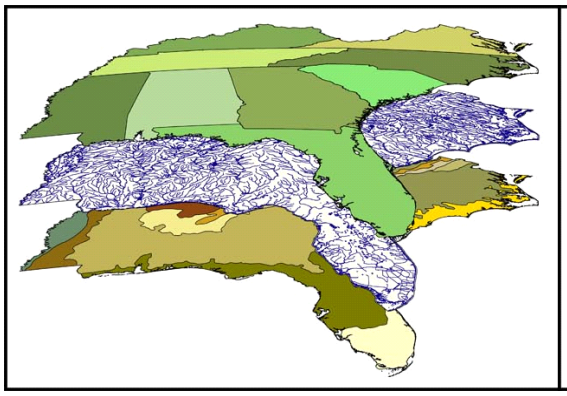


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

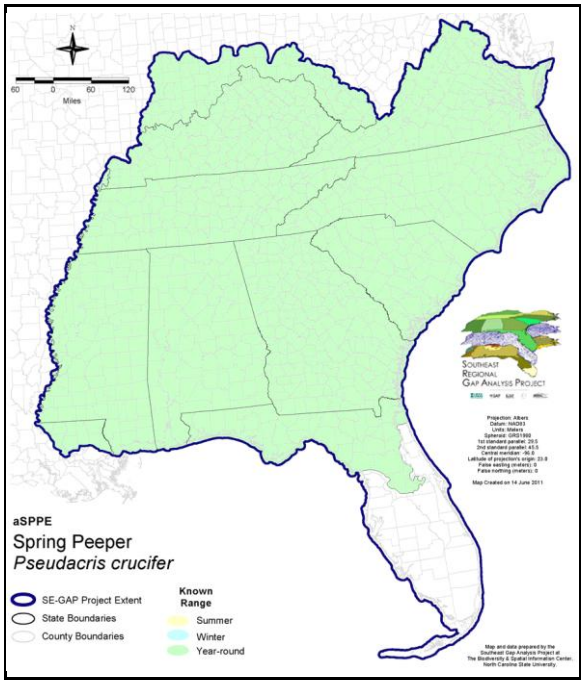
Spring Peeper

Pseudacris crucifer

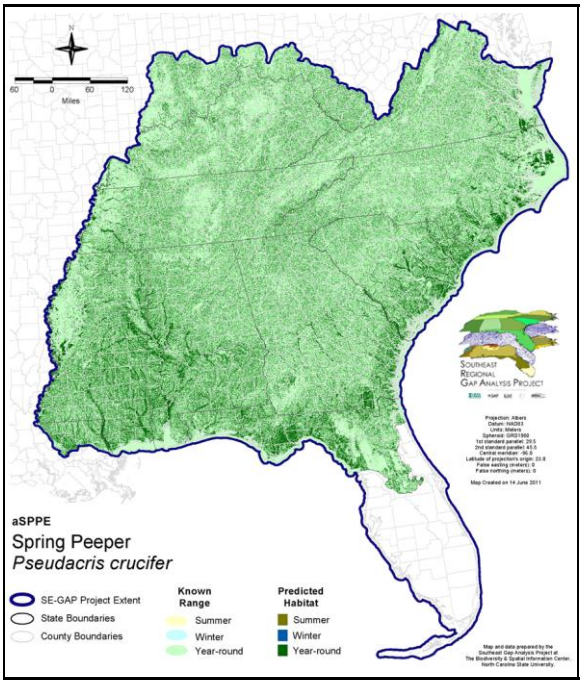
Taxa: Amphibian
Order: Anura
Family: Hylidae

SE-GAP Spp Code: **aSPPE**
ITIS Species Code: 207303
NatureServe Element Code: AAABC05090

