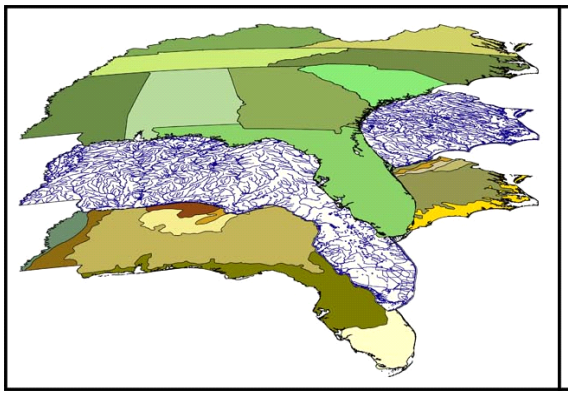


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

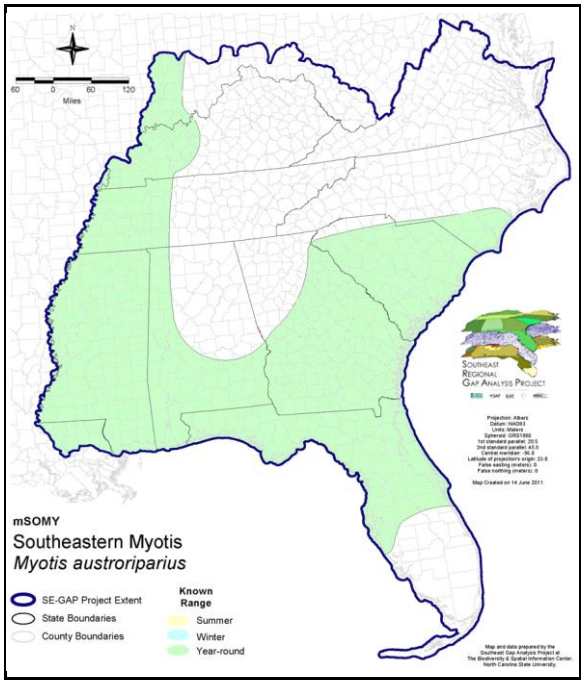
Southeastern Myotis

Myotis austroriparius

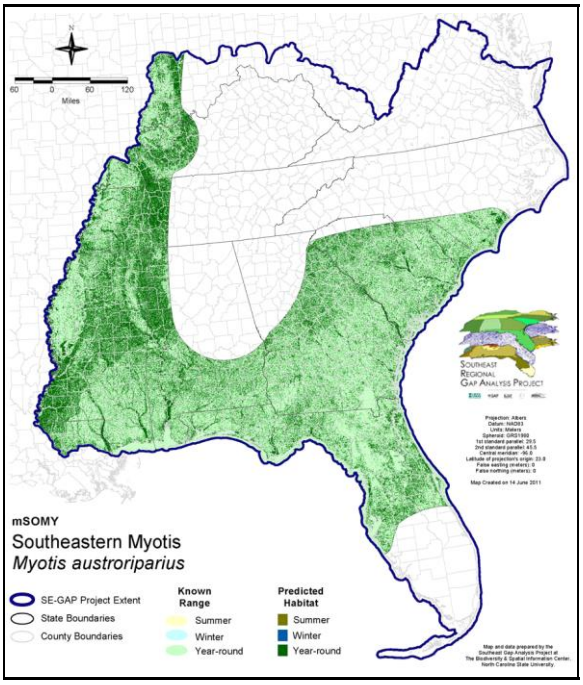
Taxa: Mammalian
Order: Chiroptera
Family: Vespertilionidae

SE-GAP Spp Code: **mSOMY**
ITIS Species Code: 179993
NatureServe Element Code: AMACC01030

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_mSOMY.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_mSOMY.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=mSOMY
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/mSOMY_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AL (SP), IL (LE), IN (SSC), KY (E), MS (Non-game species in need of management), MS (Non-game species in need of management), NC (SC), OK (Category II)

NS Global Rank: G3G4

NS State Rank: AL (S2), AR (S3), FL (S3), GA (S3), IL (S1), IN (S1), KY (S1S2), LA (S4), MO (SU), MS (S3), MS (S3), NC (S2), OK (S1), SC (S1), TN (S3), TX (S3), VA (S2)

