REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Equisetum variegatum* (var. *variegatum*) / Variegated scouringrush / EQVA(V)

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	S1 in South Dakota, unranked in Wyoming and Colorado, and not known to occur in Nebraska or Kansas. Western SD and northwestern Colorado appear to be peripheral in the species range. Only 1 site is recorded on Forest Service administered lands in South Dakota (Bear/Beaver Gulch Botanical Area). Most of Wyoming is within the range of this species. If *Equisetum variegatum* is more common in Colorado or Wyoming, then a rank of B or C may be more appropriate. Confidence in Rank **High**	• SD NHP, 1998 • Spackman, S., et al. 1997. • FNA, Vol. 2, 1993 • FS Records
2 Distribution outside R2	C	Widespread outside Region 2. Circumboreal, including the Great Lakes States, the Northeast, the Northwest and the northern portion of Utah. Confidence in Rank **High**	• FNA, Vol. 2, 1993
3 Dispersal Capability	B	The spores of *Equisetum variegatum*, like the spores of other ferns and fern allies, can occasionally be transported over long distances, though most dispersal occurs near the parent plant. Spores can only germinate in appropriate environments. Genetic exchange is unlikely between the Black Hills population and other populations as the closest location is over 100 miles away. Confidence in Rank **Medium**	• FNA, Vol. 1, 1993 • Glisson, 2002
4 Abundance in R2	A	No information on abundance in Region 2 is known. It is S1 in South Dakota, and is known from a single verified location. No abundance information is available for Wyoming and Colorado. Dorn lists it as occurring in the Bighorn Mountain area of Region 2, while FNA shows the distribution across much of the state. FNA shows its distribution in Colorado as limited to the NW corner, outside of Region 2. Better distribution and population data may cause this ranking to change. If *Equisetum variegatum* is determined to be more common in the Region 2 portion of Wyoming, then a rank of B may be more appropriate. Confidence in Rank **Medium**	• Dorn, 1992. • Ode & Marriott, 1990
5 Population Trend in R2	D	No specific population trend monitoring data is available for the Black Hills and the site has no been resurveyed since it was first reported in 1989. Confidence in Rank **Medium**	• Glisson, 2002

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6 Habitat Trend in R2	A	The general habitat for *Equisetum variegatum* is wet sandy soils of riverbanks, beaches, ditches and meadows. In the Black Hills the current known site is in a 400' deep forested canyon with a narrow intermittent stream, with the *E. variegatum* occurring on a shaded, seepy, mossy, limestone outcrop. Historically, riparian areas in the Black Hills have declined in quality. Riparian and marshy areas are vulnerable to development, grazing and road building. The only known population occurs in a Botanical Area therefore it is protected from certain management activities. Confidence in Rank **Medium**	• Parrish et al, 1996 • USDA, 1997 (Forest Plan EIS)
7 Habitat Vulnerability or Modification	B	The general habitat of *Equisetum variegatum* is listed as wet sandy soils of riverbanks, beaches, ditches and meadows. *Equisetum variegatum* is a facultative wetland species that may require soil disturbance for initial establishment, factors that reduce water yield or that reduce or eliminate flooding, beaver activity, and fire may have negative effects on its long-term persistence in the Black Hills. Direct disturbances from logging, livestock use, mining, or off road vehicle use, may either offer benefits by providing recruitment opportunities or be potentially detrimental to this species and the structure and integrity of its potential habitats depending on timing, scope, and magnitude of the disturbance in concert with natural climatic activity. If the population in the Black Hills were extirpated, it is unlikely that natural recruitment from other extant stands would occur. Confidence in Rank **Medium**	• Hauke, Fiddlehead Forum 10, 1983. • Glisson, 2002
8 Life History and Demographics	D	*Equisetum variegatum*, like all species of *Equisetum* reproduces clonally as well as sexually, and should tolerate moderate amounts of disturbance. Confidence in Rank **Medium**	• Hauke, Fiddlehead Forum 10, 1983. • Ode & Marriott, 1990

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

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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		?	Cimarron NG			Samuel R.McKelvie NF			Black Hills NF	X		Shoshone NF		
White River NF		?				Halsey NF			Buffalo Gap NG			Bighorn NF		X
Routt NF		?				Nebraska NF			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		?												
Pike-San Isabel NF		?												
Comanche NG														
Pawnee NG														

[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.

