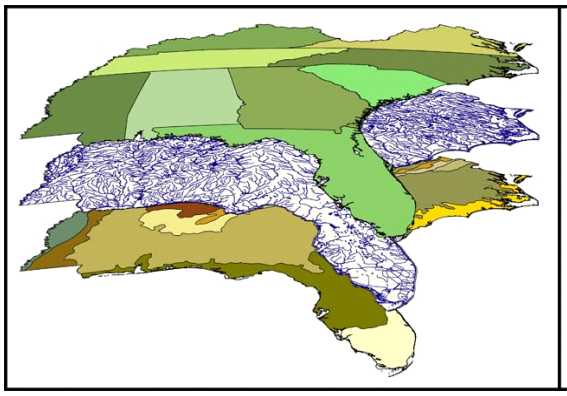


SOUTHEAST GAP ANALYSIS PROJECT

USGS gap BaSIC NARSAL

Species Modeling Report

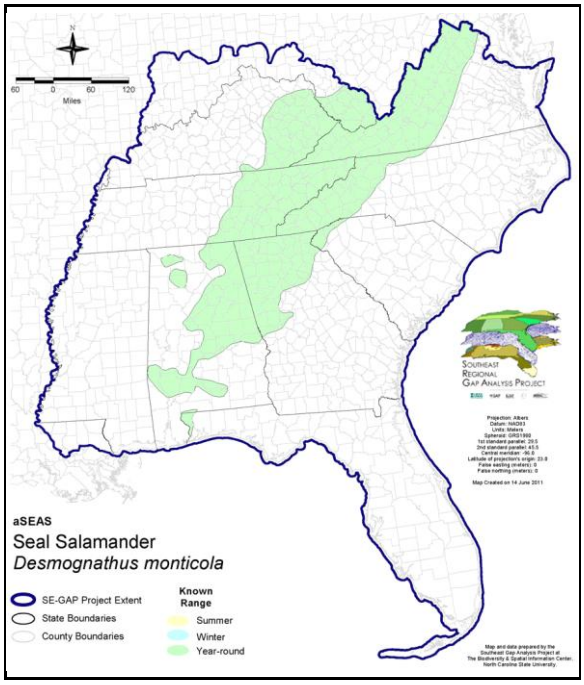
Seal Salamander

Desmognathus monticola

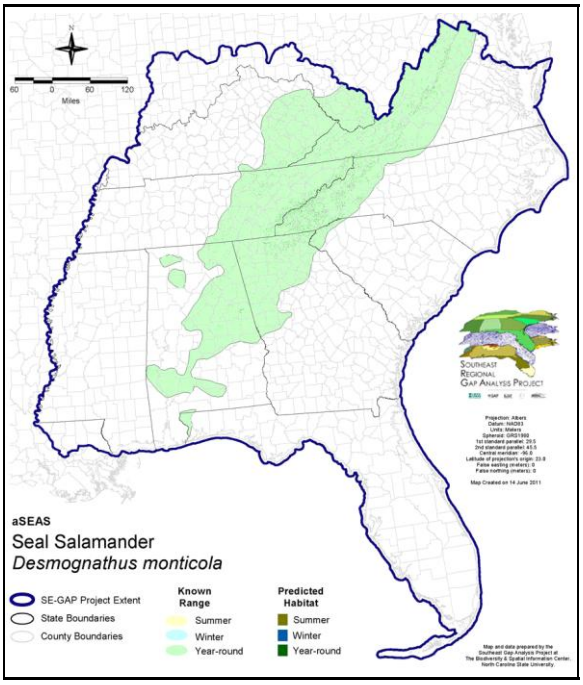
Taxa: Amphibian
Order: Caudata
Family: Plethodontidae

SE-GAP Spp Code: **aSEAS**
ITIS Species Code: 173640
NatureServe Element Code: AAAAD03060

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aSEAS.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aSEAS.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=aSEAS
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/aSEAS_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: AL (SP), KY (N), MS (Non-game species in need of management)

