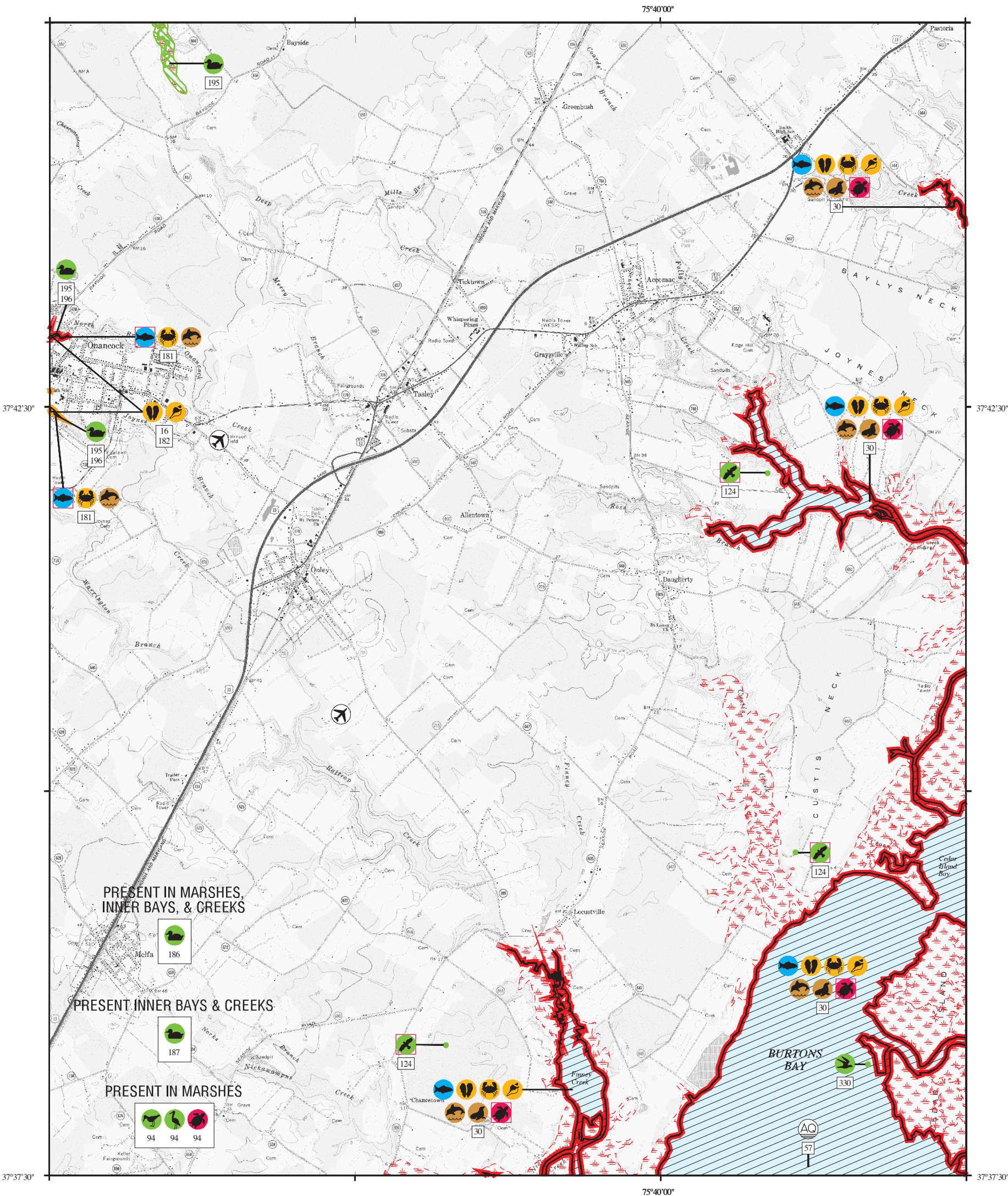


ENVIRONMENTAL SENSITIVITY INDEX MAP



**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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Hazardous Materials Response Division

