

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Sorex merriami</i> / Merriam's shrew			
Criteria	Rank	Rationale	Literature Citations
<p>1 Distribution within R2</p>	B	<p>This species is generally accepted as being rather broadly distributed across the western half of the Rocky Mountain Region (i.e., Nebraska panhandle and areas to the west). The range maps of Hall (1981) and Armstrong (1999) predict presence on all national forest units in this area. There is a general consensus among researchers that <i>S. merriami</i> is better adapted to arid grassland and shrub-steppe than any other member of the genus. This pattern of habitat use suggests presence will be restricted to the low-elevation fringe of national forest units. The "B" ranking is based on this likely patchy pattern of occurrence, in combination with the limited dispersal abilities of the taxon.</p> <p>Confidence in Rank Medium</p>	<p>Armstrong, D.M. 1999. Merriam's shrew (<i>Sorex merriami</i>). Pages 30-31 IN: D.E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, D.C., in association with the American Society of Mammalogists.</p> <p>Armstrong, D. M. and J. K. Jones. 1971. <i>Sorex merriami</i>. Mammalian Species 2.</p> <p>Clark, T. W. and M. R. Stromberg. 1987. Mammals in Wyoming. University Press of Kansas. Lawrence, Kansas.</p> <p>Hall, E. R. 1981. The mammals of North America. Second edition. John Wiley and Sons, New York, New York.</p> <p>Long, C.A. 1965. The mammals of Wyoming. University of Kansas Museum of Natural History Publication 14: 493-758.</p>
<p>2 Distribution outside R2</p>	C	<p><i>Sorex merriami</i> has been collected across a large area of the western U.S. extending from northern Washington / eastern North Dakota south to southern Nevada / central New Mexico. It's preference for open and arid environments is indicated by an area of possible absence along the timbered and rather mesic Montana / Idaho border.</p> <p>Confidence in Rank Medium</p>	(see citations for criteria 1)

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<p>3 Dispersal Capability</p>	A	<p>Dispersal is not well-understood, but small size (hence limited mobility) and short life span almost guarantee poor dispersal capabilities. Medium-to-large streams and large roads are likely dispersal barriers.</p> <p>Confidence in Rank Medium</p>	<p>Armstrong, D.M. 1999. Merriam's shrew (<i>Sorex merriami</i>). Pages 30-31 IN: D.E. Wilson and S. Ruff, editors. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, D.C., in association with the American Society of Mammalogists.</p> <p>Armstrong, D. M. and J. K. Jones. 1971. <i>Sorex merriami</i>. Mammalian Species 2.</p> <p>Clark, T. W. and M. R. Stromberg. 1987. Mammals in Wyoming. University Press of Kansas. Lawrence, Kansas.</p>
<p>4 Abundance in R2</p>	B	<p>Generally considered uncommon. Good estimates of the status of all shrews are lacking because of a general paucity of data and controlled field studies. Based on distribution and general habitat use, most <i>S. merriami</i> in the Rocky Mountain Region probably occur at low-elevations off of national forest units.</p> <p>Confidence in Rank Low</p>	(see citations for criteria 1)
<p>5 Population Trend in R2</p>	D	<p>This evaluator (G. Beauvais) is unaware of any data with which to estimate population trends for this taxon. Shrew populations are generally cryptic and understudied. Good estimates of current population levels and fluctuations are rare; historical population sizes and fluctuations are essentially unknown.</p> <p>Confidence in Rank Medium</p>	

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6 Habitat Trend in R2	D	This evaluator (G. Beauvais) is unaware of any data with which to estimate habitat trends for this taxon. Habitat use is understood only on a very general level; arid and open environments such as grassland and desert shrub appear to be preferred. Habitat quality may vary with fine-scale variables such as local humidity, insolation, and invertebrate density; the spatial and temporal variation of such variables is not well-known. Based on distribution and general habitat use, most habitat for <i>S. merriami</i> in the Rocky Mountain Region probably occurs at low-elevations off of national forest units. Confidence in Rank Medium	(see citations for criteria 1)
7 Habitat Vulnerability or Modification	D	As outlined above, habitat use and habitat quality for shrews are poorly understood, precluding reliable conclusions as to habitat vulnerability. Confidence in Rank Medium	
8 Life History and Demographics	C	In general, this taxon is not known to be especially susceptible to any specific environmental pressure. Small size (and thus small areal requirements), association with fine-scale (rather than patch or landscape-scale) habitat features, and general feeding habits allow occupation of multiple life zones. Although individuals are short-lived, reproductive output is likely adequate for populations to quickly rebound from temporary declines. Confidence in Rank Low	(see citations for criteria 3)
Initial Evaluator(s): Dr. Gary P. Beauvais, Director, Wyoming Natural Diversity Database - University of Wyoming.			Date: 31 July 2001

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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>		<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
	X	Cimmaron NG		Samuel R.McKelvie NF		Black Hills NF	X	Shoshone NF	X
	X			Halsey NF		Buffalo Gap NG	X	Bighorn NF	X
	X			Nebraska NF	X	Ft. Pierre NG		Black Hills NF	X
	X			Ogalala NG	X			Medicine Bow NF	X
	X							Thunder Basin NG	X
	X								
	X								

Pawnee NG - Likely X

NOTE: “?” refers to National Forest units where presence is suspected, but with a certainty of less than 50%.

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.