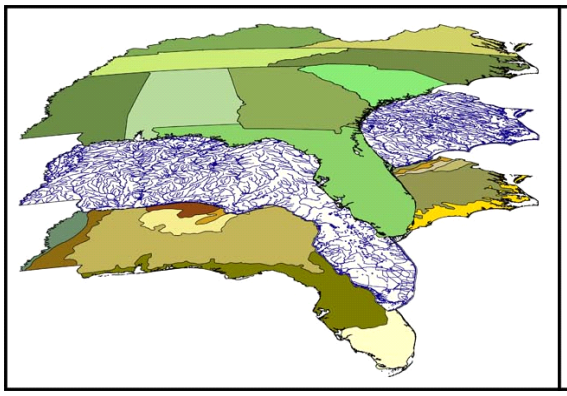


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

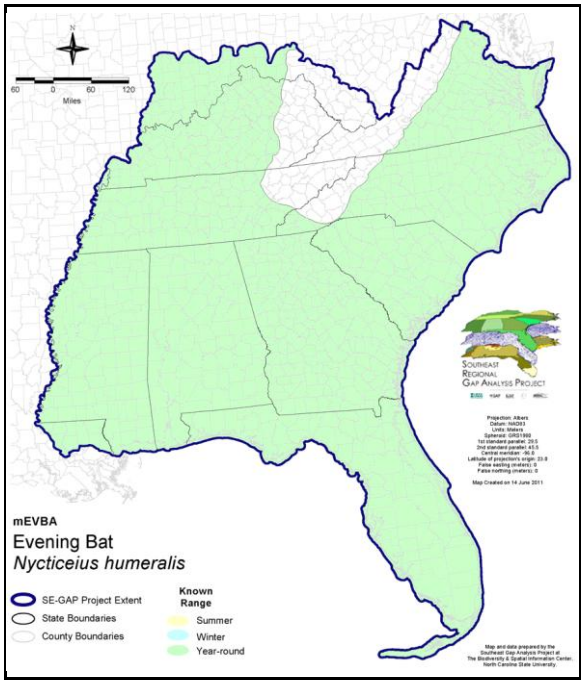
Evening Bat

Nycticeius humeralis

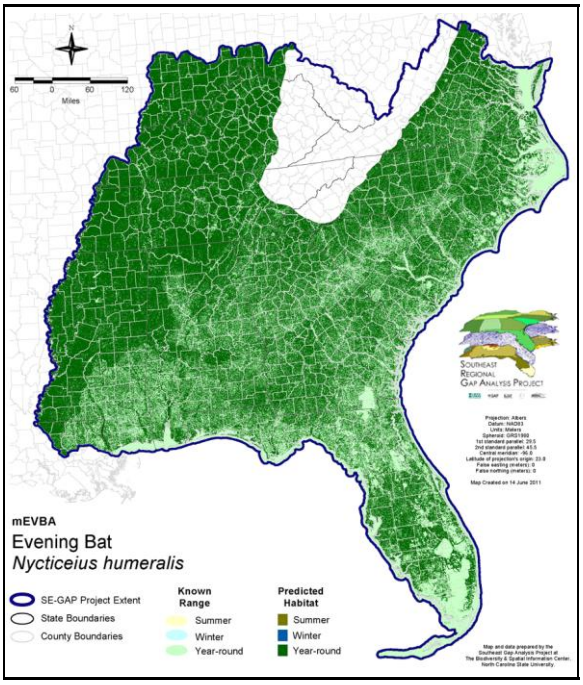
Taxa: Mammalian
Order: Chiroptera
Family: Vespertilionidae

SE-GAP Spp Code: **mEVBA**
ITIS Species Code: 180022
NatureServe Element Code: AMACC06010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mEVBA.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mEVBA.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mEVBA
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mEVBA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: IN (SE), KY (S), MI (T), MS (Non-game species in need of management), MS (Non-game species in need of management), NJ (U), OH (N)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S4), DC (S2B), DE (SU), FL (SNR), GA (S5), IA (S3), IL (S3), IN (S1), KS (S3S4B), KS (S3S4B), KY (S3), LA (S5), MD (S5B), MI (SNA), MO (SNR), MS (SNRB,SNRN), MS (SNRB,SNRN), NC (S5B), NC (S5B), NE (S4), NJ (SU), OH (SNR), OK (S4), PA (SUB,SUN), SC (SNR), SD (S1), TN (S5), TX (S5), VA (S4), WV (S1), ON (SNA)

