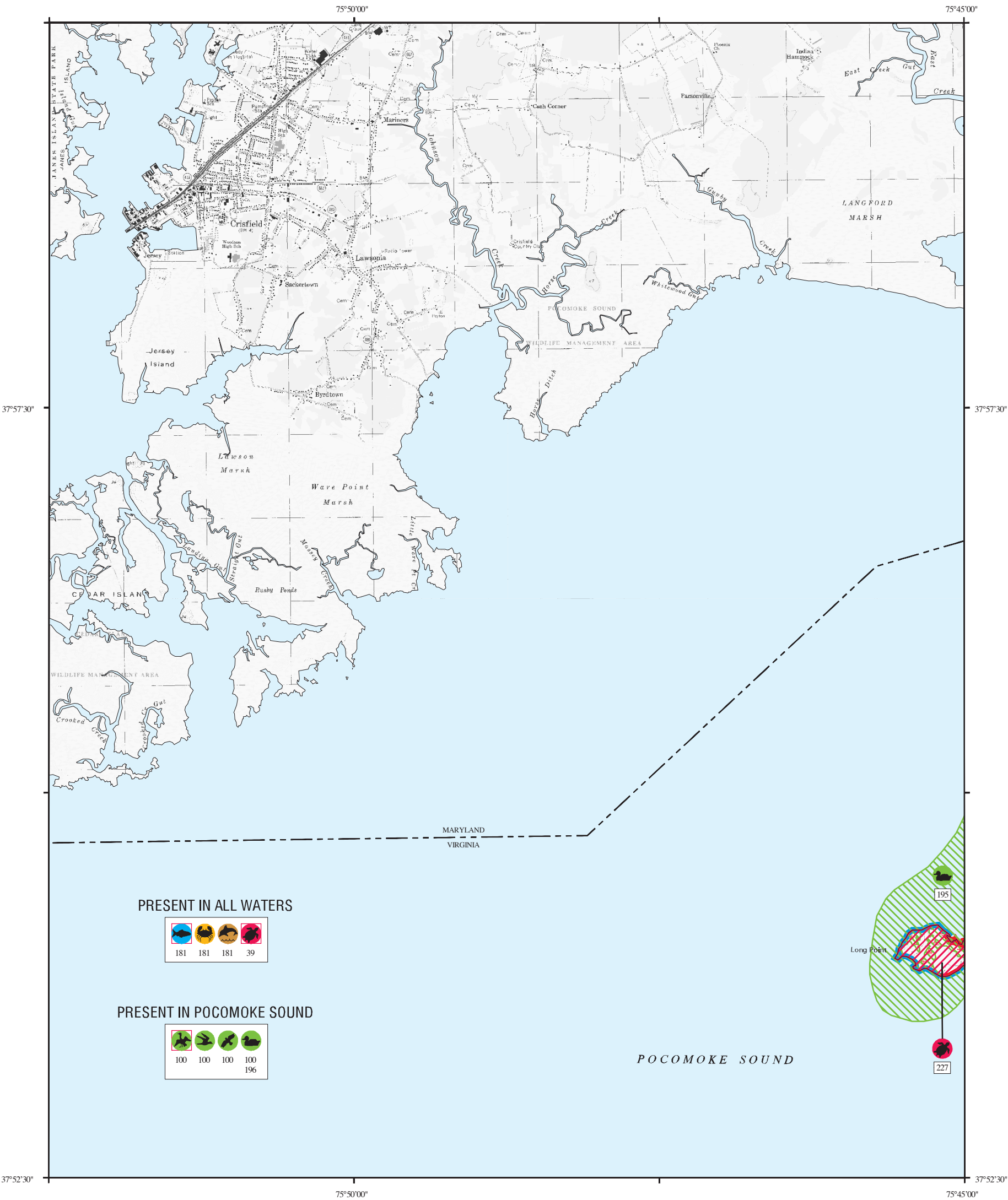


ENVIRONMENTAL SENSITIVITY INDEX MAP



**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
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL BEACHES
- 6A GRAVEL BEACHES
- 6B RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8A SHELTERED SCARPS IN CLAY
- 8B SHELTERED, SOLID MAN-MADE STRUCTURES
- 8C SHELTERED RIPRAP
- 9A SHELTERED TIDAL FLATS
- 9B SHELTERED, VEGETATED LOW BANKS
- 10A SALT-AND BRACKISH-WATER MARSHES
- 10B FRESHWATER MARSHES
- 10C SWAMP
- 10D SCRUB-SHRUB WETLANDS

Not For Navigation  
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Virginia: ESIMAP 91

