

SPECIES EVALUATION

*Carex livida*, Priority 1. *Carex livida* (Wahlenberg) Willdenow (CALI). livid sedge. CNHP G5 / S1, Track A  
 FS: R2, R1. BLM: CO-RG -- G5 N?. CO S1, WY S1. PSICC-S. Park, ARP-Redfeather, MBR-Parks; WY Disjunct, 1 SNF,

| Criteria                                   | Rank     | Confidence | Rationale   | Sources of Information  |
|--|----------|------------|---|---|
| 1<br>Distribution within R2                | <b>A</b> | <b>M</b>   | Very few occurrences in R2, usually widely separated, corresponding to the narrow habitats it occupies.<br>Rated S1 in Colorado, S1 in Wyoming, and S3 in Montana.  | Specimens at COLO and RM, Fertig 2000, Weber and Wittmann 2001b.            |
| 2<br>Distribution outside R2               | <b>C</b> | <b>H</b>   | Much more abundant in northwestern Montana, Labrador, and Alaska.   | Hultén 1968, MTNHP 2002.  |
| 3<br>Dispersal Capability                  | <b>D</b> | <b>H</b>   | Dispersal mechanisms unknown.   |   |
| 4<br>Abundance in R2                       | <b>B</b> | <b>L</b>   | Five occurrences in Wyoming, five in Colorado. Some populations in Wyoming reported as locally abundant. Perhaps a few sites remain to be discovered in R2; complete distribution unknown.  | Fertig 2000, Dorn 2001, Weber and Wittmann 2001b, specimens at COLO and RM. |
| 5<br>Population Trend in R2                | <b>B</b> | <b>L</b>   | Populations thought to be stable in Wyoming.  | Fertig 2000.  |
| 6<br>Habitat Trend in R2                   | <b>A</b> | <b>L</b>   | “This species is found on floating mats, in bogs, fens, and marls dominated by <i>Carex</i> species, often on wet hummocks” (Fertig 2000). “In <i>Eriophorum fen</i> ” (Weber and Wittmann 2001b).<br>These habitats seem to be declining due to construction and development, road and trail use, and livestock grazing. Nonetheless, we have no monitoring data specific to this species, hence the low confidence. One site for <i>C. livida</i> in Wyoming is protected, one Colorado site is in wilderness, and there is now increased attention on protection of fens and bogs. | Fertig 2000, Weber and Wittmann 2001b.                                      |
| 7<br>Habitat Vulnerability or Modification | <b>A</b> | <b>L</b>   | Calcareous fens and bogs are vulnerable to almost any kind of continual use, although we have no monitoring data on effects at the sites for <i>Carex livida</i> . Rehabilitation of these sites is difficult or sometimes impossible because of some sites' great age.   | My observations, Mitsch and Gosselink 1993.                                 |
| 8<br>Life History and Demographics         | <b>D</b> | <b>H</b>   | This perennial sedge has long, slender rhizomes, forming small clumps. Flowering and fruiting occur from June through August.<br>Additional information on the taxon, including life history stages, population structure, longevity, mortality, and seed biology, are not available.   | Fertig 2000, Weber and Wittmann 2001b, Handley and Laursen 2002.            |

## SPECIES EVALUATION

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

\* 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.

| COLORADO NF/NG                     | K | L | NEBRASKA NF/NG        | K | L | WYOMING NF/NG    | K | L |
|------------------------------------|---|---|-----------------------|---|---|------------------|---|---|
| Arapaho-Roosevelt NF               | K |   | Samuel R. McKelvie NF |   |   | Shoshone NF      | K |   |
| White River NF                     |   |   | Halsey NF             |   |   | Bighorn NF       |   |   |
| Routt NF                           | K |   | Nebraska NF           |   |   | Black Hills NF   |   |   |
| Grand Mesa Uncompahgre Gunnison NF |   |   | Ogala NG              |   |   | Medicine Bow NF  |   |   |
| San Juan NF                        |   |   | SOUTH DAKOTA NF/NG    |   |   | Thunder Basin NG |   |   |
| Rio Grande NF                      |   |   | Black Hills NF        |   |   | KANSAS NF/NG     |   |   |
| Pike-San Isabel NF                 | K |   | Buffalo Gap NG        |   |   | Cimarron NG      |   |   |
| Comanche NG                        |   |   | Ft. Pierre NG         |   |   |                  |   |   |
| Pawnee NG                          |   |   |                       |   |   |                  |   |   |

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**Taxonomy.** Most Rocky Mountain botanists accept *Carex livida* as a species.

