



SOUTHEAST GAP ANALYSIS PROJECT



Species Modeling Report

Wood Thrush

Hylocichla mustelina

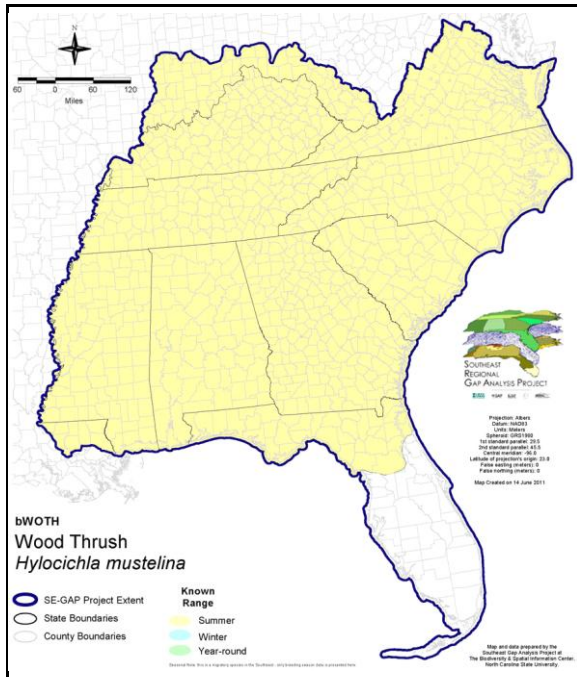
Taxa: Avian
 Order: Passeriformes
 Family: Turdidae

SE-GAP Spp Code: **bWOTH**

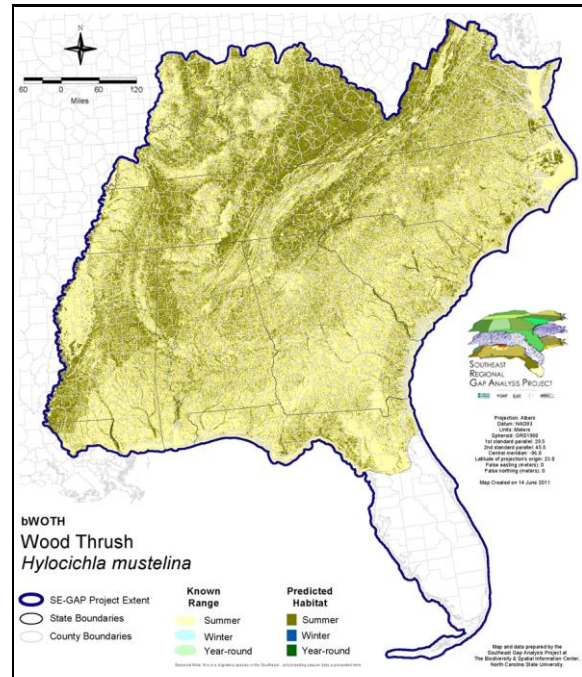
ITIS Species Code: 179777

NatureServe Element Code: ABPBJ19010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_bWOTH.pdf

Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_bWOTH.pdf

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

Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/bWOTH_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: ID (P), KY (N), ME (SC), NJ (SC/S), NV (YES), NY (PB), RI (Not Listed), UT (None), WI (SC/M), WI (SC/M), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AL (S5B), AL (S5B), AR (S4B), AZ (SNA), CO (SNA), CT (S5B), CT (S5B), DC (S3B,S4N), DE (S5B), FL (SNRB), GA (S5), IA (S4B,S4N), ID (SNA), IL (S4), IN (S4B), KS (S3B), KY (S5B), LA (S4B), MA (S5B), MD (S5B), ME (S4B), MI (S4), MN (SNRB), MO (S4), MS (S5B), MS (S5B), MT (SNA), NC (S5B), NC (S5B), ND (SU), NE (S3), NH (S5B), NJ (S3B), NM (SNA), NV (SNA), NY (S5), OH (S5), OK (S2B), OR (SNA), PA (S5B), RI (S5B), SC (S3?), SD (S2B), SD (S2B), TN (S4), TX (S4B), UT (SNA), VA (S5), VT (S5B), VT (S5B), WI (S4B), WI (S4B), WV (S5B), WY (SNA), AB (SNA), MB (SNA), NB (S3B), NF (SNA), NS (S2B), ON (S4B), PE (SNA), QC (S4B), SK (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	77,069.6	< 1	31,952.7	< 1	0.0	0	0.0	0
Status 2	188,124.9	< 1	345,663.6	< 1	0.0	0	4,309.0	< 1
Status 3	3,426.1	< 1	1,994,658.9	5	43,512.6	< 1	284,321.0	< 1
Status 4	61.9	< 1	< 0.1	< 1	0.0	0	9.1	< 1
Total	268,682.6	< 1	2,372,275.4	6	43,512.6	< 1	288,639.1	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	238,606.6	< 1	13.7	< 1	0.0	0
Status 2	0.0	0	12,189.5	< 1	2,665.7	< 1	0.0	0
Status 3	29,945.2	< 1	93,078.7	< 1	0.0	0	1,177.8	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	29,945.2	< 1	343,874.8	< 1	2,679.4	< 1	1,177.8	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	1,233.0	< 1	72.0	< 1	0.0	0
Status 2	0.0	0	17,196.8	< 1	563,423.7	1	1,407.5	< 1
Status 3	21,261.2	< 1	229,868.2	< 1	194,033.6	< 1	107,006.0	< 1
Status 4	0.0	0	< 0.1	< 1	61,505.8	< 1	10.8	< 1
Total	21,261.2	< 1	248,298.0	< 1	819,035.1	2	108,424.3	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	13,057.4	< 1	0.0	0	0.0	0
Status 2	10,533.8	< 1	81,702.3	< 1	5.0	< 1	1,527.9	< 1
Status 3	0.0	0	4,196.2	< 1	7,714.2	< 1	41,102.2	< 1
Status 4	0.0	0	2.1	< 1	1,826.1	< 1	0.0	0
Total	10,533.8	< 1	98,957.9	< 1	9,545.2	< 1	42,630.1	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0			362,004.9	< 1
Status 2	0.0	0	0.0	0			1,228,749.7	3
Status 3	497.0	< 1	0.0	0			3,055,798.8	13
Status 4	32,799,108.3	83	24,182.4	< 1			32,948,150.6	83
Total	32,799,605.3	83	24,182.4	< 1			37,594,704.0	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):

Summer Model:

Habitat Description: Wood thrushes breed throughout the southeast except for south Florida and the barrier islands. They are associated with the shady understory of tall deciduous trees growing in damp areas with decaying leaf litter on the forest floor (Kaufman 1996, Nicholson 1997). These habitat requirements are met in medium to mature deciduous and mixed forests and swamps (Potter et al. 1980), especially along streams (Fussell 1994), as well as in wooded suburban areas and college campuses (Pearson 1959). Tolerant of human activity (Harrison 1975).

They also inhabit pine woodlands (Hunter), but are most common in moist deciduous woodlands, especially among red or swamp maples, sometimes in city parks or in suburban areas. Breeding density is positively correlated with canopy height and cover, large trees and precipitation and negatively correlated with conifers and small trees (Anderson). Bottomland and other rich hardwood forests are prime habitat. They are frequent in pine forests with a deciduous understory and well-wooded residential areas (Hamel et al).

The nest is often placed in the lowest horizontal or upward sloping branch of a tree (Brackbill 1958, James et al. 1984, Nicholson 1997), or next to the stem of a sapling (Nicholson 1997). It can be located from 6 to 50 feet above the ground (Harrison 1975).

Quoted from habitat notes - K. Cook - 4-17-08

Additional information:

Roth et al. (1996) in Birds of North America put the altitudinal limit in the Smoky Mountains at 1,325 m. Wood thrushes can be tolerant of fragmentation and have been found to breed in areas of habitat greater than 1 ha. (Robbins et. Al 1989).

