

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Selaginella rupestris* (L.) Spring rock spike-moss, dwarf spike-moss

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	Scattered collections from ne-most (Crook and Weston Cos) WY, sw- and e ¼ of SD, s through n ½ of and se NE; and in s 2/3 of e ¼ of KS. [Vouchers at KANU from Chautauqua, Coffey, Douglas, Elk, Franklin, Greenwood, Johnson, Leavenworth, Montgomery, Neosho, Wilson, and Woodson Cos, KS; Blaine, Brown, Cherry, Holt, Jefferson, Keith, Keya Paha, Loup, Thayer Cos, NE; and Custer, Hanson, Minnehaha, and Pennington Cos, SD.] (Species' range is reported by Valdespino as if disjunct in nw NE, sw SD, and ne WY; however it is mapped by Great Plains Flora Association from throughout n ½ of NE. The record mapped by Great Plains Flora Association for Cimarron Co, OK [near both Comanche and Cimarron NGs] is probably based on a misidentification.) Status: G5; WY S1. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Brooks 1991 • Freeman in prep. • Great Plains Flora Association 1977 • Hartman 1997 • Valdespino 1993 • Van Bruggen 1976
2 Distribution outside R2	C	Range mapped by Valdespino from throughout much of the e ½ of US and se 2/3 of Canada, from ne ¼ of Alb, e through central Sask; thence s through e-most ND and e-most SD; thence w through n NE to sw SD and ne WY, and s through e KS into ne OK; thence e through s US to se GA; thence n to Newfoundland and Labrador. Disjunct in Greenland. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Valdespino 1993
3 Dispersal Capability	D	Evaluator was unable to find any information on species' dispersal capability. Spores are presumably largely wind dispersed and limited by habitat requirements. Confidence in Rank High or Medium or Low	
4 Abundance in R2	B	Evaluator was unable to find any direct information about species' abundance in R2. Species is locally common in KS, but is rather widely scattered throughout the ne 2/3 of R2. Populations may face local extinction (especially where species occurs in the NE Sandhills?), but I presume species is secure throughout the greater part of its range in R2. Confidence in Rank High or Medium or Low	
5 Population Trend in R2	B	Evaluator was unable to find any direct information about population trends in R2. Where species occurs on outcrops [see sect 6], habitat is probably comparatively stable and populations secure. Populations may have declined in area of NE Sandhills, due to disturbance from livestock grazing or conversion of habitat to croplands, but I unaware of any evidence that supports or refutes this. Confidence in Rank High or Medium or Low	
6 Habitat Trend in R2	B	Observation of herbarium specimen labels at KANU reveals that species has been collected on a small variety of sandy or granitic substrates, notably on sandstone outcrops, in sandhills and sandy grasslands, and on granite and quartzite boulders and outcrops (reported by Van Bruggen to be exclusively on Sioux quartzite in e SD). Tryon cites habitat as "exposed or less often shaded cliffs, rocky bluffs, of acidic igneous or sedimentary rocks, gravel or sandy soil, up to 1900 m." Where species occurs on outcrops, habitat is probably comparatively stable throughout the greater part of its range in R2 [see caveat in sect 5, however]. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Brooks 1991 • Tyron 1955 • Van Bruggen 1976

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Criteria	Rank	Rationale	Literature Citations
7 Habitat Vulnerability or Modification	A	Tryon reports that members of the complex to which species belongs are rather poor competitors and restricted to dry microsites which support "a minimum of other vegetation." He adds to this that he does not consider species of the complex "important pioneers, being notably few in glaciated areas and in rocky places recently disturbed by fire or lumbering." Tryon's report is anecdotal, but it may hold true that species does not respond well to disturbance. Further study is warranted. [Rank A is tempered by the fact that most of the habitat reported in R2 is probably not subject to high levels of (human) disturbance.] Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> Tyron 1955
8 Life History and Demographics	B	Mat-forming, perennial fern ally. Evaluator was unable to find any information on species' life history. Confidence in Rank High or Medium or Low	
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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>Known</u>	<u>Likely</u>	<u>Kansas NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>Nebraska NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>South Dakota NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>Wyoming NF/NG</u>	<u>Known</u>	<u>Likely</u>
Arapaho-Roosevelt NF			Cimmaron NG			Samuel R. McKelvie NF		X2	Black Hills NF	X3		Shoshone NF		
White River NF						Halsey NF		X	Buffalo Gap NG			Bighorn NF		
Routt NF						Nebraska NF		X	Ft. Pierre NG			Black Hills NF		X
Grand Mesa, Uncompahgre, Gunnison NF						Ogalala NG						Medicine Bow NF		
San Juan NF												Thunder Basin NG		
Rio Grande NF														
Pawnee NG														
Pike-San Isabel NF														
Comanche NG														

2 KANU catalog # 200979: NE, Cherry Co: Niobrara River S of Nenzel, off Hwy 97, 14 May 1976, S.P. Churchill 7222.
 3 KANU catalog # 200978: SD, Custer Co: 1.5 mi S Custer, 31 Jul 1968, A.J. Petrik-Ott 788; KANU catalog # 200979: SD, Custer Co: 5 mi N, 0.5 mi E Custer, 11 Jul 1967, R. Brooks 428; KANU catalog # 200980: SD, Pennington Co: 6 mi E Sheridan Lake, 17 Jul 1966, S. Stephens 7104.

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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REFERENCES

- Brooks, R.E. 1991. Selaginellaceae, pp. 39–41 in Great Plains Flora Association, *Flora of the Great Plains*. University Press of Kansas. Lawrence, Kansas. vii + 1402 pp.
- Freeman, C.C. (in prep.) Checklist of the Vascular Plants of the Grassland Biome of Central North America.
- Great Plains Flora Association. 1977. *Atlas of the Flora of the Great Plains*. Iowa State University Press. Ames, Iowa. xii + 600 pp.
- Hartman, R.L. 1997. *Atlas of the Vascular Plants of Wyoming*. Published by the author at Rocky Mountain Herbarium, University of Wyoming. Laramie, Wyoming. [unpaginated]
- Tryon, R.M. 1955. *Selaginella rupestris* and its allies. *Ann. Missouri Bot. Gard.* 42: 1–99.
- Valdespino, I.A. 1993. Selaginellaceae, pp. 38–63 in Flora of North America Editorial Committee, *Flora of North America North of Mexico, Vol. 2: Pteridophytes and Gymnosperms*. Oxford University Press. New York, New York. xvi + 475 pp.
- Van Bruggen, T. 1976. *The Vascular Plants of South Dakota*. The Iowa State University Press. Ames, Iowa. xxvi + 538 pp.