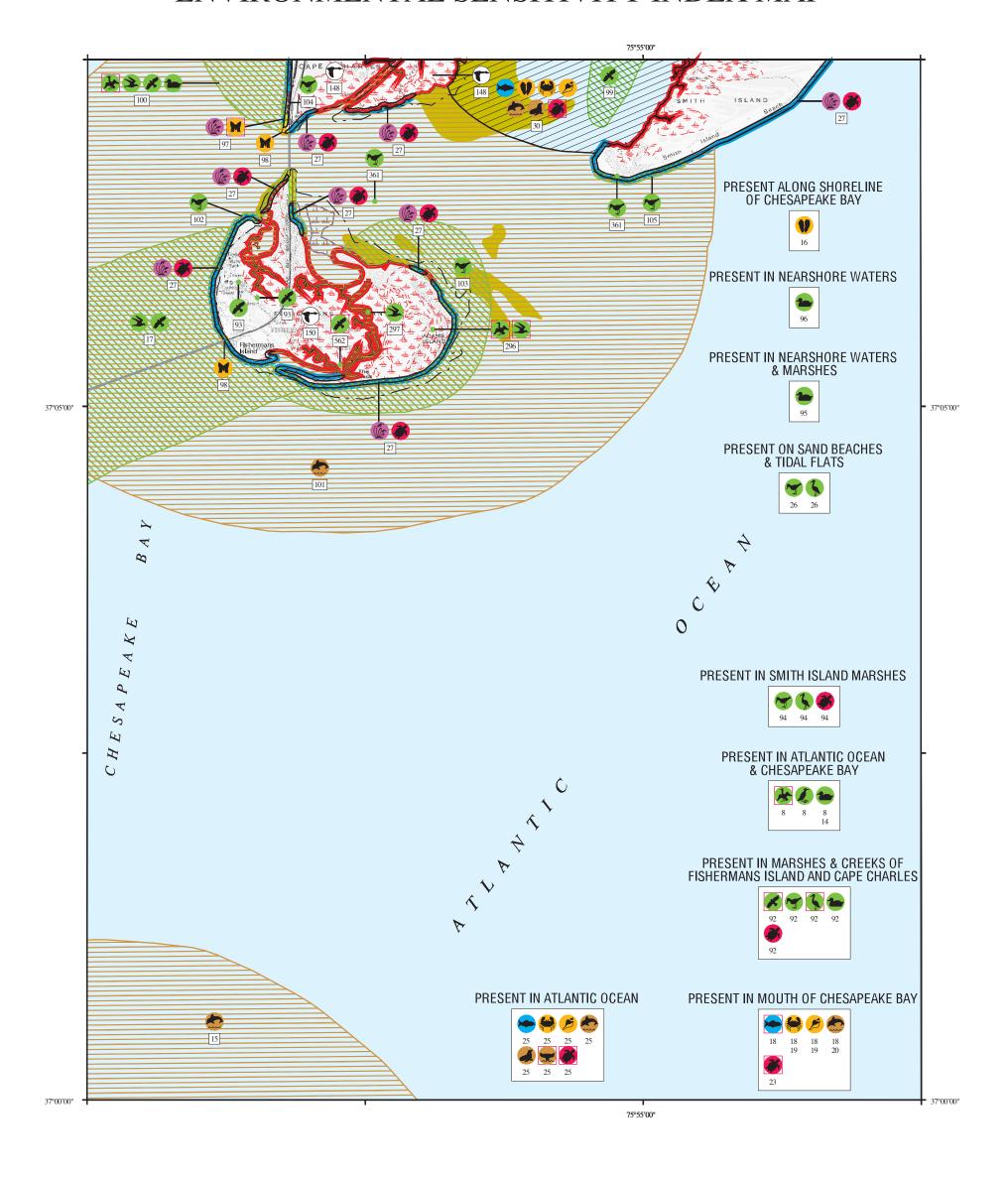
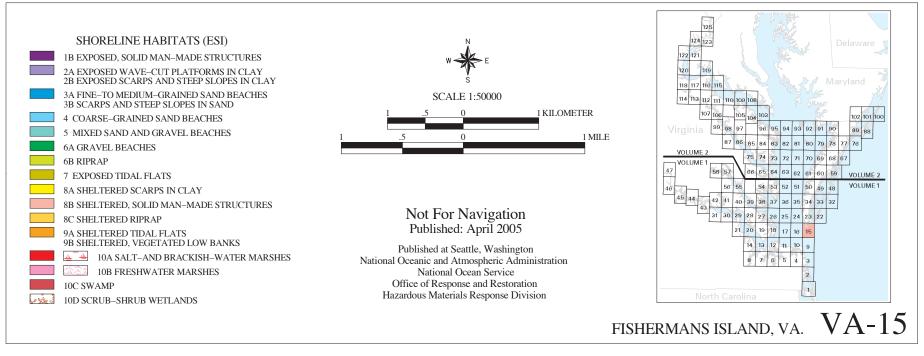
ENVIRONMENTAL SENSITIVITY INDEX MAP





Virginia: ESIMAP 15

BIOLOGICAL RESOURCES:

BIRD:

BIKD															
RAR#	Species	SE	Conc.	J	F M								Nesting	Migrating	Molting
				-							-	-			
8	Brown pelican	С									X		-	-	-
	Common loon				X X						X :		-	-	-
	Northern gannet		HIGH	Χ	XX	ζ					X	X	-	-	_
	Red-breasted merganser		VERY HIGH	Χ	X X	ζ.					X	X	-	-	-
	Red-necked grebe				X X	ζ.							-	-	-
	Red-throated loon			Χ	XX	ζ					X	X	-	-	-
14	Black scoter		HIGH	Χ	X X	Χ					Х	X	-	-	_
	Surf scoter			Х	ХХ	Х					X	X	_	_	_
	White-winged scoter			Х	ХХ	Х					Х	X	_	_	_
17	Gulls			Х	ХХ	Х					Х	X	-	-	_
	Raptors			Х	ХХ	Х					Х	X	_	_	_
2.6	American woodcock			Х						ХХ	X X		_	_	_
	Black-bellied plover					z y	X	x x			X		_	_	_
	Dunlin			X	XX						X :		_	_	_
	Greater yellowlegs								Х				_	_	_
	Killdeer				23	1 21		XX		21 2	2 2 2		_	_	_
					7.	, ,,			X	v v			_	_	_
	Least sandpiper												_	-	_
	Lesser yellowlegs				X	X					X		_	-	_
	Pectoral sandpiper								X		X		-	-	_
	Red knot								X				-	-	_
	Ruddy turnstone								X				-	-	-
	Sanderling			Х							X .	X	-	-	_
	Semipalmated plover										X		-	-	-
	Semipalmated sandpiper				X	X	Χ	XX	X	XX	X		-	-	-
	Short-billed dowitcher			Χ	X X	X	Χ	X X	X	X X	X :	X	-	-	-
	Stilt sandpiper							XX	X	X X	X		-	-	-
	Western sandpiper							XX	X	XX	X		-	-	-
	Whimbrel				Х	Х	Χ	XX	X				-	-	_
	White-rumped sandpiper				X	Х	Χ						-	-	-
	Willet			Х	ХХ	Х	Χ	ХХ	X	ХХ	X :	X	_	_	_
92	American black duck		COMMON	Х	ХХ	Х	Χ	ХХ	X	ХХ	X :	X	APR-JUN	_	_
	American kestrel		ABUNDANT							ХХ			_	_	_
	American wigeon		COMMON	Y	ХХ	, y	V				X :	V	_	_	_
	Black-crowned night-heron		COMMON										- MAY-JUL	_	_
				Λ								£ 7		_	-
	Blue-winged teal		COMMON							XX		.,	-	-	_
	Brant		COMMON	Х	XX	X	Х				X :	Χ	-	-	-