Elevation Mask: < 1325m

Contiguous Patch Minimum Size (hectares): 1

Selected Map Units:

Functional Group	Map Unit Name
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 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 Mixed Oak-Heath Forest
Forest/Woodland	Central Appalachian Oak and Pine Forest
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 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	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	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 Coastal Plain Dry Upland Hardwood Forest
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 Mesic Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Hardwood Modifier
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier
Wetlands	Atlantic Coastal Plain Brownwater Stream Floodplain Forest
Wetlands	Atlantic Coastal Plain Clay-Based Carolina Bay Forested Wetland
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 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 Southern Wet Pine Savanna and Flatwoods
Wetlands	Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall
Wetlands	Central Appalachian Floodplain - Forest Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	East Gulf Coastal Plain Jackson Plain Dry Flatwoods - Scrub/Shrub 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 Near-Coast Pine Flatwoods - Scrub/Shrub Understory 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	North-Central Appalachian Acidic Swamp
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South Florida Bayhead Swamp
Wetlands	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	South-Central Interior/Upper Coastal Plain Wet Flatwoods
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Hydric Hammock
Wetlands	Southern Coastal Plain Nonriverine Basin Swamp
Wetlands	Southern Coastal Plain Nonriverine Cypress Dome
Wetlands	Southern Coastal Plain Seepage Swamp and Baygall
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

CITATIONS: American Ornithologists' Union (AOU), Committee on Classification and Nomenclature. 1983. Check-list of North American Birds. Sixth Edition. American Ornithologists' Union, Allen Press, Inc., Lawrence, Kansas.

Anderson, S. H., and H. H. Shugart, Jr. 1974. Habitat selection of breeding birds in an east Tennessee deciduous forest. *Ecology* 55:828-37.

Bent, A. C. 1949. Life histories of North American thrushes, kinglets, and their allies. U. S. Nat. Mus. Bull. 196. 452 pp., 51 pls.

- Bertin, R.I. 1977. Breeding habitats of the Wood Thrush and Veery. *Condor* 79:303-311.
- Brackbill, H. 1958. Nesting behavior of the Wood Thrush. *Wilson Bulletin* 70:70-89.
- Carter, M., G. Fenwick, C. Hunter, D. Pashley, D. Petit, J. Price, and J. Trapp. 1996. Watchlist 1996:For the future. *Field Notes* 50(3):238-240.
- Cavitt, J. F., and C. A. Haas. 2000. Brown Thrasher (*Toxostoma rufum*). In *The Birds of North America*, No. 557 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Droege, S., and J.R. Sauer. 1990. North American Breeding Bird Survey, annual summary, 1989. U.S. Fish and Wildlife Service, Biological Report 90(8). 22 pp.
- Farnsworth, G.L. and T.R. Simons. 1999. Factors affecting nesting success of Wood Thrushes in Great Smoky Mountains National Park. *Auk* 116:1075-1082.
- Fussell, J. III and M. Lyons. 1990. *Birds of the Outer Banks* [pamphlet]. Eastern National Parks and Monument Association Coastal Wildlife Refuge Society.
- Fussell, J.O. III. 1994. *A birder's guide to coastal North Carolina*. Chapel Hill and London: The University of North Carolina Press.
- Hagan, J.M., III, and D.W. Johnston, editors. 1992. *Ecology and conservation of neotropical migrant landbirds*. Smithsonian Institution Press, Washington, D.C. xiii + 609 pp.
- Hamel, P. B. 1992. *The land manager's guide to the birds of the south*. The Nature Conservancy, Chapel Hill, North Carolina. 367 pp + several appendices.
- Hamel, P. B., H. E. LeGrand Jr., M. R. Lennartz, and S. A. Gauthreaux, Jr. 1982. Bird-habitat relationships on southeastern forest lands. U.S. Forest Service General Technical Report SE-22.
- Hammerson, G. 2004. Wood Thrush (*Hylocichla mustelina*), Management Summary, Preserve Selection & Design Considerations, in NatureServe Explorer website: <http://www.natureserve.org/explorer/>.
- Harrison, C. 1978. *A field guide to the nests, eggs and nestlings of North American birds*. Collins, Cleveland, Ohio.
- Harrison, H.H. 1975. *A field guide to bird's nests in the U.S. east of the Mississippi River*. Houghton Mifflin Company, Boston, Massachusetts. 257 p.
- Harrison, H.H. 1979. *A field guide to western birds' nests*. Houghton Mifflin Company, Boston. 279 pp.
- Hoover, J. P., M. C. Brittingham, and L. J. Goodrich. 1995. Effects of forest patch size on nesting success of wood thrushes. *Auk* 112:146-155.
- Hunter, W. C. 1990. *Handbook for nongame bird management and monitoring in the Southeast Region*. U.S. Fish and Wildlife Service, Atlanta, Georgia. 198 pp.
- James, F.C, R.F. Johnston, N.O. Wamer, G.J. Niemi and W.J. Boecklen. 1984. The Grinnellian niche of the Wood Thrush. *American Naturalist* 124:17-30.
- Kaufman K. 1996. *Lives of North American Birds*. Boston, New York: Houghton Mifflin Company.
- Keast, A., and E. S. Morton. 1980. *Migrant birds in the Neotropics; ecology, distribution, and conservation*. Smithsonian Inst. Press, Washington, D.C.
- Morse, D. H. 1971. Effects of the arrival of a new species upon habitat utilization by two forest thrushes in Maine. *The Wilson Bulletin* 83:57-65.
- Nicholson CP. 1997. *Atlas of the breeding birds of Tennessee*. Knoxville: University of Tennessee Press.
- Pearson, T.G. 1959. *Birds of North Carolina*. Raleigh, NC: Bynum Printing Company.
- Potter, E. F., J. F. Parnell, and R. P. Teulings. 1980. *Birds of the Carolinas*. Univ. North Carolina Press, Chapel Hill. 408 pp.
- Rappole, J. H., M. A. Ramos, and K. Winkler. 1989. Wintering wood thrush movements and mortality in southern Veracruz. *Auk* 106:402-410.
- Rappole, J.H., and D.W. Warner. 1980. Ecological aspects of migrant bird behavior in Veracruz, Mexico. Pages 353-393 in A. Keast and E.S. Morton, editors. *Migrant birds in the neotropics:ecology, behavior, distribution, and conservation*. Smithsonian Insti
- Robbins, C. S., D. K. Dawson, and B. A. Dowell. 1989. *Habitat area requirements of breeding forest birds of the middle Atlantic states: Wildlife Monographs No. 103*.
- Roth, R.R. 1987. Assessment of habitat quality for Wood Thrush in a residential area. Pages 139-49 in L.W. Adams and D.L. Leedy, editors. *Integrating man and nature in the metropolitan environment*. Proceedings of the National Symposium on Urban Wildlife,
- Roth, R.R., and R.K. Johnson. 1993. Long-term dynamics of a Wood Thrush population breeding in a forest fragment. *Auk* 110:37-48.
- Roth, R.R., M.S. Johnson, and T.J. Underwood. 1996. Wood Thrush (*HYLOCICHLA MUSTELINA*). In A. Poole and F. Gill, editors, *The Birds of North America*, No. 246. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, DC. 2

