | - | - | - | - |
| | Striped mullet | COMMON | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | JAN-DEC | JAN-DEC |
| | White mullet | ABUNDANT | | | X | X | X | X | X | | | | | | - | - | - | MAY-OCT | - |
| 285 | Atlantic bumper | COMMON | | | | | | X | X | X | | | | | - | - | - | - | AUG-OCT |
| | Atlantic croaker | HIGHLY ABUNDANT | X | X | X | X | X | X | X | X | X | X | X | | - | - | JAN-JUN | JAN-DEC | JAN-DEC |
| | Atlantic spadefish | RARE | | | | | | X | X | X | | | | | - | - | - | AUG-OCT | - |
| | Bay anchovy | HIGHLY ABUNDANT | X | X | X | X | X | X | X | X | X | X | X | | MAR-NOV | MAR-NOV | MAR-NOV | JAN-DEC | JAN-DEC |
| | Bay whiff | RARE | X | X | X | X | X | X | X | X | X | X | | | - | - | - | APR-APR | JAN-DEC |
| | Black drum | COMMON | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | 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 | MAR-OCT |
| | Gizzard shad | COMMON | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | - | JAN-DEC |
| | Gulf butterfish | RARE | X | X | X | X | | | | | | X | | | - | - | - | - | - |
| | Gulf killifish | COMMON | 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 | | - | - | - | 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 | | | | | | | - | - | - | APR-AUG | - |
| | Red drum | COMMON | 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 | | - | - | - | JAN-DEC | JAN-DEC |
| | Silver perch | COMMON | X | X | X | X | X | X | X | X | X | X | X | | MAY-SEP | MAY-SEP | MAY-SEP | MAR-MAR | JAN-DEC |
| | | | | | | | | | | | | | | | | | | OCT-NOV | |
| | Silversides | COMMON | 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 | | - | - | - | JAN-DEC | JAN-DEC |
| | Southern kingfish | COMMON | | | X | X | X | X | X | X | | | | | - | - | - | MAY-NOV | - |
| | Spanish mackerel | COMMON | | | X | X | X | X | | | | | | | - | - | - | JUN-OCT | JUN-OCT |
| | Spot | HIGHLY ABUNDANT | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | MAR-SEP | JAN-DEC |
| | Spotted seatrout | COMMON | X | X | X | X | X | X | X | X | X | X | X | | APR-OCT | APR-OCT | APR-OCT | AUG-NOV | JAN-DEC |
| | Striped mullet | COMMON | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | JAN-DEC | JAN-DEC |
| | White mullet | COMMON | | | X | X | X | X | | | | | | | - | - | - | JUN-OCT | - |
| 293 | Atlantic croaker | HIGHLY ABUNDANT | 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 | | APR-MAY | APR-MAY | APR-MAY | JAN-DEC | JAN-DEC |
| | Red drum | COMMON | 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 | | - | - | - | JAN-DEC | JAN-DEC |
| | Spot | HIGHLY ABUNDANT | X | X | X | X | X | X | X | X | X | X | X | | - | - | - | MAR-OCT | JAN-DEC |
| | Spotted seatrout | COMMON | X | X | X | X | X | X | X | X | X | X | X | | APR-OCT | APR-OCT | APR-OCT | AUG-NOV | 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 39 (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 |
|------|-----------------|-----------|-------------------------|----------|---------|---------|-----------|---------|
| 311 | Finetooth shark | | X X X X X X | - | MAY-JUN | MAY-OCT | - | MAY-JUN |
| 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 |
|------|------------------------|----------------|-------------------------|----------|---------|---------|-----------|---------|
| 281 | Atlantic seabob shrimp | RARE | X X X X | - | - | - | - | JUN-SEP |
| | Blue crab | ABUNDANT | 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 | MAR-DEC | MAR-DEC | MAR-DEC | JAN-DEC | JAN-DEC |
| | Grass shrimp | ABUNDANT | 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 | NOV-MAR | MAR-NOV | MAR-DEC | JAN-DEC | JAN-DEC |
| | Lesser blue crab | ABUNDANT | X X X X X X X | - | - | - | APR-NOV | APR-NOV |
| 285 | Blue crab | ABUNDANT | 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 | MAR-DEC | MAR-DEC | MAR-DEC | MAR-DEC | MAR-DEC |
| | Brown shrimp | ABUNDANT | 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 | JAN-DEC | JAN-DEC | JAN-DEC | JAN-DEC | JAN-DEC |
| | Lesser blue crab | COMMON | X X X X X | - | - | - | JUL-OCT | SEP-DEC |
| | White shrimp | ABUNDANT | X X X X X X X X X X | - | - | JUN-OCT | JUN-DEC | JAN-DEC |
| 293 | Brown shrimp | ABUNDANT | X X X X X X X X X X | - | - | FEB-APR | APR-DEC | - |
| | White shrimp | ABUNDANT | 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 | MAR-DEC | MAR-DEC | - | - | JAN-DEC |
| 356 | Eastern oyster | UNCONSOLIDATED | 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 | 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 | - | 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 |
|------|--------------------------|------------|-------------------------|---------|----------|--------------|-----------|---------|
| 68 | Diamondback terrapin | | X X X X X X X X X X | APR-MAY | JUN-SEP | - | JAN-DEC | JAN-DEC |
| 331 | Kemp's ridley sea turtle | E E COMMON | X X X X X X X X | - | - | - | APR-NOV | - |

