

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: ***Diadophis punctatus* (Linnaeus 1966) – ring-necked snake**

Comments: Twelve subspecies of this wide-ranging species occur in North America north of Mexico, however only 1, the prairie ringneck snake, *Diadophis punctuatus arnyi* occurs in R2. Further study is necessary to understand the phylogenetic relationships between the various ringneck snake populations.

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	C	<p>Widespread in KS, throughout the eastern 1/2 of NE, extreme SE SD, and SE CO; absent in WY.</p> <p>Species is broadly distributed throughout the eastern/southeastern regions of R2.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Collins 1982 • Hammerson 1999 • Lynch 1985
2 Distribution outside R2	C	<p>Extensive distribution in eastern and western North America.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Barlett and Tennant 2000 • Belcher and King 1979 • Conant and Collins 1998 • Stebbins 1985 • Tennant and Barlett 2000
3 Dispersal Capability	B	<p>Species requires suitable moisture and abundant surface cover. Dispersal of the species is facilitated where this occurs, as in riparian corridors, canyon bottoms, or mesic, rocky grasslands. Xeric habitats may impose habitat-related restrictions.</p> <p>Adult prairie ringneck snakes are known to disperse up to 1.7 km through suitable habitat, although average movements recorded in a long-term study in KS were 86 m. However, in most populations, (KS) marked individuals persist in the same general area where they were originally captured after many month or years.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Hammerson 1999 • Degenhardt 1996 • Fitch 1975 • Fitch 1999 • Werler and Dixon 2000
4 Abundance in R2	C	<p>Ringneck snakes may be very abundant where they occur in suitable habitat.</p> <p>A long-term KS study reported 720-1850 individuals per hectare (average 1270/ha).</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Degenhardt 1996 • Fitch 1975 • Fitch 1999 • Werler and Dixon 2000
5 Population Trend in R2	B	<p>Populations of ringneck snakes are tolerant to a moderate amount of habitat alteration and often are found near human habitation. Populations do not seem to be negatively impacted by moderate to heavy livestock grazing in KS.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fitch 1975 • Hammerson 1999

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Criteria	Rank	Rationale	Literature Citations
<p>6</p> <p>Habitat Trend in R2</p>	<p>A</p>	<p>Habitat modifications through a variety of factors can effect the habitat suitability for this species. For example, the invasion of non-native plants (e.g., tamarisk, cheatgrass) and the resultant loss of native vegetation or microhabitat characteristics may cause population changes.</p> <p>Residential and industrial developments and extensive agricultural development may also cause loss of suitable habitat.</p> <p>Habitat modifications that could result in large scale population declines of this species do not seem to be an important factor on USFS lands.</p> <p>Confidence in Rank Low</p>	<ul style="list-style-type: none"> • None used
<p>7</p> <p>Habitat Vulnerability or Modification</p>	<p>B</p>	<p>Habitat modification through the removal of livestock grazing (=increased shrub cover resulting in heavy shading) reduced the numbers of specimens encountered in a long-term Kansas study.</p> <p>Any modification of habitat that alters the mesic environment (an increase OR decrease of soil moisture) can change the population status of this species.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fitch 1975 • Fitch 1999
<p>8</p> <p>Life History and Demographics</p>	<p>C</p>	<p>Clutch size averages 3.9 (1-10); higher in wet years with abundant prey and lower in drier years.</p> <p>This subspecies feeds almost exclusively on earthworms, although may occasionally take insect larvae, small frogs, or small lizards.</p> <p>Predation rates are high with a large number of predators identified, although the subspecies may live to 15 years in the wild.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fitch 1975 • Fitch 1999 • Collins 1982
<p>Initial Evaluator(s): Charles W. Painter, Endangered Species Program, New Mexico Department of Game and Fish, Santa Fe, New Mexico 87504</p>			<p>Date:</p>

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National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY(L)¹ to occur:

<u>Colorado NF/NG</u>	Known	Likely	<u>Kansas NF/NG</u>	Known	Likely	<u>Nebraska NF/NG</u>	Known	Likely	<u>South Dakota NF/NG</u>	Known	Likely	<u>Wyoming NF/NG</u>	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	Y													

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¹ 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.

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