

SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

Fowler's Toad

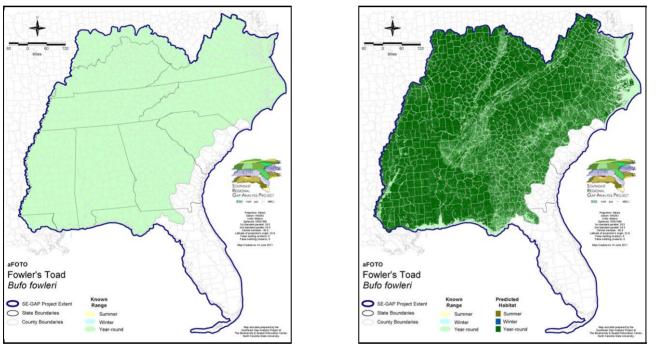
Bufo fowleri Taxa: Amphibian Order: Anura

Family: Bufonidae

KNOWN RANGE:

SE-GAP Spp Code: **aFOTO** ITIS Species Code: 173478 NatureServe Element Code: AAABB01210

PREDICTED HABITAT:



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

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

 GAP Online Tool Link:
 http://www.gapserve.ncsu.edu/segap/latazip/maps/SE_Dist_aFOTO.pdf

 Data Download:
 http://www.basic.ncsu.edu/segap/datazip/region/vert/aFOTO_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---

State Status: KY (N), MS (Non-game species in need of management), NH (SC), NJ (SC), NY (GS), RI (Not Listed), ON (THR)

NS Global Rank: G5

NS State Rank: AL (S5), AR (S5), CT (S4), DC (S5), DE (S5), FL (S4), GA (S5), IA (S3), IL (S5), IN (S4), KY (S5), LA (SNR), MA (S4), MD (S5), MI (S5), MO (S5), MS (S5), NC (S5), NH (S3), NJ (S3), NY (S4), OH (SNR), OK (S4?), PA (S3S4), RI (S3), SC (SNR), TN (S5), TX (SNR), VA (S5), VT (S1), WV (S5), ON (S2)

SUMMARY OF PREDICTED HABITAT BY MANAGMENT AND GAP PROTECTION STATUS:

	ι	JS FWS	US Forest Service		Tenn. Valley Author.		US DOD/ACOE	
	ha	%	ha	%	ha	%	ha	%
Status 1	89,486.6	< 1	32,608.7	< 1	0.0	0	0.0	(
Status 2	207,389.6	< 1	360,941.2	< 1	0.0	0	4,969.4	< 2
Status 3	3,598.4	< 1	2,405,860.5	3	64,129.0	< 1	573,791.3	< 1
Status 4	69.8	< 1	0.0	0	0.0	0	196.1	< 1
Total	300,544.3	< 1	2,799,410.4	4	64,129.0	< 1	578,956.8	< 1
	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Land	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	291,992.3	< 1	0.0	0	0.0	(
Status 2	0.0	0	11,587.9	< 1	1,017.7	< 1	0.0	(
Status 3	59,423.0	< 1	122,332.1	< 1	0.0	0	7,574.9	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	(
Total	59,423.0	< 1	425,912.3	< 1	1,017.7	< 1	7,574.9	< 1
	Native Am. Reserv.		State Park/Hist. Park		State WMA/Gameland		State Fores	
	ha	%	ha	%	ha	%	ha	9
Status 1	0.0	0	1,216.4	< 1	77.5	< 1	0.0	(
Status 2	0.0	0	16,407.7	< 1	579,791.3	< 1	1,440.0	< 1
Status 3	28,150.4	< 1	227,781.8	< 1	247,360.4	< 1	183,759.1	< 2
Status 4	0.0	0	0.0	0	110,938.6	< 1	47.7	< 2
Total	28,150.4	< 1	245,405.9	< 1	938,167.8	1	185,246.8	< 2
	State Coastal Reserve		ST Nat.Area/Preserve		Other State Lands		Private Cons. Easemt	
	ha	%	ha	%	ha	%	ha	%
Status 1	0.0	0	12,298.4	< 1	0.0	0	0.0	(
Status 2	12,002.5	< 1	75,089.0	< 1	7.0	< 1	1,783.4	< 2
Status 3	0.0	0	6,992.5	< 1	7,897.5	< 1	35,110.8	< 2
Status 4	0.0	0	1.1	< 1	4,444.6	< 1	0.0	(
Total	12,002.5	< 1	94,380.9	< 1	12,349.1	< 1	36,894.2	< 2
	Private Land - I	No Res.		Water			Overa	all Tota
	ha	%	ha	%			ha	9
Status 1	0.0	0	0.0	0			427,679.8	< 2
Status 2	0.0	0	0.0	0			1,272,426.7	:
Status 3	393.9	< 1	1.1	< 1			3,974,156.6	
Status 4	69,517,089.5	89	41,778.8	< 1			69,785,434.9	9
Total	69,517,483.4	89	41,779.9	< 1			75,459,697.9	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.