	Broad-winged hawk		COMMON							XX			-	-	-
	Canada goose		COMMON	Χ								X	APR-JUN	-	-
	Cattle egret		COMMON		Х	X	Χ	X X	X	XX	X		MAY-JUL	-	-
	Clapper rail		VERY ABUNDANT	X	XX	Х	Χ	XX	X	XX	X .	Χ	APR-JUN	-	_
	Gadwall		COMMON	X	ХХ	Х	Χ	ХХ	X	ХХ	X	X	APR-JUN	-	-
	Glossy ibis	С									X		MAY-JUL	_	_
	Great blue heron	•	COMMON	Y							X :	V	-	_	_
	Great egret	С	COMMON	21							X		MAY-JUL	_	_
		C	COMMON	3.7											
	Green-winged teal				XX						X .		-	-	_
	King rail			Х	XX						X .		-	-	-
	Little blue heron	С			X	X	Χ	XX	X	XX	X		MAY-JUL	-	-
	Mallard		COMMON	X	XX	X	Χ	XX	X	XX	X :	X	MAY-JUL	-	-
	Merlin		COMMON							XX	X		-	-	-
	Northern harrier	С	COMMON	X	Χ					ХХ	X	X	-	-	-
	Northern pintail			Х	ХХ	Х	Χ			ХХ	X :	X	_	_	_
	Northern shoveler				ХХ						X		_	_	_
	Red-tailed hawk		COMMON	Х							X :		_	_	_
	Sharp-shinned hawk		ABUNDANT	21	21					XX		21	_	_	_
	-		ABUNDANI		77 7	, ,,							_	_	_
	Snow goose		2017/017	X	XX						X :	X	-	-	-
	Snowy egret		COMMON						X				-	-	-
	Sora					X				XX			-	-	-
	Striated heron		COMMON		X	X	Χ	XX	X	XX	X		MAY-JUL	-	-
	Tricolored heron	С	COMMON	X	XX	X	Χ	XX	X	XX	X .	Χ	MAY-JUL	-	-
	Tundra swan			X	XX	Х	Χ			XX	X	X	-	-	_
	Virginia rail			Χ	ХХ	Х	Χ	ХХ	X	ХХ	X	Χ	-	-	_
	Willet		COMMON	Х	ХХ	Х	Χ	ХХ	Х	ХХ	X	X	MAR-JUN	_	_
	Yellow-crowned night-heron	С							X				MAY-JUL	_	_
93	Osprey	•							X				MAR-AUG	_	_
	Clapper rail		HIGH	v								v	APR-AUG	_	_
94			nign											_	_
	King rail			Λ				Λ Λ			X :	Λ	-	_	_
	Sora					X				XX				-	-
	Virginia rail			Х								X	APR-JUN	-	-
	Whimbrel		HIGH			X			Х				-	-	_
	Willet		HIGH	X	XX	X	Χ	XX	X	XX	X :	X	APR-SEP	-	-
95	American black duck		HIGH	Χ	ХХ	X	Χ	XX	X	XX	X 2	X	MAR-JUL	-	-
	American wigeon		MODERATE	Х	ХХ	Х				Х	X 2	X	-	-	-
	Brant		HIGH	Х	ХХ	Х				Х	X	X	-	-	_
	Canada goose		HIGH	Х	ХХ	Х	Х	ХХ	X	ХХ	X	X	APR-JUN	-	-
