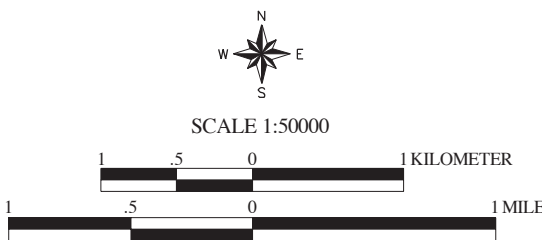
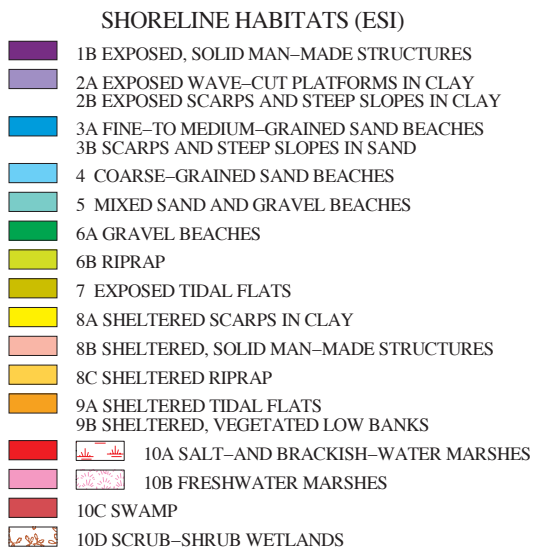
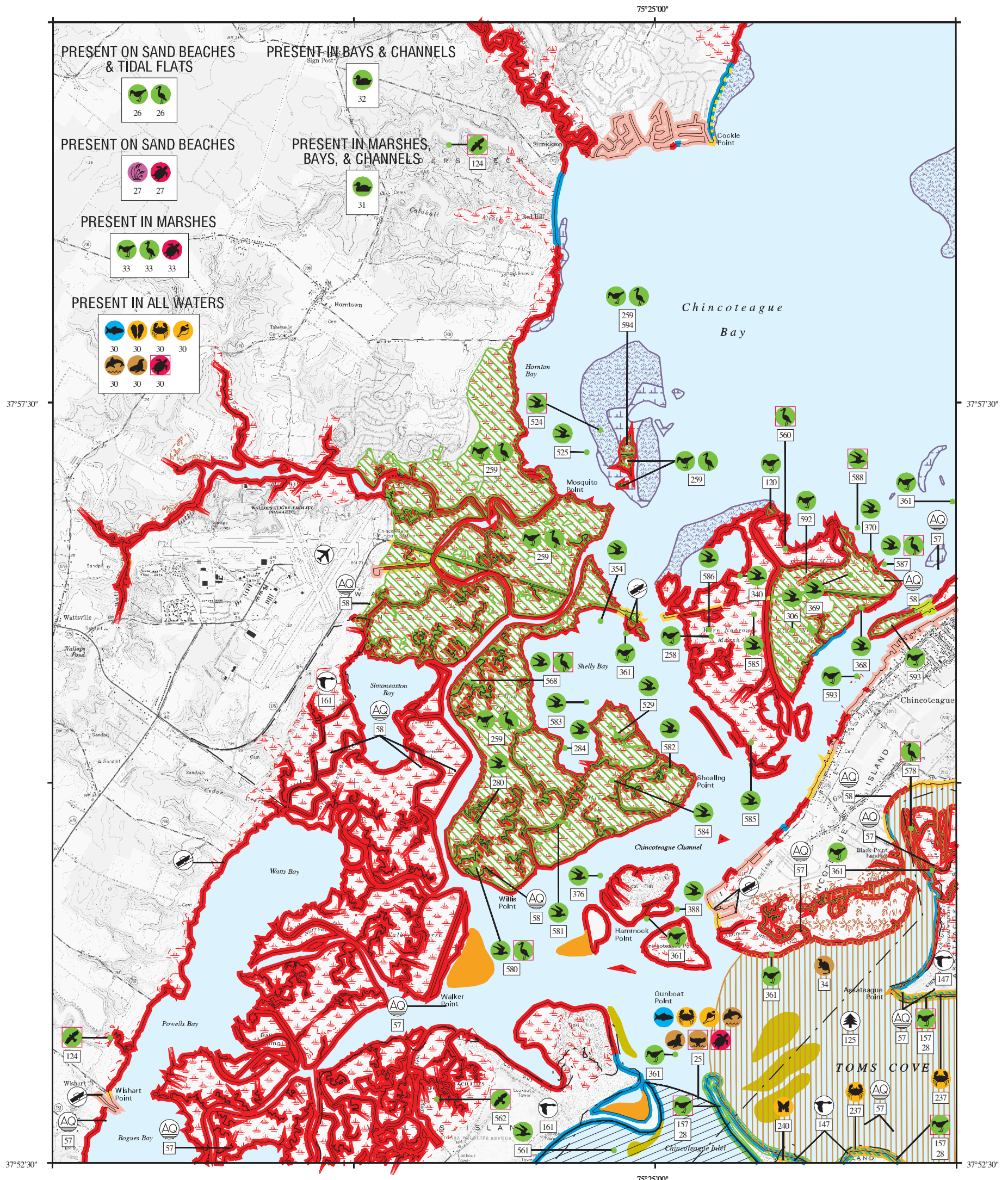
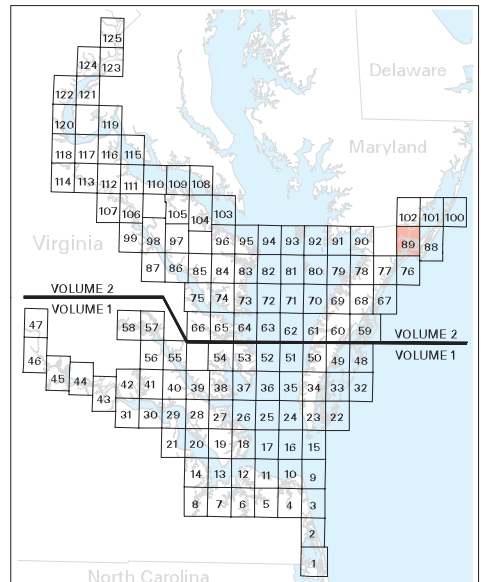


