



SOUTHEAST GAP ANALYSIS PROJECT



Species Modeling Report

Mole Salamander

Ambystoma talpoideum

Taxa: Amphibian

Order: Caudata

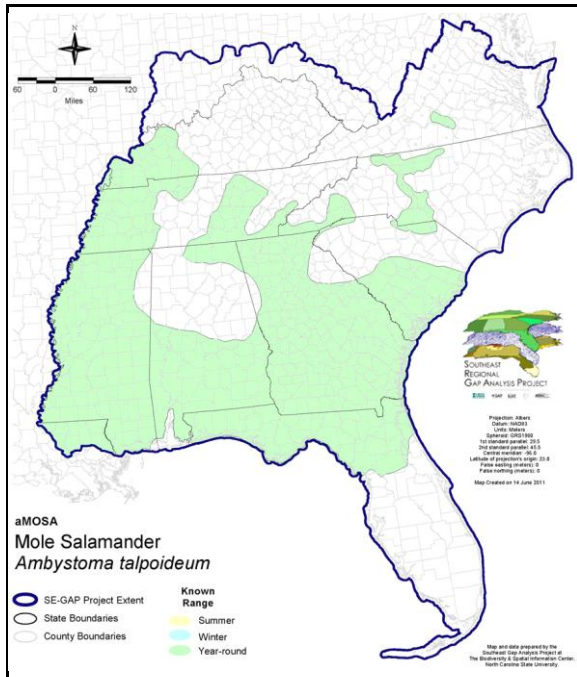
Family: Ambystomatidae

SE-GAP Spp Code: **aMOSA**

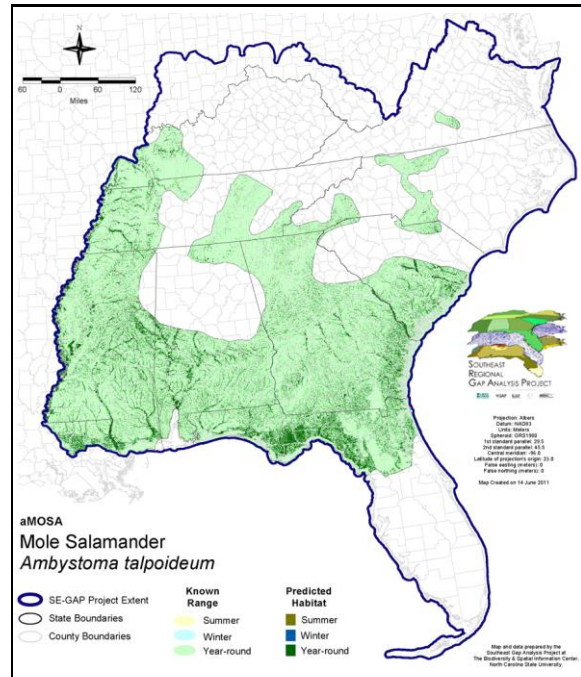
ITIS Species Code: 173604

NatureServe Element Code: AAAAA01120

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_aMOSA.pdf

Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_aMOSA.pdf

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

Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/aMOSA_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KY (N), MS (Non-game species in need of management), NC (SC), OK (Category II), VA (SC)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S3), FL (SNR), GA (S5), IL (S3), IN (S1), KY (S3), LA (S5), MO (S2), MS (S5), NC (S2), OK (S1), SC (SNR), TN (S4), TX (S3), VA (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	16,944.2	< 1	6,377.4	< 1	0.0	0	0.0	0
Status 2	93,162.9	1	43,584.7	< 1	0.0	0	565.5	< 1
Status 3	1,203.1	< 1	369,311.2	4	5,890.2	< 1	103,683.1	1
Status 4	5.7	< 1	< 0.1	< 1	0.0	0	0.0	0
Total	111,315.9	1	419,273.4	5	5,890.2	< 1	104,248.5	1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	11,989.2	< 1	11.7	< 1	0.0	0
Status 2	0.0	0	1,026.4	< 1	1,631.2	< 1	0.0	0
Status 3	15,677.1	< 1	4,038.3	< 1	0.0	0	2,765.0	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	15,677.1	< 1	17,053.8	< 1	1,642.9	< 1	2,765.0	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Forest	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	68.7	< 1	29.7	< 1	0.0	0
Status 2	0.0	0	2,753.6	< 1	195,019.9	2	0.0	0
Status 3	2,247.0	< 1	141,113.1	2	38,846.1	< 1	86,597.0	< 1
Status 4	0.0	0	< 0.1	< 1	6,814.4	< 1	8.4	< 1
Total	2,247.0	< 1	143,935.5	2	240,710.1	3	86,605.4	< 1
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt.	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	285.0	< 1	0.0	0	0.0	0
Status 2	796.5	< 1	16,256.5	< 1	0.0	0	659.1	< 1
Status 3	0.0	0	1,626.2	< 1	5,744.3	< 1	47,513.7	< 1
Status 4	0.0	0	0.0	0	595.2	< 1	0.0	0
Total	796.5	< 1	18,167.8	< 1	6,339.4	< 1	48,172.8	< 1
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%		
Status 1	0.0	0	0.0	0	35,705.9	< 1		
Status 2	0.0	0	0.0	0	355,456.2	4		
Status 3	461.9	< 1	0.2	< 1	826,717.4	13		
Status 4	7,476,111.8	82	13,952.0	< 1	7,504,296.4	83		
Total	7,476,573.7	82	13,952.2	< 1	8,722,175.9	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: Found throughout the Coastal Plain and in scattered localities above the Fall Line, mole salamanders are inhabitants of damp situations in pine flatwoods, bottomland hardwoods, floodplain forests, gum and cypress ponds, hydric hammocks, or other low-lying forested areas. They breed in shallow, semi-permanent ponds with abundant vegetation. Mole salamanders are highly fossorial and live in burrows in or near floodplains or other low-lying areas