Year-round Model:

Habitat Description: A ubiquitous species, the Fowler's toad is found in a variety of habitats including hardwood, mixed or pine forests as well as residential environments. This toad prefers sandy open habitats for burrowing and seems to thrive in agricultural areas. Within Florida the Fowler's toad is found only in the panhandle and is primarily restricted to bottomland habitats (Bartlett and Bartlett 1999).

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffers of 500m from and 30m into selected water features. Utilizes open water features with buffers of 500m from and 30m into selected water features. Utilizes wet vegetation features with buffer of unlimited into selected vegetation features.

unctional Group	Map Unit Name
nthropogenic	Bare Sand
nthropogenic	Developed Open Space
nthropogenic	Low Intensity Developed
nthropogenic	Medium Intensity Developed
nthropogenic	Pasture/Hay
Anthropogenic	Row Crop
nthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)
Anthropogenic	Successional Shrub/Scrub (Clear Cut)
Anthropogenic	Successional Shrub/Scrub (Other)
Anthropogenic	Successional Shrub/Scrub (Utility Swath)
Forest/Woodland	Allegheny-Cumberland Dry Oak Forest and Woodland - Pine Modifier
Forest/Woodland	Appalachian Hemlock-Hardwood Forest
Forest/Woodland	Appalachian Serpentine Woodland
Forest/Woodland	Atlantic Coastal Plain Fall-Line Sandhills Longleaf Pine Woodland - Loblolly Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Offsite Hardwood Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	Atlantic Coastal Plain Fall-line Sandhills Longleaf Pine Woodland - Scrub/Shrub Understory Modifier
Forest/Woodland	Atlantic Coastal Plain Mesic Hardwood and Mixed Forest
Forest/Woodland	Atlantic Coastal Plain Northern Mixed Oak-Heath Forest
Forest/Woodland	Atlantic Coastal Plain Upland Longleaf Pine Woodland
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 Interior Shortleaf Pine-Oak Forest - Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Mixed Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Shortleaf Pine-Oak Forest - Pine Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Loblolly Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Offsite Hardwood Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Open Understory Modifier
Forest/Woodland	East Gulf Coastal Plain Interior Upland Longleaf Pine Woodland - Scrub/Shrub Modifier
Forest/Woodland	East Gulf Coastal Plain Northern Dry Upland Hardwood 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 Mesic Slope Forest
Forest/Woodland	Northeastern Interior Dry Oak Forest - Mixed Modifier
Forest/Woodland	Northeastern Interior Dry Oak Forest-Hardwood Modifier
Forest/Woodland	Northern Atlantic Coastal Plain Dry Hardwood Forest
Forest/Woodland	South-Central Interior Mesophytic Forest

Forest/Woodland Southeastern Interior Longleaf Pine Woodland 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 Low Mountain Pine Forest Forest/Woodland Southern Appalachian Montane Pine Forest and Woodland Forest/Woodland Southern Coastal Plain Dry Upland Hardwood Forest 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 - Loblolly Pine 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 - Pine Modifier Water **Open Water (Fresh)** Wetlands Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Forest Modifier Wetlands Atlantic Coastal Plain Blackwater Stream Floodplain Forest - Herbaceous 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 Large Natural Lakeshore 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 Northern Pondshore Wetlands Atlantic Coastal Plain Northern Wet Longleaf Pine Savanna and Flatwoods Wetlands Atlantic Coastal Plain Peatland Pocosin Wetlands Atlantic Coastal Plain Sandhill Seep Atlantic Coastal Plain Small Blackwater River Floodplain Forest Wetlands Wetlands Atlantic Coastal Plain Small Brownwater River Floodplain Forest Atlantic Coastal Plain Southern Wet Pine Savanna and Flatwoods Wetlands Wetlands Atlantic Coastal Plain Streamhead Seepage Swamp, Pocosin, and Baygall Wetlands Central Appalachian Floodplain - Forest Modifier Wetlands Central Appalachian Riparian - Forest Modifier Wetlands Central Florida Herbaceous Pondshore Wetlands Central Florida Herbaceous Seep Wetlands Central Interior Highlands and Appalachian Sinkhole and Depression Pond Wetlands **Cumberland Riverscour** 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 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 East Gulf Coastal Plain Northern Seepage Swamp Wetlands 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 East Gulf Coastal Plain Treeless Savanna and Wet Prairie Wetlands Floridian Highlands Freshwater Marsh

