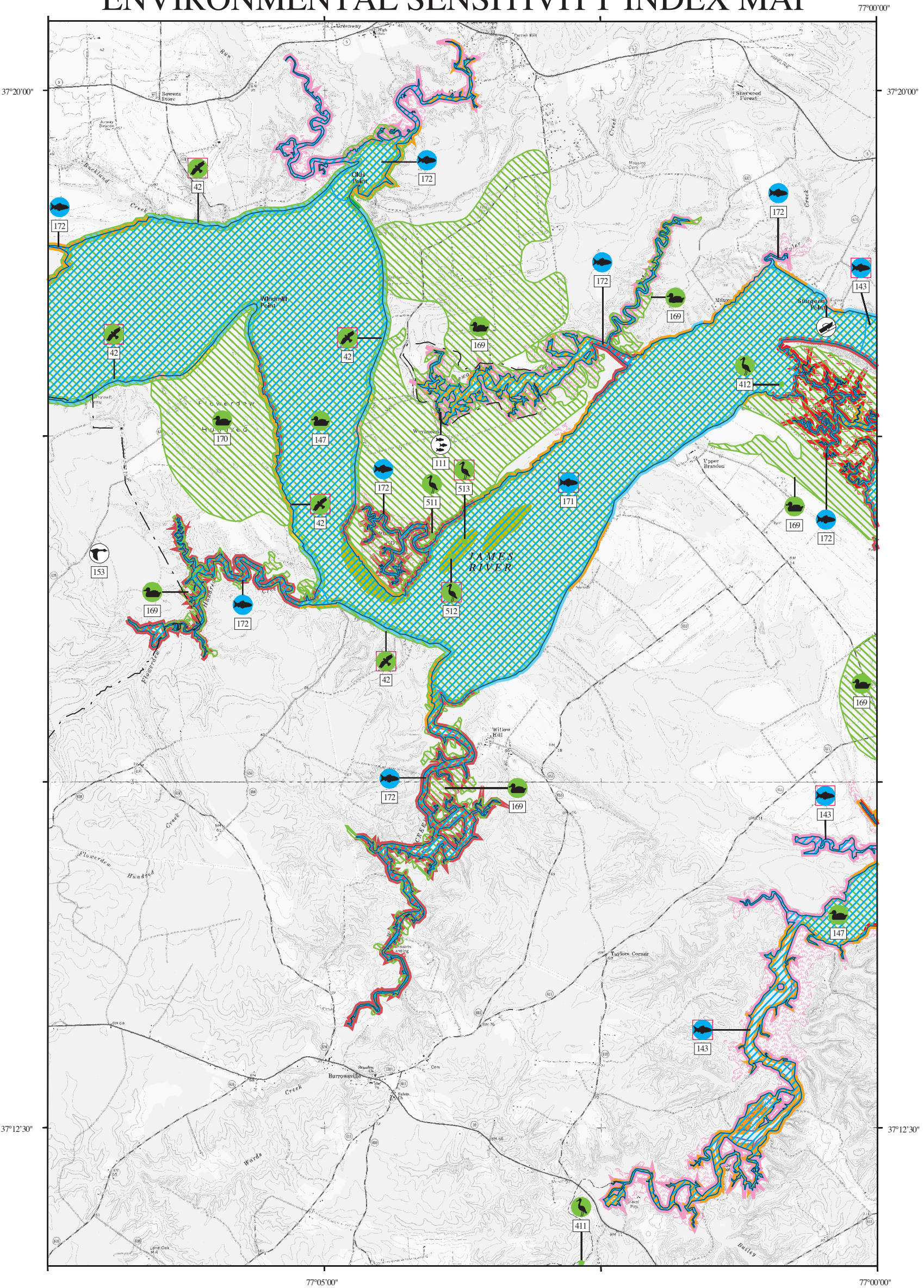
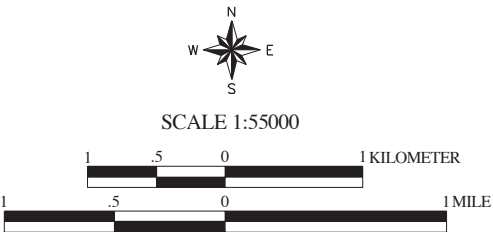


ENVIRONMENTAL SENSITIVITY INDEX MAP

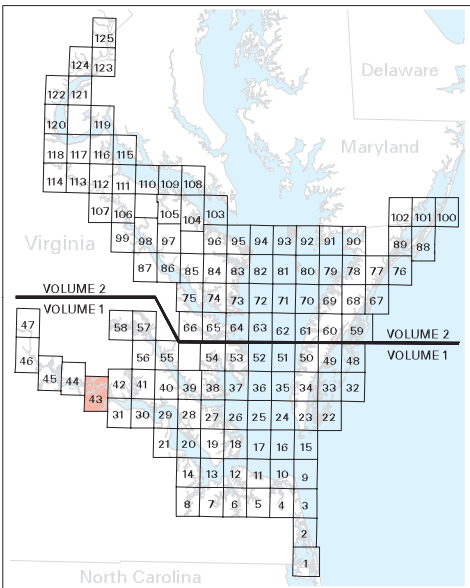


SHORELINE HABITATS (ESI)

- 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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Virginia: ESIMAP 43