	Gadwall		MODERATE										APR-JUN	_	_
	Green-winged teal		MODERATE		ХХ						X		_	-	_
	Mallard		MODERATE					ХХ	X				MAY-JUL	_	_
	Northern pintail		MODERATE		XX			_ 2			X .		-	_	_
	Northern shoveler		LOW		XX						X		_	_	_
	Snow goose		HIGH		XX						X		_	_	_
0.0	=												_	_	_
96	Bufflehead		HIGH		XX						X .		-	_	_
	Long-tailed duck		MODERATE		XX						X :		-	-	_
	Mergansers		HIGH		X X						X		-	-	-
	Scoters		HIGH	Х	X X	X					X :		-	-	-
	Tundra swan		MODERATE	Χ	ХХ	Х				Х	X	X	-	-	-
99	Osprey				Х	Х	Χ	ХХ	X	ХХ	X		-	-	_
	Brown pelican	С							X				-	_	_
	Gulls			Х							. X :	X	_	_	_
	Loons				XX			- 4			X .		_	_	_
					XX						X		_	_	_
	Mergansers			Λ				V 1				£ 3.	_	_	=
	Osprey		HTCH					ΛX	X			.,	_		_
	Scoters		HIGH	Х	XX						X :	X	-	-	-
	Terns								X				-	-	-
102	American oystercatcher		15 ADULTS		Х	Х	Х	ХХ	X	Χ			MAR-JUL	-	-
	American oystercatcher		82 ADULTS						X				MAR-JUL	-	_
	American oystercatcher		1 ADULT						X				MAR-JUL	_	_
			4 ADULTS						X					_	_
	American oystercatcher	C									,		MAR-JUL	_	_
296	Brown pelican	С	939 ADULTS						X			3.7	MAY-JUL	-	_
	Great black-backed gull		63 ADULTS										MAY-JUL	-	-
	Herring gull		860 ADULTS	Χ								X	MAY-JUL	-	-
	Royal tern		3380 ADULTS		X	Х	Χ	XX	X	XX			MAY-JUL	-	-
	Sandwich tern	С	54 ADULTS			Χ	Χ	ХХ	X	ХХ			MAY-JUL	-	_
297	Forster's tern		40 ADULTS		Х				X				MAY-JUL	-	-
	American oystercatcher		HIGH	Х	XX			-			X X :	Χ	-	_	_
	Peregrine falcon	Т	· 	- 2 2			Х	ХХ		2		•	MAR-AUG	_	_
552		-			23	. 21		2					1100		

Virginia: ESIMAP 15 (cont.)

BIOLOGICAL RESOURCES: (cont.)

FISH	:										
RAR#	Species	S F Conc.	JFN	MAM	JJA	SOND	Spawning	Eggs	Larvae	Juveniles	Adults
1.8	Alewife			 X X X	·						FEB-JUN
10	American eel					XXXX	_	_	_	JAN-DEC	SEP-DEC
	American shad		ххх	XXX	Χ	ХХ	-	-	-	NOV-MAR	JAN-JUN
	Atlantic croaker				XXXX	X X X X	-	-	-	AUG-DEC -	MAY-NOV