ENVIRONMENTAL SENSITIVITY INDEX MAP



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Hazardous Materials Response Division



Virginia: ESIMAP 89

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		-	-	-
	Dunlin		X	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	X						-	-	-
	Sanderling		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				-	-	-
	Short-billed dowitcher		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		-	-	-
28	Piping plover	T T HIGH		X	X	X	X	X	X						APR-SEP	-	-
31	American black duck	HIGH	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		APR-JUN	-	-
	Gadwall	MODERATE	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		MAY-JUL	-	-
	Northern pintail	MODERATE	X	X	X	X					X	X	X		-	-	-
	Northern shoveler		X	X	X	X					X	X	X		-	-	-
	Snow goose	HIGH	X	X	X	X					X	X	X		-	-	-
32	Bufflehead	HIGH	X	X	X	X					X	X	X		-	-	-
	Common goldeneye		X	X	X	X					X	X	X		-	-	-
	Mergansers	HIGH	X	X	X	X					X	X	X		-	-	-
	Ruddy duck		X	X	X	X					X	X	X		-	-	-
	Scaup		X	X	X	X					X	X	X		-	-	-
	Tundra swan	MODERATE	X	X	X	X					X	X	X		-	-	-
33	Clapper rail	HIGH	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		APR-JUN	-	-
	Whimbrel	HIGH		X	X	X					X	X	X		-	-	-
	Willet	HIGH	X	X	X	X	X	X	X	X	X	X	X		APR-SEP	-	-
120	American oystercatcher			X	X	X	X	X	X						MAR-JUL	-	-
124	Bald eagle	T T	X	X	X	X				X	X	X	X		FEB-MAY	-	-
157	American oystercatcher	12 ADULTS		X	X	X	X	X	X	X					MAR-JUL	-	-
258	American oystercatcher	HIGH	X	X	X						X	X	X	X	-	-	-
259	Shorebirds	HIGH		X	X	X					X	X	X		-	-	-
	Wading birds	HIGH						X	X	X					-	-	-
280	Forster's tern	50 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
284	Laughing gull	100 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
306	Laughing gull	175 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
340	Laughing gull	50 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
354	Forster's tern	30 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
361	American oystercatcher	HIGH	X	X	X						X	X	X	X	-	-	-
368	Laughing gull	550 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
369	Herring gull	150 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Laughing gull	750 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
370	Herring gull	100 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Laughing gull	300 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
376	Herring gull	40 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
388	Laughing gull	240 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
524	Black skimmer	24 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
	Forster's tern	7 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
	Gull-billed tern	T 75 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
525	Forster's tern	16 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
529	Laughing gull	150 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
560	Black-crowned night-heron	66 ADULTS		X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Cattle egret	440 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Glossy ibis	C 612 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Great egret	C 175 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Little blue heron	C 150 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Snowy egret	665 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Tricolored heron	C 226 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
561	Great black-backed gull	5 ADULTS			X	X	X	X	X						MAY-JUL	-	-
562	Peregrine falcon	T		X	X	X	X	X							MAR-AUG	-	-
568	Black-crowned night-heron	36 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Cattle egret	25 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Glossy ibis	C 59 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Great egret	C 9 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Herring gull	160 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Little blue heron	C 8 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Snowy egret	40 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Tricolored heron	C 10 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
578	Yellow-crowned night-heron	C 14 ADULTS			X	X	X	X							MAY-JUL	-	-
580	Black-crowned night-heron	49 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Glossy ibis	C 14 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Great egret	C 39 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Laughing gull	400 ADULTS		X	X	X	X	X	X	X	X	X			MAY-JUL	-	-
	Snowy egret	247 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Tricolored heron	C 5 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
581	Laughing gull	2000 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
582	Laughing gull	1500 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
583	Laughing gull	350 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
584	Forster's tern	50 ADULTS		X	X	X	X	X	X						MAY-JUL	-	-
	Laughing gull	1200 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
585	Herring gull	100 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Laughing gull	1300 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
586	Herring gull	30 ADULTS	X	X	X	X	X	X	X	X	X	X	X		MAY-JUL	-	-
	Laughing gull	730 ADULTS		X	X	X	X	X	X	X	X				MAY-JUL	-	-
587	Black skimmer	4 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
	Common tern	60 ADULTS		X	X	X	X	X	X						MAY-JUL	-	-
	Snowy egret	1 ADULT		X	X	X	X	X	X	X	X				MAY-JUL	-	-
	Tricolored heron	C 1 ADULT		X	X	X	X	X	X	X	X				MAY-JUL	-	-
588	Black skimmer	4 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
	Caspian tern	C 2 ADULTS			X	X	X	X	X	X	X				MAY-JUL	-	-
	Common tern	135 ADULTS		X	X	X	X	X	X	X					MAY-JUL	-	-
592	American oystercatcher	23 ADULTS		X	X	X	X	X	X						MAR-JUL	-	-
593	American oystercatcher	2 ADULTS		X	X	X	X	X	X						MAR-JUL	-	-
594	American oystercatcher	4 ADULTS		X	X	X	X	X	X						MAR-JUL	-	-

