

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Platanthera sparsiflora* (S. Wats.) Schlechter var. *ensifolia* (Rydb.) Luer [aka: *Limnorchis ensifolia*] / Sparse-flowered bog orchid [aka Canyon bog-orchid] / PLSPE [aka LIEN2]

Criteria	Rank	Rationale	Literature Citations
<p><b>1</b> Distribution within R2</p>	<p><b>D</b></p>	<p>Unable to determine the distribution of this species within Region 2 due to much confusion about species identification in several Colorado studies:</p> <ul style="list-style-type: none"> <li>▪ Most of the CU Herbarium specimens were annotated/id-corrected by C.J. Sheviak in 1999. <i>Platanthera huronensis</i> and others had been mistakenly identified as <i>Platanthera sparsiflora</i> var. <i>ensifolia</i> by several knowledgeable collectors. Sheviak notes the “baffling taxonomy” of the <i>Platanthera</i> group in his 1999 article.</li> <li>▪ A handout for the 1997 CONPS workshop (led by Sheviak and Jennings) identifies this particular species as “uncommon--peripheral in Colorado, known from 12 sites in 11 counties.” A distribution map indicates the species possible presence on both sides of the Continental Divide. However, some of these plants were later annotated as another species.</li> <li>▪ According to CNHP SCoP data, EO #PMORC1YON2 notes “31 occurrences for 12 counties “ in Colorado. Some of these element occurrences rely on inaccurate identifications, if Sheviak’s 1999 annotations are considered the baseline.</li> </ul> <p>Overall, only the Garfield and San Juan county collections--1 CU Herbarium specimen for each--survived annotation review as PLSPE, putting this particular species into a restricted range within only two counties on the Colorado Plateau (Region 2). Further information on plant distribution is not available or, when apparent, is not accurate, making this species’ true distribution impossible to determine from the available data. Confidence in Rank High</p>	<ul style="list-style-type: none"> <li>• CU Herbarium research 4/02</li> <li>• Sheviak 1999</li> <li>• CONPS 1997</li> <li>• NDIS / ScoP (CNHP) 2002</li> <li>• Elliman et al. 1996</li> </ul>
<p><b>2</b> Distribution outside R2</p>	<p><b>D</b></p>	<p>Unknown distribution due to a lack of clear identification and plant survey data, with the following published statements kept under consideration:</p> <ul style="list-style-type: none"> <li>▪ CNHP cites a range from “Oregon to Mexico,” though this cannot be confirmed due to varietal and species-level identification questions.</li> <li>▪ NatureServe, however, reports the plant as occurring in the following states with the ranks identified in parentheses: AZ (SR), CO (S3), NV (SR), NM (SR), OR (SR) &amp; UT (no rank given). This would seem to indicate the species is monitored for some level of rarity throughout the Intermountain and Southwestern Regions, as well as in Oregon.</li> <li>▪ Elliman et al. (1996), in summarizing the orchids of the Rocky Mountain region, note this species as occurring not only on the Colorado Plateau but also in the Great Basin region.</li> </ul> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> <li>• NatureServe 2001</li> <li>• NDIS / ScoP (CNHP) 2002</li> <li>• Elliman et al. 1996</li> </ul>

