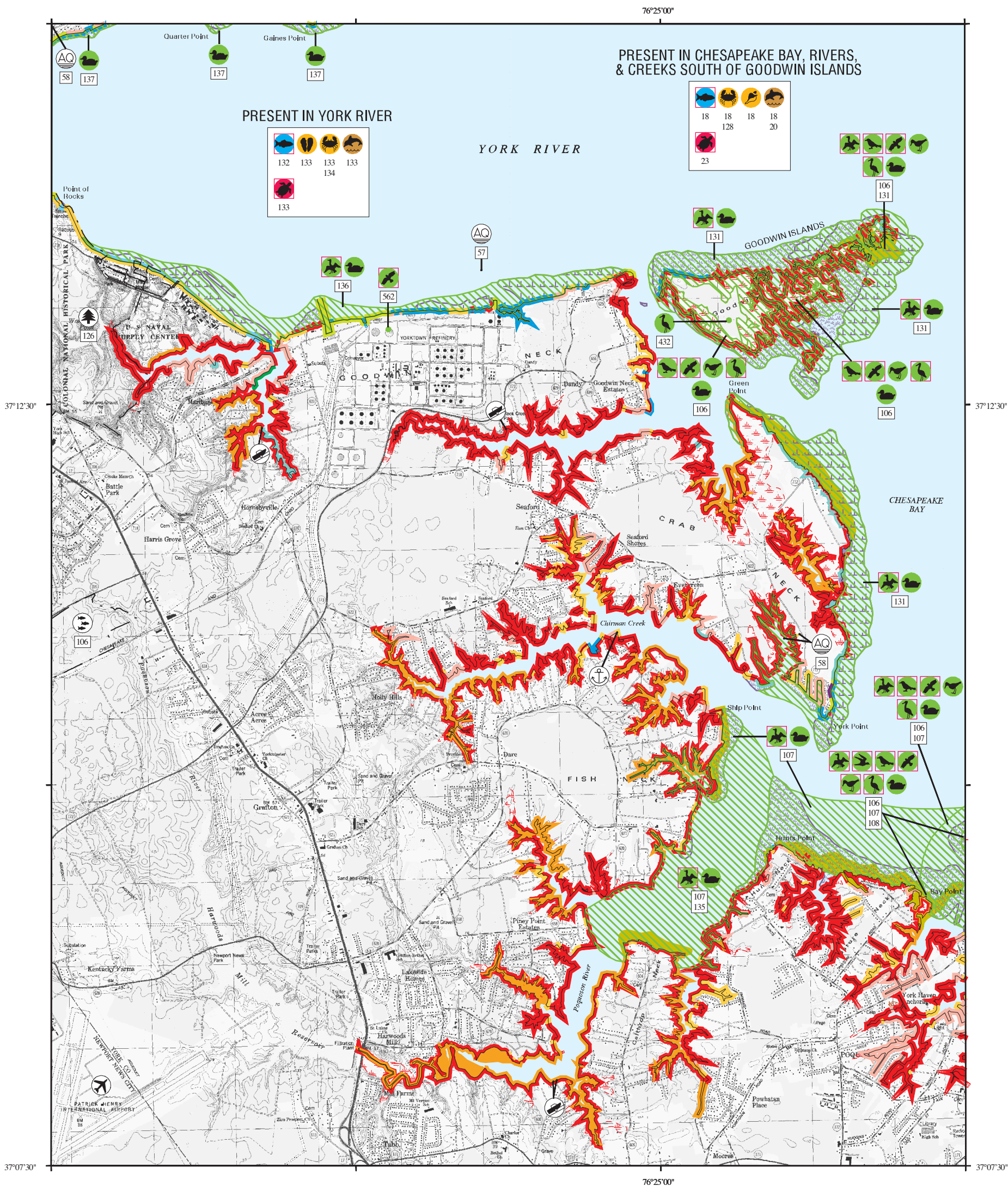


ENVIRONMENTAL SENSITIVITY INDEX MAP



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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Delaware