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	50,828.6	< 1	18,386.1	< 1	0.0	0	0.0	0
Status 2	146,444.9	< 1	164,802.0	< 1	0.0	0	4,887.6	< 1
Status 3	3,219.6	< 1	1,284,778.8	2	45,725.5	< 1	591,029.4	< 1
Status 4	55.3	< 1	< 0.1	< 1	0.0	0	313.1	< 1
Total	200,548.4	< 1	1,467,967.0	2	45,725.5	< 1	596,230.1	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	76,315.4	< 1	116.4	< 1	11,955.6	< 1
Status 2	0.0	0	14,296.8	< 1	8,413.9	< 1	34.6	< 1
Status 3	25,000.5	< 1	177,767.2	< 1	0.0	0	3,833.3	< 1
Status 4	0.0	0	1.0	2	0.0	0	0.0	0
Total	25,000.5	< 1	268,380.8	< 1	8,530.3	< 1	15,823.4	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	1,400.0	< 1	79.1	< 1	0.0	0
Status 2	0.0	0	17,791.0	< 1	540,889.7	< 1	95.5	< 1
Status 3	8,648.8	< 1	482,720.5	< 1	140,088.0	< 1	200,129.8	< 1
Status 4	0.0	0	< 0.1	< 1	71,247.2	< 1	28.0	< 1
Total	8,648.8	< 1	501,911.6	< 1	752,304.1	1	200,253.2	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	10,813.7	< 1	0.0	0	0.0	0
Status 2	6,283.4	< 1	65,920.2	< 1	5.2	< 1	2,737.6	< 1
Status 3	0.0	0	18,560.7	< 1	18,502.6	< 1	103,138.5	< 1
Status 4	0.0	0	2.1	< 1	3,186.5	< 1	< 0.1	< 1
Total	6,283.4	< 1	95,296.7	< 1	21,694.3	< 1	105,876.2	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	169,894.9	< 1
Status 2	0.0	0	0.0	2	972,602.7	1
Status 3	263.9	< 1	< 0.1	< 1	3,103,406.9	6
Status 4	65,233,186.8	92	53,633.2	< 1	65,432,845.9	92
Total	65,233,450.7	92	53,633.4	< 1	69,678,750.4	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: Ancestrally, roosts of N. humeralis are presumed to have been predominantly in hollow trees. However, the species has adapted well to manmade structures and now uses both types of shelter, arboreal and manmade, as roosts and nurseries (Whitaker and Hamilton 1998). Roosts and nurseries have been found in hollow trees, old and abandoned buildings, house attics, barns, bridges, water culverts and other places that provide dark, secluded 'nooks and crannies' (Webster et al. 1985, Brown 1997). Evening bats, prefer deciduous and mixed forest interspersed with cultivated areas (NatureServe 2005), and are also know to roost under bark of dead snags in beaver ponds and in cavities of longleaf pine in the Upper Coastal Plain (Menzel et al 2001). They forage in riparian areas, beaver ponds, bays, farm ponds,along large streams, forest openings and over clearings (Menzel et al. 2001, GA-GAP 2003). Evening bats may swarm around mouths of caves and mines in fall but do not commonly inhabit them (NatureServe 2005,Watkins 1972).

Menzel et al. 2001-did not find roosts in loblolly pines

Amy Silvano 20jun05

Hydrography Mask:

Utilizes flowing water features with buffers of 1000m from and 60m into selected water features.

Utilizes open water features with buffers of 1000m from and 60m into selected water features.

Utilizes wet vegetation features with buffer of unlimited into selected vegetation features.

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Deciduous Plantations
Anthropogenic	Developed Open Space
Anthropogenic	Low Intensity Developed
Anthropogenic	Medium Intensity Developed
Anthropogenic	Pasture/Hay
Anthropogenic	Row Crop
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)
Forest/Woodland	Alabama Ketona Glade and Woodland
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	Appalachian Serpentine Woodland
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 Fall-line Sandhills Longleaf Pine Woodland - Open Understory 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	Atlantic Coastal Plain Southern Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Upland Longleaf Pine Woodland
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 Interior Shortleaf Pine-Oak Forest - Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Mixed Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Offsite Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	East Gulf Coastal Plain Limestone Forest