	Atlantic mackerel Atlantic menhaden			X X X X X	x x x x	XXXX	_	_	MAY-NOV	JAN-DEC	MAR-APR MAY-OCT
	Atlantic silverside						MAR-JUL	-	-	JAN-DEC	JAN-DEC
	Atlantic spadefish					XXX	-	-	-	AUG-OCT	AUG-NOV
	Atlantic sturgeon Bay anchovy	С			XXXX		- APR-SEP	_		- JAN-DEC	JAN-OCT JAN-DEC
	Black drum		A A 2		XXXX		APR-JUN	APR-JUN	APR-JUN	APR-NOV	APR-NOV
	Black sea bass				X X X X		JUN-OCT	-	-	APR-OCT	APR-OCT
	Blueback herring Bluefish		ХХХ	XXX	X $X X X X$	XX	_	-	_	NOV-MAR MAY-NOV	JAN-JUN APR-NOV
	Butterfish		Σ		XXXX		_	_	_	JUL-NOV	MAR-NOV
	Clearnose skate				XXXX		-	-	-	-	MAY-NOV
	Gobies		ХХХ				APR-SEP	APR-SEP	APR-OCT	JAN-DEC	JAN-DEC
	Harvestfish Hickory shad		X X X	XXX	XXXX	x x x x	_	_	_	JUL-OCT NOV-MAR	APR-OCT JAN-JUN
	Hogchoker						MAY-SEP	MAY-SEP	MAY-SEP	JAN-DEC	JAN-DEC
	Inland silverside						APR-MAY	-	_	JAN-DEC	JAN-DEC
	Minnows Mummichoq						APR-AUG APR-AUG	_	_	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Northern kingfish		A A 2		XXXX		APR-AUG	_	_	JAN-DEC	APR-OCT
	Northern pipefish		ххх				MAY-JUN	-	-	JAN-DEC	JAN-DEC
	Northern puffer				XXXX		MAY-AUG	-	_	MAR-OCT	MAR-OCT
	Northern searobin Red drum		2		X X X X X X X X X X X X X X X X X X X		MAY-JUL JUL-NOV	_	_	- AUG-SEP	MAR-OCT MAY-NOV
	Red hake		ХΣ	XXX		XXX	-	_	_	FEB-MAY	FEB-MAY
											SEP-NOV
	Sandbar shark		-		XXXX		-	-	-	MAY-OCT	MAY-OCT
	Scup (porgy) Silver hake		X X X		XXXX	$\begin{array}{cccc} \mathbf{x} & \mathbf{x} \\ & \mathbf{x} & \mathbf{x} & \mathbf{x} \end{array}$	-	_	_	JUN-OCT -	MAR-OCT OCT-MAY
	Silver perch				XXXX		APR-MAY	-	-	JAN-DEC	JAN-DEC
	Spot					X X X X	-	-	DEC-APR	MAR-NOV	MAR-NOV
	Spotted hake		Σ	XXX	X Z	XXX	-	-	-	MAR-JUN	MAR-JUN SEP-NOV
	Spotted seatrout			ХХ	XXXX	XXX	MAY-JUL	_	_	APR-NOV	SEP-NOV APR-NOV
	Striped bass		ххх			XXXX		-	-	JAN-DEC	JAN-DEC
	Striped killifish						APR-SEP	-	-	JAN-DEC	JAN-DEC