Maryland

Virginia

North Carolina

VOLUME 1

VOLUME 2

VOLUME 1

VOLUME 2

Virginia: ESIMAP 27

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
106	American black duck		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	American wigeon		X	X	X	X						X	X	X	-	-	-
	Black-necked stilt				X	X	X	X	X	X					-	-	-
	Blue-winged teal												X	X	-	-	-
	Brant		X	X	X	X						X	X	X	-	-	-
	Canada goose		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	Glossy ibis	C								X	X				-	-	-
	Great blue heron							X	X	X	X	X	X		-	-	-
	Great egret	C					X	X	X	X	X				-	-	-
	Green-winged teal		X	X	X	X						X	X	X	-	-	-
	Mallard		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Northern harrier	C			X	X	X	X	X	X	X	X	X		MAR-MAY	-	-
	Osprey						X	X	X	X					-	-	-
	Red-shouldered hawk										X	X			-	-	-
	Saltmarsh sharp-tailed sparrow	C	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Sedge wren	C			X	X	X	X	X	X					MAY-JUL	-	-
	Snow goose		X	X	X	X						X	X	X	-	-	-
	Snowy egret			X	X	X	X	X	X	X	X				-	-	-
	Striated heron								X	X					-	-	-
	Tricolored heron	C							X	X	X				-	-	-
	Yellow-crowned night-heron	C							X	X	X				-	-	-
107	Brant	VERY HIGH	X	X	X	X						X	X	X	-	-	-
	Brown pelican	C					X	X	X	X	X	X	X		-	-	-
	Bufflehead	HIGH	X	X	X	X						X	X	X	-	-	-
	Canvasback		X	X	X	X						X	X	X	-	-	-
	Common goldeneye		X	X	X	X						X	X	X	-	-	-
	Common loon											X	X		-	-	-
	Double-crested cormorant									X	X	X	X		-	-	-
	Long-tailed duck		X	X	X	X						X	X	X	-	-	-
	Mergansers		X	X	X	X						X	X	X	-	-	-
	Ruddy duck		X	X	X	X						X	X	X	-	-	-
	Scaup	HIGH	X	X	X	X						X	X	X	-	-	-
	Scoters	HIGH	X	X	X	X						X	X	X	-	-	-
	Tundra swan		X	X	X	X						X	X	X	-	-	-
108	American oystercatcher								X	X	X	X	X		-	-	-
	Black skimmer								X	X					-	-	-
	Common tern								X	X	X	X			-	-	-
	Great black-backed gull								X	X	X	X	X		-	-	-
	Laughing gull								X	X	X	X			-	-	-
	Least tern	C							X	X					-	-	-
	Lesser yellowlegs				X	X	X			X	X	X			-	-	-
	Piping plover	T T			X	X				X	X				-	-	-
	Royal tern									X	X				-	-	-
	Sandwich tern	C						X	X						-	-	-
	Short-billed dowitcher							X	X			X	X		-	-	-
	Willet							X	X	X	X				-	-	-
131	Brown pelican	C					X	X	X	X	X	X	X		-	-	-
	Bufflehead	VERY HIGH	X	X	X	X						X	X	X	-	-	-
	Canvasback		X	X	X	X						X	X	X	-	-	-
	Common goldeneye		X	X	X	X						X	X	X	-	-	-
	Common loon											X	X		-	-	-
	Double-crested cormorant								X	X	X	X			-	-	-
	Long-tailed duck		X	X	X	X						X	X	X	-	-	-
	Mergansers		X	X	X	X						X	X	X	-	-	-
	Scaup		X	X	X	X						X	X	X	-	-	-
	Scoters	VERY HIGH	X	X	X	X						X	X	X	-	-	-
135	Mallard		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
136	Bufflehead	HIGH	X	X	X	X						X	X	X	-	-	-
	Long-tailed duck		X	X	X	X						X	X	X	-	-	-
	Mergansers		X	X	X	X						X	X	X	-	-	-
	Scaup		X	X	X	X						X	X	X	-	-	-
	Scoters	MODERATE	X	X	X	X						X	X	X	-	-	-
137	American black duck		X	X	X	X						X	X	X	-	-	-
	American wigeon		X	X	X	X						X	X	X	-	-	-
	Brant		X	X	X	X						X	X	X	-	-	-
	Bufflehead	MODERATE	X	X	X	X						X	X	X	-	-	-
	Canada goose		X	X	X	X						X	X	X	-	-	-
	Long-tailed duck		X	X	X	X						X	X	X	-	-	-
	Mallard		X	X	X	X						X	X	X	-	-	-
	Mergansers		X	X	X	X						X	X	X	-	-	-
	Scaup		X	X	X	X						X	X	X	-	-	-
	Scoters		X	X	X	X						X	X	X	-	-	-
432	Great blue heron	10 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
562	Peregrine falcon	T			X	X	X	X	X	X					MAR-AUG	-	-

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	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				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	X				-	-	-	MAY-NOV	APR-NOV
	Butterfish			X	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	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				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

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 27 (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
18	Scup (porgy)				X	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		-	-	-	-	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
	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	X							-	-	-	-	FEB-JUN
	Atlantic croaker		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
132	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				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									-	-	-	-	FEB-JUN
	Bluefish				X	X	X	X	X	X	X				-	-	-	MAY-NOV	APR-NOV
	Butterfish			X	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								-	-	-	-	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
	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	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					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	-	-	-	JAN-DEC	JAN-DEC
	Spot		X	X	X	X	X	X	X	X	X	X	X	X	-	-	DEC-APR	MAR-NOV	JAN-DEC
	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		-	-	-	-	OCT-JUN
	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	-	-	-	JAN-DEC	-
	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	X	X	X	X	-	-	-	AUG-NOV	JAN-DEC

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
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
128	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	MAY-SEP	MAY-NOV	JAN-DEC	JAN-DEC
133	Horseshoe crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
134	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
	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	MAY-SEP	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
18	Harbor porpoise		X	X	X	X								X	-	-	-	-
20	Bottlenose dolphin				X	X	X	X	X	X					-	-	-	-
133	Bottlenose dolphin				X	X	X	X	X	X					-	-	-	-
	Harbor porpoise		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
23	Green sea turtle	T T				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
133	Green sea turtle	T T				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	-

HUMAN USE RESOURCES:

AQUACULTURE:

HUN#	Name	Contact	Phone
57	AQUACULTURE: HARD CLAMS		
58	AQUACULTURE: OYSTERS		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
106	GRAFTON PONDS NATURAL AREA PRESERVE	VA DCR DNH	804/445-9117

NATIONAL PARK:

HUN#	Name	Contact	Phone
126	COLONIAL NATIONAL HISTORICAL PARK	NATIONAL PARK SERVICE	757/898-3400

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