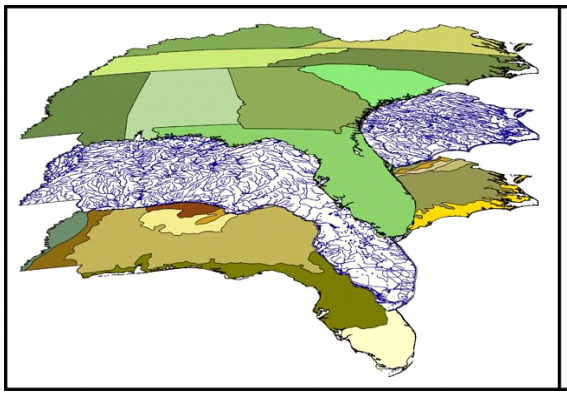


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

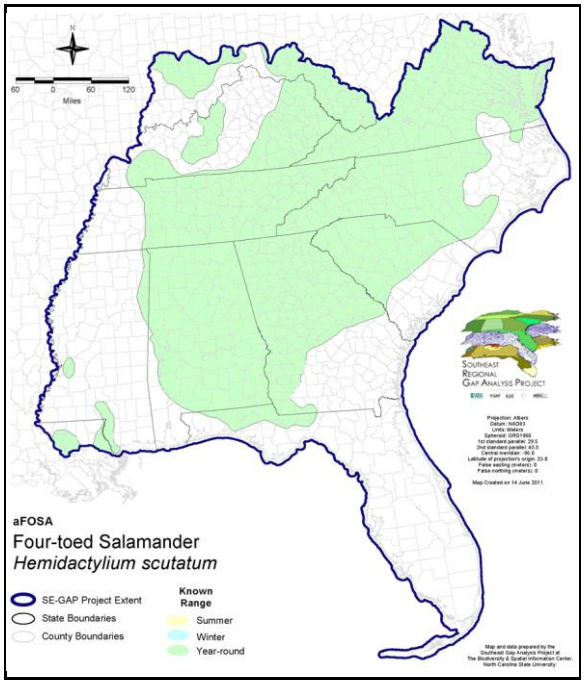
Four-toed Salamander

Hemidactylium scutatum

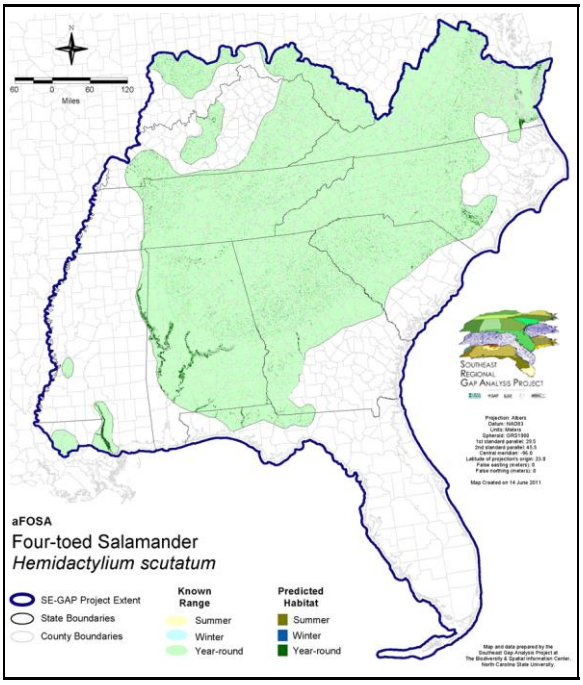
Taxa: Amphibian
Order: Caudata
Family: Plethodontidae

SE-GAP Spp Code: **aFOSA**
ITIS Species Code: 173678
NatureServe Element Code: AAAAD08010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aFOSA.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aFOSA.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=aFOSA
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/aFOSA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: IL (LT), IN (SE), KY (N), MA (- WL), MN (SPC), MS (Non-game species in need of management), NC (SC), NJ (D), NY (GN), OH (SC), OK (Category II), RI (Not Listed), TN (D), WI (SC/H), ON (NAR), QC (Susceptible)