Forest/Woodland	East Gulf Coastal Plain Maritime Forest
Forest/Woodland	East Gulf Coastal Plain Northern Dry Upland Hardwood Forest
Forest/Woodland	East Gulf Coastal Plain Northern Loess Bluff Forest
Forest/Woodland	East Gulf Coastal Plain Northern Loess Plain Oak-Hickory Upland - Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Northern Mesic Hardwood Forest
Forest/Woodland	East Gulf Coastal Plain Southern Loess Bluff Forest
Forest/Woodland	East Gulf Coastal Plain Southern Mesic Slope Forest
Forest/Woodland	Mississippi Delta Maritime Forest
Forest/Woodland	Northeastern Interior Dry Oak Forest - Mixed Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Northern Atlantic Coastal Plain Dry Hardwood Forest
Forest/Woodland	Ridge and Valley Calcareous Valley Bottom Glade and Woodland
Forest/Woodland	South-Central Interior Mesophytic Forest
Forest/Woodland	Southeast Florida Coastal Strand and Maritime Hammock
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 Coastal Plain Dry Upland Hardwood Forest
Forest/Woodland	Southern Coastal Plain Oak Dome and Hammock
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-(Pine) Forest - Hardwood Modifier
Forest/Woodland	Southern Piedmont Dry Oak-(Pine) Forest - Mixed Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Hardwood Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Mixed Modifier
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Piedmont Mafic Hardpan Woodland
Forest/Woodland	Southern Piedmont Mesic Forest
Forest/Woodland	Southern Piedmont Northern Triassic Basin Dry Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Hardwood Modifier
Forest/Woodland	Southwest Florida Coastal Strand and Maritime Hammock
Water	Open Water (Aquaculture)
Water	Open Water (Brackish/Salt)
Water	Open Water (Fresh)
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier
Wetlands	Atlantic Coastal Plain Brownwater Stream Floodplain Forest
Wetlands	Atlantic Coastal Plain Small Blackwater River Floodplain Forest
Wetlands	Central Appalachian Floodplain - Forest Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Forest Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Offsite Hardwood Modifier
Wetlands	East Gulf Coastal Plain Small Stream and River Floodplain Forest
Wetlands	East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods
Wetlands	Lower Mississippi River Bottomland and Floodplain Forest
Wetlands	Lower Mississippi River Bottomland Depressions - Forest Modifier
Wetlands	Mississippi River Low Floodplain (Bottomland) Forest
Wetlands	Mississippi River Riparian Forest
Wetlands	South Florida Cypress Dome
Wetlands	South Florida Hardwood Hammock
Wetlands	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Cypress Dome

Wetlands	Southern Piedmont Large Floodplain Forest - Forest Modifier
Wetlands	Southern Piedmont Small Floodplain and Riparian Forest

CITATIONS:

Baker, Rollin H. 1983. Michigan mammals. Michigan State University Press. 642 pp.

Barbour, R. W., and W. H. Davis. 1969. Bats of America. The University of Kentucky Press, Lexington, Kentucky.

Brown, L. N. 1997. A guide to the mammals of the southeastern United States. University of Tennessee Press, Knoxville. xiv + 236 pp.

Caire, W., J. D. Tyler, B. P. Glass, and M. A. Mares. Z. Marsh (illustrator). 1989. Mammals of Oklahoma. University of Oklahoma Press, Norman. Oklahoma. 567 pp.

Lowery, G. H., Jr. 1974. The mammals of Louisiana and its adjacent waters. Louisiana State University Press, Baton Rouge. 565 pp.

Menzel, M.A., T.C. Carter, W.M. Ford, and B.R. Chapman. 2001, Tree-roost characteristics of subadult and female adult evening bats (Nycticeius humeralis) in the Upper Coastal Plain of South Carolina: American Midland Naturalist. 145 112–119.

Schmidly, D. J. 1991. The bats of Texas. Texas A & M Univ. Press, College Station. 188 pp.

Schwartz, Charles W., and Elizabeth R. Schwartz. 1981. The wild mammals of Missouri. University of Missouri Press, Columbia. 356 pp.

Watkins, L. C. 1972. NYCTICEIUS HUMERALIS. Am. Soc. Mamm., Mammalian Species No. 23:1-4.

Webster, W. D., J. F. Parnell and W. C. Biggs Jr. 1985. Mammals of the Carolinas, Virginia, and Maryland. The University of North Carolina Press, Chapel Hill, NC.

Whitaker, J.O. Jr. and W.J. Hamilton, Jr. 1998. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York. 583 pp.

Wilson, D. E., and D. M. Reeder (editors). 1993. Mammal Species of the World:a Taxonomic and Geographic Reference. Second Edition. Smithsonian Institution Press, Washington, DC. xviii + 1206 pp.

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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.