NS Global Rank: G5

NS State Rank: AL (S5), AR (SNA), FL (S1), GA (S5), KY (S5), MD (S5), MS (SNA), NC (S5), PA (S4), SC (SNR), TN (S5), VA (S5), WV (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	6.3	< 1	2,507.5	< 1	0.0	0	0.0	0
Status 2	0.0	0	12,416.0	3	0.0	0	0.0	0
Status 3	0.0	0	66,153.2	17	122.0	< 1	59.9	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	6.3	< 1	81,076.7	21	122.0	< 1	59.9	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	24,622.4	6	0.0	0	0.0	0
Status 2	0.0	0	411.4	< 1	0.0	0	0.0	0
Status 3	30.2	< 1	2,728.2	< 1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	30.2	< 1	27,761.9	7	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	20.6	< 1	0.0	0	0.0	0
Status 2	0.0	0	918.1	< 1	5,192.3	1	24.8	< 1
Status 3	1,292.3	< 1	1,985.9	< 1	1,422.7	< 1	594.2	< 1
Status 4	0.0	0	0.0	0	304.1	< 1	0.0	0
Total	1,292.3	< 1	2,924.6	< 1	6,919.1	2	618.9	< 1

	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	270.1	< 1	0.0	0	0.0	0
Status 2	0.0	0	779.7	< 1	0.0	0	15.7	< 1
Status 3	0.0	0	29.0	< 1	3.9	< 1	< 0.1	< 1
Status 4	0.0	0	0.0	0	5.4	< 1	0.0	0
Total	0.0	0	1,078.7	< 1	9.3	< 1	15.8	< 1

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	27,426.9	7
Status 2	0.0	0	0.0	0	19,757.8	5
Status 3	0.0	0	0.0	0	74,421.5	36
Status 4	201,419.9	52	54.0	< 1	202,087.5	52
Total	201,419.9	52	54.0	< 1	323,693.7	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: Desmognathus monticola occurs along swift rocky, well-aerated streams, seeps and springs in shaded mesic ravines and is always associated with rock and gravel substrates (Mount 1986). Rocky streams with a shallow gradient and sluggish flow seem to be shunned (Folkerts 1971). More aquatic than most of the other member of the genus and is seldom encountered far from water. Seal salamanders are found in most forested stream situations within their range (Martof et al. 1980), but are primarily associated with hardwood forests (Petranka 1998). In the Piedmont, they may occur locally in small streams within cool, forested ravines in association with other species of northern affinities. Very localized in Florida, usually found in seepage springs in association with sandstone, clay, or limestone and with mixed deciduous and evergreen hardwoods on slopes (Means 1992). By day, seal salamanders shelter under rocks or in burrows, often taking to water when disturbed. Populations range in elevation as high as 1555m, but are most abundant at elevations between 1219 to 1372 m (Petranka). Eggs are laid on undersides of rocks or leaves in water or seepages and also under or in logs near water. They hatch late summer to early fall. The larval period is fully aquatic. Males require at least 5 years to attain sexual maturity, females first oviposit at 5-7 years (Bruce 1989; Castanet et al. 1996, Herpetologica 52:160-171). S. Smith 18Feb05

Elevation Mask: < 1555m

Hydrography Mask:

Freshwater Only

Fast Current Only

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

Selected Map Units:

Functional Group	Map Unit Name
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Central and Southern Appalachian Northern Hardwood Forest
Forest/Woodland	Central Appalachian Oak and Pine Forest
Forest/Woodland	East Gulf Coastal Plain Limestone 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-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
Water	Open Water (Fresh)
Wetlands	Central Appalachian Riparian - Forest Modifier
Wetlands	Central Appalachian Riparian - Herbaceous Modifier
Wetlands	East Gulf Coastal Plain Small Stream and River Floodplain Forest
Wetlands	Southern Piedmont Small Floodplain and Riparian Forest

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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.