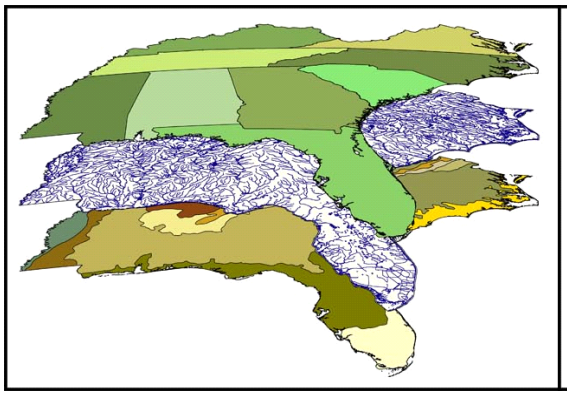


SOUTHEAST GAP ANALYSIS PROJECT

USGS science for a changing world | gap | BaSIC Biodiversity and Spatial Information Center | NARSAL

Species Modeling Report

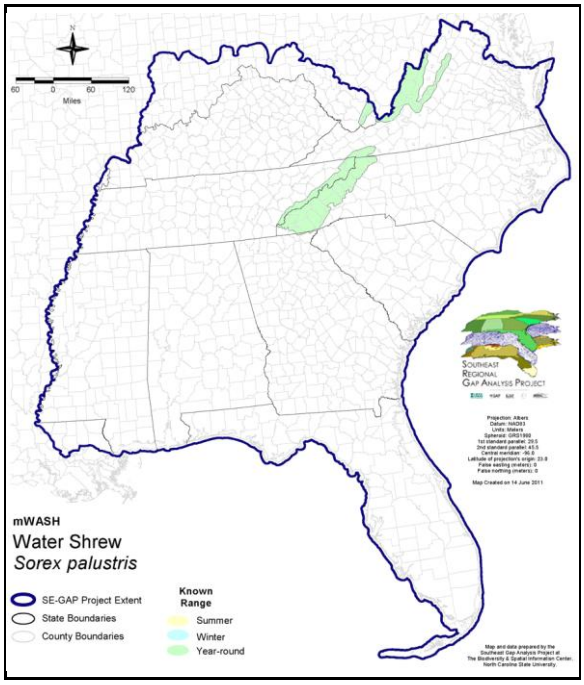
Water Shrew

Sorex palustris

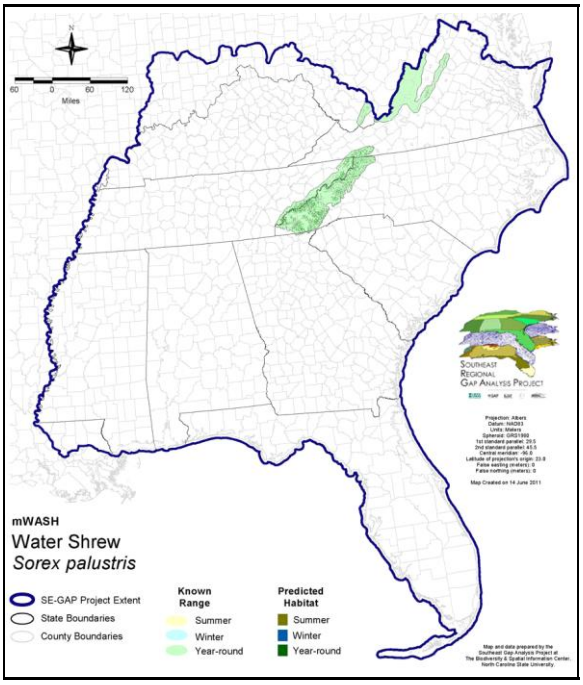
Taxa: Mammalian
Order: Soricomorpha
Family: Soricidae

SE-GAP Spp Code: **mWASH**
ITIS Species Code: 179933
NatureServe Element Code: AMABA01150

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mWASH.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mWASH.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mWASH
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mWASH_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AZ (WSC), MA (SC), NJ (U), NY (U), RI (Concern), TN (D), UT (None), VA (LE), WI (SC/N), BC (4 (2005)), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AK (S4), AZ (S1), CA (S4S5), CO (S4), CT (S3S4), GA (S1), ID (S4?), MA (S3), MD (S1), ME (S5), MI (S5), MN (S5), MT (S4), NC (S2), ND (SNA), NH (S5), NJ (SU), NM (S2), NV (S2), NY (S4), OR (S4), PA (SNR), RI (S1), SC (SNR), SD (SH), TN (S2), UT (S4), VA (S1), VT (S3), WA (S4), WI (S2S3), WV (S1), WY (S4), AB (S4), BC (S5), LB (S1?), MB (S5), NB (S5), NS (S5), NT (SNR), ON (S5), PE (S1?), QC (S5), SK (S5), YT (S5)

