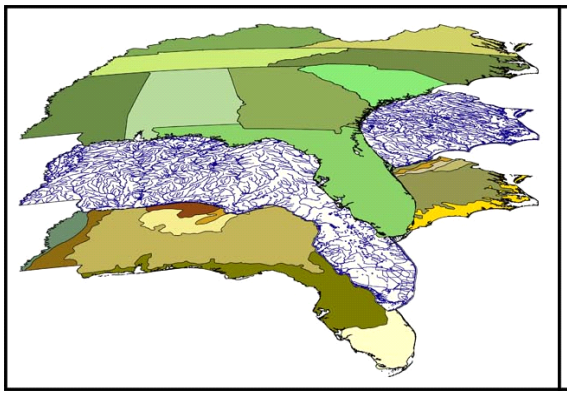


SOUTHEAST GAP ANALYSIS PROJECT

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

Species Modeling Report

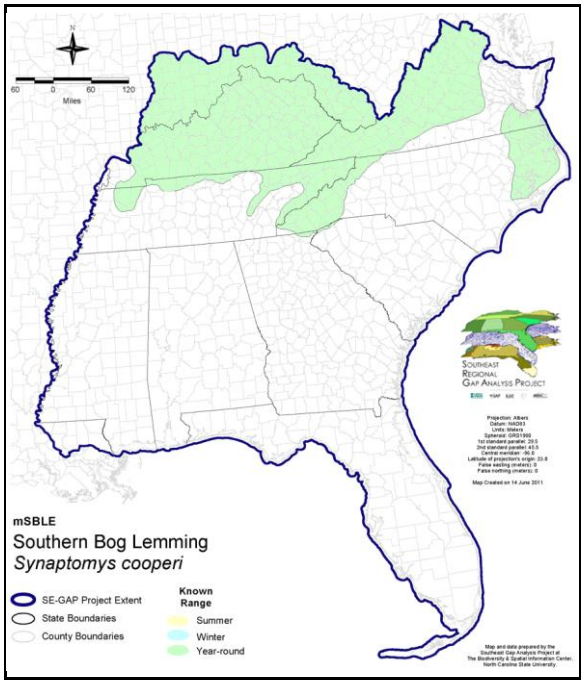
Southern Bog Lemming

Synaptomys cooperi

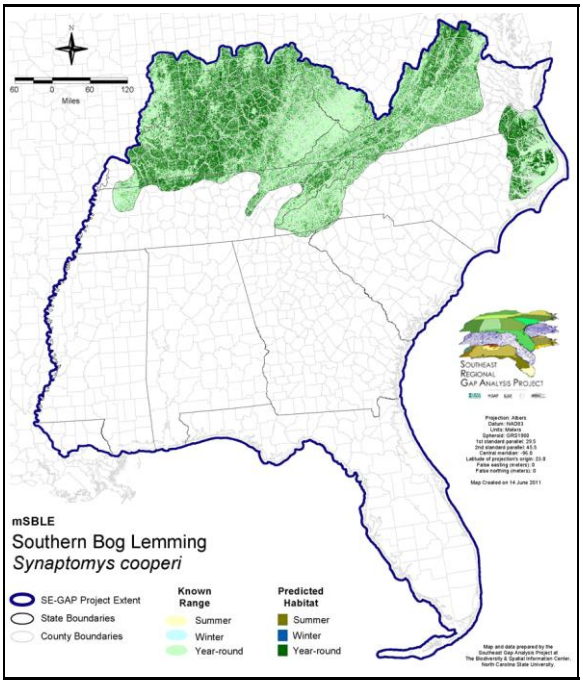
Taxa: Mammalian
Order: Rodentia
Family: Cricetidae

SE-GAP Spp Code: **mSBLE**
ITIS Species Code: 180324
NatureServe Element Code: AMAFF17010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mSBLE.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mSBLE.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mSBLE
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mSBLE_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: CT (SC), IA (T), KS (C), KY (N), MA (SC), NJ (U), NY (U), RI (Concern), TN (D), QC (Susceptible)

NS Global Rank: G5

NS State Rank: AR (S2), CT (S3), DC (S3), GA (S1), IA (S3), IL (S4), IN (S3), KS (S3?), KY (S4), MA (S2), MD (S3), ME (S4), MI (S5), MN (SNR), MO (SNR), NC (S3S4), NE (S4), NH (S4), NJ (S2), NY (S4), OH (SNR), PA (S4), RI (S1), SC (SNR), SD (S1), TN (S4), VA (S5), VT (S3), WI (S4), WV (S2), MB (S3), NB (S3), NS (S3S4), 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	48,854.9	< 1	2,308.6	< 1	0.0	0	0.0	0
Status 2	86,057.2	< 1	53,941.4	< 1	0.0	0	440.6	< 1
Status 3	1,035.7	< 1	279,479.8	3	6,739.1	< 1	72,864.3	< 1
Status 4	35.1	< 1	0.0	0	0.0	0	27.3	< 1
Total	135,982.9	1	335,729.8	4	6,739.1	< 1	73,332.1	< 1