Wetlands	Lower Mississippi River Bottomland and Floodplain Forest	
Wetlands	Lower Mississippi River Bottomland Depressions - Forest Modifier	
Wetlands	Lower Mississippi River Bottomland Depressions - Herbaceous Modifier	
Wetlands	Mississippi River Low Floodplain (Bottomland) Forest	
Wetlands	Mississippi River Riparian Forest	
Wetlands	North-Central Appalachian Acidic Swamp	
Wetlands	North-Central Appalachian Seepage Fen	
Wetlands	North-Central Interior and Appalachian Rich Swamp	
Wetlands	South Florida Freshwater Slough and Gator Hole	
Wetlands	South Florida Willow Head	
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	South-Central Interior/Upper Coastal Plain Wet Flatwoods	
Wetlands	Southern and Central Appalachian Bog and Fen	
Wetlands	Southern Appalachian Seepage Wetland	
Wetlands	Southern Coastal Plain Blackwater River Floodplain Forest	
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	Unconsolidated Shore (Lake/River/Pond)	
Wetlands	Western Highland Rim Seepage Fen	

CITATIONS: Barbour, R. W. 1971. Amphibians and reptiles of Kentucky. Univ. Press of Kentucky, Lexington. x + 334

pp.

Bartlett, R.D. and P.P. Bartlett. 1999. Field guide to Florida reptiles and amphibians. Gulf Publishing Co, Houston, TX. 280 p.

Breden, F. 1988. Natural history and ecology of Fowler's toad, BUFO WOODHOUSEI FOWLERI (Amphibia: Bufonidae), in the Indiana Dunes National Lakeshore. Fieldiana Zoll., New Ser. No. 49:1-16.

Collins, J. T. 1982. Amphibians and reptiles in Kansas. Second edition. Univ. Kansas Mus. Nat. Hist., Pub. Ed. Ser. 8. xiii + 356 pp.

Conant, R. and J. T. Collins. 1991. A field guide to reptiles and amphibians:eastern and central North America. Third edition. Houghton Mifflin Co., Boston, Massachusetts. 450 pp.

DeGraaf, R. M., and D. D. Rudis. 1983. Amphibians and reptiles of New England. Habitats and natural history. Univ. Massachusetts Press. vii + 83 pp.

Dundee, H. A., and D. A. Rossman. 1989. The amphibians and reptiles of Louisiana. Louisiana State Univ. Press, Baton Rouge.

Green, D. M. 1984. Sympatric hybridization and allozyme variation in the toads BUFO AMERICANUS AND B. FOWLERI in southern Ontario. Copeia 1984:18-26.

Johnson, T. R. 1977. The amphibians of Missouri. Univ. Kansas Mus. Nat. Hist., Pub. Ed. Ser. 6. ix + 134 pp.

Klimstra, W. D., and C.W. Myers. 1965. Foods of the toad, Bufo woodhousei fowleri (Hinkley). Trans. IL Acad. Sci. 58: 11-26.

Minton, S. A., Jr. 1972. Amphibians and reptiles of Indiana. Indiana Academy Science Monographs 3. v + 346 pp.

Sanders, O. 1986. The heritage of BUFO WOODHOUSEI Girard in Texas. Baylor Univ., Occas. Pap. Strecker Mus. No. 1. 28 pp.

Sanders, O. 1987. Evolutionary hybridization and speciation in North American indigenous bufonids. Strecker Museum, Baylor Univ., Waco, Texas. 110 pp.

Stebbins, R. C. 1985. A Field Guide to Western Reptiles and Amphibians. Second Edition. Houghton Mifflin Company, Boston, Massachusetts. xiv + 336 pp.

Sullivan, B. K., and T. Lamb. 1988. Hybridization between the toads BUFO MICROSCAPHUS and BUFO WOODHOUSII in Arizona:variation in release calls and allozymes. Herpetologica 44:325-333.

Sullivan, B. K., K. B. Malmos, and M. F. Given. 1996. Systematics of the BUFO WOODHOUSII complex (Anura:Bufonidae):advertisement call variation. Copeia 1996:274-280.

Wright, A. H. and A. A. Wright. 1949. Handbook of frogs and toads of the United States and Canada. Comstock Publishing Company, Ithica, NY. 640 pp.

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.