ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Sorex palustris,* water shrew

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	This species is most abundant near cold, fast running mountain streams, although they will inhabit other types of aquatic habitats. They are also generally found at higher elevations. These associations would seem to result in a patchy distribution in R2. It is also not known to occur in the Black Hills. Confidence in Rank High or Medium or Low	• Armstrong 1972 • Lechleitner 1969 • Meany et al. 1990 • NatureServe 2001 • Clark and Stromberg 1987
2 Distribution outside R2	C	Water shrews occur over most of Canada, across the upper Midwestern states, and south in the Rocky Mountains and Appalachian mountains. In the west they occur as far south as New Mexico. In the south (Arizona and New Mexico) their habitat has been fragmented since the retreat of the last glaciers, making isolated populations vulnerable to extirpation. Confidence in Rank High or Medium or Low	• Clark and Stromberg 1987 • Armstrong 1972 • Lechleitner 1969 • NatureServe 2001 • Fitzgerald 1994 • Durrant 1952
3 Dispersal Capability	B	Though normally associated with water, water shrews have been found more than 100m from streams in mature hardwood forests in northern New Hampshire (DeGraff and Rudis 1986). This and other captures far from water probably represent dispersing individuals. Confidence in Rank High or Medium or Low	• DeGraff and Rudis 1986 • Nature Serve 2000
4 Abundance in R2	C	Several specimens are recorded for Utah, Wyoming and Colorado in a well distributed pattern in appropriate habitat. Nowhere in their range are they called rare, nor are they called abundant. Confidence in Rank High or Medium or Low	• Long 1965 • Armstrong 1972 • Lechleitner 1969 • NatureServe 2001 • Fitzgerald 1994
5 Population Trend in R2	B	Global population trend throughout its range has experienced some declines, but is thought to be stable. Confidence in Rank High or Medium or Low	• Gross 1998 -COVERS • NatureServe 2000

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Criteria	Rank	Rationale	Literature Citations
6 Habitat Trend in R2	B	This species generally occurs at higher elevations, where human disturbance to riparian areas is generally lower. On a global scale, less than its 40% of habitat is subject to unusual threats. Range/riparian conditions on NFS lands have improved over time as a result of fewer livestock numbers and more conscientious riparian management. Confidence in Rank High or Medium or Low	• Gross 1998 -COVERS
7 Habitat Vulnerability or Modification	B	Management activities that affect water quality and stream bank condition would have the greatest effect on this species. This could include logging, grazing, road construction, and some recreational activities. The use of insecticides could also be detrimental to this insectivorous species. Buffering riparian areas during logging operations, and proper livestock management would reduce threats to this species habitat. Confidence in Rank High or Medium or Low	• NatureServe 2000
8 Life History and Demographics	C	Breeds from February to August, gestation 3 weeks, litter size 3-10, average litter 6, 2-3 litters/year. Common predators include fish, mink, otters, weasels, snakes, hawks, and owls. There is not evidence that parasites cause significant harm. Confidence in Rank High or Medium or Low	• NatureServe 2000

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Date: July 16, 2001

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

[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.

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

This species does not occur in Nebraska, Kansas, or South Dakota (Fitzgerald et al 1994, Junge and Hoffman 1981)

The above chart was completed using the following sources: Fitzgerald et al 1994, Junge and Hoffman 1981, Armstrong 1972, Long 1965, Clark and Stromberg 1987, Brown 1967.

References:

Armstrong, D.M. 1972. Distribution of mammals in Colorado Monograph, Univ. Kansas Mus. Nat. Hist., 3:1-415.

Beneski, J.T. Jr., and D.W. Stinson. 1987. *Sorex palustris* Mammal Species, 296:1-6.

Brown, L., 1967. Ecological distribution of six species of Shrews and comparison of sampling methods in the Central Rocky Mountains. Journ. Mamm., 48:617-623.

Clark C.W., and M.R. Stromberg. 1987. Mammals in Wyoming. Univ. Kansas Mus. Nat. Hist., 309 pp.

Clark, T.W. 1973. Distribution and reproduction of shrews in Grand Teton National Park,Wyoming. Nothwest Science, 47:128-131.

Conaway, C.H. 1952. Life history of the water shrew *Sorex palustris* navigator. Amer. Midland Nat., 48:219-248.

DeGraaf, R. M. and D. D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern Forest Expt. Station, Broomall, Pennsylvania, Gen. Tech. Report. NE-108 491 pages.

Durrant, S.D. 1952. Mammals of Utah: taxonomy and distribution. Univ. Kansas Publ., Mus. Nat. Hist., 6:1-549.

Hayward G.D., and P.H. Hayward. 1995. Relative abundance and habitat associations of small mammals in Chamberlain Basin, Central Idaho. Small Mammal Communities, 69:114-124.

Hoffman, R.S., and R.D. Taber. 1960. Notes on *Sorex* in the Northern Rocky Mountain Alpine Zone. Journ. Mamm., 41:230-234.

Junge, J.A., and R.S. Hoffman. 1981. An annotated key to the klong-tailed shrews (genus *Sorex)* of the United States and Canada, with notes on Middle American *Sorex*. Occas. Papers Mus. Nat. Hist., Univ. Kansas, 94:1-48.

Lechlietner, P.R. 1969. Wild mammals of Colorado: their appearance, habits, distribution, and abundance. Pruett Publishing Co., Boulder, 254 pp.

Long, C. A. 1965. The mammals of Wyoming. University of Kansas Publications, Museum of Natural History. Volume 14, No. 18, pp. 493-758, 82 figs.

Meany, C. A., S. A. Bissell, and B. B. Dillon. 1990 Colorado mammal distribution latilong study. Colorado Division of Wildlife, Denver, Colorado.

NatureServe: An online encyclopedia of life [web application]. 2001. Version 1.4. Arlington, VA, USA. Association for Biodiversity Information. Available: http://www.natureserve.org/. (Accessed: June 20, 2001).