



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Hispid Cotton Rat

*Sigmodon hispidus*

Taxa: Mammalian

Order: Rodentia

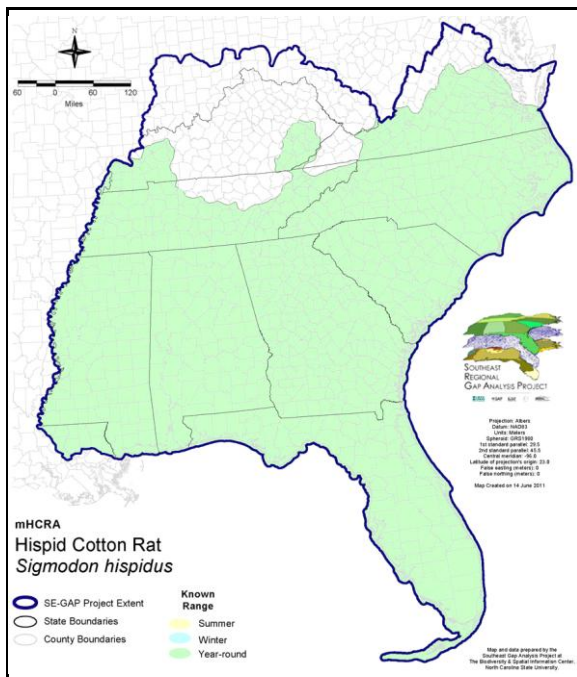
Family: Cricetidae

SE-GAP Spp Code: **mHCRA**

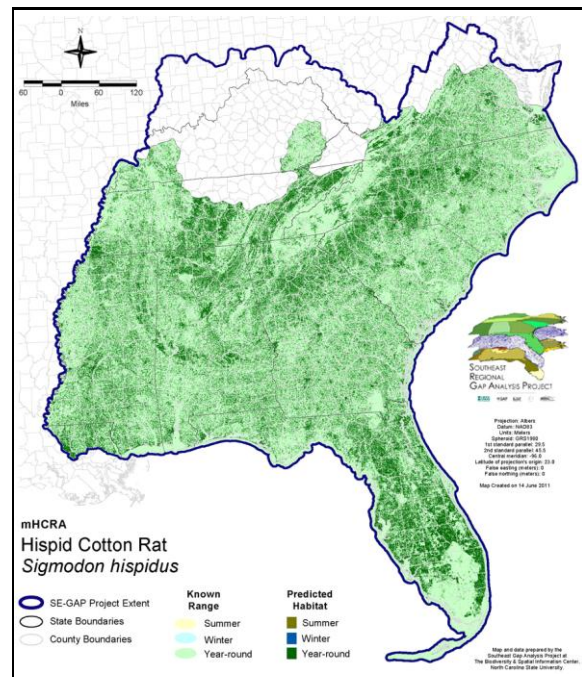
ITIS Species Code: 180349

NatureServe Element Code: AMAFF07010

#### KNOWN RANGE:



#### PREDICTED HABITAT:



Range Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Range\\_mHCRA.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mHCRA.pdf)

Predicted Habitat Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Dist\\_mHCRA.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mHCRA.pdf)

GAP Online Tool Link: <http://www.gapservice.ncsu.edu/segap/segap/index2.php?species=mHCRA>

