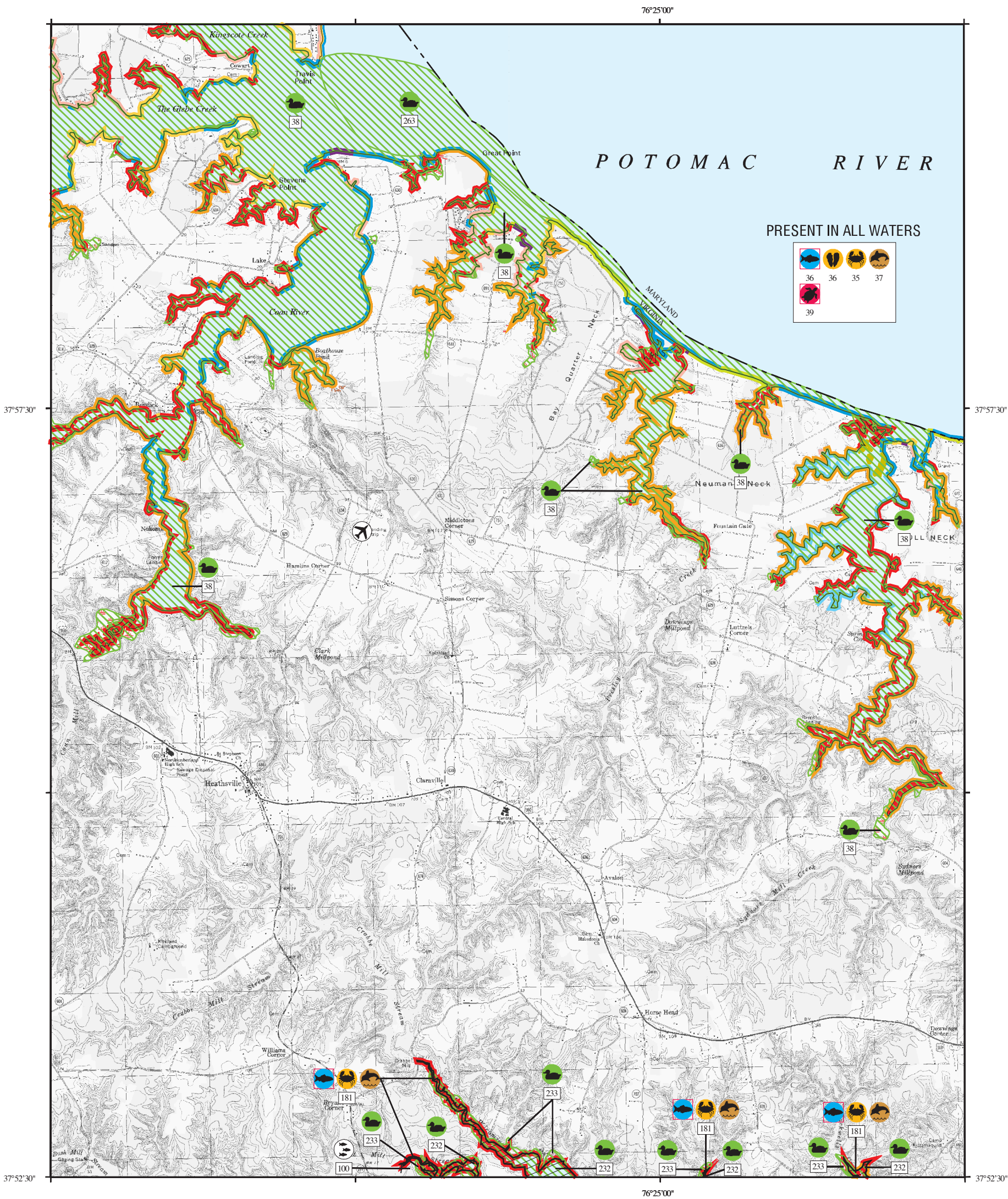


ENVIRONMENTAL SENSITIVITY INDEX MAP



**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

N

W E S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

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Delaware

Maryland

Virginia

North Carolina

VOLUME 1

VOLUME 2

VOLUME 1

VOLUME 2



Virginia: ESIMAP 96

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
38	Canada goose	HIGH	X	X	X	X						X	X	X	-	-	-
	Gadwall		X	X	X	X						X	X	X	-	-	-
	Mallard	MODERATE	X	X	X	X						X	X	X	-	-	-
	Mergansers	MODERATE	X	X	X	X						X	X	X	-	-	-
	American black duck		X	X	X	X						X	X	X	-	-	-
	American coot		X	X	X	X						X	X	X	-	-	-
	American wigeon		X	X	X	X						X	X	X	-	-	-
	Bufflehead	MODERATE	X	X	X	X						X	X	X	-	-	-
232	American black duck		X	X	X	X						X	X	X	-	-	-
	American wigeon		X	X	X	X						X	X	X	-	-	-
	Canada goose	HIGH	X	X	X	X						X	X	X	-	-	-
	Mallard		X	X	X	X						X	X	X	-	-	-
	Tundra swan	HIGH	X	X	X	X						X	X	X	-	-	-
233	American black duck		X	X	X	X						X	X	X	-	-	-
263	Bufflehead	MODERATE	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	-	-	-
	Mergansers	MODERATE	X	X	X	X						X	X	X	-	-	-
	Mute swan		X	X	X	X						X	X	X	-	-	-
	Ruddy duck	MODERATE	X	X	X	X						X	X	X	-	-	-
	Scaup	HIGH	X	X	X	X						X	X	X	-	-	-
	Scoters	MODERATE	X	X	X	X						X	X	X	-	-	-
	Tundra swan	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
36	Alewife		X	X	X	X	X								-	-	-	-	FEB-JUN
	American eel		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	American shad		X	X	X	X									-	-	-	-	FEB-JUN
	Atlantic croaker		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	MAY-NOV
	Atlantic menhaden					X	X	X	X	X	X	X			-	-	-	MAY-NOV	MAY-OCT
	Atlantic sturgeon	C	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	APR-NOV
	Banded killifish		X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	JAN-DEC	JAN-DEC
	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			-	-	-	APR-NOV	APR-NOV
	Black sea bass				X	X	X	X	X						-	-	-	APR-SEP	APR-SEP
	Blueback herring		X	X	X	X	X								-	-	-	-	FEB-JUN
	Bluefish				X	X	X	X	X	X	X	X			-	-	-	JUL-NOV	APR-NOV
	Gizzard shad		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	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						-	-	-	-	FEB-JUN
	Hogchoker		X	X	X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-SEP	MAY-SEP	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 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				-	-	-	-	MAR-OCT
