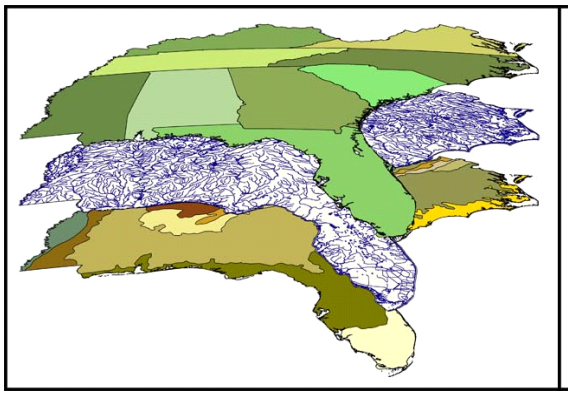


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

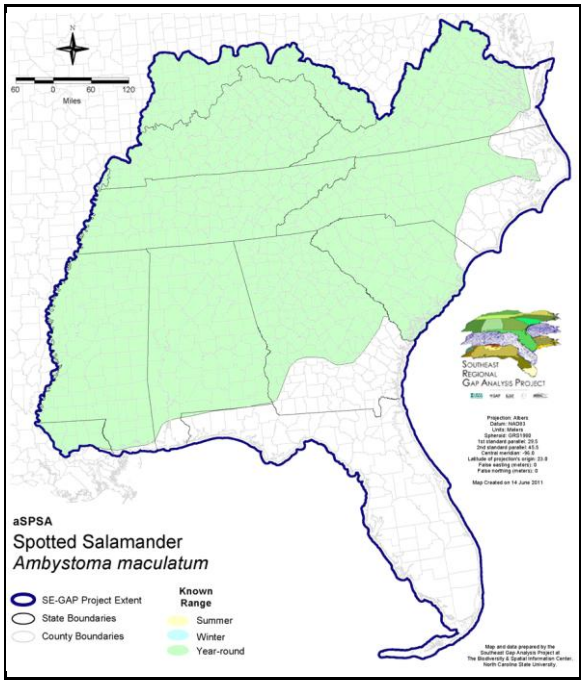
Spotted Salamander

Ambystoma maculatum

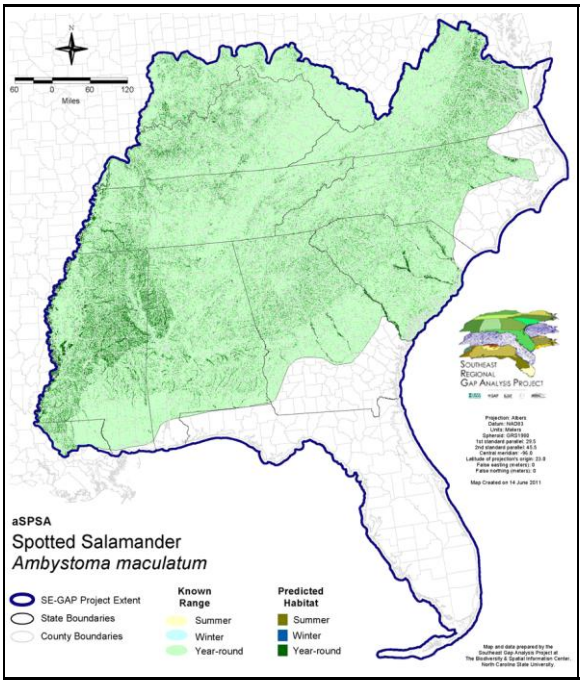
Taxa: Amphibian
Order: Caudata
Family: Ambystomatidae

SE-GAP Spp Code: **aSPSA**
ITIS Species Code: 173590
NatureServe Element Code: AAAAA01090

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aSPSA.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aSPSA.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=aSPSA
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/aSPSA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KY (N), MN (NON), MS (Non-game species in need of management), NJ (D), NY (GN), RI (Not Listed), QC (Non suivie)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S5), CT (S5), DC (S4), DE (S2), GA (S5), IL (S4), IN (S4), KY (S5), LA (S5), MA (S5), MD (S5), ME (S5), MI (S5), MN (SNR), MO (S5), MS (S5), NC (S5), NH (S5), NJ (S4), NY (S5), OH (SNR), OK (S3), PA (S5), RI (S4), SC (SNR), TN (S5), TX (S4), VA (S5), VT (S5), WI (S4), WV (S5), NB (S5), NS (S5), ON (S4), 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	14,512.5	< 1	3,262.1	< 1	0.0	0	0.0	0
Status 2	63,456.4	< 1	28,090.4	< 1	0.0	0	2,466.0	< 1
Status 3	1,308.4	< 1	267,032.8	3	28,555.3	< 1	76,498.8	< 1
Status 4	14.9	< 1	0.0	0	0.0	0	0.0	0
Total	79,292.3	< 1	298,385.4	3	28,555.3	< 1	78,964.8	< 1

