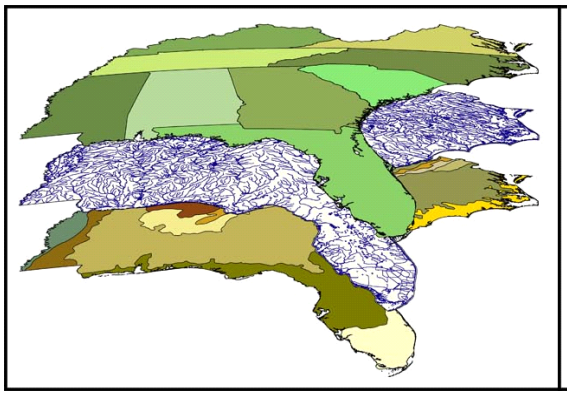


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

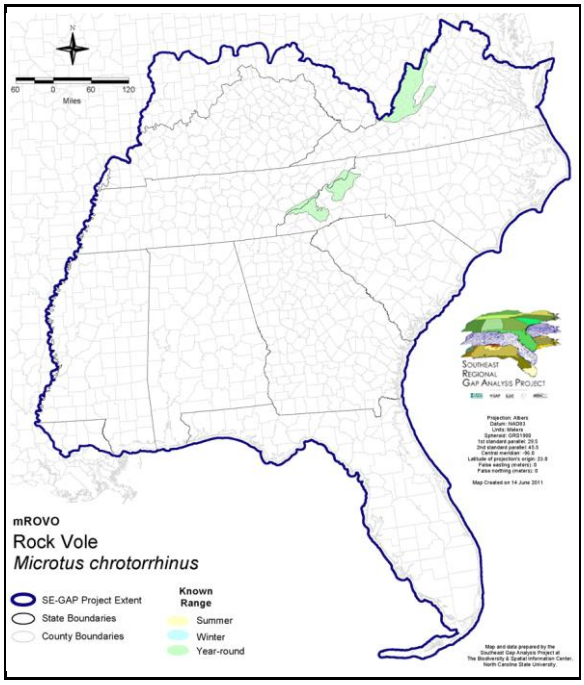
Rock Vole

Microtus chrotorrhinus

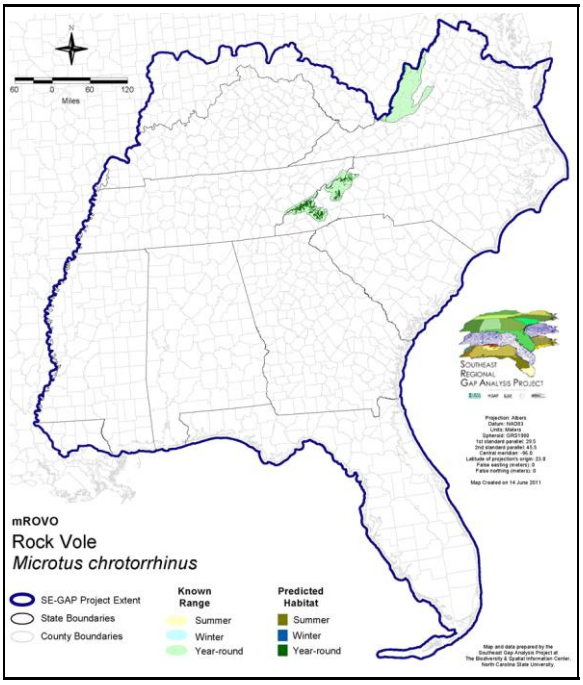
Taxa: Mammalian
Order: Rodentia
Family: Cricetidae

SE-GAP Spp Code: **mROVO**
ITIS Species Code: 180307
NatureServe Element Code: AMAFF11090

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mROVO.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mROVO.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mROVO
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mROVO_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: MN (NON), NY (U), VA (LE), QC (Susceptible)

NS Global Rank: G4

NS State Rank: MD (S1), ME (S3), MN (S4), NC (S3), NH (S4), NY (S4), PA (S2), SC (SNR), TN (SNR), VA (S1), VT (S2), WV (S2), LB (S1), NB (S1), NS (S2), ON (S4), QC (S3)