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/mHCRA\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/mHCRA_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KY (N), MS (Non-game species in need of management)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S5), AZ (S5), CA (S2), CO (S4), FL (S5), GA (S5), IA (SU), KS (S5), KY (S3S4), LA (S5), MO (SNR), MS (S5), NC (S5), NE (S3), NM (S5), OK (S5), SC (SNR), TN (S5), TX (S5), VA (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	18,910.4	< 1	497.4	< 1	0.0	0	0.0	0
Status 2	35,266.8	< 1	9,424.7	< 1	0.0	0	611.2	< 1
Status 3	364.4	< 1	148,393.8	< 1	25,185.5	< 1	212,014.4	< 1
Status 4	21.9	< 1	0.0	0	0.0	0	265.1	< 1
Total	54,563.4	< 1	158,315.9	< 1	25,185.5	< 1	212,890.6	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	23,090.1	< 1	131.9	< 1	2,743.2	< 1
Status 2	0.0	0	12,074.0	< 1	7,740.3	< 1	39.2	< 1
Status 3	4,928.5	< 1	33,392.5	< 1	0.0	0	4,309.8	< 1
Status 4	0.0	0	0.0	3	0.0	0	0.0	0
Total	4,928.5	< 1	68,556.7	< 1	7,872.2	< 1	7,092.2	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	147.5	< 1	6.5	< 1	0.0	0
Status 2	0.0	0	1,052.7	< 1	179,059.5	< 1	58.2	< 1
Status 3	4,069.2	< 1	246,916.9	< 1	29,524.3	< 1	83,884.6	< 1
Status 4	0.0	0	0.0	0	22,106.2	< 1	4.3	< 1
Total	4,069.2	< 1	248,117.1	< 1	230,696.5	< 1	83,947.1	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	830.2	< 1	0.0	0	0.0	0
Status 2	3,311.4	< 1	10,183.2	< 1	1.5	< 1	1,533.9	< 1
Status 3	0.0	0	10,079.6	< 1	16,834.1	< 1	75,793.4	< 1
Status 4	0.0	0	0.0	0	1,631.0	< 1	< 0.1	< 1
Total	3,311.4	< 1	21,092.9	< 1	18,466.6	< 1	77,327.4	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	0	0.0	0	46,357.2	< 1		
Status 2	0.0	0	0.0	0	260,356.5	< 1		
Status 3	298.4	< 1	< 0.1	< 1	895,989.3	4		
Status 4	27,669,622.1	95	30,500.2	< 1	27,746,235.1	95		
Total	27,669,920.4	95	30,500.3	< 1	28,948,938.1	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: Hispid cotton rats are found in open and semi-open habitats with sufficient cover to provide security from predation. They may be abundant in old fields with broomsedges and other grasses, in marshes, and in thickets and other habitats with dense growth of honeysuckle or blackberries. They are often the most common small rodent of open farm and old field habitats in the southeastern United States (Whitaker and Hamilton 1998). Watery habitats containing emergent grasses, reeds and sedges are also suitable for the cotton rat (Brown 1997, Whitaker and Hamilton 1998). They are also found in pine-palmetto stands and dense cord grass, pinelands, flatwoods, hammocks, and transition areas, beaches [sea oats/agave], patches of shrubs in salt marshes and prairies, buttonwood, swamp, willowhead, sawgrass marsh, moist grassland, freshwater and salt prairie, ditches, canal banks, and sugarcane (Lazell 1989; Fernald 1989; Barbour and Humphrey 1982; Lefebvre 1982; Layne 1974). Estimated density is 7.6/acre (Howell 1954). They tend towards drier habitats in wet seasons (Layne 1984). Shallow tunnel systems are used for nesting & food storage and nests are typically built under logs, rocks. Their home range averages 0.35 ha (Cameron and Spencer 1981). They breed throughout the year, with peak activity in the spring and fall. Severe cold may curtail reproduction in winter. Gestation lasts 27 days. Litter size averages about 5-7 with several litters per year. They reach sexual maturity in 2-3 months and are short-lived, in Oklahoma hardly any lived 6 months (Caire et al. 1989). Stacy Smith, 17June05

Elevation Mask: < 880m

### Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Developed Open Space
Anthropogenic	Low Intensity Developed
Anthropogenic	Medium Intensity Developed
Anthropogenic	Pasture/Hay
Anthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)
Coastal Dune & Freshwater Wetland	Atlantic and Gulf Coastal Plain Interdunal Wetland
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Northern Dune and Maritime Grassland
Coastal Dune & Freshwater Wetland	Atlantic Coastal Plain Southern Dune and Maritime Grassland
Coastal Dune & Freshwater Wetland	East Gulf Coastal Plain Dune and Coastal Grassland
Coastal Dune & Freshwater Wetland	Southwest Florida Dune and Coastal Grassland
Forest/Woodland	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Woodland Modifier
Forest/Woodland	Southern Coastal Plain Oak Dome and Hammock
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
Freshwater Tidal Marsh & Wetland	Florida Big Bend Fresh-Oligohaline Tidal Marsh
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland
Prairie	East Gulf Coastal Plain Black Belt Calcareous Prairie and Woodland - Herbaceous Modifier
Prairie	East Gulf Coastal Plain Jackson Plain Prairie and Barrens
Prairie	East Gulf Coastal Plain Jackson Prairie and Woodland
Prairie	Eastern Highland Rim Prairie and Barrens
Prairie	Eastern Highland Rim Prairie and Barrens - Dry Modifier
Prairie	Florida Dry Prairie
Prairie	Panhandle Florida Limestone Glade
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 - Herbaceous Modifier

Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Herbaceous Wetland
Wetlands	Atlantic Coastal Plain Depression Pondshore
Wetlands	Atlantic Coastal Plain Northern Pondshore
Wetlands	Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods
Wetlands	Central Appalachian Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	Central Florida Herbaceous Pondshore
Wetlands	Central Florida Herbaceous Seep
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Southern Depression Pondshore
Wetlands	East Gulf Coastal Plain Treeless Savanna and Wet Prairie
Wetlands	Floridian Highlands Freshwater Marsh
Wetlands	Lower Mississippi River Bottomland Depressions - Herbaceous Modifier
Wetlands	South Florida Freshwater Slough and Gator Hole
Wetlands	South Florida Wet Marl Prairie
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	Southern Coastal Plain Spring-run Stream Aquatic Vegetation
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous Modifier

**CITATIONS:** Barbour, D.B. and S.R. Humphrey. 1982. Status and habitat of the Key Largo woodrat and cotton mouse (*Neotoma floridana smalli* and *Peromyscus gossypinus allapaticola*). *Journal of Mammalogy* 63(1): 144-148.

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For more information:: SE-GAP Analysis Project / BaSIC  
127 David Clark Labs  
Dept. of Biology, NCSU  
Raleigh, NC 27695-7617  
(919) 513-2853  
[www.basic.ncsu.edu/segap](http://www.basic.ncsu.edu/segap)

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The Biodiversity and Spatial Information  
Center, North Carolina State University.