BIOLOGICAL RESOURCES:

BIRD:

| RAR# | Species             | S F Conc. | J | F | M | A | M | J | J | A | S | O | N | D | Nesting | Migrating | Molting |
|------|---------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|
| 100  | Brown pelican       | C         |   |   |   | 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 |   | -       | -         | -       |
|      | Mergansers          |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Osprey              |           |   | X | X | X | X | X | X | X | X | X | X |   | -       | -         | -       |
|      | Scoters             | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Terns               |           |   | X | X | X | X | X | X | X | X | X | X |   | -       | -         | -       |
| 195  | American black duck | VERY HIGH | X | X | X | X | X | X | X | X | X | X | X | X | MAR-JUL | -         | -       |
|      | American wigeon     | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Brant               |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Canada goose        | HIGH      | X | X | X | X | X | X | X | X | X | X | X | X | APR-JUN | -         | -       |
|      | Gadwall             | LOW       | X | X | X | X | X | X | X | X | X | X | X | X | APR-JUN | -         | -       |
|      | Green-winged teal   |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Mallard             | HIGH      | X | X | X | X | X | X | X | X | X | X | X | X | MAY-JUL | -         | -       |
|      | Northern pintail    |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Snow goose          |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
| 196  | Tundra swan         | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Bufflehead          | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Canvasback          | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Common goldeneye    |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Long-tailed duck    |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Redhead             | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Ring-necked duck    | LOW       | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Ruddy duck          | HIGH      | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Scaup               |           | X | X | X | X |   |   |   |   | X | X | X |   | -       | -         | -       |
|      | Scoters             | MODERATE  | 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  |
|------|---------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|----------|---------|---------|-----------|---------|
| 181  | Alewife             |           |   |   | X | X | X | X | X |   |   |   |   |   | -        | -       | -       | -         | FEB-JUN |
|      | American eel        |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | -       | JAN-DEC   | SEP-DEC |
|      | American shad       |           | X | X | X | X | X |   |   |   |   | X | X |   | -        | -       | -       | NOV-MAR   | JAN-JUN |
|      | Atlantic croaker    |           |   |   |   | X | X | X | X | X | X | X | X | X | -        | -       | -       | AUG-DEC   | MAY-NOV |
|      | Atlantic mackerel   |           |   |   | X | X |   |   |   |   |   |   |   |   | -        | -       | -       | -         | MAR-APR |
|      | Atlantic menhaden   |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | MAY-NOV | JAN-DEC   | MAY-OCT |
|      | Atlantic silverside |           | X | X | X | X | X | X | X | X | X | X | X | X | MAR-JUL  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Atlantic spadefish  |           |   |   |   |   |   |   |   |   | X | X | X |   | -        | -       | -       | AUG-OCT   | AUG-NOV |
|      | Atlantic sturgeon   | C         | X | X | X | X | X | X | X | X | X | X | X |   | -        | -       | -       | -         | JAN-OCT |
|      | Bay anchovy         |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-SEP  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Black drum          |           |   |   | X | X | X | X | X | X | X | X | X | X | APR-JUN  | APR-JUN | APR-JUN | APR-NOV   | APR-NOV |
|      | Black sea bass      |           |   |   | X | X | X | X | X | X | X |   |   |   | JUN-OCT  | -       | -       | APR-OCT   | APR-OCT |
|      | Blueback herring    |           | X | X | X | X | X |   |   |   |   | X | X |   | -        | -       | -       | NOV-MAR   | JAN-JUN |
|      | Bluefish            |           |   |   | X | X | X | X | X | X | X | X | X |   | -        | -       | -       | MAY-NOV   | APR-NOV |
|      | Butterfish          |           |   |   | X | X | X | X | X | X | X | X | X |   | -        | -       | -       | JUL-NOV   | MAR-NOV |
|      | Clearnose skate     |           |   |   |   | X | X | X | X | X | X | X | X |   | -        | -       | -       | -         | MAY-NOV |
|      | Gobies              |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-SEP  | APR-SEP | APR-OCT | JAN-DEC   | JAN-DEC |
|      | Harvestfish         |           |   |   | X | X | X | X | X | X |   |   |   |   | -        | -       | -       | JUL-OCT   | APR-OCT |
|      | Hickory shad        |           | X | X | X | X | X |   |   |   |   | X | X |   | -        | -       | -       | NOV-MAR   | JAN-JUN |
|      | Hogchoker           |           | X | X | X | X | X | X | X | X | X | X | X | X | MAY-SEP  | MAY-SEP | MAY-SEP | JAN-DEC   | JAN-DEC |
|      | Inland silverside   |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-MAY  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Minnows             |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Mummichog           |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-AUG  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Northern kingfish   |           |   |   | X | X | X | X | X | X | X | X |   |   | -        | -       | -       | -         | APR-OCT |
|      | Northern pipefish   |           | X | X | X | X | X | X | X | X | X | X | X | X | MAY-JUN  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Northern puffer     |           |   |   | X | X | X | X | X | X | X |   |   |   | MAY-AUG  | -       | -       | MAR-OCT   | MAR-OCT |
|      | Northern searobin   |           |   |   | X | X | X | X | X | X | X |   |   |   | MAY-JUL  | -       | -       | -         | MAR-OCT |
|      | Red drum            |           |   |   |   | X | X | X | X | X | X | X |   |   | JUL-NOV  | -       | -       | AUG-SEP   | MAY-NOV |
|      | Red hake            |           | X | X | X | X |   |   |   |   | X | X | X |   | -        | -       | -       | FEB-MAY   | FEB-MAY |
|      |                     |           |   |   |   |   |   |   |   |   |   |   |   |   |          |         |         |           | SEP-NOV |
|      | Sandbar shark       |           |   |   |   | X | X | X | X | X | X |   |   |   | -        | -       | -       | MAY-OCT   | MAY-OCT |
|      | Scup (porgy)        |           |   |   | X | X | X | X | X | X | X |   |   |   | -        | -       | -       | JUN-OCT   | MAR-OCT |
|      | Silver hake         |           | X | X | X | X |   |   |   |   |   | X | X | X | -        | -       | -       | -         | OCT-MAY |
|      | Silver perch        |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-MAY  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Spot                |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | DEC-APR | MAR-NOV   | MAR-NOV |
|      | Spotted hake        |           |   |   | X | X | X | X |   |   | X | X | X |   | -        | -       | -       | MAR-JUN   | MAR-JUN |
|      |                     |           |   |   |   |   |   |   |   |   |   |   |   |   |          |         |         |           | SEP-NOV |
|      | Spotted seatrout    |           |   |   | X | X | X | X | X | X | X | X |   |   | MAY-JUL  | -       | -       | APR-NOV   | APR-NOV |
|      | Striped bass        |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | -       | JAN-DEC   | JAN-DEC |
|      | Striped killifish   |           | X | X | X | X | X | X | X | X | X | X | X | X | APR-SEP  | -       | -       | JAN-DEC   | JAN-DEC |
|      | Summer flounder     |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | OCT-MAY | JAN-DEC   | APR-OCT |
|      | Tautog              |           | X | X | X | X |   |   |   |   | X | X | X |   | -        | -       | -       | -         | OCT-APR |
|      | Threadfin shad      |           | X | X | X | X |   |   |   |   | X | X | X |   | -        | -       | -       | -         | FEB-MAY |
|      |                     |           |   |   |   |   |   |   |   |   |   |   |   |   |          |         |         |           | SEP-NOV |
|      | Weakfish            |           |   |   | X | X | X | X | X | X | X | X |   |   | APR-AUG  | -       | MAY-AUG | APR-NOV   | APR-NOV |

