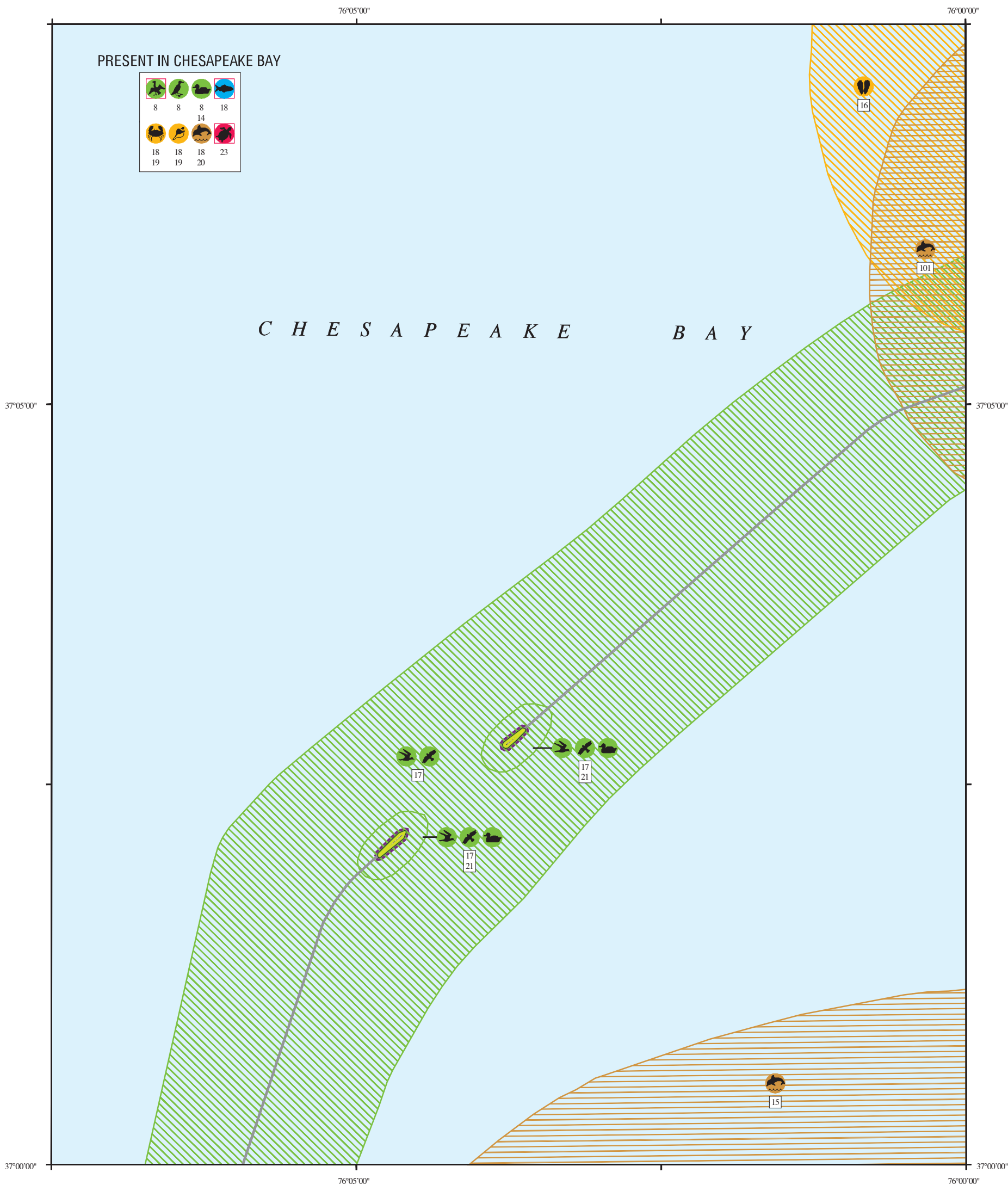
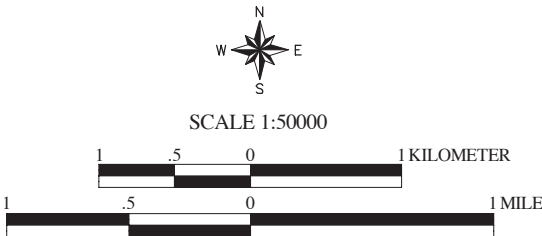


