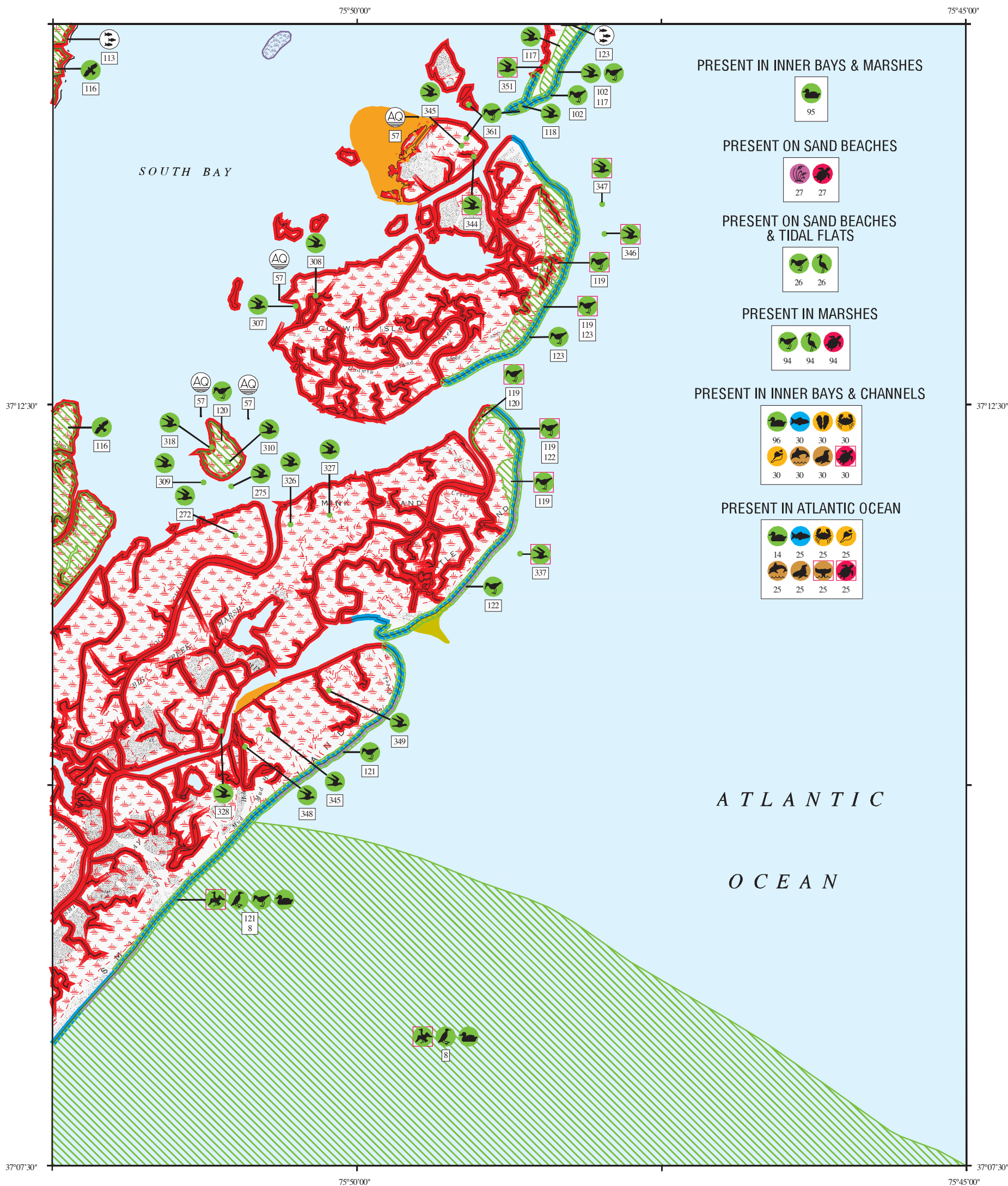


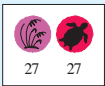
ENVIRONMENTAL SENSITIVITY INDEX MAP



PRESENT IN INNER BAYS & MARSHES



PRESENT ON SAND BEACHES



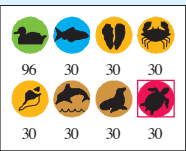
PRESENT ON SAND BEACHES & TIDAL FLATS



PRESENT IN MARSHES



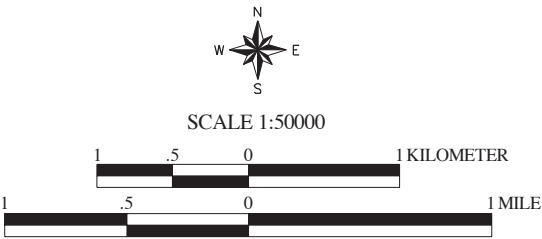
PRESENT IN INNER BAYS & CHANNELS



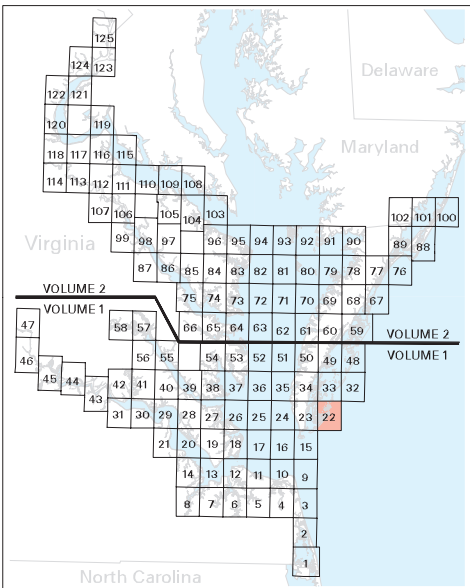
PRESENT IN ATLANTIC OCEAN



- 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
Published: April 2005
Published at Seattle, Washington
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Response and Restoration
Hazardous Materials Response Division



Virginia: ESIMAP 22

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	-	-	-
	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	-	-
26	American woodcock		X	X										X	X	X	X
	Black-bellied plover				X	X	X	X	X	X	X	X	X		-	-	-
	Dunlin		X	X	X	X								X	X	X	X
	Greater yellowlegs				X	X	X	X	X	X	X	X	X		-	-	-
	Killdeer							X	X	X					-	-	-
	Least sandpiper				X	X	X	X	X	X	X	X	X		-	-	-
	Lesser yellowlegs				X	X	X	X	X	X	X	X	X		-	-	-
	Pectoral sandpiper							X	X	X	X	X	X		-	-	-
	Red knot				X	X	X	X	X	X					-	-	-
	Ruddy turnstone				X	X	X	X	X						-	-	-
	Sanderling		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Semipalmated plover				X	X	X	X	X	X	X	X	X		-	-	-
	Semipalmated sandpiper				X	X	X	X	X	X	X	X	X		-	-	-
	Short-billed dowitcher		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Stilt sandpiper							X	X	X	X	X	X		-	-	-
	Western sandpiper								X	X	X	X	X		-	-	-
	Whimbrel				X	X	X	X	X						-	-	-
	White-rumped sandpiper				X	X	X								-	-	-
	Willet		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
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		-	-	-
	Sora				X	X	X				X	X	X		-	-	-
	Virginia rail		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-
	Whimbrel	HIGH			X	X	X				X	X	X		-	-	-
	Willet	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-
95	American black duck	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUL	-	-
	American wigeon	MODERATE	X	X	X	X						X	X	X	-	-	-
	Brant	HIGH	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	MODERATE	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	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Northern pintail	MODERATE	X	X	X	X						X	X	X	-	-	-
	Northern shoveler	LOW	X	X	X	X						X	X	X	-	-	-
	Snow goose	HIGH	X	X	X	X						X	X	X	-	-	-
96	Bufflehead	HIGH	X	X	X	X						X	X	X	-	-	-
	Long-tailed duck	MODERATE	X	X	X	X						X	X	X	-	-	-
	Mergansers	HIGH	X	X	X	X						X	X	X	-	-	-
	Scoters	HIGH	X	X	X	X						X	X	X	-	-	-
	Tundra swan	MODERATE	X	X	X	X						X	X	X	-	-	-
102	American oystercatcher	15 ADULTS			X	X	X	X	X	X	X				MAR-JUL	-	-
116	American kestrel	ABUNDANT										X	X	X	-	-	-
	Broad-winged hawk	COMMON										X	X	X	-	-	-
	Merlin	COMMON										X	X	X	-	-	-
	Red-tailed hawk	ABUNDANT	X	X								X	X	X	X	-	-
