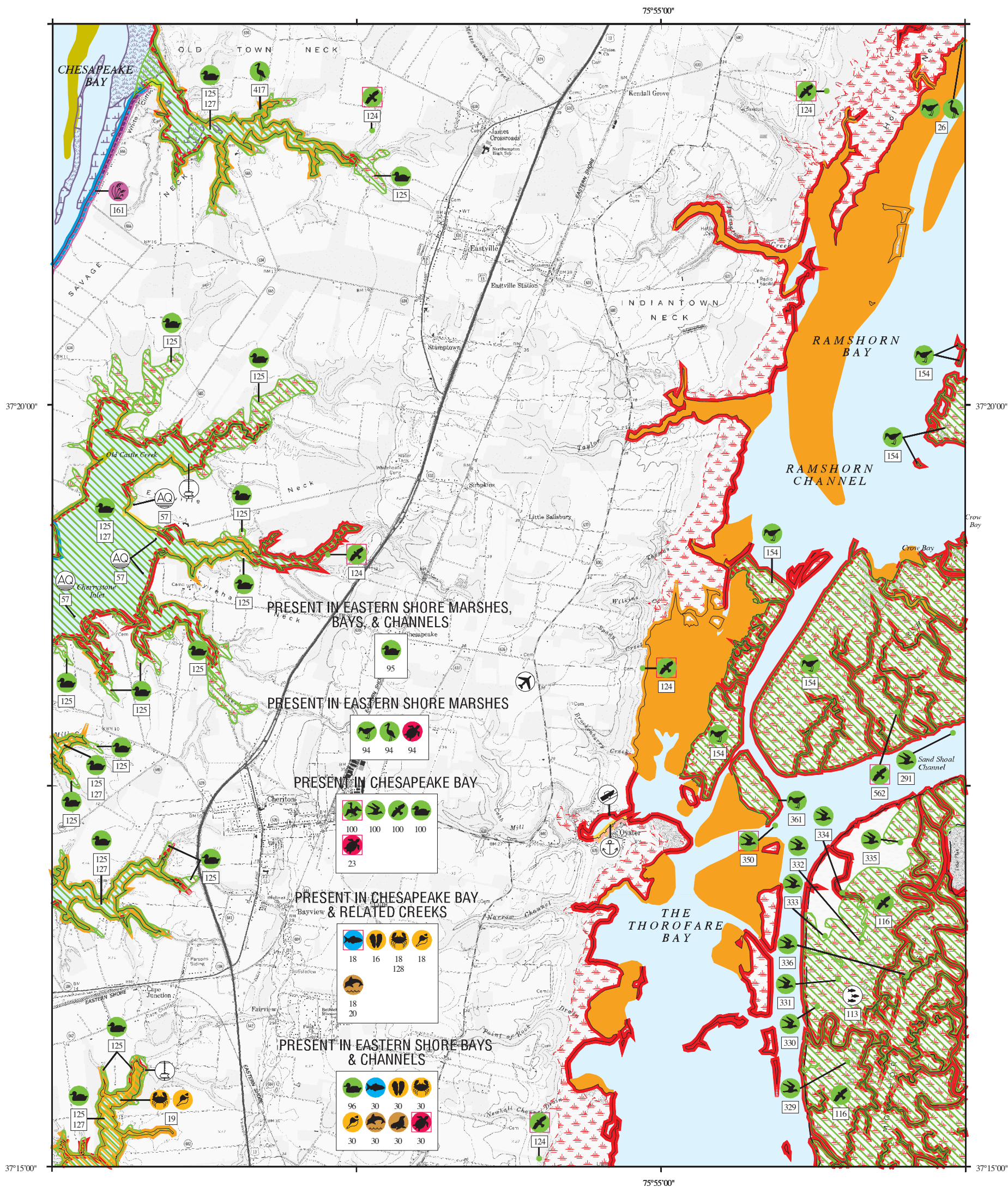
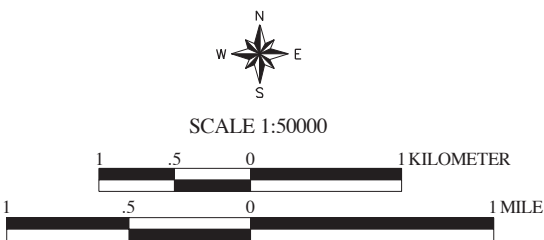


