



# SOUTHEAST GAP ANALYSIS PROJECT



## Species Modeling Report

### Red-cheeked Salamander

*Plethodon jordani*

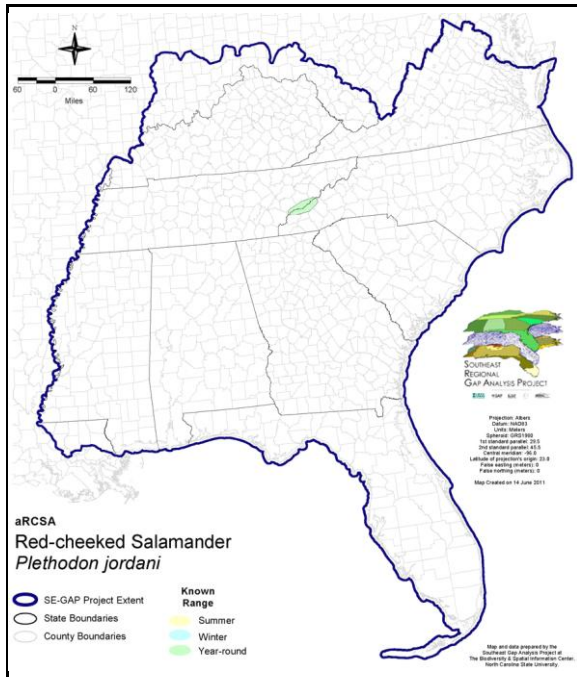
Taxa: Amphibian  
 Order: Caudata  
 Family: Plethodontidae

SE-GAP Spp Code: **aRCSA**

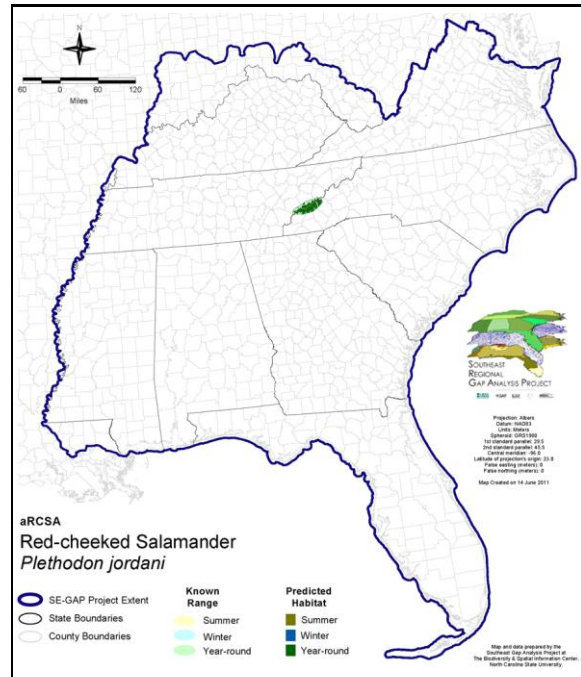
ITIS Species Code: 173660

NatureServe Element Code: AAAAD12090

#### KNOWN RANGE:



#### PREDICTED HABITAT:



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

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

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

Data Download: [http://www.basic.ncsu.edu/segap/datazip/region/vert/aRCSA\\_se00.zip](http://www.basic.ncsu.edu/segap/datazip/region/vert/aRCSA_se00.zip)

#### PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---  
 State Status: NC (W3)  
 NS Global Rank: G3  
 NS State Rank: NC (S3?), TN (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	0.0	0	0.0	0	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	2,199.9	2	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	2,199.9	2	0.0	0	0.0	0
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	135,894.0	93	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	32.7	< 1	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	135,926.6	93	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	0.0	0	0.0	0	0.0	0
Status 3	3,919.0	3	0.0	0	0.0	0	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	3,919.0	3	0.0	0	0.0	0	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	0.0	0	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	0.0	0	0.0	0	0.0	0
	Private Land - No Res.		Water		Overall Total			
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	135,894.0 93			
Status 2	0.0	0	0.0	0	0.0 0			
Status 3	0.0	0	0.0	0	6,151.5 6			
Status 4	1,859.0	1	0.0	0	1,859.0 1			
Total	1,859.0	1	0.0	0	143,904.4 100			

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: Jordan's salamanders are found in Great Smoky Mountains National Park, from Mount Sterling Gap in the east to the slopes of Gregory Bald in the west (Dodd 2004). They are found at elevations ranging from at least 768 to 2,025 m (Highton and Peabody 2000, Dodd 2004). They may be found in moist woodland habitats, taking refuge by day under rotting logs, burrows, leaf litter or rocks, and prowling the forest floor by night. Jordan's salamanders may also inhabit crevices in shaded rock outcrops. Eggs are probably laid in underground cavities. Some females first oviposit at 4 years. Females 6 years old or older appear to oviposit in alternate years (Hairston 1983). Terrestrial hatchlings first appear on surface in spring. Stacy Smith, 22April05

Elevation Mask: > 768m and < 2025m

### 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 and Southern Appalachian Northern Hardwood Forest
Forest/Woodland	Central and Southern Appalachian Spruce-Fir 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 Appalachian Montane Pine Forest and Woodland
Rock Outcrop	Southern Appalachian Montane Cliff

- 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.
- Dawson, W. R., et al. 1987. Report of the Scientific Advisory Panel on the spotted owl. Condor 89:205-229.
- Dodd, C. K., Jr. 2004. The Amphibians of Great Smoky Mountains National Park. Univ. Tennessee Press, Knoxville. 283 pp.
- Hairston, N. G. 1983. Growth, survival and reproduction of PLETHODON JORDANI: trade-offs between selective pressures. Copeia 1983:1024-1035.
- 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.
- Hairston, N. G., Sr., et al. 1992. The dynamics of two hybrid zones in Appalachian salamanders of the genus PLETHODON. Evolution 46:930-938.
- Highton, R. 1973. PLETHODON JORDANI. Cat. Amer. Amphib. Rept. 130.1-130.4.
- Highton, R. 1983. A new species of woodland salamanders of the PLETHODON GLUTINOSUS group from the southern Appalachian Mountains. Brimleyana 9:1-20.
- Highton, R. and R.B. Peabody. 2000. Geographic protein variation and speciation in salamanders of the Plethodon jordani and Plethodon glutinosus complexes in the Southern Appalachian mountains with the description of four new species. Pages 31-94 in Br
- Martof, B. S., W. M. Palmer, J. R. Bailey, and J. R. Harrison, III. 1980. Amphibians and reptiles of the Carolinas and Virginia. University of North Carolina Press, Chapel Hill, North Carolina. 264 pp.
- Mitchell, J. C., and J. A. Taylor. 1986. Predator-prey size relationships in a North Carolina population of PLETHODON JORDANI. J. Herpetol. 20:562-566.
- Nishikawa, K. C. 1990. Intraspecific spatial relationships of two species of terrestrial salamanders. Copeia 1990:418-426.
- Petranka, J. W. 1998. Salamanders of the United States and Canada. Washington DC: Smithsonian Inst. Press.
- Petranka, J. W., M. E. Eldridge, and K. E. Haley. 1993. Effects of timber harvesting on southern Appalachian salamanders. Conservation Biology 7(2):363-370.
- Wilson, L. A. 1995. The Land Manager's Guide to the amphibians and reptiles of the South. Chapel Hill, NC: The Nature Conservancy.

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This data was compiled and/or developed  
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Center, North Carolina State University.