INVERTEBRATE:

| RAR# | Species   | S F Conc. | J | F | M | A | M | J | J | A | S | O | N | D | Spawning | Eggs | Larvae  | Juveniles | Adults  |
|------|-----------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|----------|------|---------|-----------|---------|
| 181  | Blue crab |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -    | MAY-NOV | 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 |
|------|--------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|--------|---------|---------|---------|
| 181  | Bottlenose dolphin |           |   |   |   | X | X | X | X | X | X | X |   |   | -      | -       | -       | -       |
|      | Harbor porpoise    |           | 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  |
|------|--------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---------|----------|--------------|-----------|---------|
| 39   | Green sea turtle         | T T       |   |   |   | X | X | X | X | X | X | X |   |   | -       | -        | -            | MAY-NOV   | -       |
|      | Kemp's ridley sea turtle | E E       |   |   |   | X | X | X | X | X | X |   |   |   | -       | -        | -            | MAY-NOV   | -       |
|      | Leatherback sea turtle   | E E       |   |   |   | X | X | X | X | X | X |   |   |   | -       | -        | -            | -         | MAY-NOV |
|      | Loggerhead sea turtle    | T T       |   |   |   | X | X | X | X | X | X |   |   |   | -       | -        | -            | MAY-NOV   | -       |
| 227  | Diamondback terrapin     | VERY HIGH | X | X | X | X | X | X | X | X | X |   |   |   | MAY-JUL | -        | -            | MAR-NOV   | MAR-NOV |