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 |

HUMAN USE RESOURCES:

AIRPORT:

| HUN# | Name | Contact | Phone |
|------|----------|---------|-------|
| 2 | AUSTINIA | | |

AQUACULTURE:

| HUN# | Name | Contact | Phone |
|------|---------------|---------|-------|
| 18 | OYSTER LEASES | | |

BOAT RAMP:

| HUN# | Name | Contact | Phone |
|------|--------------------------|---------|-------|
| 56 | DICKINSON BAYOU RAMP | | |
| 57 | DOLLAR POINT PUBLIC RAMP | | |
| 60 | EAGLE POINT MARINA | | |
| 89 | MOSES LAKE MARINA RAMP | | |
| 119 | TACKLE TIME RAMP | | |
| 122 | THREE STARS MARINA RAMP | | |
| 123 | TOP WATER GRILL RAMP | | |

HELIPORT:

| HUN# | Name | Contact | Phone |
|------|-------------------------------------|---------|-------|
| 182 | MAINLAND RGNL HEALTH CARE SYSTEM | | |
| 208 | TDCJ/SOUTHERN RGNL MEDICAL FACILITY | | |

MANAGEMENT AREA:

| HUN# | Name | Contact | Phone |
|------|--------------------------|---------|-------|
| 247 | THERMAL GAME FISH REFUGE | TPWD | |

MARINA:

| HUN# | Name | Contact | Phone |
|------|--------------------------------|------------------|--------------|
| 264 | EAGLE POINT FISHING CAMP | JOHNNY VALENTINO | 281/339-1131 |
| 277 | MOSES LAKE MARINA | | 281/823-2550 |
| 284 | RAY'S BAIT CAMP | | 409/945-0989 |
| 286 | SAN LEON MARINA | GEORGE RIKER | 281/339-1515 |
| 292 | TOPWATER RESTAURANT AND MARINA | WALTER JAKUBAS | 281/339-1323 |

NATURE CONSERVANCY:

| HUN# | Name | Contact | Phone |
|------|-----------------------------|---------|-------|
| 297 | DOLLAR BAY EASEMENT | | |
| 300 | TEXAS CITY PRAIRIE PRESERVE | | |

WATER INTAKE:

| HUN# | Name | Contact | Phone |
|------|------------------------------------|---------|-------|
| 326 | GULF COAST WATER AUTHORITY TX CITY | | |