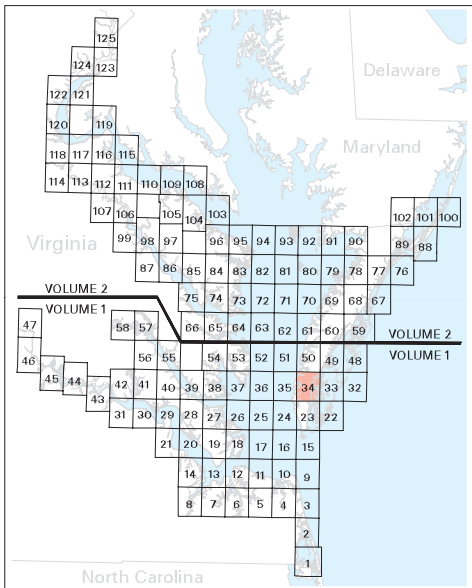
ENVIRONMENTAL SENSITIVITY INDEX MAP



- 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 34

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
26	American woodcock		X	X							X	X	X	X	-	-	-
	Black-bellied plover				X	X	X	X	X	X	X	X	X	X	-	-	-
	Dunlin		X	X	X	X	X			X	X	X	X		-	-	-
	Greater yellowlegs			X	X	X	X	X	X	X	X	X	X		-	-	-
	Killdeer						X	X	X						-	-	-
	Least sandpiper			X	X	X	X	X	X	X	X	X	X		-	-	-
	Lesser yellowlegs			X	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	X						-	-	-
	Sanderling		X	X	X	X	X	X	X	X	X	X	X		-	-	-
	Semipalmated plover			X	X	X	X	X	X	X	X	X	X		-	-	-
	Semipalmated sandpiper			X	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	X			-	-	-
	Whimbrel			X	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	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			-	-	-
100	Brown pelican	C		X	X	X	X	X	X	X	X				-	-	-
	Gulls		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Loons		X	X	X	X				X	X	X			-	-	-
	Mergansers		X	X	X	X				X	X	X			-	-	-
	Osprey			X	X	X	X	X	X	X	X	X			-	-	-
	Scoters	HIGH	X	X	X	X				X	X	X			-	-	-
	Terns			X	X	X	X	X	X	X	X				-	-	-
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			-	-	-
124	Bald eagle	T T	X	X	X	X	X			X	X	X	X		FEB-MAY	-	-
125	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			-	-	-
	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			-	-	-
	Green-winged teal		X	X	X	X				X	X	X			-	-	-
	Mallard	MODERATE	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Snow goose		X	X	X	X				X	X	X			-	-	-
127	Scoters	HIGH	X	X	X	X				X	X	X			-	-	-
	Tundra swan		X	X	X	X				X	X	X			-	-	-
	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			-	-	-
	Ring-necked duck		X	X	X	X				X	X	X			-	-	-
	Scaup		X	X	X	X				X	X	X			-	-	-
154	American oystercatcher	HIGH		X	X	X	X	X	X	X					MAR-JUL	-	-
291	Laughing gull	75 ADULTS		X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
329	Forster's tern	21 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
330	Forster's tern	15 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
331	Forster's tern	28 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Laughing gull	3 ADULTS		X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
332	Forster's tern	14 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Laughing gull	3 ADULTS		X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
333	Forster's tern	33 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Laughing gull	17 ADULTS		X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
334	Forster's tern	61 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
335	Forster's tern	57 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
336	Forster's tern	60 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
350	Common tern	2 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Gull-billed tern	T 26 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
361	American oystercatcher	HIGH	X	X	X					X	X	X	X		-	-	-
417	Great blue heron	28 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								-	-	-	-	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	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

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 34 (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	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	X				MAY-AUG	-	-	MAR-OCT	MAR-OCT
	Northern searobin			X	X	X	X	X	X	X	X				MAY-JUL	-	-	-	MAR-OCT
	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	-	-	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
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	X							-	-	-	-	FEB-JUN
	Atlantic croaker					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				-	-	-	-	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					-	-	-	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					-	-	-	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			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
																			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

HABITAT:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D
161	Maritime dune scrub		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
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
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
128	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						-	-	-	-
30	Bottlenose dolphin			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
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
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				-	-	-	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				-	-	-	MAR-NOV	MAR-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 34 (cont.)

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