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aSPPE.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aSPPE.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=aSPPE
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/aSPPE_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KS (T), KY (N), MS (Non-game species in need of management), NJ (S), NY (GS), RI (Not Listed), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S5), CT (S5), DC (S4), DE (S5), FL (SNR), GA (S5), IA (S4), IL (S5), IN (SNR), KS (S2), KY (S5), LA (S5), MA (S5), MD (S5), ME (S5), MI (S5), MN (SNR), MO (S5), MS (S5), NC (S5), NH (S5), NJ (S5), NY (S5), OH (SNR), OK (S4), PA (S5), RI (S5), SC (SNR), TN (S5), TX (S5), VA (S5), VT (S5), WI (S5), WV (S5), LB (S1S2), MB (S5), NB (S5), NS (S5), ON (S5), PE (S5), QC (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	200,775.5	< 1	17,691.6	< 1	0.0	0	0.0	0
Status 2	202,562.9	< 1	171,651.0	< 1	0.0	0	3,262.2	< 1
Status 3	2,255.3	< 1	1,249,088.0	4	37,652.9	< 1	298,173.3	< 1
Status 4	783.3	< 1	< 0.1	< 1	0.0	0	9.5	< 1
Total	406,377.0	1	1,438,430.6	4	37,652.9	< 1	301,445.0	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	117,095.2	< 1	22.8	< 1	0.0	0
Status 2	0.0	0	6,267.8	< 1	4,382.6	< 1	0.0	0
Status 3	32,403.7	< 1	47,442.4	< 1	0.0	0	3,030.9	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	32,403.7	< 1	170,805.4	< 1	4,405.4	< 1	3,030.9	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	692.2	< 1	31.3	< 1	0.0	0
Status 2	0.0	0	7,717.7	< 1	441,977.9	1	399.3	< 1
Status 3	11,649.2	< 1	211,216.0	< 1	164,820.8	< 1	154,850.7	< 1
Status 4	0.0	0	< 0.1	< 1	50,829.4	< 1	26.6	< 1
Total	11,649.2	< 1	219,625.9	< 1	657,659.3	2	155,276.6	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	7,045.7	< 1	0.0	0	0.0	0
Status 2	11,645.7	< 1	62,021.3	< 1	4.9	< 1	1,636.7	< 1
Status 3	0.0	0	5,115.1	< 1	10,932.2	< 1	55,153.1	< 1
Status 4	0.0	0	0.2	< 1	1,779.3	< 1	0.0	0
Total	11,645.7	< 1	74,182.1	< 1	12,716.4	< 1	56,789.8	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	343,354.2	1
Status 2	189.5	< 1	0.0	0	913,719.4	3
Status 3	1,360.0	< 1	0.3	< 1	2,285,143.8	11
Status 4	27,435,375.1	85	31,348.8	< 1	27,570,198.4	85
Total	27,436,924.5	85	31,349.1	< 1	31,112,415.9	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: This species inhabits almost any type of mesic woodland (Martof et al. 1980) or brushland aquatic habitat (Redmond and Scott 1996). They are particularly abundant in brushy secondary growth or cutover woodlots near small temporary or semi-permanent ponds or swamps (Wilson 1995, Conant and Collins 1998). Spring peepers breed in temporary or semi-permanent pond or pool, preferably with abundant emergent vegetation. Eggs are laid and larvae develop in small temporary or permanent waters of ponds (including those in fields with nearby forest), marshes, ditches, and swamps, especially those with standing plants, sticks, or other debris. Amy Silvano 15mar05

Ecosystems: Excluded from Xeric, and Dry Mesic systems.

????GA excluded species from Cypress/Gum (so, blackwater systems). I haven't found any supporting literature to excluded this species from these types of system. Has anyone come across and pH data for spring peepers? Amy Silvano 15mar05

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffers of 120m from and 30m into selected water features.

Utilizes open water features with buffers of 120m from and 30m into selected water features.

Utilizes wet vegetation features with buffers of 120m from and unlimited into selected vegetation features.

Selected Map Units:

Functional Group	Map Unit Name
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	Allegheny-Cumberland Dry Oak Forest and Woodland - Pine 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	Atlantic Coastal Plain Southern Maritime Forest
Forest/Woodland	Atlantic Coastal Plain Upland Longleaf Pine Woodland
Forest/Woodland	Central and Southern Appalachian Montane Oak Forest
Forest/Woodland	Central and Southern Appalachian Northern Hardwood 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 Shortleaf Pine-Oak Forest - Pine Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Loblolly 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 Interior Upland Longleaf Pine Woodland - Scrub/Shrub 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 Loess Plain Oak-Hickory Upland - Juniper 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	Florida Longleaf Pine Sandhill - Open Understory Modifier
Forest/Woodland	Florida Longleaf Pine Sandhill - Scrub/Shrub Understory Modifier
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	South-Central Interior Mesophytic Forest
Forest/Woodland	Southeast Florida Coastal Strand and Maritime Hammock
Forest/Woodland	Southeastern Interior Longleaf Pine Woodland
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 Low Mountain Pine Forest
Forest/Woodland	Southern Appalachian Montane Pine Forest and Woodland
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
Forest/Woodland	Southern Ridge and Valley Dry Calcareous Forest - Pine Modifier
Forest/Woodland	Southwest Florida Coastal Strand and Maritime 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
Water	Open Water (Fresh)
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 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 Floodplain - Herbaceous Modifier
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier

