

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Carex limosa</i> / 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, Wind River, Sierra Madre, and Beartooth ranges on the Bighorn, Medicine Bow, and Shoshone National Forests in Big Horn, Carbon, Park counties, Wyoming. This species also occurs in Nebraska and in Colorado, where it occurs on the Arapaho-Roosevelt, Rio Grande and White River national forests.</p> <p>Mud sedge is found in montane floating sphagnum bogs, marls, wetlands, and wet meadows, along banks, often on hummocks. Soils are wet to saturated, and often calcareous. In Wyoming, its elevation ranges from 6600-10280 feet. This habitat is rare and isolated in the state.</p> <p>Since 2003, personnel on the Medicine Bow-Routt NFs and Thunder Basin NG have documented a total of 13 occurrences including;</p> <ul style="list-style-type: none"> • 4 locations on the MBNF including Sierra Madre Range and Snowy Range (WYNDD 2008). • 9 occurrences on the RTNF including occurrences in the Gore Range, Never Summer Range and Park Range (CNHP 2008, NRIS tesp 2008). Most were found in the Park Range. • No occurrences were found in the TBNG (WYNDD 2008). <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 • Jankovsky-Jones et al. 1992 • Jones and Fertig 1999a, b • Mills and Fertig 1996, 2000 • Rosenthal 1998 • Rosenthal 1999 • University of Wyoming 1998 • WYNDD 2008 • CNHP 2008 • NRIS tesp 2008
<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 in Teton County.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Cronquist et al. 1977 • Hermann 1970 • Hurd et al. 1998 • WYNDD 2001
<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>In 2003, this species was known from 11 occurrences in Wyoming, 9 of which had been observed since 1988 (most recently in 1999). Eight of these occurrences are on lands managed by Region 2. On the MBRTB, a total of 13 occurrences have now been documented (only 5 were known in 2003).</p> <p>Populations may be locally abundant but are restricted to small areas of specialized habitat.</p> <p>This species is ranked “S2” in Wyoming and Colorado, and “S1” in Nebraska.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> • Fertig 1998 • Fertig 1999 • Fertig 2000 • Mills and Fertig 2000 • WYNDD 2001 • WYNDD 2008 • CNHP 2008
5 Population Trend in R2	B	<p>A species conservation assessment was completed by Gage and Cooper (2006).</p> <p>Extant populations appear to be stable at present, but the species may have declined historically due to loss or degradation of wetland habitats.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> • WYNDD 2001 • Gage and Cooper 2006
6 Habitat Trend in R2	B	<p>Not known. Currently, most occurrences appear to be secure with no substantial direct impacts. Indirect effects (e.g., groundwater levels, sediment yield, and climate change) could be of concern. At this time, there is no evidence of downward trends.</p> <p>Confidence in Rank Low</p>	<ul style="list-style-type: none"> • Gage and Cooper 2006
7 Habitat Vulnerability or Modification	B	<p>Mud sedge may be threatened by degradation of wetland habitats due to trampling, grazing, or recreation activities.</p> <p>Seven known populations are found on lands managed as wilderness or special status areas by Bridger-Teton, Medicine Bow, Shoshone, and Targhee National Forests and Yellowstone National Park. Four known populations are on lands managed for multiple use by the Bighorn and Shoshone National Forests.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> • Fertig 1998 • Fertig 1999 • Fertig 2000 • Fertig and Jones 1992 • Jones and Fertig 1999a, b • Mills and Fertig 2000

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Literature cited

CNHP 2008. *Species Abstracts and Township/ Range List, Species of Special Concern, Routt National Forest. Colorado Natural Heritage Project. Colorado State University. Fort Collins Colorado.*

Cronquist, A., A.H. Holmgren, N.H. Holmgren, J.L. Reveal, and P.K. Holmgren. 1977. Volume 6, The Monocotyledons. Intermountain Flora: Vascular Plants of the Intermountain West, USA. Columbia University Press, New York.

Dorn, R.D. 2001. Vascular Plants of Wyoming, third edition. Mountain West Publ., Cheyenne.

Evert, E.F. 1986. The Yellowstone region: endemics and other interesting plants. IN: Williams, J., ed. Rocky Mountain Alpines. American Rock Garden Society and Denver Botanic Gardens.

