

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Carex limosa* / Mud Sedge

Criteria	Rank	Rationale	Literature Citations
<p>1 Distribution within R2</p>	B	<p>Mud Sedge is known to occur in the Bighorn, Absaroka, Medicine Bow, Wind River, Sierra Madre, and Beartooth ranges on the Bighorn, Medicine Bow, and Shoshone National Forests in Big Horn, Carbon, Fremont, Johnson, Park and Sheridan counties, Wyoming. This species also occurs in Nebraska and in Colorado, on the Arapaho-Roosevelt, Rio Grande and White River national forests.</p> <p>Mud sedge is dominant in montane to subalpine floating peat mats, a specialized habitat. It is also present in other fen settings and at variable pH.. Soils are wet to saturated histosols. In Wyoming, its elevation ranges from 6600-10280 feet. This habitat is isolated and uncommon in the state.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Dorn 2001 • Evert 1986 • Fertig 1992a, b • Fertig 1997 • Fertig 1998 • Fertig 1999 • Fertig and Jones 1992 • Heidel and Jones 2006 • Heidel et al. In progress • Heidel 2011Heidel 2013 • Jankovsky-Jones et al. 1992 • Jones and Fertig 1999a, b • • Rosenthal 1998 • Rosenthal 1999 • University of Wyoming 1998 • WYNDD 2010
<p>2 Distribution outside R2</p>	C	<p>Mud sedge is a circumboreal species. In North America it is found from Labrador and Newfoundland to Alaska, south to Delaware, Iowa, Wyoming, and California. It is also found outside Region 2 in Wyoming, known from the Yellowstone Plateau and Teton Range in Park and Teton counties, and from the Wind River Range in Sublette County.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Cronquist et al. 1977 • Hermann 1970 • Hurd et al. 1998 • Lemly 2007, Lemly and Cooper 2011 • Reznicek and Catling 2002 • WYNDD 2010
<p>3 Dispersal Capability</p>	D	<p>Dispersal vectors are not known, but it may be inferred that water may aid in seed dispersal.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • -

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4 Abundance in R2	B	<p>This species is known from 63 occurrences in Wyoming, most of which have been observed since 1988 (most recently in 2012)The majority of these occurrences are on lands managed by Region 2. Populations may be locally abundant but are restricted to usually small areas of specialized habitat.</p> <p>This species is ranked “S3” in Wyoming, S2 in Colorado, and “S1” in Nebraska.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fertig 1998 • Fertig 1999 • • Lemly 2007 • Lemly and Cooper 2011 • WYNDD 2013
5 Population Trend in R2	D	<p>Extant populations appear to be stable at present, but the species may have declined historically due to loss or degradation of wetland habitats.This species is highly clonal and variable in stem density, so population trends are difficult to gauge. See below.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • WYNDD 2001
6 Habitat Trend in R2	D	<p>The floating mat habitat that this species forms may be vulnerable to flooding if it becomes anchored and water levels rise. The historic collection site on Meadowlark Lake could not be relocated. The collection was made after a dam was built on the lake outlet but before highway construction took place over an inlet; the latter may have flooded species’ habitat. A few occurrences in the Bighorn Mountains are in settings with limited peatland development, and closer examination is needed to determine whether they represent degraded relict habitat or expanding habitat at early stages of development. It may also be moved by the wind across open water, making it a challenge to monitor mobile habitat.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Heidel 2011

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7 Habitat Vulnerability or Modification	B	<p>Mud sedge may be threatened by degradation of wetland habitats due to trampling, grazing, or recreation activities, or lost due to uses that change water levels. It might also be affected by intense fire or logging in adjoining uplands.</p> <p><i>At least 25% of known populations are found on lands managed as wilderness or special status areas by Bridger-Teton, Medicine Bow, Shoshone, and Targhee National Forests and Grand Teton or Yellowstone National Park, and include the proposed Lake Creek RNA. Most known populations are on lands managed for multiple use by the Bighorn and Shoshone National Forests. More complete discussion of habitat threats and vulnerability are presented by Gage and Cooper (2006).</i></p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fertig 1998 • Fertig 1999 • Fertig 2000 • Fertig and Jones 1992 • Gage and Cooper 2006 • Jones and Fertig 1999a, b • Mills and Fertig 2000 • WYNDD 2013
8 Life History and Demographics	D	<p>This perennial sedge spreads by long rhizomes. Flowering and fruiting occur from June through August</p> <p>Additional information on the species, including life history stages, population structure, longevity, mortality, and seed biology, are not available.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Cronquist et al. 1977 • Hermann 1970 • Hurd et al. 1998
Initial Evaluator(s): Joy Handley and Scott Laursen Update Evaluator(s): Bonnie Heidel			Date: February 12, 2002 November 22, 2011, Feb 13, 2013

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

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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<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	X		Cimmaron NG			Samuel R. McKelvie NF			Black Hills NF			Shoshone NF	X	
White River NF	X					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	X	
San Juan NF												Thunder Basin NG		
Rio Grande NF	X													
Pike-San Isabel NF														
Comanche NG														

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