

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: Dwarf Shrew/ <i>Sorex nanus</i>			
Criteria	Rank	Rationale	Literature Citations
<p><b>1</b> Distribution within R2</p>	<p><b>B</b></p>	<p>With a global range extending from northern Montana to southern New Mexico, and western South Dakota to central Utah, <i>S. nanus</i> is often referred to as a regional endemic. Several authors (Hoffmann, in particular) suggest that there is a major gap between populations in Montana / northern Wyoming and those in the Southern Rocky Mountains, perhaps because the semi-deserts in the Wyoming Basins are unsuitable habitat. Most of the mountainous national forest units in the Rocky Mountain Region probably support population segments. The “B” ranking is based on the patchy distribution at the regional scale and the fact that limited dispersal abilities probably increases the insularity of local population segments. This criterion may warrant an “A” ranking.</p> <p>Confidence in Rank <b>Medium</b></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>Hoffmann, R.S. 1999. Dwarf shrew (<i>Sorex nanus</i>). Pages 33-34 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>Hoffmann, R.S. and J.G. Owen. 1980. <i>Sorex tenellus</i> and <i>Sorex nanus</i>. Mammalian Species 131.</p> <p>Long, C.A. 1965. The mammals of Wyoming. University of Kansas Museum of Natural History Publication 14: 493-758.</p>

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<p><b>2</b> Distribution outside R2</p>	<p><b>B</b></p>	<p>Probably only 40% - 50% of the global range of <i>S. nanus</i> falls outside of the Rocky Mountain Region, mostly in Montana and New Mexico. Depending on the degree and length of isolation, there may be subspecies concerns for the region (i.e., some isolated populations may have diverged to the subspecies level).</p> <p>Confidence in Rank <b>High</b></p>	<p>Hall, E. R. 1981. The mammals of North America. Second edition. John Wiley and Sons, New York, New York.</p> <p>Hoffmann, R.S. 1999. Dwarf shrew (<i>Sorex nanus</i>). Pages 33-34 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>Hoffmann, R.S. and J.G. Owen. 1980. <i>Sorex tenellus</i> and <i>Sorex nanus</i>. Mammalian Species 131.</p>
<p><b>3</b> Dispersal Capability</p>	<p><b>A</b></p>	<p>Dispersal is not well understood, but small size, limited mobility, and short life span almost guarantee poor dispersal capabilities. Medium-to-large streams and large roads likely are dispersal barriers.</p> <p>Confidence in Rank <b>Medium</b></p>	<p>Clark, T. W. and M. R. Stromberg. 1987. Mammals in Wyoming. University Press of Kansas. Lawrence, Kansas.</p> <p>Hoffmann, R.S. 1999. Dwarf shrew (<i>Sorex nanus</i>). Pages 33-34 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>Hoffmann, R.S. and J.G. Owen. 1980. <i>Sorex tenellus</i> and <i>Sorex nanus</i>. Mammalian Species 131.</p>

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4 Abundance in R2	<b>B</b>	Once considered extremely rare, <i>S. nanus</i> has been “promoted” to uncommon status as its range has become better delineated. Low confidence is indicated because, although it may become common in some places, region-wide abundance patterns are still poorly known. Based on distribution and general habitat use, the majority of <i>S. nanus</i> in the region probably occur on mountainous national forest units.  Confidence in Rank <b>Low</b>	(see citations for criteria 3)
5 Population Trend in R2	<b>D</b>	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.  Confidence in Rank <b>Medium</b>	
6 Habitat Trend in R2	<b>D</b>	This evaluator (G. Beauvais) is unaware of any data with which to estimate habitat trends for this taxon. This species occurs from alpine tundra to dry grassland; some studies suggest an affinity for talus slopes and outcrops of broken rock, but occurrence away from such features has also been documented. Habitat quality may vary with fine-scale variables such as local humidity, isolation, and invertebrate density; the spatial and temporal variation of such variables is not well known. Based on distribution and general habitat use, most habitats for this species probably occurs on mountainous national forest units in the region.  Confidence in Rank <b>Medium</b>	(see citations for criteria 3)  MacCracken, J. G., D. W. Uresk, and R. M. Hansen. 1985. Habitat used by shrews in southeastern Montana. Northwest Science 59:24-27.
7 Habitat Vulnerability or Modification	<b>D</b>	As outlined above, habitat use and habitat quality for shrews are poorly understood, precluding reliable conclusions as to habitat vulnerability.  Confidence in Rank <b>Medium</b>	

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<p><b>8</b> Life History and Demographics</p>	<p><b>C</b></p>	<p>In general, this taxon is not known to be especially susceptible to any specific environmental pressure. Small size, small area 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 <b>Low</b></p>	<p>(see citations for criteria 3)</p>
<p>Initial Evaluator(s): <b>Dr. Gary P. Beauvais, Director, Wyoming Natural Diversity Database - University of Wyoming.</b></p>			<p>Date: <b>30 July 2001</b></p>

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

<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.

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<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	X		Cimmaron NG			Samuel R. McKelvie NF			Black Hills NF	X		Shoshone NF	X	
White River NF	X					Halsey NF			Buffalo Gap NG	X		Bighorn NF	X	
Routt NF	X					Nebraska NF			Ft. Pierre NG			Black Hills NF		X
Grand Mesa, Uncompahgre, Gunnison NF	X					Ogalala NG		X				Medicine Bow NF	X	
San Juan NF	X											Thunder Basin NG		X
Rio Grande NF		X												
Pike-San Isabel NF	X													
Comanche NG														

Pawnee NG - Likely X