	Summer flounder Tautog		X X X		XXXX	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		-	OCT-MAY	JAN-DEC	APR-OCT OCT-APR
	Threadfin shad			XXX	2	XXX	_	_	_	_	FEB-MAY
											SEP-NOV
0.5	Weakfish				X X X X		APR-AUG	-	MAY-AUG	APR-NOV	APR-NOV
25	Atlantic menhaden Black drum		X X X		XXXX	X	_	_	_	JAN-DEC -	MAY-OCT APR-OCT
	Black sea bass				XXXX		JUN-OCT	_	_	APR-OCT	APR-OCT
	Bluefish				X X X X		-	-	_	MAY-NOV	APR-NOV
	Butterfish				XXXX		_	-	-	JUL-NOV	MAR-NOV
	Crevalle jack Northern kingfish		X X 2		XXXX	X	- MAY-AUG	_	_	JAN-DEC -	- APR-OCT
	Northern searobin		Σ		XXXX		-	_	_	_	MAR-OCT
	Pollock		ххх			X		-	-	-	DEC-APR
	Red drum Red hake		V V	X X X X	XXXX	X	JUL-NOV -	_	_	- FEB-MAY	MAY-NOV FEB-MAY
	ned nake		Λ 2	AAA	4	A A A				red mai	SEP-NOV
	Sandbar shark			Х	X X X X	X X	-	-	-	MAY-OCT	MAY-OCT
	Scup (porgy)				X X X X		-	-	-	JUN-OCT	MAR-OCT
	Silver hake Southern kingfish (whiting)		XXΣ	XXX	XXXX	X X X	-	-	_	_	OCT-MAY APR-OCT
	Spanish mackerel			XX	11 11 11 1	11 21	_	_	_	_	APR-MAY
	Spiny dogfish		ххх			ХХ		-	-	-	NOV-APR
	Spot Spotted hake			X X X X X X X X X X X X X X X X X X X		X X X X X X X X X X X X X X X X X X X	-	-	DEC-APR	MAR-NOV MAR-JUN	MAR-NOV MAR-JUN
	Spotted make		2	Λ Λ Λ	Λ	A A A	_	_	_	MAK-JUN	SEP-NOV
	Spotted seatrout			ХХ	X X X X	XXX	MAY-JUL	-	-	APR-NOV	APR-NOV
	Summer flounder					XXXX		-	OCT-MAY	-	APR-OCT
	Tautog Weakfish		X X X				APR-AUG APR-AUG	_	- MAY-AUG	- APR-NOV	JAN-DEC APR-NOV
	Atlantic croaker					XXXX		_	-	AUG-DEC	MAY-NOV
	Atlantic mackerel			XX			-	-	-	-	MAR-APR
30	Alewife American eel			XXX		XXXX	_	-	_	- JAN-DEC	FEB-JUN -
	American shad			XXX			_	_	_	-	FEB-JUN
	Atlantic croaker			X	X X X Z	x x x x	-	-	-	MAY-DEC	-
	Atlantic herring Atlantic mackerel			X X X X X	X		-	-	-	-	FEB-JUN MAR-APR
	Atlantic mackerel Atlantic menhaden		2		XXXX	XXX	-	_	_	- MAY-NOV	MAK-APR MAY-OCT