NS Global Rank: G5

NS State Rank: AL (S3), AR (S3), CT (S4), DC (SH), DE (S1), FL (S2), GA (S3), IL (S2), IN (S2), KY (S4), LA (S1), MA (S3S4), MD (S5), ME (S3), MI (S5), MN (S3), MO (S4), MS (S1S2), NC (S3), NH (S3S4), NJ (SU), NY (S5), OH (S3), OK (S1), PA (S4), RI (S3), SC (SNR), TN (S3), VA (S5), VT (S2), WI (S3), WV (S5), NB (S1?), NS (S3), ON (S4), QC (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	28,011.1	1	312.2	< 1	0.0	0	0.0	0
Status 2	7,563.0	< 1	5,772.7	< 1	0.0	0	954.4	< 1
Status 3	504.0	< 1	38,585.9	2	6,288.3	< 1	23,349.0	1
Status 4	1.4	< 1	0.0	0	0.0	0	2.0	< 1
Total	36,079.4	2	44,670.8	2	6,288.3	< 1	24,305.3	1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	3,076.7	< 1	0.0	0	0.0	0
Status 2	0.0	0	241.7	< 1	2.6	< 1	0.0	0
Status 3	2,671.1	< 1	4,411.4	< 1	0.0	0	429.4	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	2,671.1	< 1	7,729.8	< 1	2.6	< 1	429.4	< 1

	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	30.0	< 1	2.7	< 1	0.0	0
Status 2	0.0	0	436.3	< 1	20,089.9	< 1	30.5	< 1
Status 3	129.2	< 1	16,645.9	< 1	21,576.2	1	10,244.6	< 1
Status 4	0.0	0	0.0	0	2,886.7	< 1	0.5	< 1
Total	129.2	< 1	17,112.2	< 1	44,555.4	2	10,275.7	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	148.6	< 1	0.0	0	0.0	0
Status 2	298.4	< 1	3,842.0	< 1	2.3	< 1	233.1	< 1
Status 3	0.0	0	375.8	< 1	230.9	< 1	968.4	< 1
Status 4	0.0	0	0.0	0	157.1	< 1	0.0	0
Total	298.4	< 1	4,366.4	< 1	390.3	< 1	1,201.5	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	31,581.3	2
Status 2	0.0	0	0.0	0	39,466.9	2
Status 3	3.4	< 1	0.0	0	126,413.6	8
Status 4	1,759,132.8	88	8,848.6	< 1	1,773,914.3	88
Total	1,759,136.2	88	8,848.6	< 1	1,971,376.0	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):

Year-round Model:

Habitat Description: Four-toed salamanders may be observed in scattered locations throughout much of their range in swamps, bogs, moist terrestrial seeps and springs, floodplains, sloughs or standing water, vernal ponds, and marshy areas within hardwood or mixed forest. Although terrestrial or fossorial as adults, four-toed salamanders are aquatic as larvae, and require a breeding habitat near water; preferably in fishless habitats with sphagnum or other mosses present. They breed in the fall and lay eggs in the winter or early spring. Clutch size is variously reported as a dozen or so up to 80. The eggs are laid in moss or other protected sites immediately above or next to a pool, into which the larvae drop or wriggle after hatching. The female remains with her eggs until hatching (about 2 months) and communal nesting occurs. The aquatic larvae metamorphose in about 1.5-2 months and attain sexual maturity about 18 months later. Thought to be declining, especially due to habitat loss (Petranka 1998). S. Smith 18Feb05

Hydrography Mask:

Freshwater Only

Slow Current Only

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

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

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

Selected Map Units:

Functional Group	Map Unit Name
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest
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 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	South-Central Interior Mesophytic Forest
Forest/Woodland	Southern and Central Appalachian Cove Forest
Forest/Woodland	Southern Piedmont Dry Oak-Heath Forest - Virginia/Pitch Pine Modifier
Forest/Woodland	Southern Piedmont Mesic Forest
Water	Open Water (Fresh)
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 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 Large River Floodplain Forest - Forest Modifier
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Northern Seepage Swamp
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	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 Seepage Swamp and Baygall
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

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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.