throughout most of the year (Mount 1975). Populations often localized around breeding ponds (Shoop 1964). Populations in the piedmont and mountains usually occur in upland hardwood or mixed pine-hardwood forests near semi-permanent ponds. The presence of soils with a sand component appears to be important to population distributions due to their fossorial activities. They breed in winter in the south, and fall in the north. Larvae are found in ponds and ditches. Clutches of up to several hundred eggs are laid singly in the Atlantic Coastal Plain, in masses in the Mississippi Valley Physiographic Province (Semlitsch & Walls 1990). Adults leave the breeding ponds by mid-May (in March in South Carolina). Reproductive success is positively correlated with duration of standing water in breeding pond, but not with number of breeding females or number of eggs laid (Semlitsch 1987). Larvae metamorphose into terrestrial form in late spring or summer, or early fall, or the following spring, or become paedomorphic (Semlitsch 1985). Facultative paedomorphosis is associated with permanent or nearly permanent ponds. In Louisiana, reproductive cycle is annual (mainly), biennial, or otherwise; first breeding occurs at 2 years (reported as 1 year in South Carolina) (Raymond and Hardy 1990). In South Carolina, reproductive success varied greatly and is poor or minimal during drought periods (Pechmann et al. 1991). S. Smith 18Feb05

Hydrography Mask:

Freshwater Only

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	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 Limestone Forest
Forest/Woodland	East Gulf Coastal Plain Northern Loess Bluff Forest
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	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 Oak Dome and Hammock
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
Wetlands	Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest 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 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 Wet Longleaf Pine Savanna and Flatwoods
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 Florida Pine Flatwoods
Wetlands	East Gulf Coastal Plain Interior Shrub Bog
Wetlands	East Gulf Coastal Plain Large River Floodplain Forest - Forest 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 Small Stream and River Floodplain Forest
Wetlands	East Gulf Coastal Plain Southern Depression Pondshore
Wetlands	East Gulf Coastal Plain Southern Loblolly-Hardwood Flatwoods
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	South-Central Interior Large Floodplain - Forest Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	South-Central Interior/Upper Coastal Plain Wet Flatwoods
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 Piedmont Large Floodplain Forest - Forest 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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