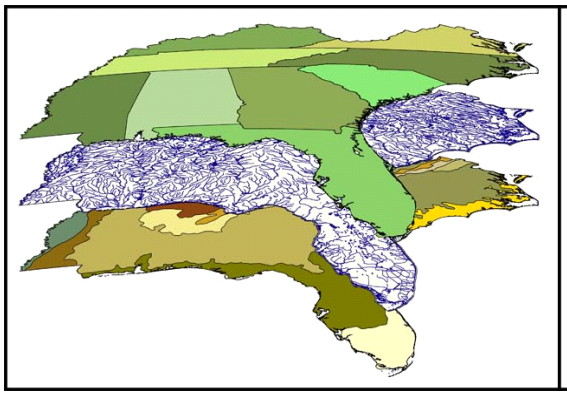


SOUTHEAST GAP ANALYSIS PROJECT

Species Modeling Report

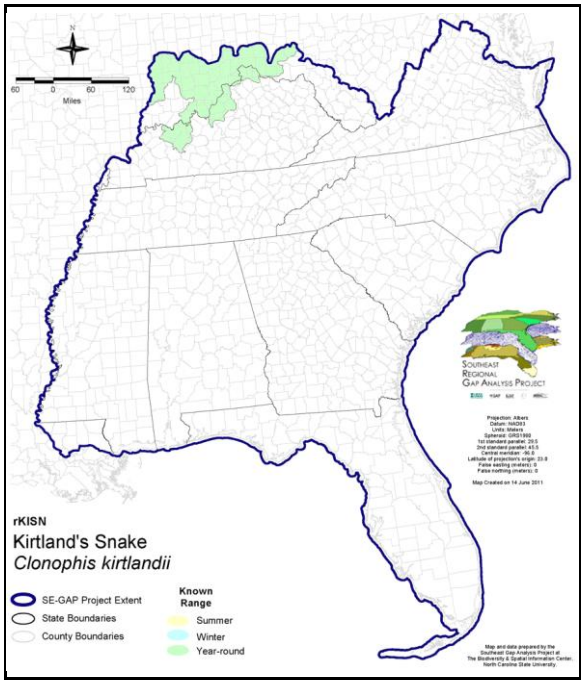
Kirtland's Snake

Clonophis kirtlandii

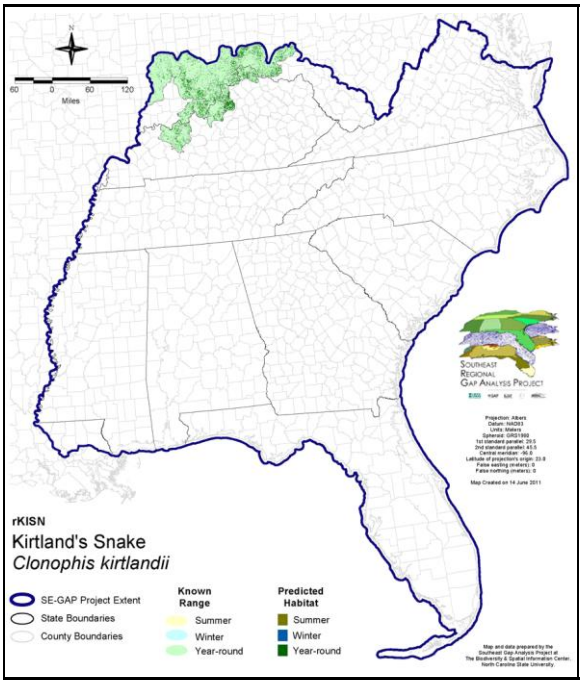
Taxa: Reptilian
Order: Squamata
Family: Colubridae

SE-GAP Spp Code: **rKISN**
ITIS Species Code: 174216
NatureServe Element Code: ARADB06010

KNOWN RANGE:



PREDICTED HABITAT:



Range Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Range_rKISN.pdf
Predicted Habitat Map Link: http://www.basic.ncsu.edu/segap/datazip/maps/SE_Dist_rKISN.pdf
GAP Online Tool Link: http://www.gapserve.ncsu.edu/segap/segap/index2.php?species=rKISN
Data Download: http://www.basic.ncsu.edu/segap/datazip/region/vert/rKISN_se00.zip

PROTECTION STATUS:

