

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: (<i>Astragalus ripleyi</i> Barneby/Ripeys milkvetch/ASRI2 – USDA PLANTS)			
Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	<p>Within the last 51 years at least 48 occurrences have been reported in Conejos County, Colorado. This species has a patchy distribution. Its distribution is consistent with it being a substrate endemic associated with the San Juan volcanic field (Tweto 1978). The majority of occurrences are on National Forest lands but one or more occurrences have been reported on the Bureau of Land Management (BLM) La Jara Resource Area, The Hot Creek and La Jara Wildlife Areas of the Colorado Division of Wildlife, the Colorado State Board of Land Commissioners, the Colorado Transportation Department, and on private land. A “B rank is awarded because “habitat exists primarily as patches, some of which are small or isolated to the degree that species interactions are limited by movements between patches. Local sub-populations in most of the species’ range interact as a metapopulation or patchy population, but some patches are so disjunct that sub-populations in those patches are essentially isolated from other populations”.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> Colorado Natural Heritage Program (CNHP) element occurrence records. Received from Colorado Natural Heritage Program, Fort Collins, Colorado. February 2002. Occurrence data obtained from the Colorado Natural Areas Program, Colorado State University Herbarium, the Rocky Mountain Herbarium, the Kathryn Kalmbach Herbarium, and the University of Colorado Herbarium. Tweto, O. 1978. Geologic map of Colorado. US Geological Survey, Denver, Colorado, USA.
2 Distribution outside R2	A	<p>This regional endemic is restricted to volcanic-derived soils in Conejos County in southern Colorado and in Taos and Rio Arriba counties in adjacent New Mexico. Within the last 51 years a total of thirty-eight occurrences have been reported in New Mexico. The majority of occurrences in New Mexico are on the Carson National Forest.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> New Mexico Natural Heritage Program (NMNHP) element occurrence records. Received from New Mexico Natural Heritage Program, Albuquerque, NM. December, 2001 Specimen records from: The University of New Mexico Herbarium provided by Jane Mygatt, September 2001, New Mexico State University Herbarium provided by Richard Spellenberg, 2000, and San Juan College Herbarium.

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<p>3 Dispersal Capability</p>	<p>B</p>	<p><i>Astragalus ripleyi</i> apparently primarily allocates resources into survival of the rootstock of the individual rather than into reproduction and seed predation is common. Seeds do not appear to be widely dispersed (Naumann 1990, Burt 1998, 1999). A “B rank” is awarded but only low confidence is placed in the rank as dispersal mechanisms are not well defined and seedling establishment appears rare.</p> <p>Confidence in Rank Low</p>	<ul style="list-style-type: none"> • Burt, J. 1998. Effects of grazing and fire on <i>Astragalus ripleyi</i> Barneby; summary of 1997 field work. Unpublished document. June 15. Submitted to U.S.D.A. Forest service, Rio Grande National Forest, Colorado, USA. • Burt, J. 1999. Effects of grazing and fire on <i>Astragalus ripleyi</i> Barneby; summary of 1998 field work. Unpublished document. March 15. Submitted to U.S.D.A. Forest service, Rio Grande National Forest, Colorado, USA. • Naumann, T. 1990. Status Report for <i>Astragalus ripleyi</i>. Unpublished report. June 29. Colorado Natural Areas Program, Division of Parks and Outdoor Recreation, Denver, Colorado, USA.

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<p>4 Abundance in R2</p>	<p>B</p>	<p>Occurrence size ranges from less than ten to approximately one thousand individuals. Large populations tend to be comprised of patches of plants that are believed likely to interact (share pollinators and are within seed dispersal range of each other). For example an estimated 500 individuals distributed over 50 acres comprise one of the populations on the Rio Grande National Forest. Similarly, approximately 224 individuals were distributed over 54 acres on San Luis Resource Area (BLM 1989). Abundance also naturally varies considerably from year to year and is most likely influenced by weather, particularly precipitation (Burt 1998, Burt1999, Lightfoot 1985). The “B” rank is awarded because, strictly across its range, it is relatively “uncommon but the current abundance (estimated number of individuals or populations) is large enough that demographic stochasticity is not likely to lead to rapid extinction, but, in combination with highly variable environmental factors, could pose a threat.” However, the rank confidence is medium because this species can be locally very common and some populations may be large enough so that species persistence may not be threatened by demographic stochasticity, even in combination with environmental variation.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> Bureau of Land Management (BLM). 1989. San Luis Resource Management Plan and Environmental Impact Statement - Draft. Unpublished Report. September. US Department of Interior, Bureau of Land Management, Denver, Colorado, USA
<p>5 Population Trend in R2</p>	<p>B</p>	<p>Rootstocks can remain dormant and may not produce an aerial stem every year. Individuals are necessarily recorded by counting the number of above ground stems and thus in any given year may not reflect the full extent of the population. Available information indicates that populations with downward trends are balanced by populations where an increase in size has been observed (Ladyman 2002). A “B rank” is awarded because overall abundance appears fairly stable.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> Ladyman, J.A.R. 2002. Species Conservation Assessment. <i>Astragalus ripleyi</i> (Ripley’s milkvetch). Prepared for the US Forest Service – Region 2, Denver, CO.

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6 Habitat Trend in R2	B	<p>Fire suppression may have resulted in a reduction in potential habitat. In the Carson National Forest in New Mexico it was interesting that previously un-recorded occurrences were noticed in areas that had experienced recent fire, although population size was observed to decrease, likely in response to inter-specific competition, in subsequent years (Long 2002). Potential habitat has been lost to urbanization and road building especially outside Forest Service lands in both New Mexico and Colorado. A “B rank” is awarded because there appears stable amounts of suitable or potential habitat within the Region 2 lands (specifically the Rio Grande National Forest) for this species.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> • Lightfoot, Karen. 1995. Status Report on <i>Astragalus ripleyi</i> Barneby. September 26. Unpublished document. Forestry and Resources Conservation Division, Santa Fe, New Mexico, USA. • Long, George. US Forest Service, Questa Ranger District, Carson National Forest, New Mexico. Telephone communication. February 2002
7 Habitat Vulnerability or Modification	B	<p>Long-term fire suppression has likely impacted habitat quality because <i>Astragalus ripleyi</i> appears to be a mid-succession species that appears to be excluded by mature tree canopy closure (Lightfoot 1995, Naumann 1990, Long 2002). Timber harvest that eliminates canopy may also significantly and detrimentally disturb the root systems that are essential for long-term survival. Potential habitat is being lost to urbanization and road building, especially outside Forest Service lands. Invasive species, such as <i>Melilotis</i> species, negatively impact potential and occupied habitat. Soil erosion has also been identified as a specific threat to one population on the Rio Grande National Forest (Burt 1999). A “B rank” has been awarded because the habitat is somewhat vulnerable to modification as a result of land management activities currently implemented on NFS lands.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> •
8 Life History and Demographics	A	<p><i>Astragalus ripleyi</i> is very palatable to all herbivores. Arthropods, rodents, wildlife such as elk, deer and rabbits, and livestock such as cows, sheep, and goats all browse upon it. Its long-lived root system is an adaptation to this situation, but consistent and severe defoliation over several years may be cumulatively detrimental. An “A rank” is awarded because the species has an apparent low reproductive rate, a high rate of predation and life history characteristics that suggest populations may be very susceptible to soil disturbance and invasive plant species (Ladyman 2002, Long 2002). However, the confidence in the rank is marked as medium because although there is high confidence that the previous statements are true, the individuals and populations appear to be robust and may warrant more moderate levels of concern.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> •