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	28,361.0	< 1	5,415.2	< 1	0.0	0	0.0	0
Status 2	101,161.4	< 1	52,979.7	< 1	0.0	0	747.8	< 1
Status 3	2,604.7	< 1	497,173.6	2	11,931.4	< 1	189,031.9	< 1
Status 4	7.7	< 1	< 0.1	< 1	0.0	0	0.0	0
Total	132,134.9	< 1	555,568.6	3	11,931.4	< 1	189,779.7	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	10,214.7	< 1	117.7	< 1	8,665.6	< 1
Status 2	0.0	0	7,220.3	< 1	7,052.9	< 1	14.1	< 1
Status 3	19,773.3	< 1	16,739.7	< 1	0.0	0	2,010.9	< 1
Status 4	0.0	0	1.0	7	0.0	0	0.0	0
Total	19,773.3	< 1	34,176.3	< 1	7,170.7	< 1	10,690.6	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	347.9	< 1	0.0	0	0.0	0
Status 2	0.0	0	699.8	< 1	310,049.6	2	0.0	0
Status 3	7,150.9	< 1	246,073.5	1	66,924.0	< 1	103,590.1	< 1
Status 4	0.0	0	0.0	0	20,666.3	< 1	12.1	< 1
Total	7,150.9	< 1	247,121.1	1	397,639.9	2	103,602.2	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	2,237.6	< 1	0.0	0	0.0	0
Status 2	3,034.3	< 1	28,141.6	< 1	0.0	0	368.4	< 1
Status 3	0.0	0	8,681.0	< 1	9,912.2	< 1	46,403.4	< 1
Status 4	0.0	0	0.0	0	1,843.5	< 1	0.0	0
Total	3,034.3	< 1	39,060.1	< 1	11,755.7	< 1	46,771.7	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	55,359.6	< 1
Status 2	0.0	0	0.0	8	511,470.0	2
Status 3	505.4	< 1	0.0	0	1,228,505.9	8
Status 4	18,227,494.4	89	27,492.5	< 1	18,298,176.8	89
Total	18,227,999.9	89	27,492.7	< 1	20,093,512.2	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: Most frequently associated with caves, where they may form large maternity colonies, these bats may also roost in hollow trees, mine tunnels, culverts, and other manmade structures (GA-GAP 2003). Adult males and nonbreeders tend to roost apart from maternity colonies in caves, buildings, culverts, and bridges (Hofmann et al. 1999). Southeastern myotis, prefers to forage over water and around live oak on drier sites (Humphrey 1992).

In Florida, large numbers congregate form maternity colonies in caves; reported a few times in buildings. Maternity colonies are also known from one cave in Georgia and one in Alabama. In the rest of the deep south, these bats use buildings and other structures, mines, and hollow trees for spring and summer roosts. In the north, the pattern of cave use is different. Kentucky populations winter in caves, but are rare in most caves in the summer (MacGregor 1992). However one large maternity colony in a Kentucky cave has been reported recently (MacGregor 1992). The few old records from Indiana also were mostly from caves in winter. Summer roost sites are poorly known from this part of their range. At least one cave in Indiana had bats every month except May, June, and July (Mumford and Whitaker 1982). Only two maternity colonies have been reported in this region, one in the Kentucky cave already mentioned, and another smaller colony in southern Illinois, where radio tagging led to the discovery of a maternity colony in a hollow tree in a hardwood swamp (Gore and Hovis 1992).

Amy Silvano 10jun05

Ecosystem Classifiers: EXCLUDED: Evergreen, Disturbed Bare, AG, Coastal Dune, Brackish marshes & Wetlands, Tidal Marshes, Savannas, All emergent vegetation, Prairie (due to typical dry environment) & Bald (b/c non-treed) as well as other non-wooded veg. Amy Silvano 10jun05 ***These are the same systems used for little brown myotis with the exception of adding maritime forests. Amy Silvano 10jun05

Hydrography Mask:

Utilizes flowing water features with buffers of 500m from and 250m into selected water features.