	Sharp-shinned hawk	ABUNDANT										X	X	X	-	-	-
117	Gulls					X	X	X	X	X	X				MAY-JUL	-	-
118	Black skimmer				X	X	X	X	X	X	X	X			MAY-JUL	-	-
	Common tern				X	X	X	X	X	X	X				MAY-JUL	-	-
119	Piping plover	T T			X	X	X	X	X	X					APR-SEP	-	-
120	American oystercatcher				X	X	X	X	X	X					MAR-JUL	-	-
121	American oystercatcher	38 ADULTS			X	X	X	X	X	X					MAR-JUL	-	-
122	American oystercatcher	25 ADULTS			X	X	X	X	X	X					MAR-JUL	-	-
123	American oystercatcher	29 ADULTS			X	X	X	X	X	X					MAR-JUL	-	-
272	Herring gull	7 ADULTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Laughing gull	15 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
275	Laughing gull	15 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
307	Laughing gull	235 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
308	Forster's tern	25 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
309	Laughing gull	27 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
310	Laughing gull	450 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
318	Laughing gull	70 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
326	Laughing gull	8 ADULTS			X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
327	Forster's tern	6 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
328	Forster's tern	8 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
337	Black skimmer	2 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
	Common tern	26 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
	Least tern	C 80 ADULTS			X	X	X	X	X	X					MAY-JUL	-	-
344	Common tern	66 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
	Gull-billed tern	T 86 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
345	Forster's tern	45 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
346	Least tern	C 32 ADULTS			X	X	X	X	X	X					MAY-JUL	-	-
347	Least tern	C 3 ADULTS			X	X	X	X	X	X					MAY-JUL	-	-
348	Forster's tern	62 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
349	Forster's tern	9 ADULTS			X	X	X	X	X	X					MAY-JUL	-	-
351	Gull-billed tern	T 10 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
361	American oystercatcher	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
25	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	-	-	-	JAN-DEC	MAY-OCT
	Black drum				X	X	X	X	X	X					-	-	-	-	APR-OCT
	Black sea bass				X	X	X	X	X	X					JUN-OCT	-	-	APR-OCT	APR-OCT
	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
	Crevalle jack		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Northern kingfish				X	X	X	X	X	X					MAY-AUG	-	-	-	APR-OCT
	Northern searobin				X	X	X	X	X	X					-	-	-	-	MAR-OCT
	Pollock		X	X	X	X								X	-	-	-	-	DEC-APR
	Red drum					X	X	X	X	X	X				JUL-NOV	-	-	-	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	X	-	-	-	-	OCT-MAY
	Southern kingfish (whiting)					X	X	X	X	X	X				-	-	-	-	APR-OCT
	Spanish mackerel					X	X								-	-	-	-	APR-MAY

