

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: ***Thamnophis proximus diabolicus*** Rossman 1963 – **Arid Land Ribbonsnake**

Comments: Collins (1982) includes *T. p. diabolicus* in the herpetofauna of Kansas, however in a monograph of the genus *Thamnophis*, Rossman et al. (1996) assign the Kansas specimens of *T. proximus* to *T. p. proximus* or intergrades between *T. p. proximus* and *T. p. diabolicus*.

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	Subspecies occurs in R2 only in SW KS (see comments) and possibly SE CO. Connectivity of the habitat patches is very limited and dispersal between these patches may not be possible. Local populations may be extirpated through introduced species (bullfrogs) or drying of aquatic habitat thus eliminating prey (fish and frogs). Recolonization of aquatic habitat would be slow or impossible.  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Degenhardt et al. 1996</li> <li>• Collins 1982</li> <li>• Hammerson 1999</li> <li>• Mittermeier and Carr 1994</li> <li>• Rossman et al. 1996</li> </ul>
2 Distribution outside R2	C	Species ranges south from Indiana, Illinois, southern Wisconsin and Iowa to southern Mississippi, Texas, and eastern New Mexico in the United States, and south through eastern Mexico to Costa Rica. Populations also occur in Guerrero and Oaxaca on the Pacific coast of Mexico. The subspecies ( <i>T. proximus diabolicus</i> ) ranges from extreme southeastern Colorado southward through the Pecos Valley of New Mexico and Texas to Coahuila, Nuevo León, and west-central Tamaulipas, Mexico.  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Degenhardt et al. 1996</li> <li>• Ernst and Barbour 1989</li> <li>• Rossman 1970</li> <li>• Rossman et al. 1996</li> </ul>
3 Dispersal Capability	B	Based on the relatively xeric nature of this subspecies' range and microhabitat within that range, dispersal capabilities are expected to be limited. Subspecies is strongly dependant upon permanent water that sustains its' physiological and dietary needs. For dispersal, this subspecies must rely upon permanent aquatic corridors that provide sufficient vegetation for refugia from predators and thermoregulatory requirements, and abundant prey (fish and frogs).  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Rossman et al. 1996</li> </ul>
4 Abundance in R2	D	Populations of this subspecies have not been reported in CO since 1931 despite repeated searches of known locality and adjacent areas. The specimens in KS are of questionable taxonomic status (see comments).  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Collins 2000</li> <li>• Hammerson 1999</li> <li>• Mackessy 1998</li> <li>• Rossman et al. 1996</li> </ul>

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Criteria	Rank	Rationale	Literature Citations
5 Population Trend in R2	D	Populations of this subspecies have not been reported in CO since 1931 despite repeated searches of known locality. Possible reasons for the disappearance of this subspecies in CO include habitat changes associated with drought in the 1930s, competitive interaction with other garter snakes, predation by an increasing bullfrog population, and/or excessive collecting from a small remnant population.  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Hammerson 1999</li> <li>• Rossman et al. 1996</li> </ul>
6 Habitat Trend in R2	D	Degradation and destruction of aquatic habitat quality through a wide variety of factors have been suggested as causative mechanism for declines of other amphibians and reptiles in western North America and elsewhere.  Confidence in Rank High or <b>Medium</b> or Low	<ul style="list-style-type: none"> <li>• Corn and Bury 1989</li> <li>• Mittermeier and Carr 1994</li> <li>• Petranka 1998</li> </ul>
7 Habitat Vulnerability or Modification	A	Various authors have suggested that populations of this species have disappeared because of draining and filling of wetlands or alteration of water-use practices. Indeed, western ribbon snakes are listed in four states in the US, albeit in areas of peripheral distribution (e.g., NM). It has been speculated that isolated populations in CO and northeast NM are relicts of an older population that was continuously distributed when conditions were more mesic. Subspecies is strongly dependant upon water that sustains the physiological and dietary needs.  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Ernst and Barbour 1989</li> <li>• NMDGF 2000</li> <li>• Rossman 1963</li> <li>• Rossman et al. 1996</li> </ul>
8 Life History and Demographics	C	While the subspecies <i>T. p. diabolicus</i> is state listed Threatened by NMDGF, the species is often abundant in the limited wetland areas of its relatively xeric habitat in the southwest. The subspecies is expected to be a dietary generalist of amphibians and fish, although few data exist. Subspecies very fecund with up to 27 young per year.  Confidence in Rank <b>High</b> or Medium or Low	<ul style="list-style-type: none"> <li>• Degehardt et al. 1996</li> <li>• Hammerson 1999</li> <li>• Rossman 1963</li> <li>• Rossman et al. 1996</li> <li>• Werler and Dixon 2000</li> </ul>
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National Forests in the Rocky Mountain Region where species is **KNOWN (K)** or **LIKELY (L)**<sup>1</sup> to occur:

<u>Colorado NF/NG</u>		<u>Kansas NF/NG</u>		<u>Nebraska NF/NG</u>		<u>South Dakota NF/NG</u>		<u>Wyoming NF/NG</u>						
Known	Likely	Known	Likely	Known	Likely	Known	Likely	Known	Likely					
Arapaho-Roosevelt NF	N	N	Cimmaron NG	N	N	Samuel R.McKelvie NF	N	N	Black Hills NF	N	N	Shoshone NF	N	N
White River NF	N	N				Halsey NF	N	N	Buffalo Gap NG	N	N	Bighorn NF	N	N
Routt NF	N	N				Nebraska NF	N	N	Ft. Pierre NG	N	N	Black Hills NF	N	N
Grand Mesa, Uncompahgre, Gunnison NF	N	N				Ogalala NG	N	N				Medicine Bow NF	N	N
San Juan NF	N	N										Thunder Basin NG	N	N
Rio Grande NF	N	N												
Pike-San Isabel NF	N	N												
Comanche NG	N	N												

<sup>1</sup> Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.