Utilizes open water features with buffers of 500m from and 250m 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	Quarry/Strip Mine/Gravel Pit
Brackish Tidal Marsh & Wetland	Atlantic Coastal Plain Southern Tidal Wooded Swamp
Brackish Tidal Marsh & Wetland	East Gulf Coastal Plain Tidal Wooded Swamp
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	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	Atlantic Coastal Plain Southern Maritime Forest
Forest/Woodland	Central Interior Highlands Calcareous Glade and Barrens
Forest/Woodland	Central Interior Highlands Dry Acidic Glade and Barrens
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 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	Nashville Basin Limestone Glade
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Northern Atlantic Coastal Plain Dry Hardwood Forest
Forest/Woodland	South-Central Interior Mesophytic Forest
Forest/Woodland	Southeast Florida Coastal Strand and Maritime Hammock
Forest/Woodland	Southern and Central Appalachian Mafic Glade and Barrens
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 Glade and Barrens
Forest/Woodland	Southern Piedmont Mafic Hardpan Woodland
Forest/Woodland	Southern Piedmont Mesic Forest
Forest/Woodland	Southern Piedmont Northern Triassic Basin Dry Forest
Forest/Woodland	Southwest Florida Coastal Strand and Maritime Hammock
Rock Outcrop	Allegheny-Cumberland Sandstone Box Canyon and Rockhouse
Rock Outcrop	Central Interior Acidic Cliff and Talus
Rock Outcrop	Central Interior Calcareous Cliff and Talus
Rock Outcrop	East Gulf Coastal Plain Dry Chalk Bluff
Rock Outcrop	Southern Interior Acid Cliff
Rock Outcrop	Southern Interior Calcareous Cliff
Rock Outcrop	Southern Interior Sinkhole Wall
Rock Outcrop	Southern Piedmont Cliff
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 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 Swamp and Wet Hardwood Forest
Wetlands	Atlantic Coastal Plain Peatland Pocosin
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
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 Northern Seepage Swamp
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-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 Basin Swamp
Wetlands	Southern Piedmont Large Floodplain Forest - Forest Modifier
Wetlands	Southern Piedmont Seepage Wetland
Wetlands	Southern Piedmont Small Floodplain and Riparian Forest
Wetlands	Southern Piedmont/Ridge and Valley Upland Depression Swamp
Wetlands	Western Highland Rim Seepage Fen

CITATIONS:

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

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.

Gardner, J. E., et. al. 1992. Distribution and status of MYOTIS AUSTRORIPARIUS (southeastern bat) in Illinois. Illinois Natural History Survey and Illinois Department of Conservation.

Gore, J. 1992. Florida Game & Freshwater Fish Commission, 3911 Highway 2321, Panama City, FL 32409. Pers. comm.

Gore, J. A., and J. A. Hovis. 1992. The southeastern bat:another cave-roosting species in peril. Bats 10(2):10-12.

Hall, E. R. 1981. The Mammals of North America. Second edition. 2 Volumes. John Wiley and Sons, New York, New York. 1181 p.

Hamilton, William J., Jr., and John O. Whitaker, Jr. 1979. Mammals of the eastern United States. Cornell Univ. Press, Ithaca, New York. 346 pp.

Herkert, J. R., editor. 1992. Endangered and threatened species of Illinois:status and distribution. Vol. 2:Animals. Illinois Endangered Species Protection Board. iv + 142 pp.

Hofmann, J.E., J.E. Gardner, J.K. Krejca, and J.D. Garner. 1999. Summer records and a maternity roost of the southeastern myotis (Myotis austroriparius) in Illinois. Transactions of the Illinois State Academy of Science, Vol 92 :1-2 Pp 95-107

Humphrey, S. R., and J. A. Gore. 1992. Southeastern brown bat MYOTIS AUSTRORIPARIUS. Pages 335-342 in S. R. Humphrey, editor. Rare and endangered biota of Florida. Vol. I. Mammals. University Press of Florida, Gainesville.

Humphrey, S.R. 1992. Southeastern Brown Bat Mysotis austriparius. In Rare and endangered biota of Florida Vol 1 Mammals (S.R. Humphrey, eds), University of Florida Press, Gaineseville.

Jones, C., and R. W. Manning. 1989. MYOTIS AUSTRORIPARIUS.Am. Soc. Mamm., Mammalian Species No. 332:1-3.

Jones, J. K., Jr., et al. 1992. Revised checklist of North American mammals north of Mexico, 1991. Occas. Pap. Mus., Texas Tech Univ. (146):1-23.

Lee, D. S., L. B. Funderburg Jr., and M. K. Clark. 1982. A distributional survey of North Carolina mammals. Occasional Papers of the North Carolina Biological Survey, No. 1982-10. North Carolina State. Mus. Nat. Hist., Raleigh, North Carolina. 72 pp.

Mumford, R. E., and J. O. Whitaker, Jr. 1982. Mammals of Indiana. Indiana University Press, Bloomington. 537 pp.

Rice, D.W. 1957. Life history and ecology of Myotis austroriparius in Florida. Jour. Mamm. 38:15-32.

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

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.