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Criteria	Rank	Rationale	Literature Citations
3 Dispersal Capability	D	Dispersal criteria were not found for this species nor for closely related bog orchids, with published research instead focusing on the highly specific pollination mechanisms of the species and its taxonomic cousins (see life history criterion). Confidence in Rank Medium	
4 Abundance in R2	D	Unknown, though the species has been recorded for several National Forest locations on Colorado's Western Slope. <ul style="list-style-type: none"> <li>▪ CNHP has proposed several Potential Conservation Areas in Garfield and Pitkin County which include the orchid; of these, the East Elk Creek, Avalanche Creek, and Maroon-Castle Creek sites are on Forest Service land (several occur on private land).</li> </ul> Confidence in Rank High	<ul style="list-style-type: none"> <li>• CNHP data, 2001</li> <li>• Lyon, Sovell &amp; Rocchio 2001</li> </ul>
5 Population Trend in R2	D	Little information exists due to confusion of species and gaps in or lack of survey data. Confidence in Rank High	<ul style="list-style-type: none"> <li>▪ CU Herbarium research 4/02</li> </ul>
6 Habitat Trend in R2	D	Unknown due to a lack of trend data pertaining to this particular orchid species. However, a significant range of available habitat--ranging from meadows to mature conifer forests to aspen to mossy creekside locations--exists in Colorado, including some occurrences on roadside/disturbed sites. Confidence in Rank High	<ul style="list-style-type: none"> <li>• CU Herbarium research 4/02</li> <li>• Lyon, Sovell &amp; Rocchio 2001</li> <li>• CNHP data, 2001</li> </ul>
7 Habitat Vulnerability or Modification	D	Unable to determine the rank for this criteria due to unavailability of consistent information for this species, based on previous misidentifications and the lack of thorough survey data regarding this particular orchid's distribution. However, it would seem consistent to summarize threats to related species which have similar wetland habitat features, thus at risk to common disruptions of suitable potential habitat: The CONPS handout (1997) does note that the species is "threatened by water development, especially for stockraising," while other sources cite the invasion by exotic plant species or cattle grazing as significant negative impacts on populations (CNHP data, 2001; Lyon, Sovell & Rocchio 2001). All of these land uses occur within the potential range for the species as well as its closely related allies. The species does seem require year-round moisture, so hydrologic modification at any known habitat could threaten its survivability. Confidence in Rank High	<ul style="list-style-type: none"> <li>• CONPS 1997</li> <li>• CNHP data, 2001</li> <li>• Lyon, Sovell &amp; Rocchio 2001</li> </ul>

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<p><b>8</b> Life History and Demographics</p>	<p><b>D</b></p>	<p>Unknown life history details, although the following general observations may put the species at risk from a survivability standpoint:</p> <ul style="list-style-type: none"> <li>▪ Pollinator specificity seems to account for much of the speciation question (Sheviak 1999; Catling &amp; Catling 1991).</li> <li>▪ While the genus tends to produce numerous seeds per capsule, low seed fertility may be an issue in its ability to germinate even if dispersed to a suitable location under adequate environmental conditions. This may rely on the presence of a particular fungus in order to germinate successfully, according to Weber &amp; Wittman (2001).</li> <li>▪ Jennings observed potential hybridization with “other <i>Limnorchis</i> species” (field label, GMUG #436), indicating intraspecific dynamics which may affect the reproductive potential of this species (CONPS 1997).</li> </ul> <p>Unknown demographics but recorded information suggests the possibility of highly variable population characteristics, as one EO record indicated one population had only 3 individuals (RGNF) while others indicate 200-300.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> <li>• Sheviak 1999</li> <li>• Catling &amp; Catling 1991</li> <li>• Weber &amp; Wittman 2001</li> <li>• CONPS 1997</li> <li>• CNHP data, 2001</li> <li>• Ken Chambers, personal communication re. orchid biology</li> </ul>
<p>Evaluator(s): Sylvia Dennis Gindele, RMBH</p>			<p>Date: 06-21-02, rev. 08-03-02</p>

**NOTE:** *Limnorchis/Platanthera* previously belonged to the *Habenaria* genus.

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

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<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	Known	Likely
Arapaho-Roosevelt NF		Cimarron NG		Samuel R. McKelvie NF		Black Hills NF		Shoshone NF			
White River NF	K?			Halsey NF		Buffalo Gap NG		Bighorn NF			
Routt NF	K?			Nebraska NF		Ft. Pierre NG		Black Hills NF			
Grand Mesa, Uncompahgre, Gunnison NF	K			Ogalala NG				Medicine Bow NF			
San Juan NF	K							Thunder Basin NG			
Rio Grande NF	K?										
Pike-San Isabel NF											
Comanche NG											
Pawnee NG											

**NOTE: The above occurrences on Forest Land cannot be confirmed without some assurance of the accuracy of specimen identification. Correlating these records to recent CU Herbarium research, only the Garfield and San Juan County collections remained *Limnorchis ensifolia* following extensive annotating by Charles Sheviak. That would seem to indicate that while the GMUG and SJNF collections might be the species in question, there may be some doubt on the remaining “occurrences” cited for Forest Land (as indicated in the table K?).**

**BIBLIOGRAPHY**

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<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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