	US Dept. of Energy		US Nat. Park Service			NOAA	Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	47,316.0	< 1	0.0	0	0.0	0
Status 2	0.0	0	1,934.5	< 1	14.0	< 1	0.0	0
Status 3	0.0	0	19,898.4	< 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	69,148.8	< 1	14.0	< 1	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	2,267.8	< 1	82,214.5	< 1	132.8	< 1
Status 3	1,960.1	< 1	16,490.0	< 1	51,872.3	< 1	12,766.4	< 1
Status 4	0.0	0	0.0	0	2,256.4	< 1	0.0	0
Total	1,960.1	< 1	18,757.8	< 1	136,343.2	1	12,899.3	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	1,540.4	< 1	0.0	0	0.0	0
Status 2	10,241.4	< 1	13,810.3	< 1	0.8	< 1	0.0	0
Status 3	0.0	0	0.0	0	1,423.7	< 1	22.3	< 1
Status 4	0.0	0	0.0	0	276.9	< 1	0.0	0
Total	10,241.4	< 1	15,350.7	< 1	1,701.5	< 1	22.3	< 1

	Private Land - No Res.		Water			Overall Total	
	ha	%	ha	%		ha	%
Status 1	0.0	0	0.0	0		100,019.8	1
Status 2	0.0	0	0.0	0		251,055.2	3
Status 3	0.0	0	0.0	0		464,552.1	8
Status 4	8,147,112.4	88	3,145.2	< 1		8,155,074.6	88
Total	8,147,112.4	88	3,145.2	< 1		8,970,701.7	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: Two races occur in the region, a mountain race found along the Appalachian chain and a coastal race, which is restricted to the Dismal Swamp area of northeastern North Carolina and southeastern Virginia (Lee et al. 1982, Webster et al. 1985). The coastal race, once considered extinct, is now generally considered well dispersed but uncommon within its restricted range.

This lemming is associated with bog, fen, marsh and wet meadow conditions throughout its range (Whitaker and Hamilton 1998). However, it will use a variety of open habitats, including dry grassy hillsides, tall grass fields, grassy areas interspersed with short-tree and shrubby growth, canebrakes, grassy clearings in woods, orchards and forest edges adjacent to meadows and old fields (Webster et al. 1985, Whitaker and Hamilton 1998). In upland settings, it may use open grassy areas as well as mesic, partially open to closed conifer, deciduous and mixed forests with a thick humus layer (Webster et al. 1985, Whitaker and Hamilton 1998). However, in drier forests of the New Jersey Pine Barrens, sphagnum bogs with tall grasses and sedges are the principal habitat (Whitaker and Hamilton 1998).
Green, succulent monocot grasses and sedges are a consistent and perhaps critical component of habitat (Whitaker and Hamilton 1998). It makes its den under mats of grass and sphagnum, in brushy thickets and in areas of thick leaf mold and humus. Burrow-like runways through the dense grass are similar to those made by species of in the genus Microtus.

Quoted from state habitat notes - K. Cook - 6-8-05

Customized Model: Any natural grasslands do not need to conform to landforms. Only forest types, pasture, clear cut and utility lines should be restricted by landforms.

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Deciduous Plantations
Anthropogenic	Evergreen Plantations
Anthropogenic	Pasture/Hay
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (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
Coastal Dune & Freshwater Wetland	Atlantic and Gulf Coastal Plain Interdunal Wetland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Hardwood Modifier
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Atlantic Coastal Plain Central Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Dry and Dry-Mesic Oak Forest
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Offsite Hardwood Modifier
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest
Forest/Woodland	Atlantic Coastal Plain Northern Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Northern Mixed Oak-Heath 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 Alkaline Glade and Woodland
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Central Interior Highlands Calcareous Glade and Barrens
Forest/Woodland	Central Interior Highlands Dry Acidic Glade and Barrens
Forest/Woodland	Cumberland Sandstone Glade and Barrens
Forest/Woodland	East Gulf Coastal Plain Northern Dry Upland Hardwood Forest - Offsite Pine Modifier
Forest/Woodland	Nashville Basin Limestone Glade

Forest/Woodland	Northeastern Interior Dry Oak Forest - Mixed Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Ridge and Valley Calcareous Valley Bottom Glade and Woodland
Forest/Woodland	South-Central Interior Mesophytic 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 Appalachian Montane Pine Forest and Woodland
Forest/Woodland	Southern Interior Low Plateau Dry-Mesic Oak Forest
Forest/Woodland	Southern Interior Low Plateau Dry-Mesic Oak Forest - Evergreen Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Piedmont Glade and Barrens
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Hardwood Modifier
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Central Fresh-Oligohaline Tidal Marsh
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Embayed Region Tidal Freshwater Marsh
Freshwater Tidal Marsh & Wetland	Atlantic Coastal Plain Northern Fresh and Oligohaline Tidal Marsh
Prairie	Bluegrass Basin Savanna and Woodland
Prairie	Pennyroyal Karst Plain Prairie and Barrens
Prairie	Southern Ridge and Valley Patch Prairie
Prairie	Western Highland Rim Prairie and Barrens
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Herbaceous Modifier
Wetlands	Atlantic Coastal Plain Brownwater Stream Floodplain Forest
Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Forested Wetland
Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Herbaceous Wetland
Wetlands	Atlantic Coastal Plain Depression Pondshore
Wetlands	Atlantic Coastal Plain Large Natural Lakeshore
Wetlands	Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Taxodium/Nyssa Modifier
Wetlands	Atlantic Coastal Plain Nonriverine Swamp and Wet Hardwood Forest - Oak Dominated Modifier
Wetlands	Atlantic Coastal Plain Northern Basin Peat Swamp
Wetlands	Atlantic Coastal Plain Northern Basin Swamp and Wet Hardwood Forest
Wetlands	Atlantic Coastal Plain Northern Pondshore
Wetlands	Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Peatland Pocosin
Wetlands	Atlantic Coastal Plain Sandhill Seep
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
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	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
Wetlands	Western Highland Rim Seepage 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.