Delaware

Maryland

Virginia

North Carolina

VOLUME 1

VOLUME 2

VOLUME 1

VOLUME 2

Virginia: ESIMAP 68

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
			-	-	-	-	-	-	-	-	-	-	-	-			
94	Clapper rail	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-
	King rail		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Sora			X	X	X				X	X	X			-	-	-
	Virginia rail	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	Whimbrel			X	X	X			X	X	X				-	-	-
124	Willet	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
	Bald eagle	T T	X	X	X	X				X	X	X	X		FEB-MAY	-	-
186	American black duck	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	American wigeon		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		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	Green-winged teal	MODERATE	X	X	X	X				X	X	X			-	-	-
	Mallard		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	HIGH	X	X	X	X				X	X	X			-	-	-
	Bufflehead		X	X	X	X				X	X	X			-	-	-
	Ring-necked duck		X	X	X	X				X	X	X			-	-	-
	Scaup	MODERATE	X	X	X	X				X	X	X			-	-	-
	Scoters		X	X	X	X				X	X	X			-	-	-
	American black duck	VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	American wigeon		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		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	Green-winged teal	HIGH	X	X	X	X				X	X	X			-	-	-
	Mallard		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	HIGH	X	X	X	X				X	X	X			-	-	-
	Bufflehead		X	X	X	X				X	X	X			-	-	-
	Canvasback		X	X	X	X				X	X	X			-	-	-
	Common goldeneye	HIGH	X	X	X	X				X	X	X			-	-	-
	Long-tailed duck		X	X	X	X				X	X	X			-	-	-
	Redhead		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		X	X	X	X				X	X	X			-	-	-
	Tundra swan	MODERATE	X	X	X	X				X	X	X			-	-	-
	Forster's tern	HIGH	X	X	X	X				X	X	X			-	-	-
330	Forster's tern	15 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-

FISH:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
			-	-	-	-	-	-	-	-	-	-	-	-					
30	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	-	-	-	MAY-DEC	-
	Atlantic herring		X	X	X	X	X								-	-	-	-	FEB-JUN
	Atlantic mackerel			X	X										-	-	-	-	MAR-APR
	Atlantic menhaden					X	X	X	X	X	X	X	X	X	-	-	-	MAY-NOV	MAY-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-OCT
	Black sea bass				X	X	X	X	X	X					-	-	-	APR-SEP	APR-SEP
	Blueback herring		X	X	X	X	X	X	X	X	X				-	-	FEB-JUN	FEB-OCT	FEB-JUN
	Bluefish				X	X	X	X	X	X					-	-	-	MAY-OCT	MAY-OCT
	Crevalle jack		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	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
	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
	Killifish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-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	-	-	-	JAN-DEC	JAN-DEC
	Northern searobin					X	X	X							-	-	-	JUN-AUG	JUN-AUG
	Pollock		X	X	X	X							X		-	-	-	-	DEC-APR
	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	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	APR-MAY	APR-JUN	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
	Spanish mackerel			X	X										-	-	-	-	APR-MAY
	Spot			X	X	X	X	X	X	X					-	-	-	APR-OCT	JUL-SEP
	Spotted hake		X	X	X	X				X	X	X			-	-	-	OCT-APR	-
	Spotted seatrout			X	X	X	X	X	X	X	X				MAY-JUL	-	-	APR-NOV	APR-NOV
	Striped anchovy			X	X	X	X	X	X	X					APR-SEP	-	-	APR-NOV	APR-NOV
	Summer flounder			X	X	X	X	X	X	X					-	-	-	APR-NOV	APR-NOV
	Tautog		X	X	X	X				X	X	X			-	-	-	-	OCT-APR
	Weakfish			X	X	X	X	X	X	X	X				APR-AUG	-	-	MAR-OCT	APR-OCT
	White hake			X	X	X				X	X	X			-	-	-	-	MAR-MAY
181																			SEP-NOV
	White perch		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	APR-JUN	APR-JUN	JAN-DEC	JAN-DEC
	Winter flounder		X	X	X	X	X	X				X			-	-	-	DEC-JUL	DEC-MAY
	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				-	-	-	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					-	-	-	-	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					-	-	-	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

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 68 (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
181	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	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	X			-	-	-	JUN-OCT	MAR-OCT
	Silver hake		X	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
30	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	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
	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
181	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-NOV	JAN-DEC	JAN-DEC
182	Knobbed 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
30	Bottlenose dolphin					X	X	X	X	X	X	X			-	-	-	-
	Harbor porpoise		X	X	X	X	X							X	-	-	-	-
	Harbor seal		X	X							X	X	X		-	-	-	-
181	Bottlenose dolphin					X	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	Internesting	Juveniles	Adults
30	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	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	MAY-NOV
94	Diamondback terrapin		X	X	X	X	X	X	X	X	X	X	X		-	-	-	MAR-NOV	MAR-NOV

HUMAN USE RESOURCES:

AQUACULTURE:

HUN#	Name	Contact	Phone
57	AQUACULTURE: HARD CLAMS		