**Discussion.** This species is too poorly known (distribution, habitats, responses to disturbance) to assess its viability in R2. These habitats are vulnerable, and calcareous fens and bogs are not commonly found in good condition. This species is widespread in North America. A more widespread and complete inventory of wetlands, especially fens, is necessary, including complete species lists. Concern for this species is one reason why we should improve management of all wetlands, which goes hand-in-hand with conservation of this species.

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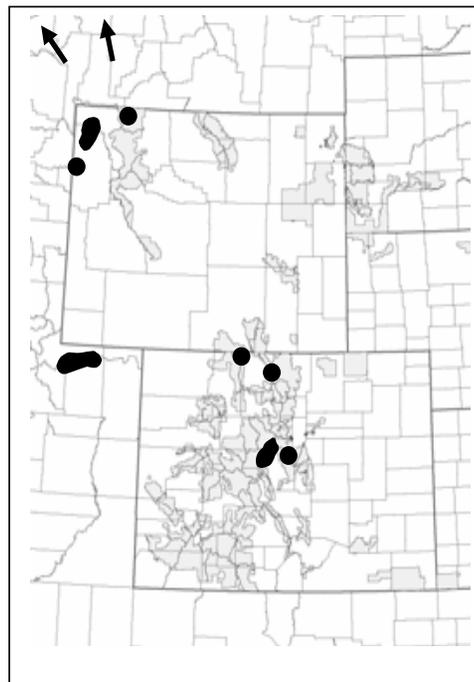
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SPECIES EVALUATION  
REGION 2 SENSITIVE SPECIES EVALUATION FORM

| Species: <i>Carex livida</i> / Livid Sedge |      |   |   |
|--|------|---|---|
| Criteria                                   | Rank | Rationale   | Literature Citations  |
| 1<br>Distribution within R2                | AB   | One known population of livid sedge occurs on the Shoshone National Forest in Park County, Wyoming. This species also occurs in Colorado, therefore, additional information is needed to determine its status in Region 2.<br>This species is found on floating mats, in bogs, fens, and marls dominated by <i>Carex</i> species, often on wet hummocks. Its elevational range in Wyoming is 6460-6600 ft.<br>Confidence in Rank Medium | <ul style="list-style-type: none"> <li>• CNPS 1997</li> <li>• Dorn 1992</li> <li>• Fertig 1995, 1998, 2000</li> <li>• Fertig and Jones 1992</li> <li>• Fertig et al. 1994</li> <li>• Johnston 2001</li> <li>• Mills and Fertig 1996</li> <li>• Rosenthal 1998</li> <li>• Rosenthal 1999</li> <li>• Spackman et al. 1997</li> <li>• Welp et al. 2000</li> </ul>  |
| 2<br>Distribution outside R2               | C    | This species is interruptedly circumboreal. In North America it is found from southern Alaska to Newfoundland, south to California, northwest Montana, Michigan, and New Jersey. It is disjunct in Colorado and the Absaroka Mountains and Yellowstone Plateau of Wyoming (Park and Teton counties).<br>Confidence in Rank High   | <ul style="list-style-type: none"> <li>• CNPS 1997</li> <li>• ERO 1999</li> <li>• Fertig 2000</li> <li>• Fertig et al. 1994</li> <li>• Hermann 1970</li> <li>• Hitchcock 1969</li> <li>• Hurd et al. 1998</li> <li>• Lesica and Shelley 1991</li> <li>• Markow and Fertig 1993</li> <li>• Sanderson and March 1996</li> <li>• Spackman et al. 1997</li> <li>• Welp et al. 2000</li> <li>• WYNDD 2001</li> </ul> |
| 3<br>Dispersal Capability                  | D    | Dispersal vectors are not known, but it may be inferred that water and aquatic animals aid in seed dispersal across unsuitable habitats.<br>Confidence in Rank High   | <ul style="list-style-type: none"> <li>• -</li> </ul>   |
| 4<br>Abundance in R2                       | D    | Populations can be locally abundant, although suitable habitat is sometimes limited. It is known from 5 extant occurrences in Wyoming, all of which have been discovered or relocated since 1991 (most recently in 1999). Only one known population is on the Shoshone National Forest.<br>Confidence in Rank High  | <ul style="list-style-type: none"> <li>• Fertig 1995</li> <li>• Fertig 1998</li> <li>• Fertig 2000</li> <li>• Fertig and Jones 1992</li> <li>• Fertig et al. 1994</li> <li>• Mills and Fertig 1996</li> <li>• Rosenthal 1998</li> <li>• Rosenthal 1999</li> <li>• Welp et al. 2000</li> <li>• WYNDD 2001</li> </ul>   |

