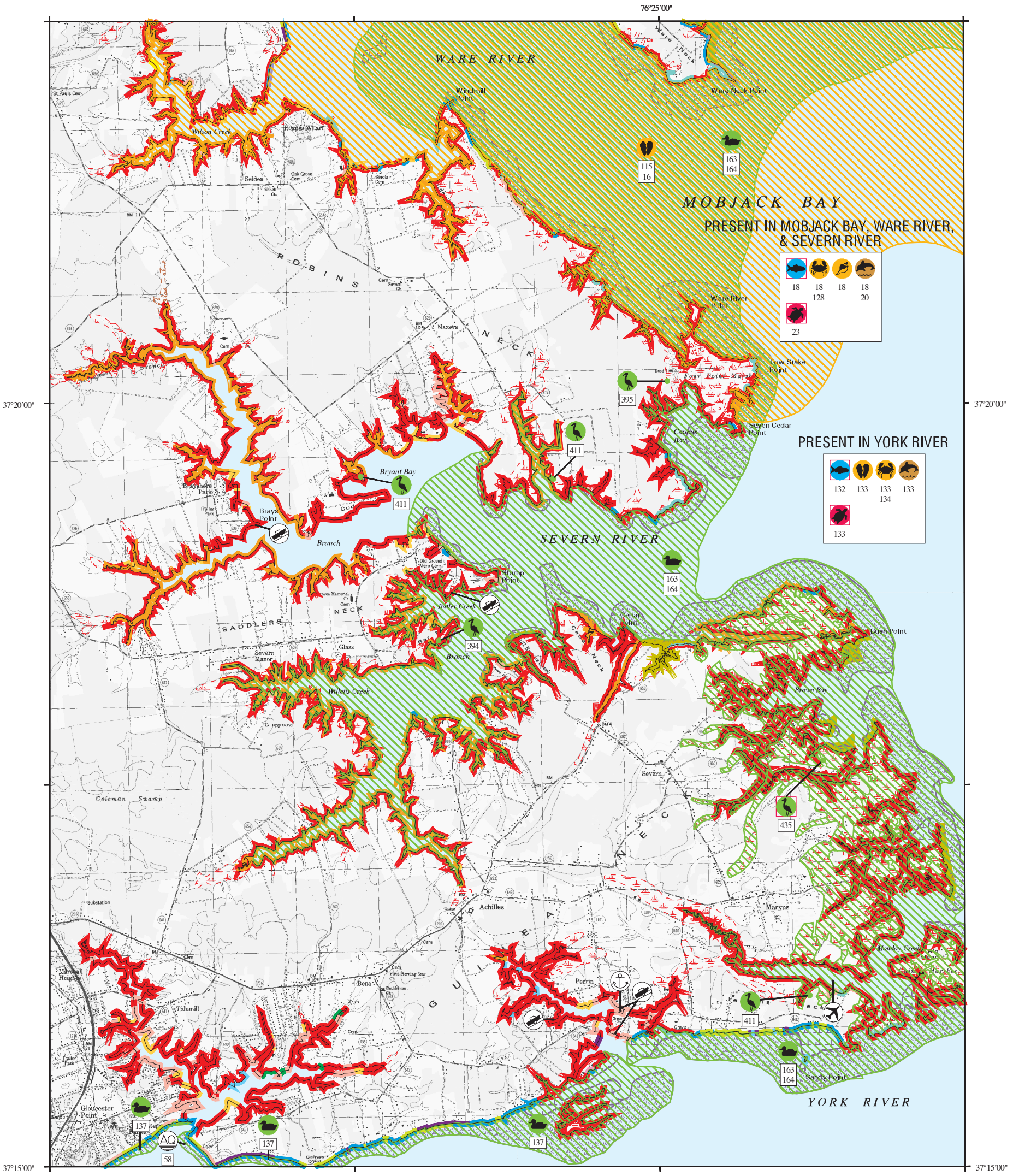
ENVIRONMENTAL SENSITIVITY INDEX MAP



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

N
W E
S

SCALE 1:50000

1 .5 0 1 KILOMETER

1 .5 0 1 MILE

Not For Navigation

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National Ocean Service
Office of Response and Restoration
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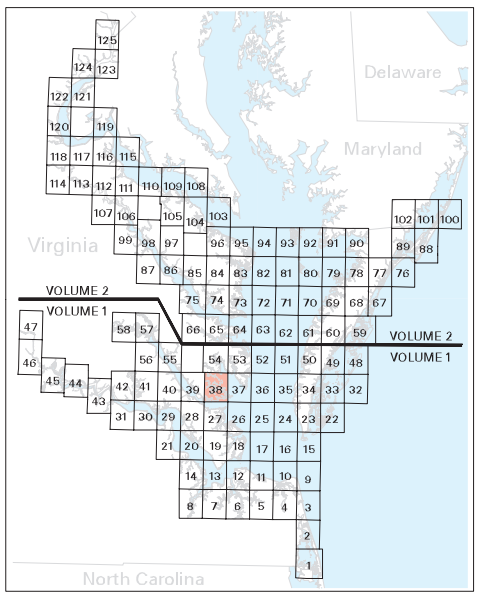

ACHILLES, VA. **VA-38**

Virginia: ESIMAP 38

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S	F	Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
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	-	-	-
163	American black duck			MODERATE	X	X	X	X						X	X	X	-	-	-
	American wigeon			MODERATE	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	-	-	-
	Gadwall			MODERATE	X	X	X	X						X	X	X	-	-	-
	Mallard			MODERATE	X	X	X	X						X	X	X	-	-	-
164	Bufflehead			HIGH	X	X	X	X						X	X	X	-	-	-
	Canvasback			MODERATE	X	X	X	X						X	X	X	-	-	-
	Common goldeneye				X	X	X	X						X	X	X	-	-	-
	Long-tailed duck			MODERATE	X	X	X	X						X	X	X	-	-	-
	Mergansers				X	X	X	X						X	X	X	-	-	-
	Mute swan				X	X	X	X						X	X	X	-	-	-
	Ring-necked duck			MODERATE	X	X	X	X						X	X	X	-	-	-
	Ruddy duck			HIGH	X	X	X	X						X	X	X	-	-	-
	Scaup			MODERATE	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	-	-	-
394	Great blue heron			9 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
395	Great blue heron			12 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
411	Great blue heron			3 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
435	Great blue heron			20 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
	Great egret	C		4 NESTS		X	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
18	Atlantic spadefish											X	X	X	X		-	-	-	AUG-OCT	AUG-NOV
	Atlantic sturgeon	C			X	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	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	X			-	-	-	JUL-NOV	MAR-NOV
	Clearnose skate							X	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	X	X			-	-	-	JUL-OCT	APR-OCT
	Hickory shad				X	X	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
	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	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	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	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	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	SEP-DEC
	American shad				X	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
132	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	-
	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	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	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				MAY-AUG	-	-	MAR-OCT	MAR-OCT
	Northern searobin							X	X	X	X	X	X				MAY-JUL	-	-	-	MAR-OCT
	Red drum								X	X	X	X	X	X			JUL-NOV	-	-	AUG-SEP	MAY-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 38 (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
132	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	-	-	-	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	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
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
115	Eastern oyster				X	X	X	X	X	X	X	X	X	X	X	X	JUN-SEP	JUN-SEP	JUN-SEP	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
	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
134	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							X	-	-	-	-
20	Bottlenose dolphin							X	X	X	X	X	X	X			-	-	-	-
133	Bottlenose dolphin							X	X	X	X	X	X	X			-	-	-	-
	Harbor porpoise				X	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
23	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
133	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	-
	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	-

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HUMAN USE RESOURCES:

AQUACULTURE:

HUN#	Name	Contact	Phone
58	AQUACULTURE: OYSTERS		

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.