Reported on March 14, 2011

Federal Status: ---
State Status: IL (LT), IN (SE), KY (T), MI (E), OH (T), PA (PE)
NS Global Rank: G2
NS State Rank: IL (S2), IN (S2), KY (S2), MI (S1), MO (S1), OH (S2), PA (SH), WI (SNA)

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	0.0	0	0.0	0	1,079.4	< 1
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	0.0	0	0.0	0	1,079.4	< 1

	US Dept. of Energy		US Nat. Park Service		NOAA		Other Federal Lands	
	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

	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	806.5	< 1	0.0	0
Status 3	0.0	0	237.2	< 1	3.6	< 1	0.0	0
Status 4	0.0	0	0.0	0	0.0	0	0.0	0
Total	0.0	0	237.2	< 1	810.1	< 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	26.3	< 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	26.3	< 1	0.0	0	0.0	0

	Private Land - No Res.		Water		Overall Total	
	ha	%	ha	%	ha	%
Status 1	0.0	0	0.0	0	26.3	< 1
Status 2	0.0	0	0.0	0	806.5	< 1
Status 3	0.0	0	0.0	0	1,320.1	< 1
Status 4	219,995.2	99	56.6	< 1	220,051.8	99
Total	219,995.2	99	56.6	< 1	222,204.7	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: Kirkland's snake inhabit open wet grassy areas, wet meadows and prairie remnants, floodplains, bogs/fens, and areas in proximity to ponds and swamps (NatureServe 2005, Wilson 1995). "In Illinois and west-central Indiana, most often found on mollisols, soils that develop under grasslands and have excellent water retaining abilities (Wilsmann and Sellers 1988). Frequently in metropolitan areas in vacant lots associated with streams or wetlands; these are remnants of much larger populations that have been reduced by urbanization and may now be rapidly dying out (Minton et al. 1983). Most readily found in habitats with abundant debris on ground surface; open grassy habitats may harbor populations that are relatively difficult to detect and document. Secretive, usually found under debris, but is likely most often below ground (Harding 1993, pers. comm.). Commonly uses chimney crayfish (CAMBARUS DIOGENES) burrows as cover and underground passageways; the burrows provide moisture, less severe temperature extremes, and food resources (Wilsmann and Sellers 1988). Fossorial habits allow survival of grassland fire."--NatureServe 2005. Amy Silvano 18aug05

Ecosystem classifiers: Wetlands, Floodplain/riparian (No forest modifiers), pasture, prairie as PMUs, and Urban and disturbed (successional grass/herb & urban) as AMUs. Amy Silvano 18sug05

Customized Model: Buffer streams & rivers by 60m when they intersect with urban or disturbed classes and select those pixles for habitat. Also select any urban or disturbed classes that intersect with NWI wetlands (these classes are indicated as AMUs). Amy Silvano 18jul05. ****This water snake has fossorial attributes, a detailed soils layer would help to better predict this species distribution. Amy Silvano 18aug05

No AMU buffer distance set. Applied 120 meter PMU/AMU buffer. Applied 60 m hydro buffer to AMUs only for hand modeling. MJR 7 November 2007.

Hydrography Mask:

Freshwater Only

Utilizes flowing water features with buffer of 60m from selected water features.

Utilizes open water features with buffer of 60m from selected water features.

Selected Map Units:

Functional Group	Map Unit Name
Anthropogenic	Pasture/Hay
Prairie	Eastern Highland Rim Prairie and Barrens
Prairie	Eastern Highland Rim Prairie and Barrens - Dry Modifier
Prairie	Western Highland Rim Prairie and Barrens
Wetlands	Central Interior Highlands and Appalachian Sinkhole and Depression Pond
Wetlands	North-Central Interior and Appalachian Rich Swamp
Wetlands	South-Central Interior Large Floodplain - Herbaceous Modifier
Wetlands	South-Central Interior Small Stream and Riparian
Wetlands	Western Highland Rim Seepage Fen

Selected Secondary Map Units within 120m of Primary Map Units:

Functional Group	Map Unit Name
Anthropogenic	Developed Open Space
Anthropogenic	Low Intensity Developed
Anthropogenic	Medium Intensity Developed
Anthropogenic	Successional Grassland/Herbaceous
Anthropogenic	Successional Grassland/Herbaceous (Other)
Anthropogenic	Successional Grassland/Herbaceous (Utility Swath)

CITATIONS:

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.