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S F Conc.	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Migrating	Molting
42	Bald eagle	T T HIGH	X	X	X	X	X	X	X					X	-	-	-
147	Bufflehead	MODERATE	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		-	-	-
	Mergansers	HIGH	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	HIGH	X	X	X	X					X	X	X		-	-	-
	Tundra swan	MODERATE	X	X	X	X					X	X	X		-	-	-
169	American black duck	MODERATE	X	X	X	X					X	X	X		-	-	-
	American wigeon	MODERATE	X	X	X	X					X	X	X		-	-	-
	Canada goose	VERY HIGH	X	X	X	X					X	X	X		-	-	-
	Gadwall	MODERATE	X	X	X	X					X	X	X		-	-	-
	Green-winged teal	MODERATE	X	X	X	X					X	X	X		-	-	-
	Mallard	HIGH	X	X	X	X					X	X	X		-	-	-
	Northern pintail		X	X	X	X					X	X	X		-	-	-
	Northern shoveler		X	X	X	X					X	X	X		-	-	-
	Snow goose		X	X	X	X					X	X	X		-	-	-
	Tundra swan	HIGH	X	X	X	X					X	X	X		-	-	-
170	Canada goose	VERY HIGH	X	X	X	X					X	X	X		-	-	-
	Tundra swan	HIGH	X	X	X	X					X	X	X		-	-	-
411	Great blue heron	3 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
412	Great blue heron	6 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
511	Great blue heron	105 NESTS	X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
512	Great egret	C 3 NESTS		X	X	X	X	X	X	X	X	X	X	X	MAY-JUL	-	-
513	Great egret	C 6 NESTS		X	X	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
143	Alewife		X	X	X	X	X	X	X	X	X	X			-	-	-	FEB-OCT	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	X	X	X	X				-	-	FEB-JUN	FEB-OCT	FEB-JUN
	Atlantic menhaden					X	X	X	X	X	X	X			-	-	-	MAY-NOV	-
	Atlantic sturgeon	C	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	-	-	JAN-DEC	APR-NOV
	Banded killifish		X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	JAN-DEC	JAN-DEC
	Blueback herring		X	X	X	X	X	X	X	X	X				-	-	-	FEB-OCT	FEB-JUN
	Bluegill		X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	JAN-DEC
	Channel catfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	JAN-DEC	JAN-DEC
	Gizzard shad		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hogchoker		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Inland silverside		X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-	JAN-DEC	JAN-DEC
	Longnose gar		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	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
	Pumpkinseed		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	JAN-DEC	JAN-DEC
	Redbreast sunfish		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	-	-	JAN-DEC	JAN-DEC
	Striped bass		X	X	X	X	X	X	X	X	X				FEB-JUN	FEB-JUN	FEB-JUN	FEB-OCT	FEB-JUN
	Tessellated darter		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	-	JAN-DEC
	Threadfin shad		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	FEB-MAY
																			SEP-NOV
	White catfish		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	White perch		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	APR-JUN	APR-JUN	JAN-DEC	JAN-DEC
171	Alewife		X	X	X	X	X	X	X	X					-	FEB-JUN	FEB-JUN	FEB-OCT	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	X	X	X					FEB-JUN	FEB-JUN	FEB-JUN	FEB-OCT	FEB-JUN
	Atlantic menhaden					X	X	X	X	X	X				-	-	-	MAY-NOV	-
	Atlantic sturgeon	C	X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUN	-	-	JAN-DEC	APR-NOV
	Banded killifish		X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	JAN-DEC	JAN-DEC
	Blue catfish		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	JAN-DEC	JAN-DEC
	Blueback herring		X	X	X	X	X	X	X	X					-	FEB-JUN	FEB-JUN	FEB-OCT	FEB-JUN
	Bluegill		X	X	X	X	X	X	X	X	X	X	X	X	APR-SEP	-	-	-	JAN-DEC
	Channel catfish		X	X	X	X	X	X	X	X	X	X	X	X	MAR-MAY	-	-	JAN-DEC	JAN-DEC
	Gizzard shad		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	JAN-DEC
	Hickory shad		X	X	X	X	X	X	X	X					FEB-JUN	FEB-JUN	FEB-JUN	FEB-OCT	FEB-JUN
	Hogchoker		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	-
	Inland silverside		X	X	X	X	X	X	X	X	X	X	X	X	APR-MAY	-	-	JAN-DEC	JAN-DEC
	Longnose gar		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	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
	Pumpkinseed		X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	JAN-DEC	JAN-DEC
	Redbreast sunfish		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	-	-	JAN-DEC	JAN-DEC
	Striped bass		X	X	X	X	X	X	X	X					FEB-JUN	FEB-JUN	FEB-JUN	FEB-OCT	FEB-JUN
	Tessellated darter		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	-	-	-	JAN-DEC
	Threadfin shad		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	JAN-DEC	FEB-MAY
																			SEP-NOV
	White catfish		X	X	X	X	X	X	X	X	X	X	X	X	MAY-JUN	-	-	JAN-DEC	JAN-DEC
	White perch		X	X	X	X	X	X	X	X	X	X	X	X	APR-JUN	APR-JUN	APR-JUN	JAN-DEC	JAN-DEC
172	Alewife		X	X	X	X									FEB-JUN	FEB-JUN	-	-	FEB-JUN
	Blueback herring		X	X	X	X									FEB-JUN	FEB-JUN	-	-	FEB-JUN

HUMAN USE RESOURCES:

MANAGEMENT AREA:

HUN#	Name	Contact	Phone
111	KITTEWAN WILDLIFE MANAGEMENT AREA		

WILDLIFE REFUGE:

HUN#	Name	Contact	Phone
153	JAMES RIVER NATIONAL WILDLIFE REFUGE	U.S. FISH AND WILDLIFE SERVICE	804/333-1470