	Bay anchovy		ххх	X X X	X X X Z	X	APR-SEP	-	-	JAN-DEC	JAN-DEC
	Black drum				XXXX		-	- -	-	- ADD CED	APR-OCT
	Black sea bass Blueback herring		× 7		X X X X X X X X X X X X X X X X X X X		_	_	- FEB-JUN	APR-SEP FEB-OCT	APR-SEP FEB-JUN
	Bluefish		Λ 2		XXXX		-	_	- -	MAY-OCT	MAY-OCT
	Crevalle jack			XXX	X X X Z	X X X X		-	-	JAN-DEC	-
	Gobies Hickory shad			X X X		x	APR-SEP	APR-SEP -	APR-OCT	JAN-DEC -	JAN-DEC FEB-JUN
	Hogchoker					XXXX	- MAY-SEP	- MAY-SEP	- MAY-SEP	- JAN-DEC	JAN-DEC
	Killifish		ххх	XXX	X X X Z	X X X X	MAR-SEP	-	-	JAN-DEC	JAN-DEC
	Minnows						APR-AUG	-	_	JAN-DEC	JAN-DEC
	Mummichog Northern pipefish					X	APR-AUG -	_	_	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Northern searobin		/		XXXX	A	-	_	-	JUN-AUG	JUN-AUG
	Pollock		ххх			Х		-	-	_	DEC-APR
	Red drum Red hake		v ·	X X X X	XXXX		JUL-NOV -	_	-	AUG-SEP FEB-MAY	MAY-NOV FEB-MAY
	Ned liake		Χ)	A A X	2	XXX	-	-	_	red-MAI	SEP-NOV
	Sandbar shark			Х	XXXX	X X	-	-	-	MAY-OCT	MAY-OCT
	Scup (porgy)				XXXX		-	-	-	JUN-OCT	MAR-OCT
	Silver hake Silver perch			XXX		X X X	- APR-MAY	- APR-MAY	- APR-JUN	- JAN-DEC	OCT-MAY JAN-DEC
	Silver perch Silversides						APR-MAY MAR-JUL	APR-MAY MAR-JUL	APR-JUN APR-SEP	JAN-DEC JAN-DEC	JAN-DEC JAN-DEC
	Spanish mackerel		4	ХХ			-	-	-	-	APR-MAY
	Spot		** *-		XXXX		-	-	-	APR-OCT	JUL-SEP
	Spotted hake Spotted seatrout		X X X		XXXX		- MAY-JUL	_	_	OCT-APR APR-NOV	- APR-NOV
	Striped anchovy						APR-SEP	_	_	APR-NOV	APR-NOV
	Summer flounder				XXXX		-	-	-	APR-NOV	APR-NOV
	Tautog Weakfish		XXX		XXXX	X X X	- APR-AUG	_	_	- MAR-OCT	OCT-APR APR-OCT
	GUNT ION		2			41	JIIN AUG			11111 001	711 V OCT

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 15 (cont.)

BIOLOGICAL RESOURCES: (cont.)

Figure Sept	BIOL	OGICAL RESOURCES: (cont.)							
Species Spec	FISH	: (cont.)							
