

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Eleocharis flavescens var thermalis* / Warm Springs Spikerush

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	NA	Warm Springs Spikerush is not known from anywhere in Region 2.  Confidence in Rank High	<ul style="list-style-type: none"> <li>Fertig 2000</li> </ul>
2 Distribution outside R2	C	Just to the west of the Region 2 border in Wyoming, Warm Springs Spikerush is known to occur in Yellowstone National Park and John D. Rockefeller Parkway. It has been reported in southwest Montana and is also in California and Utah.  In Wyoming, Warm Springs Spikerush is found between 6300-7900 feet in elevation in wet, confined to margins of thermal streams and pool. Such unique thermal habitats are highly discontinuous on the landscape, resulting in a very patchy distribution.  Confidence in Rank High	<ul style="list-style-type: none"> <li>Hitchcock et al. 1969</li> <li>Fertig 2000</li> <li>Dorn 2001</li> <li>University of Wyoming 1998</li> </ul>
3 Dispersal Capability	D	Not known. The ovary develops into a lens-shaped achene with an enlarged style base (Hitchcock and Cronquist 1969), which in other members of the genus attracts foraging herbivores.  Confidence in Rank High	<ul style="list-style-type: none"> <li>Hitchcock et al. 1969</li> </ul>
4 Abundance in R2	NA	It is not known in Region 2. Elsewhere in Wyoming, it is known from 13 extant occurrences, all discovered or relocated since 1988 (most recently in 1998) and 1 historical record in Wyoming.  Wyoming populations typically contain several hundred individual plants in patches of several square meters. Plants form tightly intermingled mats which makes censusing difficult (J. Whipple, personal communication).  Confidence in Rank High	<ul style="list-style-type: none"> <li>Fertig 2000</li> </ul>
5 Population Trend in R2	NA	Not known. The Wyoming occurrences are suspected to be stable.  Confidence in Rank High	<ul style="list-style-type: none"> <li>-</li> </ul>

ATTACHMENT SS2

Species: <i>Eleocharis flavescens var thermalis</i> / Warm Springs Spikerush			
Criteria	Rank	Rationale	Literature Citations
6 Habitat Trend in R2	NA	While some Wyoming thermal habitats have been irreversibly damaged and degraded with development, the highest concentration of them are intact in national parks.  Confidence in Rank High	• -
7 Habitat Vulnerability or Modification	NA	Thermal habitats are highly vulnerable to on-site disturbance and hydrological change. The species' habitat is potentially threatened by pollution from surface runoff on highways and degradation of habitat related to heavy recreational activity. In Wyoming the species is restricted to national parks. It occurs in Yellowstone National Park and the John D. Rockefeller Parkway. Past reports from Grand Teton National Park have been erroneous.  Confidence in Rank High	• Fertig 2000
8 Life History and Demographics	D	Warm Springs Spikerush is a low-growing graminoid with compact rhizomes and slender, clustered stems, often with a large amount of dead material from previous years growth at the base. This protects the perennating bud. It flowers in July-September.  Additional information on the species, including life history stages, population structure, longevity, mortality, pollination vectors and seed biology, are not available.  Confidence in Rank High	• -
Initial Evaluator(s): Bonnie Heidel and Scott Laursen			Date: 28 Jan 2002

**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.

ATTACHMENT SS2

<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
		Cimmaron NG		Samuel R. McKelvie NF		Black Hills NF		Shoshone NF	
				Halsey NF		Buffalo Gap NG		Bighorn NF	
				Nebraska NF		Ft. Pierre NG		Black Hills NF	
				Ogalala NG				Medicine Bow NF	
								Thunder Basin NG	

Literature cited

Dorn, R.D. 2001. Vascular Plants of Wyoming, second edition. Mountain West Publishing, Cheyenne, WY.

Fertig, W. 2000. Rare vascular plant species in the Wyoming portion of the Utah-Wyoming Rocky Mountains Ecoregion. Prepared for the Wyoming Nature Conservancy by the Wyoming Natural Diversity Database, Laramie, WY.

Hitchcock, C.L., A. Cronquist, and M. Owenbey. 1969. Pt. 1. Vascular Cryptograms, Gymnosperms, and Monocotyledons, IN: Hitchcock, C.L., A. Cronquist, M. Owenbey, and J.W. Thompson (eds). Vascular Plants of the Pacific Northwest. University of Washington Publications in Biology 17(1): 1-914.

University of Wyoming – Rocky Mountain Herbarium. 1998. Atlas of the Flora of Wyoming. Posted electronically through 1998 at: <http://www.esb.utexas.edu/tchumley/wyomap/> and unposted accession information at the Rocky Mountain Herbarium through 2001.