Wetlands	Central Florida Herbaceous Pondshore
Wetlands	Central Florida Herbaceous Seep
Wetlands	Central Florida Pine Flatwoods
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 Large River Floodplain Forest - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Offsite Hardwood Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Open Understory Modifier
Wetlands	East Gulf Coastal Plain Near-Coast Pine Flatwoods - Scrub/Shrub Understory Modifier
Wetlands	East Gulf Coastal Plain Northern Depression Pondshore
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 Depression Pondshore
Wetlands	East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods
Wetlands	Floridian Highlands Freshwater Marsh
Wetlands	Lower Mississippi River Bottomland and Floodplain Forest
Wetlands	Lower Mississippi River Bottomland Depressions - Forest Modifier
Wetlands	Lower Mississippi River Bottomland Depressions - Herbaceous Modifier
Wetlands	Mississippi River Low Floodplain (Bottomland) Forest
Wetlands	Mississippi River Riparian Forest
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	South-Central Interior/Upper Coastal Plain Wet Flatwoods
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest
Wetlands	Southern Coastal Plain Herbaceous Seepage Bog
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 Coastal Plain Spring-run Stream Aquatic Vegetation
Wetlands	Southern Piedmont Large Floodplain Forest - Forest Modifier
Wetlands	Southern Piedmont Large Floodplain Forest - Herbaceous 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

Selected Secondary Map Units within 60m of Primary Map Units:

Functional Group	Map Unit Name
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Piedmont Dry Oak-(Pine) Forest - Loblolly Pine Modifier
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	Northeastern Interior Dry Oak Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Scrub/Shrub Understory Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-Line Sandhills Longleaf Pine Woodland - Loblolly Modifier
Anthropogenic	Developed Open Space
Anthropogenic	Low Intensity Developed
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)

Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Pasture/Hay

CITATIONS:

Barbour, R. W. 1971. Amphibians and reptiles of Kentucky. Univ. Press of Kentucky, Lexington. x + 334 pp.

Cocroft, R. B. 1994. A cladistic analysis of chorus frog phylogeny (Hylidae:PSEUDACRIS). Herpetologica 50:420-437.

Collins, J. T. 1974. Amphibians and reptiles in Kansas. University of Kansas Publication Museum Natural History. Publ. Education Series 1:1-283.

Conant, R. and J.T. Collins. 1998. A field guide to the reptiles and amphibians: eastern and central North America. Houghton Mifflin, Boston. 616 p.

DeGraaf, R. M., and D. D. Rudis. 1983. Amphibians and reptiles of New England. Habitats and natural history. Univ. Massachusetts Press. vii + 83 pp.

Green, N. B., and T. K. Pauley. 1987. Amphibians and reptiles in West Virginia. University of Pittsburg Press, Pittsburg, Pennsylvania. xi + 241 pp.

Hardy, J. D., Jr., and R. J. Burroughs (sic; correct spelling is Burrows). 1986. Systematic status of the spring peeper, HYLA CRUCIFER (Amphibia:Hylidae). Bull. Maryland Herpetol. Soc. 22(2):68-89.

Hedges, S. B. 1986. An electrophoretic analysis of holarctic hylid frog evolution. Syst. Zool. 35:1-21.

Highton, R. 1991. Molecular phylogeny of plethodontine salamanders and hylid frogs:statistical analysis of protein comparisons. Molecular Biology and Evolution 8(6):796-818.

Johnson, T. R. 1977. The amphibians of Missouri. Univ. Kansas Mus. Nat. Hist., Pub. Ed. Ser. 6. ix + 134 pp.

Karns, D. R. 1992. Effects of acidic bog habitats on amphibian reproduction in a northern Minnesota peatland. J. Herpetol. 26:401-412.

Lyken, D. V., and D. C. Forester. 1987. Age structure in the spring peeper:do males advertise longevity? Herpetologica 43:216-223.

Martof, B. S., W. M. Palmer, J. R. Bailey, and J. R. Harrison, III. 1980. Amphibians and reptiles of the Carolinas and Virginia. University of North Carolina Press, Chapel Hill, North Carolina. 264 pp.

Minton, S. A., Jr. 1972. Amphibians and reptiles of Indiana. Indiana Academy Science Monographs 3. v + 346 pp.

Mount, R. H. 1975. The Reptiles and Amphibians of Alabama. Auburn University Agricultural Experiment Station, Auburn, Alabama. vii + 347 pp.

Redmond, W. H., and A. F. Scott. 1996. Atlas of amphibians in Tennessee. The Center for Field Biology, Austin Peay State University, Miscellaneous Publication Number 12. v + 94 pp.

Schwartz, A., and R. W. Henderson. 1991. Amphibians and Reptiles of the West Indies:Descriptions, Distributions, and Natural History. University of Florida Press, Gainesville, Florida. xvi + 720 pp.

Vogt, R. G. 1981. Natural history of amphibians and reptiles of Wisconsin. Milwaukee Public Museum. 205 pp.

Wilson, L. A. 1995. The Land Manager's Guide to the amphibians and reptiles of the South. Chapel Hill, NC: The Nature Conservancy.

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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.