- Sauer, J.R., and S. Droege. 1992. Geographical patterns in population trends of neotropical migrants in North America. Pages 26-42 in J.M. Hagan III and D.W. Johnston, editors. Ecology and conservation of neotropical migrant landbirds. Smithsonian Institution
- Sibley, C.G., and B.L. Monroe. 1990. Distribution and taxonomy of birds of the world. Yale University Press, New Haven, Connecticut. xxiv + 1111 pp.
- Stiles, F.G., and A.F. Skutch. 1989. A guide to the birds of Costa Rica. Comstock Publ. Associates, Cornell University Press, Ithaca, New York. 511 pp.
- Terres, J.K. 1980. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York.
- Whitcomb, R. F., C. S. Robbins, J. F. Lynch, B. L. Whitcomb, M. K. Klimciewicz, and D. Bystrak. 1981. Effects of forest fragmentation on avifauna of the eastern deciduous forest. Pages 125-206 in R. L. Burgess, and B. L. Sharpe (editors). Forest island dynamics
- Winker, K., and J. H. Rappole. 1988. The relationship between *HYLOCICHLA* and *CATHARUS* (Turdinae). *The Auk* 105:392-4.
- Winker, K., J. H. Rappole, and M. A. Ramos. 1990. Population dynamics of the wood thrush in southern Veracruz, Mexico. *Condor* 92:444-460.
- Winker, K., J. H. Rappole, and M. A. Ramos. 1990. Within-forest preferences of wood thrushes wintering in the rainforest of southern Veracruz. *Wilson Bull.* 102:715-720.

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

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.