

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Botrychium paradoxum</i> W. H. Wagner / Peculiar Moonwort / BOPA9			
Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	This species was discovered on the Bighorn NF in 2006; previously it was unknown in Wyoming or anywhere else in Region 2.  Confidence in Rank Medium	<ul style="list-style-type: none"> <li>• Karow 2006</li> <li>• WYNDD 2007</li> </ul>
2 Distribution outside R2	B	Ranked G2 by NatureServe. Irregularly distributed from southwestern Canada to the Pacific Northwest of the United States (WA, OR, ID, MT) and Utah. Ranked S1 in all states and provinces, except WA and MT where it is ranked S2.  Confidence in Rank High	<ul style="list-style-type: none"> <li>• NatureServe 2006</li> </ul>
3 Dispersal Capability	C	Wind dispersed spores should have little difficulty traveling long distances, though studies have indicated that the majority of spores land close to the parent plant (gravity dispersed). Animals may also play a role in dispersal of spores.  Confidence in Rank Medium	<ul style="list-style-type: none"> <li>• Beatty, B.L., W.F. Jennings, and R.C. Rawlinson 2003</li> </ul>
4 Abundance in R2	A	Five individuals reported from one location on the Bighorn NF.  Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> <li>• Karow 2006</li> </ul>
5 Population Trend in R2	D	No information is available regarding population trend in R2.  Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> <li>•</li> </ul>
6 Habitat Trend in R2	D	No information is available regarding habitat trend in R2.  Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> <li>•</li> </ul>

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Criteria	Rank	Rationale	Literature Citations
<b>7</b> Habitat Vulnerability or Modification	<b>D</b>	No information is available regarding habitat vulnerability or modification.  Confidence in Rank High or Medium or Low	•
<b>8</b> Life History and Demographics	<b>B</b>	No information specific to this taxon, but in general terms (re)establishment of moonwort populations requires sufficient spore production in existing populations to disperse across enough of the landscape to land in suitable habitat in which appropriate mychorrhizal fungi are established. But many moonwort occurrences have only a small number of individuals. As stated by Beatty, B.L., W.F. Jennings, and R.C. Rawlinson (2003), "Thus, isolation, habitat fragmentation, loss of habitat, and small <i>Botrychium</i> populations are likely still important factors in the success of long distance colonization."  Confidence in Rank LOW	• Beatty, B.L., W.F. Jennings, and R.C. Rawlinson 2003
Evaluator(s): Andrew Kratz, regional botanist			Date: March 6, 2007

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

Species Name:														
<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
Arapaho-Roosevelt NF			Cimarron NG			Samuel R. McKelvie NF			Black Hills NF			Shoshone NF		
White River NF						Halsey NF			Buffalo Gap NG			Bighorn NF	X	
Routt NF						Nebraska NF			Ft. Pierre NG			Black Hills NF		
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														

REFERENCES:

Beatty, B.L., W.F. Jennings, and R.C. Rawlinson (2003, November 12). Botrychium ascendens W.H. Wagner (trianglelobe moonwort), B. crenulatum W.H. Wagner (scalloped moonwort), and B. lineare W.H. Wagner (narrowleaf grapefern): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/botrychiums.pdf> [Accessed March 1, 2007].

Karow, Gregory. 2006. Personal communication: email message dated Oct 3, 2006.

NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: March 1, 2007 ).

Wyoming Natural Diversity Database. 2007. Letter to Rick Cables, Regional Forester, Rocky Mountain Region; with attachments. February 9, 2007.

<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.