Fertig, W. 1992a. A floristic survey of the west slope of the Wind River Range, Wyoming. Unpublished Master's Thesis, University of Wyoming, Department of Botany.

Fertig, W. 1992b. Checklist of the Vascular plant flora of the west slope of the Wind River Range and status report on the sensitive plant species of Bridger-Teton National Forest. Unpublished report prepared for the Bridger-Teton National Forest by the Rocky Mountain Herbarium, University of Wyoming.

Fertig, W. 1997. Plant species of special concern on Shoshone National Forest: 1996 survey results. Unpublished report prepared by the Wyoming Natural Diversity Database, Laramie, WY.

Fertig, W. 1998. The status of rare plants on Shoshone National Forest: 1995-97 survey results. Report prepared by the Wyoming Natural Diversity Database, Laramie, WY.

Fertig, W. 1999. The status of rare plants in the Bighorn Landscape. Report prepared for The Nature Conservancy Wyoming Field Office by the Wyoming Natural Diversity Database, Laramie, Wyoming.

Fertig, W. and G. Jones. 1992. Plant communities and rare plants of the Swamp Lake Botanical Area, Clarks Fork Ranger District, Shoshone National Forest. Unpublished report prepared for the Shoshone National Forest by the Wyoming Natural Diversity Database.

Gage, E. and D.J. Cooper. (2006). *Carex limosa* L. (mud sedge): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/carexlimosa.pdf>

Hermann, F.J. 1970. Manual of the Carices of the Rocky Mountains and Colorado Basin. Agriculture Handbook 374: 1-397. USDA Forest Service, Washington DC.

Hurd, E.G., N.L. Shaw, J. Mastrogioseppe, L.C. Smithman, and S. Goodrich. 1998. Field Guide to Intermountain Sedges. Rocky Mountain Research Station General Technical Report RMRS-GTR-10.

Jankovsky-Jones, M., G. Jones, and W. Fertig. 1995. Ecological assessment for the potential Standard Park and Bogs Research Natural Area within the Medicine Bow National Forest, Carbon County, Wyoming. Unpublished report prepared by the Wyoming Natural Diversity Database, Laramie.

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- Jones, G.P. and W. Fertig. 1999a. Ecological evaluation of the potential Beartooth Butte Research Natural Area within the Shoshone National Forest, Park County, Wyoming. Unpublished report prepared for the Shoshone National Forest, USDA Forest Service by the Wyoming Natural Diversity Database, University of Wyoming.
- Jones, G.P. and W. Fertig. 1999b. Ecological evaluation of the potential Lake Creek Research Natural Area within the Shoshone National Forest, Park County, Wyoming. Unpublished report prepared for the Shoshone National Forest, USDA Forest Service by the Wyoming Natural Diversity Database, University of Wyoming.
- Mills, S. and W. Fertig. 1996. Survey of plant species of special concern on the Shoshone National Forest, 1995. Unpublished report prepared for Shoshone National Forest by the Wyoming Natural Diversity Database, Laramie, WY.
- Mills, S. and W. Fertig. 2000. State Species Abstract: *Carex limosa*. Wyoming Natural Diversity Database. Available on the internet at www.uwyo.edu/wyndd
- Porter, C.L. 1965. A Flora of Wyoming: Part IV. Bulletin 434:1-88. Agricultural Experiment Station, University of Wyoming.
- Rosenthal, D.M. 1998. Report on a general floristic survey of vascular plants in selected areas of Shoshone National Forest. Report prepared by the Rocky Mountain Herbarium, University of Wyoming, Laramie, WY.
- Rosenthal, D.M. 1999. A floristic survey of selected areas in Shoshone National Forest, Wyoming. Master's Thesis, Department of Botany, University of Wyoming, Laramie, WY.
- 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.
- Wyoming Natural Diversity Database. 2001. Ongoing documentation of sensitive species distribution, biology, status, and references for the state of Wyoming. University of Wyoming, Laramie.
- WYNND. 2008. Species Abstracts and Township/ Range List, Species of Special Concern, Medicine Bow National Forest. Wyoming Natural Diversity Database, University of Wyoming. Laramie, WY.