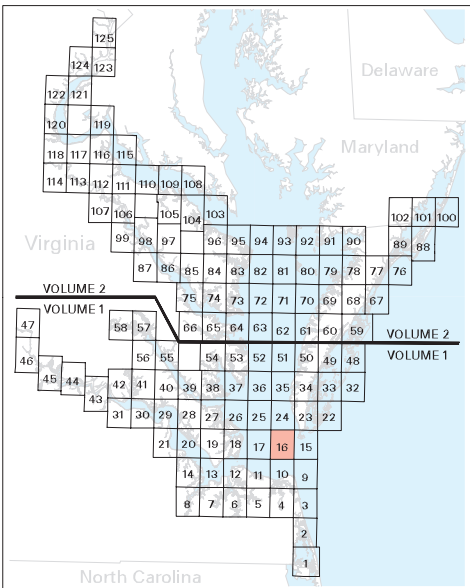
ENVIRONMENTAL SENSITIVITY INDEX MAP



- 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



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Hazardous Materials Response Division



Virginia: ESIMAP 16

BIOLOGICAL RESOURCES:

BIRD:

| RAR# | Species                | S F Conc. | J | F | M | A | M | J | J | A | S | O | N | D | Nesting | Migrating | Molting |
|------|------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|
| 8    | Brown pelican          | C         |   |   | X | X | X | X | X | X | X | X | X | X | -       | -         | -       |
|      | Common loon            |           | X | X | X |   |   |   |   |   |   |   | X | X | -       | -         | -       |
|      | Northern gannet        | HIGH      | X | X | X |   |   |   |   |   |   | X | X |   | -       | -         | -       |
|      | Red-breasted merganser | VERY HIGH | X | X | X |   |   |   |   |   |   | X | X |   | -       | -         | -       |
|      | Red-necked grebe       |           |   | X | X |   |   |   |   |   |   |   |   |   | -       | -         | -       |
|      | Red-throated loon      |           | X | X | X |   |   |   |   |   |   | X | X |   | -       | -         | -       |
| 14   | Black scoter           | HIGH      | X | X | X | X |   |   |   |   |   | X | X |   | -       | -         | -       |
|      | Surf scoter            |           | X | X | X | X |   |   |   |   |   | X | X |   | -       | -         | -       |
|      | White-winged scoter    |           | X | X | X | X |   |   |   |   |   | X | X |   | -       | -         | -       |
| 17   | Gulls                  |           | X | X | X | X |   |   |   |   |   | X | X |   | -       | -         | -       |
|      | Raptors                |           | X | X | X | X |   |   |   |   |   | X | X |   | -       | -         | -       |
| 21   | Scaup                  | VERY HIGH | 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  |
|------|---------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|----------|---------|---------|-----------|---------|
| 18   | 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 | 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 | 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 |   | 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 | 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 | 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 |   |   |   | -        | -       | -       | -         | 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 | 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  |
|------|-----------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|----------|---------|---------|-----------|---------|
| 16   | Northern quahog (hard clam) |           | X | X | X | X | X | X | X | X | X | X | X | X | MAY-OCT  | MAY-OCT | MAY-OCT | JAN-DEC   | JAN-DEC |
| 18   | Horseshoe crab              |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | -       | JAN-DEC   | JAN-DEC |
|      | Knobbed whelk               |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | -       | JAN-DEC   | JAN-DEC |
| 19   | Blue crab                   |           | X | X | X | X | X | X | X | X | X | X | X | X | MAY-OCT  | MAY-SEP | MAY-NOV | JAN-DEC   | JAN-DEC |
|      | Channeled whelk             |           | X | X | X | X | X | X | X | X | X | X | X | X | -        | -       | -       | 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 |
|------|--------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|--------|---------|---------|---------|
| 15   | Bottlenose dolphin | HIGH      |   |   |   | X | X | X | X | X | X | X |   |   | -      | APR-OCT | -       | -       |
| 18   | Harbor porpoise    |           | X | X | X | X | X |   |   |   |   |   | X |   | -      | -       | -       | -       |
| 20   | Bottlenose dolphin |           |   |   | X | X | X | X | X | X | X | X |   |   | -      | -       | -       | -       |
| 101  | Bottlenose dolphin | HIGH      |   |   | X | 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  |
|------|--------------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---------|----------|--------------|-----------|---------|
| 23   | 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   | 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   | MAY-NOV |