



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Seepage Salamander

*Desmognathus aeneus*

Taxa: Amphibian

Order: Caudata

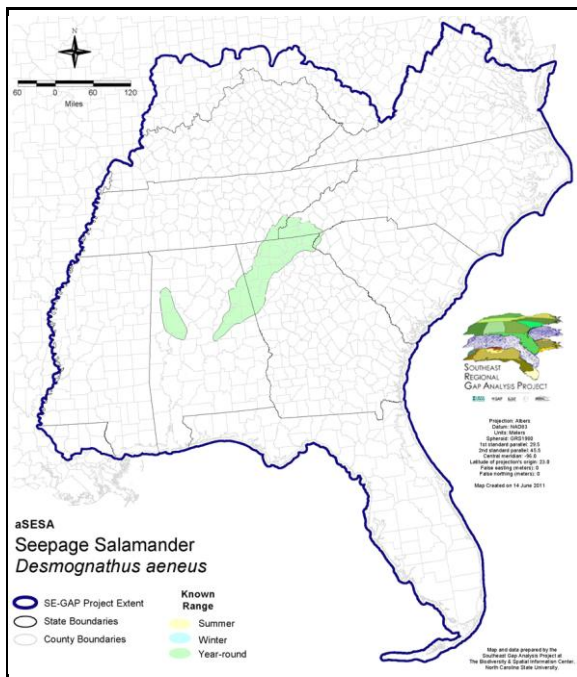
Family: Plethodontidae

SE-GAP Spp Code: **aSESA**

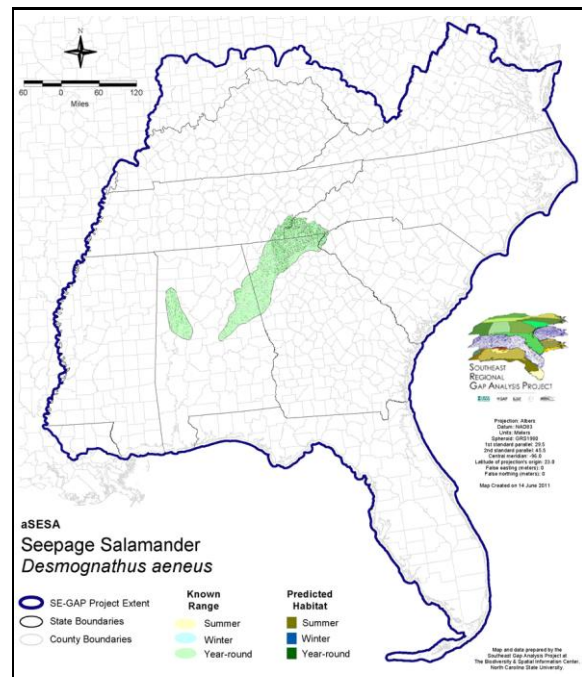
ITIS Species Code: 173636

NatureServe Element Code: AAAAD03010

#### KNOWN RANGE:



#### PREDICTED HABITAT:



Range Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Range\\_aSESA.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aSESA.pdf)

Predicted Habitat Map Link: [http://www.basic.ncsu.edu/segap/datazip/maps/SE\\_Dist\\_aSESA.pdf](http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aSESA.pdf)

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/aSESA\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/aSESA_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: NC (SR), TN (D)

NS Global Rank: G3G4

NS State Rank: AL (S2), GA (S3), NC (S3), SC (SNR), TN (S1)

**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	22.3	< 1	4,928.6	< 1	0.0	0	0.0	0
Status 2	< 0.1	< 1	21,694.9	4	0.0	0	0.0	0
Status 3	0.0	0	124,682.8	22	0.0	0	588.1	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	22.4	< 1	151,306.2	27	0.0	0	588.1	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	61.5	< 1	0.0	0	0.0	0
Status 2	0.0	0	0.0	0	0.0	0	0.0	0
Status 3	0.0	0	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	61.5	< 1	0.0	0	0.0	0
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	0.0	0	0.0	0
Status 2	0.0	0	19.0	< 1	5,697.0	1	0.0	0
Status 3	0.0	0	1,448.6	< 1	330.8	< 1	0.0	0
Status 4	0.0	0	0.0	0	833.8	< 1	0.0	0
Total	0.0	0	1,467.6	< 1	6,861.6	1	0.0	0
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	15.6	< 1	0.0	0	0.0	0
Status 2	0.0	0	121.1	< 1	0.0	0	0.0	0
Status 3	0.0	0	135.0	< 1	21.8	< 1	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	271.6	< 1	21.8	< 1	0.0	0
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	0	0.0	0	5,027.9	< 1		
Status 2	0.0	0	0.0	0	27,532.0	5		
Status 3	0.0	0	0.0	0	127,207.1	45		
Status 4	269,696.9	49	47.1	< 1	271,411.5	49		
Total	269,696.9	49	47.1	< 1	431,178.5	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: Seepage salamanders occur in habitats associated with moist, shaded deciduous, mixed forest, and cove hardwood. They also occur in damp shaded ravines. They are most often observed under damp leaf mold on the forest floor and under moss mats, logs or other objects in the vicinity of springs, seepages or small streams (Martof et al. 1980, Petranka 1998). *D. aeneus* shuns sunny areas. They are completely terrestrial with no aquatic larval stage. Likely to be vulnerable to intensive management practices that eliminate leaf litter and shading, such as clear-cutting. They are restricted to elevations of 30-1340 m. Eggs usually laid April-June, though late winter and spring in western Alabama. Female stays with clutch of 5-17 eggs 5-7 weeks until hatching. May be 2 annual nesting periods in some areas. Mature in 2 years. Eggs are laid under moss or in small, protected depressions. S. Smith 18Feb05

Elevation Mask: > 30m and < 1340m

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffer of 120m from selected water features.

Utilizes open water features with buffer of 120m from 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	Central and Southern Appalachian Montane Oak Forest
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Mixed Modifier
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	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 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 - 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	East Gulf Coastal Plain Interior Shrub Bog
Wetlands	East Gulf Coastal Plain Northern Seepage Swamp
Wetlands	Southern and Central Appalachian Bog and Fen
Wetlands	Southern Appalachian Seepage Wetland
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

**CITATIONS:** Behler, J. L., and F. W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred A. Knopf, New York. 719 pp.

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Hairston, N. G., Sr., and R. H. Wiley. 1993. No decline in salamander (Amphibia:Caudata) populations: a twenty-year study in the southern Appalachians. *Brimleyana* 18:59-64.

Harrison, J. R. 1992. DESMOGNATHUS AENEUS. Cat. Am. Amph. Rept. 534.1-534.4.

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

Petranka, J. W. 1998. Salamanders of the United States and Canada. Washington DC: Smithsonian Inst. Press.

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This data was compiled and/or developed  
by the Southeast GAP Analysis Project at  
The Biodiversity and Spatial Information  
Center, North Carolina State University.