

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Carex alopecoidea</i> / Foxtail Sedge			
Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	<p>Foxtail sedge occurs on the Black Hills National Forest in Crook County, Wyoming. It also occurs in South Dakota, where its only western occurrences are in the Black Hills.</p> <p>Rangewide, this species is found in wet meadows and willow-sedge communities along streams. In Wyoming, populations are usually found along wet, shady creek bottoms and springs in paper birch (<i>Betula papyrifera</i>)-hazelnut (<i>Corylus cornuta</i>) communities or along pond margins from 4080-6000 feet. This habitat is rare in the state.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> <li>• Dorn 2001</li> <li>• Fertig 1993, 2000, 2001</li> <li>• Fertig et al. 1994</li> <li>• Holst et al. 2001</li> <li>• Johnston 2001</li> <li>• Marriot 1991</li> <li>• Ode and Marriot 1990</li> <li>• University of Wyoming 1998</li> </ul>
2 Distribution outside R2	B	<p>Foxtail sedge occurs from Quebec to North Dakota and south to New Jersey, Illinois, and Iowa, with disjunct populations in the Black Hills. Most occurrences in South Dakota are at the eastern end of the state.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> <li>• Dorn 1992</li> <li>• Great Plains Flora Association 1986</li> <li>• Larson 1993</li> </ul>
3 Dispersal Capability	D	<p>Dispersal vectors are not known, but it may be inferred from this species' wetland habitat that seed dispersal across unsuitable habitats by water occurs.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> <li>• -</li> </ul>
4 Abundance in R2	BD	<p>Until 2001, Foxtail sedge was known from 4-5 extant occurrences in Wyoming, all observed since 1984 (most recently in 2000). This figure included 1-2 new occurrences discovered during a revision of <i>Carex</i> specimens at the Rocky Mountain Herbarium by Fertig and Dorn in 1999. Wyoming population numbers are in the low hundreds and are restricted to 3-8 acres of known habitat on Black Hills National Forest. More recent surveys in 2001 on Black Hills National Forest, focused late in the growing season, have documented app. 40 more "sites" (discrete locations) in Wyoming (Reyher person. commun.) The information has yet to be submitted, processed, and incorporated in the current state species abstract (Fertig 2001), but it supports a Wyoming rank change to at least "S2" if not a change in tracking status unless these are all interconnected subpopulations. It is/was ranked "S2" in South Dakota.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> <li>• Fertig 1993</li> <li>• Fertig 2000, 2001</li> <li>• Fertig et al. 1994</li> <li>• Holst et al. 2001</li> <li>• Marriot 1991</li> <li>• Ode and Marriot 1990</li> </ul>

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5 Population Trend in R2	BD	Populations are likely to have declined with grazing and other disturbance of moist meadow habitats, and accompanying exotic species invasions.  Confidence in Rank Medium	<ul style="list-style-type: none"> <li>Fertig 1993, 2000, 2001</li> <li>Fertig et al. 1994</li> <li>Holst et al. 2001</li> <li>Marriot 1991</li> <li>Ode and Marriot 1990</li> <li>WYNDD 2001</li> </ul>
6 Habitat Trend in R2	BA	Long-term trends of habitat decline are inferred, based on Black Hills land use patterns that include timber management, grazing, mining, fire suppression, recreational activity, and road construction along riparian corridors. It is likely that this trend has diminished or stabilized in recent decades with revisions to U.S. Forest Service management policy and Forest plans as they involve riparian habitat.  Confidence in Rank Low	<ul style="list-style-type: none"> <li>Fertig 1993</li> <li>Fertig 2000</li> <li>Fertig et al. 1994</li> <li>Holst et al. 2001</li> <li>Marriot 1991</li> <li>Ode and Marriot 1990</li> <li>WYNDD 2001</li> </ul>
7 Habitat Vulnerability or Modification	BD	Foxtail sedge may still be impacted by heavy recreation or grazing in streamside habitats. Two populations are protected in special botanical areas, all other known occurrences are on land managed for multiple use by the Black Hills National Forest. This will be reviewed when the new population data is processed.  Confidence in Rank Medium	<ul style="list-style-type: none"> <li>Fertig 1993</li> <li>Fertig 2000</li> <li>Fertig et al. 1994</li> <li>Holst et al. 2001</li> <li>Marriot 1991</li> <li>Ode and Marriot 1990</li> <li>WYNDD 2001</li> </ul>
8 Life History and Demographics	D	This perennial sedge forms tufts. It is wind-pollinated, like other members of the genus. Fruiting occurs in August.  Additional information on this taxon, including life history stages, population structure, longevity, mortality, and seed biology, are not available.  Confidence in Rank Medium	<ul style="list-style-type: none"> <li>Great Plains Flora Association 1986</li> </ul>
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National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY(L)<sup>1</sup> to occur:

<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	X
				Ogalala NG				Medicine Bow NF	
								Thunder Basin NG	

Literature cited

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Fertig, W. 1993. Black Hills National Forest Sensitive Plant Field Guide. Unpublished report prepared for the Black Hills NF by the Wyoming Natural Diversity Database, Laramie, WY.

Fertig, W. 2000. Target plant species and potential plant conservation sites in the Wyoming portion of the Black Hills Ecoregion. Report prepared for The Nature Conservancy Midwest Science Division by the Wyoming Natural Diversity Database, Laramie, WY.

Fertig, W. 2001. State Species Abstract: *Carex alopecoidea*. Wyoming Natural Diversity Database. Available on the internet at [www.uwyo.edu/wyndd](http://www.uwyo.edu/wyndd)

Fertig, W., C. Refsdal, and J. Whipple. 1994. Wyoming Rare Plant Field Guide. Wyoming Rare Plant Technical Committee, Cheyenne Wyoming.  
 Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Canada. New York Botanical Garden, Bronx, NY.

Great Plains Flora Association. 1986. Flora of the Great Plains. Univ. Kansas Press, Lawrence, KS.

Holst, D.J.B., R.W. Crook, and J.H. Hornbeck. 2001. Sensitive plant monitoring, Black Hills National Forest Year 2000. Prepared for the Wyoming Natural Heritage Program by Black Hills National Forest, Custer, SD.

<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.

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Wyoming Natural Diversity Database. 2001. Ongoing documentation of sensitive species distribution, biology, status, and references for the state of Wyoming. University of Wyoming, Laramie.