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	2,657.4	< 1	0.0	0	0.0	0
Status 2	0.0	0	3,942.0	1	0.0	0	0.0	0
Status 3	0.0	0	56,085.0	20	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	62,684.5	23	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	73,186.9	27	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	5,153.7	2	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	78,340.6	28	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	81.0	< 1	0.0	0
Status 3	2,283.7	< 1	616.8	< 1	516.2	< 1	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	2,283.7	< 1	616.8	< 1	597.2	< 1	0.0	0

	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	141.6	< 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	141.6	< 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	75,844.4	27
Status 2	0.0	0	0.0	0	4,164.6	2
Status 3	0.0	0	0.0	0	64,655.4	44
Status 4	75,372.7	27	0.0	0	75,372.7	27
Total	75,372.7	27	0.0	0	220,037.0	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: Usually uncommon in abundance, the rock vole inhabits mountain forests of the Appalachians south to Tennessee and North Carolina (Lee et al. 1982, Whitaker and Hamilton 1998). In North Carolina, the species is rare at most localities where it has been found, but locally common in the Great Smoky Mountains (Lee et al. 1982, Clark 1987).

The vole is found in cool, moist mountain forest settings, but also among high summit rock outcrops and in upper elevation grassy meadows and heath balds (Whitaker and Hamilton 1998). The vole is considered by some authors to mainly inhabit conifer forests (Lee et al. 1982). However, Linzey and Linzey (1971) indicates a number of collection locations where northern hardwoods dominate. D.W. Pfitzer noted, from a survey in the Great Smoky Mountains NP, that three habitat types are used; very rocky talus slopes with no grass, open grassy areas, and one location where a specimen was taken in birch-beech forest (Linzey and Linzey 1971). Therefore, at mid and high-elevations in the southern Appalachians, the species may be more limited by the availability of suitable shelter than by forest type. High-mountain streams with varying amounts of surface rock are also noted as suitable habitat (Linzey and Linzey 1971).

It prefers retreats in boulder and talus fields or log-fall areas in shaded, moist to damp forest settings. Moss-covered rock piles and logs, rock crevices, and thick leaf litter among rocks appear to be preferred denning sites (Webster et al. 1985, Whitaker and Hamilton 1998). However, it also inhabits more open sites, such as mountain meadows and balds, where suitable rocky shelter is present. It also can be found in brush and slash piles of cutover areas.

Quoted from NC habitat notes - K. Cook - 6-1-05

Additional information:
Orrock et al. (2000) found that low resolution habitat data was ineefective for predicting habitat for rock voles. This GAP model is just based on landcover and landform, not patch metrics. K. Cook - 6-1-05

Elevation Mask: > 1158m and < 2500m

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Deciduous Plantations
Anthropogenic	Evergreen Plantations
Anthropogenic	Quarry/Strip Mine/Gravel Pit
Anthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)
Bald	Central Appalachian Montane Rocky Bald - Herbaceous Modifier
Bald	Central Appalachian Montane Rocky Bald - Shrub Modifier
Bald	Southern Appalachian Grass and Shrub Bald - Herbaceous Modifier
Bald	Southern Appalachian Grass and Shrub Bald - Shrub Modifier
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood Modifier
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Pine Modifier
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Appalachian Serpentine Woodland
Forest/Woodland	Appalachian Shale Barrens
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 Alkaline Glade and Woodland
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Central Appalachian Pine-Oak Rocky Woodland
Forest/Woodland	East Gulf Coastal Plain Northern Dry Upland Hardwood Forest - Offsite Pine Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Ridge and Valley Calcareous Valley Bottom Glade and Woodland

Forest/Woodland	Southern and Central Appalachian Cove Forest
Forest/Woodland	Southern and Central Appalachian Mafic Glade and Barrens
Forest/Woodland	Southern and Central Appalachian Oak Forest
Forest/Woodland	Southern and Central Appalachian Oak Forest - Xeric
Forest/Woodland	Southern Appalachian Low Mountain Pine Forest
Forest/Woodland	Southern Appalachian Montane Pine Forest and Woodland
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Pine Modifier
Rock Outcrop	North-Central Appalachian Acidic Cliff and Talus
Rock Outcrop	North-Central Appalachian Circumneutral Cliff and Talus
Rock Outcrop	Southern Appalachian Granitic Dome
Rock Outcrop	Southern Appalachian Rocky Summit

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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.