Notes

Since little information was located about the occurrence of this species in Colorado and Wyoming, the rankings presented here are derived primarily from information about the plant in the Black Hills National Forest. If this species is more abundant or frequent in Colorado and Wyoming, then the ranking needs to be re-evaluated based on this additional information.

References

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FS Records can include: monitoring data, district data, historical accounts, ect.

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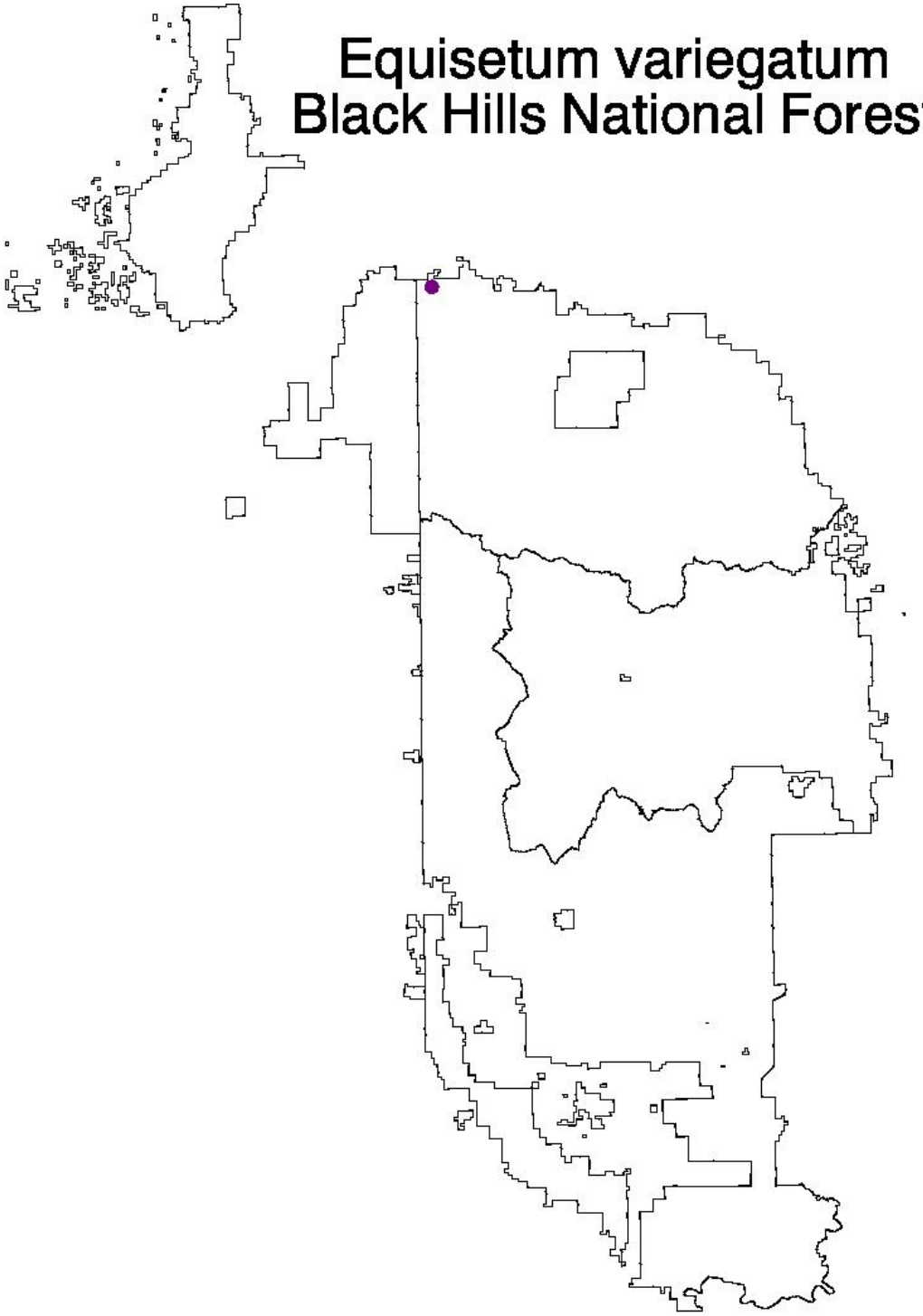
Equisetum variegatum
Black Hills National Forest