SUMMARY OF PREDICTED HABITAT BY MANAGMENT AND GAP PROTECTION STATUS:

	US FWS		US Forest Service		Tenn. Valley Author.		US DOD/ACOE	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	3,816.7	< 1	0.0	0	0.0	0
Status 2	0.0	0	11,176.4	3	0.0	0	0.0	0
Status 3	0.0	0	102,249.6	23	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	117,242.7	26	0.0	0	0.0	0

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	46,172.8	10	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	2,863.0	< 1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	49,035.8	11	0.0	0	0.0	0

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	229.7	< 1	0.0	0
Status 3	3,650.6	< 1	957.1	< 1	785.4	< 1	39.5	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	3,650.6	< 1	957.1	< 1	1,015.1	< 1	39.5	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	302.9	< 1	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	302.9	< 1	0.0	0	0.0	0

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	49,989.5	11
Status 2	0.0	0	0.0	0	11,709.0	3
Status 3	0.0	0	0.0	0	110,545.2	48
Status 4	172,066.8	39	2.7	< 1	172,069.5	39
Total	172,066.8	39	2.7	< 1	344,313.2	100

GAP Status 1: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, and intensity) are allowed to proceed without interference or are mimicked through management.

GAP Status 2: An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive use or management practices that degrade the quality of existing natural communities.

GAP Status 3: An area having permanent protection from conversion of natural land cover for the majority of the area, but subject to extractive uses of either a broad, low-intensity type or localized intense type. It also confers protection to federally listed endangered and threatened species throughout the area.

GAP Status 4: Lack of irrevocable easement or mandate to prevent conversion of natural habitat types to anthropogenic habitat types. Allows for intensive use throughout the tract. Also includes those tracts for which the existence of such restrictions or sufficient information to establish a higher status is unknown.

PREDICTED HABITAT MODEL(S):

Year-round Model:

Habitat Description: Water shrews are chiefly mammals of northern latitudes and may be found in northern hardwoods or along the banks of cold, small streams. They like herbaceous (grass-sedge-willow) covered banks of swift flowing mountain streams and creeks (Whitaker and Hamilton 1998; Webster et al. 1985). Conditions around bogs, intermittent creek beds, spring heads, beaver ponds and broadened slower-moving lengths of streams are also suitable habitat for this shrew. Water shrews require a habitat with vegetative cover, logs, rocks, crevices or other sources of shelter. Nest sites are near water in underground burrows, rafted logs, beaver lodges, and other areas providing shelter. The water shrew appears to have some flexibility in adapting to habitats with little water or even to habitats where water is present only seasonally. They can be found at elevations ranging from about 762 m (2500 ft.) in Pennsylvania to 1158 m (3800 ft.) and above in North Carolina and Tennessee. Understory vegetation is generally dense with mountain laurel and rhododendron being the most abundant species. They breed from February-August in Montana (Conaway 1952). Gestation lasts probably 3 weeks and litter size is 3-10, average 6 with 2-3 litters/year (Montana). They are sexually mature in second calendar year. Maximum lifespan is about 18 months (Beneski and Stinson 1987). Stacy Smith, 12June05

Elevation Mask: > 762m and < 2500m

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffer of 120m from selected water features.

Utilizes open water features with buffer of 120m from selected water features.

Selected Map Units:

Functional Group	Map Unit Name
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Central and Southern Appalachian Montane Oak Forest
Forest/Woodland	Central and Southern Appalachian Northern Hardwood Forest
Forest/Woodland	Central and Southern Appalachian Spruce-Fir Forest
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Southern and Central Appalachian Cove Forest
Forest/Woodland	Southern and Central Appalachian Oak Forest
Forest/Woodland	Southern and Central Appalachian Oak Forest - Xeric
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Rock Outcrop	Southern Appalachian Spray Cliff
Wetlands	Central Appalachian Floodplain - Forest Modifier
Wetlands	Central Appalachian Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	North-Central Appalachian Acidic Swamp
Wetlands	North-Central Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	Southern and Central Appalachian Bog and Fen

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Compiled: 15 September 2011

This data was compiled and/or developed by the Southeast GAP Analysis Project at The Biodiversity and Spatial Information Center, North Carolina State University.