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 89 (cont.)

BIOLOGICAL RESOURCES: (cont.)

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	-	-	-	-	DEC-APR
	Red drum				X	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
	Spiny dogfish		X	X	X	X							X	X	-	-	-	-	NOV-APR
30	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				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				-	-	-	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						-	-	-	APR-SEP	APR-SEP
	Blueback herring		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	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					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	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					-	-	-	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					APR-SEP	-	-	APR-NOV	APR-NOV
	Summer flounder				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					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
-----			-	-	-	-	-	-	-	-	-	-	-	-
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
237	Horseshoe crab				X	X	X								APR-JUL	-	-	-	MAY-JUL
240	Spectral tiger beetle		X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-SEP	-	JAN-DEC	JUN-OCT

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					-	-	-	-
	Common dolphin				X	X	X	X	X						-	-	-	-
	Harbor porpoise		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					-	-	-	-
	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					-	-	-	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
27	Diamondback terrapin		X	X	X	X	X	X	X	X					MAY-JUL	-	-	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 89 (cont.)

BIOLOGICAL RESOURCES: (cont.)

REPTILE: (cont.)

RAR#	Species	S F Conc.	J F M A M J J A S O N D	Nesting	Hatching	Interesting	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
33	Diamondback terrapin	VERY HIGH	X X X X X X X X	-	-	-	MAR-NOV	MAR-NOV

TERRESTRIAL MAMMAL:

RAR#	Species	S F Conc.	J F M A M J J A S O N D
34	Northern river otter		X X X X X X X X X X

HUMAN USE RESOURCES:

AQUACULTURE:

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

NATIONAL PARK:

HUN#	Name	Contact	Phone
125	ASSATEAGUE ISLAND NATIONAL SEASHORE	NATIONAL PARK SERVICE	757/336-6577

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
147	CHINCOTEAGUE ISLAND NWR	U.S. FISH AND WILDLIFE SERVICE	757/336-6122
161	WALLOPS ISLAND NATIONAL WILDLIFE REFUGE	U.S. FISH AND WILDLIFE SERVICE	757/336-6122