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 22 (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
			-	-	-	-	-	-	-	-	-	-	-	-					
25	Spiny dogfish		X	X	X	X							X	X	-	-	-	-	NOV-APR
	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
	Summer flounder		X	X	X	X	X	X	X	X	X	X	X	X	-	-	OCT-MAY	-	APR-OCT
	Tautog		X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	-	JAN-DEC
	Weakfish				X	X	X	X	X	X	X	X	X		APR-AUG	-	MAY-AUG	APR-NOV	APR-NOV
30	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				-	-	-	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	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	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				APR-AUG	-	-	MAR-OCT	APR-OCT
	White hake				X	X	X			X	X	X			-	-	-	-	MAR-MAY 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	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	-	-	-	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			-	-	-	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

HABITAT:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D
			-	-	-	-	-	-	-	-	-	-	-	-
27	Maritime dune scrub		X	X	X	X	X	X	X	X	X	X	X	X
	Native coastal strand vegetation		X	X	X	X	X	X	X	X	X	X	X	X
	Sea-beach knotweed		X	X	X	X	X	X	X	X	X	X	X	X
	Southern beach spurge		X	X	X	X	X	X	X	X	X	X	X	X

INVERTEBRATE:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Eggs	Larvae	Juveniles	Adults
			-	-	-	-	-	-	-	-	-	-	-	-					
25	Blue crab		X	X	X	X	X	X	X	X	X	X	X	X	-	-	MAY-NOV	JAN-DEC	JAN-DEC
	Channeled whelk		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	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

MARINE MAMMAL:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
			-	-	-	-	-	-	-	-	-	-	-	-				
25	Bottlenose dolphin					X	X	X	X	X	X	X			-	-	-	-
	Common dolphin					X	X	X	X	X	X				-	-	-	-
	Harbor porpoise		X	X	X	X	X						X		-	-	-	-
	Harbor seal		X	X						X	X	X			-	-	-	-
	Humpback whale	E E	X	X	X	X	X	X	X	X	X	X	X	X	-	JAN-DEC	-	-
30	Bottlenose dolphin					X	X	X	X	X	X	X			-	-	-	-
	Harbor porpoise		X	X	X	X							X		-	-	-	-
	Harbor seal		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
			-	-	-	-	-	-	-	-	-	-	-	-					
25	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
27	Diamondback terrapin		X	X	X	X	X	X	X	X	X				MAY-JUL	-	-	MAR-NOV	MAR-NOV
30	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	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
94	Diamondback terrapin		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		

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
113	MOCKHORN WILDLIFE MANAGEMENT AREA	VDGIF	804/367-1000
123	WRECK ISLAND NATURAL AREA PRESERVE	VA DCR DNH	757/787-5576

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.