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| Species: <i>Carex livida</i> / Livid Sedge             |      |  |   |
|--|------|--|---|
| Criteria   | Rank | Rationale  | Literature Citations  |
| 5<br>Population<br>Trend in R2                         | D    | Census data are not available, but populations are thought to be stable.<br>Confidence in Rank High  | <ul style="list-style-type: none"> <li>• Fertig 1995</li> <li>• Fertig 1998</li> <li>• Fertig 2000</li> <li>• Fertig and Jones 1992</li> <li>• Fertig et al. 1994</li> <li>• Mills and Fertig 1996</li> <li>• Rosenthal 1998</li> <li>• Rosenthal 1999</li> <li>• Welp et al. 2000</li> <li>• WYNDD 2001</li> </ul> |
| 6<br>Habitat Trend in<br>R2                            | D    | Not known.<br>Confidence in Rank High  | <ul style="list-style-type: none"> <li>• -</li> </ul>   |
| 7<br>Habitat<br>Vulnerability or<br>Modification       | D    | The population on the Shoshone National Forest is in the Swamp Lake Special Botanical Area. All other occurrences are on lands managed by Yellowstone National Park.<br>Confidence in Rank High  | <ul style="list-style-type: none"> <li>• Fertig 1995</li> <li>• Fertig 1998</li> <li>• Fertig 2000</li> <li>• Fertig and Jones 1992</li> <li>• Fertig et al. 1994</li> <li>• Mills and Fertig 1996</li> <li>• Rosenthal 1998</li> <li>• Rosenthal 1999</li> <li>• Welp et al. 2000</li> <li>• WYNDD 2001</li> </ul> |
| 8<br>Life History and<br>Demographics                  | D    | This perennial sedge spreads by long, slender rhizomes, forming small clumps. Flowering and fruiting occur from June through August. Additional information on the species, including life history stages, population structure, longevity, mortality, and seed biology, are not available.<br>Confidence in Rank High | <ul style="list-style-type: none"> <li>• Hermann 1970</li> <li>• Hitchcock 1969</li> <li>• Hurd et al. 1998</li> </ul>  |
| Initial Evaluator(s):<br>Joy Handley and Scott Laursen |      |  | Date: February 6, 2002  |

## SPECIES EVALUATION

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

| Colorado NF/NG                       | Known |        | Likely | Kansas NF/NG | Known |        | Likely | Nebraska NF/NG       | Known |        | Likely | South Dakota NF/NG | Known |        | Likely | Wyoming NF/NG    | Known |  | Likely |  |
|--------------------------------------|-------|--------|--------|--------------|-------|--------|--------|----------------------|-------|--------|--------|--------------------|-------|--------|--------|------------------|-------|--|--------|--|
|                                      | Known | Likely |        |              | Known | Likely |        |                      | Known | Likely |        |                    | Known | Likely |        |                  |       |  |        |  |
| Arapaho-Roosevelt NF                 |       |        |        | Cimmaron NG  |       |        |        | Samuel R.McKelvie NF |       |        |        | Black Hills NF     |       |        |        | Shoshone NF      |       |  | X      |  |
| White River NF                       |       |        |        |              |       |        |        | Halsey NF            |       |        |        | Buffalo Gap NG     |       |        |        | Bighorn NF       |       |  |        |  |
| 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                          |       |        |        |              |       |        |        |                      |       |        |        |                    |       |        |        |                  |       |  |        |  |

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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.

<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.