

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Sorex preblei</i> / Preble's shrew			
Criteria	Rank	Rationale	Literature Citations
<p>1 Distribution within R2</p>	<p>B</p>	<p>As recently as 1992 <i>S. preblei</i> was thought to occur to the north and west of all national forest units in the Rocky Mountain Region. New capture locations in Wyoming, and the first captures documented in each of Colorado and New Mexico, subsequently extended the potential range of the taxon into the region. No capture sites are known to occur directly on USFS-managed lands; however, capture sites lie close to the Shoshone NF in northwest Wyoming and the Gunnison NF in western Colorado. Clark and Stromberg (1987) speculated that the taxon may occur on the Bighorn NF in northern Wyoming, based on capture sites in southern Montana. Given the degree of range extension in the last 10 years, it is possible that future surveys will confirm presence on most national forest units in the region. Although <i>S. preblei</i> to the north and west appear to have broader habitat tolerances, most captures from the vicinity of the Rocky Mountain Region have occurred in arid and semi-arid shrub-grass assemblages. This restricts likely occurrences mainly to the low-elevation fringe of national forest units in the region. The "B" rank is based on this patchy nature of potential occurrence, in combination with the limited dispersal abilities of the taxon.</p> <p>Confidence in Rank Medium</p>	<p>Clark, T. W. and M. R. Stromberg. 1987. Mammals in Wyoming. University Press of Kansas. Lawrence, Kansas.</p> <p>Cornely, J.E., L.N. Carraway, and B.J. Verts. <i>Sorex preblei</i>. Mammalian Species 416.</p> <p>Cornely, J.E. 1999. Pages 39-40 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>Hall, E. R. 1981. The mammals of North America. Second edition. John Wiley and Sons, New York, New York.</p> <p>Kirkland, G.L. Jr. and J.S. Findley. 1996. First Holocene record for Preble's shrew (<i>Sorex preblei</i>) in New Mexico. Southwestern Naturalist 41:320-322.</p> <p>Long, C.A. and R.S. Hoffmann. 1992. <i>Sorex preblei</i> from the Black Canyon, first record for Colorado. Southwestern Naturalist 37:318-319.</p> <p>B. Luce, personal communication. Wyoming Game and Fish Department, Lander, Wyoming.</p>

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<p>2 Distribution outside R2</p>	<p>C</p>	<p>The global range of <i>S. preblei</i> is defined by a rather scattered pattern of capture locations. The main cluster of locations extends from eastern Montana west to central Oregon, and from the Canadian border south to Great Salt Lake, excluding the eastern $\frac{3}{4}$ of Wyoming. Further south, 1 capture site is known from each of west-central Colorado and northern New Mexico. More survey effort is needed to better define the boundaries of this distribution, as well as to determine internal structure (i.e., true gaps) within those boundaries.</p> <p>Confidence in Rank Low</p>	<p>(see citations for criteria 1)</p>
<p>3 Dispersal Capability</p>	<p>A</p>	<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>Clark, T. W. and M. R. Stromberg. 1987. Mammals in Wyoming. University Press of Kansas. Lawrence, Kansas.</p> <p>Cornely, J.E., L.N. Carraway, and B.J. Verts. <i>Sorex preblei</i>. Mammalian Species 416.</p> <p>Cornely, J.E. 1999. Pages 39-40 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>4 Abundance in R2</p>	<p>A</p>	<p>Current data suggest extreme rarity in the region, but this could be an artifact of incomplete sampling and field documentation. Based on general distribution and habitat use, it is likely that most <i>S. preblei</i> within the boundaries of the Rocky Mountain Region occur at low-elevations off of national forest units.</p> <p>Confidence in Rank Low</p>	<p>(see citations for criteria 1)</p>

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5 Population Trend in R2	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>	
6 Habitat Trend in R2	D	<p>This evaluator (G. Beauvais) is unaware of any data with which to estimate habitat trends for this taxon. <i>Sorex preblei</i> to the north and west have been captured in a variety of environments, including both xeric and hydric settings; however, specimens from the vicinity of the Rocky Mountain Region have all come from arid and semi-arid shrub-grass assemblages. 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 this species probably occurs at low-elevations off of national forest units.</p> <p>Confidence in Rank Medium</p>	(see citations for criteria 1)
7 Habitat Vulnerability or Modification	D	<p>As outlined above, habitat use and habitat quality for shrews are poorly understood, precluding reliable conclusions as to habitat vulnerability.</p> <p>Confidence in Rank Medium</p>	
8 Life History and Demographics	C	<p>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.</p> <p>Confidence in Rank Low</p>	(see citations for criteria 3)

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Initial Evaluator(s): Dr. Gary P. Beauvais, Director, Wyoming Natural Diversity Database - University of Wyoming.			Date: 31 July 2001

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

Pawnee NG -

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.