Marting proch	RAR#	Species	S F Conc.	J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
## Marting marting Marting Marting Marting Marting Marting Marting Marti	30	White hake		x x x	-	-	-	-	
Real Species					APR-JUN -				JAN-DEC
Name	HABI	TAT:							
Native Bosshad shrand vogstakion	RAR#	Species	S F Conc.	J F M A M J J A S O N D					
Native Bosshad shrand vogstakion	27	Maritime dune comb							
Sea-beach Knotweed	21								
Warting dum script		_		$\times \times $					
Note	0.7								
Northern quading (hard clam)	91	Maritime dune scrub		* * * * * * * * * * * * * *					
Morthern quahog (hard clam)	INVE	RTEBRATE:							
Morthern qualong thard clams	RAR#	-		J F M A M J J A S O N D	Spawning	Eggs	Larvae	Juveniles	Adults
Mode	16			$\times \times $	MAY-OCT	MAY-OCT	MAY-OCT	JAN-DEC	JAN-DEC
Blue crab	18				-	-		JAN-DEC	JAN-DEC
Channeled whelk	1.0								
State	19				MAY-OCT				
Channeled whelk	25				_	_			
Channeled whelk Northeastern beach tiger beetle T T 1000S					_	_			
Northern quahog (hard clam)	30	Blue crab		$\times \times $	-	MAY-SEP	MAY-NOV	JAN-DEC	JAN-DEC
97 Northeastern beach tiger beet be 80 Monarch butterfly T 1000S X X X X X X X X X X X X X X X X X X X									
MARINE MAMMAL:	0.7		т т						
Rame		= = = = = = = = = = = = = = = = = = = =			-		_		
Bottlenose dolphin	MARI	NE MAMMAL:							
Bottlenose dolphin				J F M A M J J A S O N D	Mating		Pupping I	Molting	
18				× × × × × ×					
Stylenose dolphin					_	-	_	_	
Common dolphin	20	Bottlenose dolphin		X X X X X X X	-	-	-	-	
Harbor porpoise	25				-	-	_	-	
Harbor seal		-			-	-	-	_	
Humpback whale						_	_	_	
Solutions dolphin			ЕE		_		_	_	
Harbor seal	30	-		X X X X X X X	-	-	-	-	
REPTILE: RAR# Species SF Conc. JFM A M J J A S O N D Nesting Hatching Internesting Juveniles Adults					-	-	-	-	
RAR# Species SF Conc. JFMAMJJASOND Nesting Hatching Internesting Juveniles Adults 23 Green sea turtle E E X X X X X X X X X MAY-NOV - MAY-NOV MAY-NOV Leatherback sea turtle E E X X X X X X X X X X MAY-NOV - MAY-NOV MAY-NOV Loggerhead sea turtle T T X X X X X X X X X X X MAY-NOV - MAY-NOV MAY-NOV 25 Green sea turtle T T X X X X X X X X X X MAY-NOV - MAY-NOV MAY-NOV Leatherback sea turtle E E X X X X X X X X X X X X MAY-NOV - MAY-NOV MAY-NOV Loggerhead sea turtle E E X X X X X X X X X X X X X X X X X X X	1.01				-	_	-	_	
Species Spec	101	Bottlenose dolpnin	HIGH	x x x x x x x	-	-	-	-	
23 Green sea turtle									
23 Green sea turtle	RAR#			J F M A M J J A S O N D	Nesting	Hatching	Internesti	ng Juvenil	
Kemp's ridley sea turtle E E X X X X X X X X X X X X X X X X X X X	23			X X X X X X X		-	=	MAY-NOV	
Loggerhead sea turtle					-	-	-		
25 Green sea turtle					-	-	-		
Kemp's ridley sea turtle E E X X X X X X X X X X X X X X X X X X X	0.5	33			-	-	-		
Leatherback sea turtle	25				_	_	-		
Loggerhead sea turtle					_	_	_		
27 Diamondback terrapin X X X X X X X X X X X MAY-JUL MAR-NOV MAR-NOV MAR-NOV MAR-NOV MAR-NOV MAY-NOV - MAY-NOV - MAY-NOV MAY-NOV - MAY-NOV MAR-NOV MAR-NOV<					_	_	_		
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HUMAN USE RESOURCES:

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
148	EASTERN SHORE OF VIRGINIA NWR	U.S. FISH AND WILDLIFE SERVICE	757/331-2760
150	FISHERMANS ISLAND NWR	U.S. FISH AND WILDLIFE SERVICE	757/331-2760