	US Dept. of Energy		US Nat. Park Service			NOAA	Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	34,304.6	< 1	8.2	< 1	0.0	0
Status 2	0.0	0	113.4	< 1	718.6	< 1	0.0	0
Status 3	14,783.8	< 1	19,064.4	< 1	0.0	0	81.9	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	14,783.8	< 1	53,482.4	< 1	726.8	< 1	81.9	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	194.9	< 1	30.0	< 1	0.0	0
Status 2	0.0	0	2,499.6	< 1	102,023.0	< 1	33.7	< 1
Status 3	5,297.9	< 1	32,378.5	< 1	55,057.4	< 1	9,579.8	< 1
Status 4	0.0	0	0.0	0	13,284.5	< 1	3.0	< 1
Total	5,297.9	< 1	35,072.9	< 1	170,394.9	2	9,616.4	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	1,793.9	< 1	0.0	0	0.0	0
Status 2	13.6	< 1	17,700.7	< 1	4.0	< 1	216.0	< 1
Status 3	0.0	0	871.6	< 1	2,122.7	< 1	12,913.1	< 1
Status 4	0.0	0	0.0	0	1,058.6	< 1	0.0	0
Total	13.6	< 1	20,366.1	< 1	3,185.2	< 1	13,129.1	< 1

	Private Land - No Res.		Water			Overall Total	
	ha	%	ha	%		ha	%
Status 1	0.0	0	0.0	0		54,106.1	< 1
Status 2	0.0	0	0.0	0		217,335.2	2
Status 3	346.9	< 1	0.0	0		525,893.2	8
Status 4	9,269,608.0	89	11,911.6	< 1		9,309,150.2	90
Total	9,269,954.8	89	11,911.6	< 1		10,106,484.8	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: Spotted salamanders are found in hardwood and mixed forests where semi-permanent ponds, slow-moving streams, springs and bogs occur. Martof et al. (1980) states that they are normally absent from larger water bodies, flood zone pools or permanent ponds where fish are present. And, in inland locations, such as the mountains and possibly the piedmont, they are generally restricted to lowland hardwood forests near pools or streams (King 1939, Petranka 1998). On Atlantic Coastal Plain of southeastern U.S., breeds in sloughs or backwater lowland areas along streams that frequently contain or are easily colonized by predatory fishes that opportunistically feed on amphibian larvae (Semlitsch 1988). Eggs may be laid in ponds when they are ice-covered if salamanders already are present in the pond (States et al. 1988). Adults are largely fossorial, remaining underground or under soil surface objects except during the breeding period (Wilson 1995). Adults are most common in bottomland forests in adjoining floodplains, but they occur sporadically in upland forest and in mountainous regions where suitable breeding sites are available. Adults may move 200m or more from ponds after breeding (Petranka). Common in the mountains below 2500 ft and piedmont and restricted to localized populations in the coastal plain (King 1939, Martof et al. 1980). Breeds in March-April in the north and December-February in the south. Lays masses of up to 250 eggs (average <100); eggs of an individual females may be laid in one large mass or divided among several masses of about 50-90 eggs. Larvae hatch in 1-2 months, metamorphose in 2-4 months or sometimes overwinter in pond. S. Smith 18Feb05

Hydrography Mask:

Freshwater Only

Utilizes open water features with buffers of 250m from and 30m into selected water features.

Utilizes wet vegetation features with buffers of 250m from and unlimited into selected vegetation features.

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 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 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 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	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 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 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
Water	Open Water (Fresh)
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 Northern Basin Swamp and Wet Hardwood Forest
Wetlands	Atlantic Coastal Plain Northern Pondshore
Wetlands	Atlantic Coastal Plain Small Brownwater River Floodplain Forest
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 Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
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	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 Appalachian Seepage Fen
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
Wetlands	Southern Coastal Plain Herbaceous Seepage Bog
Wetlands	Southern Coastal Plain Nonriverine Basin Swamp
Wetlands	Southern Coastal Plain Spring-run Stream Aquatic Vegetation
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

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