	Red drum					X	X	X	X	X	X				-	-	-	AUG-SEP	MAY-NOV
	Shortnose sturgeon		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Silver perch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Silversides		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	MAR-JUL	APR-SEP	JAN-DEC	JAN-DEC
	Spot		X	X	X	X	X	X	X	X	X	X	X	X	-	-	DEC-APR	MAR-NOV	JAN-DEC
	Spotted seatrout				X	X	X	X	X	X	X				-	-	-	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				-	-	-	APR-NOV	APR-NOV
	Weakfish		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	AUG-NOV	JAN-DEC
	White perch		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	JAN-DEC
	Winter flounder		X	X	X	X	X	X	X	X	X	X	X	X	FEB-MAY	FEB-MAY	MAR-MAY	MAR-NOV	NOV-MAY
181	Alewife		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		-	-	-	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				-	-	-	-	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			APR-JUN	APR-JUN	APR-JUN	APR-NOV	APR-NOV
	Black sea bass				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				-	-	-	MAY-NOV	APR-NOV
	Butterfish				X	X	X	X	X	X	X				-	-	-	JUL-NOV	MAR-NOV
	Clearnose skate					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					-	-	-	-	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					MAY-AUG	-	-	MAR-OCT	MAR-OCT
	Northern searobin				X	X	X	X	X	X					MAY-JUL	-	-	-	MAR-OCT
	Red drum					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					-	-	-	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				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				APR-AUG	-	MAY-AUG	APR-NOV	APR-NOV

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.

Virginia: ESIMAP 96 (cont.)

BIOLOGICAL RESOURCES: (cont.)

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
35	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-NOV	JAN-DEC	JAN-DEC
36	Eastern oyster		X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-SEP	JUN-SEP	JAN-DEC	JAN-DEC
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
37	Bottlenose dolphin							X	X	X	X	X	X	X	-	-	-	-
	Harbor porpoise		X	X	X	X	X							X	-	-	-	-
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	Interesting	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	X	-	-	-	MAY-NOV	-
	Leatherback sea turtle	E E						X	X	X	X	X	X	X	-	-	-	-	MAY-NOV
	Loggerhead sea turtle	T T						X	X	X	X	X	X	X	-	-	-	MAY-NOV	-

HUMAN USE RESOURCES:

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
100	BUSH MILL STREAM NATURAL AREA PRESERVE	VA DCR DNH	804/445-9117