

**Species:**  
*Astragalus misellus var. misellus*

**Index Result:**  
**Moderately Vulnerable**

Scientific Name  
 Common Name **Pauper milk-vetch**  
 Taxonomic Group Vascular Plant  
 Geographic Area Eastern Oregon

**Confidence Low**  
 (based on entered data)  
 Date Assessed 5/6/2020  
 GRank G3T2?  
 SRank S2  
 Assessor Sue Vrillakas

Cave/Ground Water Obligate: No  
 Migratory area included in assessment: No

**Climate Change Vulnerability Index Values:** (greatest score shown when range was selected)

Category	Factor	Score	Comments
Temperature Scope (predicted increase)	A >6.0F	0	
	A 5.5F	0	
	A 5.1F	0	
	A 4.5F	41	
	A 3.9F	59	
	A <3.9F	0	
Hamon AET:PET Moisture Metric Scope	< -0.119	5	
	-0.119	38	
	-0.096	22	
	-0.073	35	
	-0.05	0	
	>-0.028	0	
Sea level rise	B1	N	Interior species
Natural barriers	B2a	N	None
Anthropogenic barriers	B2b	N	None
Climate Change mitigation	B3	N	None
Dispersal/Movement	C1	Inc	8% of range is in somewhat increase category, minimum to count is 10%  Highest value 16.8709; lowest 11.6777; difference=5.1932
Historical thermal niche	C2ai	N	
Physiological thermal niche	C2aii	N	
Historical hydrological niche	C2bi	Inc	
Physiol. hydrological niche	C2bii	N	
Disturbance dependence	C2c	N	
Ice/snow dependence	C2d	N	
Physical habitat restrictions	C3	N	
Other spp create habitat	C4a	N	
Dietary Versatility	C4b	U	
Pollinator Versatility	C4c	U	
Other spp for dispersal	C4d	U	
Pathogen sensitivity	C4e	N	
Competition sensitivity	C4f	U	
Interspecific Relationship	C4g	U	
Measured genetic variation	C5a	U	
Bottlenecks	C5b	U	
Plant reproductive system	C5c	U	
Phenological response	C6	U	
Documented response	D1	U	
Modeled change	D2	U	
Modeled overlap	D3	U	

Modeled protected areas	D4	U
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**Additional Notes:**

Range map created using ArcMap Minimum Mapping Boundary-Convex Hull on ORBIC element occurrence data, 4-29-2020 export. Climate and precipitation data from Climate Wizard using the A1B emissions scenario and ensemble average general circulation model: Historical = 1951-2006; Future = mid-century (2050s); Hamon AET:PET moisture metric (Hamon 1961).

**References:****Data sources and notes:**

Range map created using ArcMap Minimum Mapping Boundary-Convex Hull on ORBIC element occurrence data. Climate and precipitation data from Climate Wizard using the A1B emissions scenario and ensemble average general circulation model: Historical = 1951-2006; Future = mid-century (2050s); Hamon AET:PET moisture metric (Hamon 1961).

Detailed definitions of criteria and methodology can be found in the documentation at <http://www.natureserve.org/conservation-tools/climate-change-vulnerability-index>

**Legend and Definitions:**

<b>Affect to Vulnerability:</b>
GI = Greatly increase
Inc = Increase
SI = Somewhat increase
N = Neutral
U = Unknown

**Index Scores:**

<p><b>Extremely Vulnerable:</b> Abundance and/or range extent within geographical area assessed extremely likely to substantially decrease or disappear by 2050.</p> <p><b>Highly Vulnerable:</b> Abundance and/or range extent within geographical area assessed likely to decrease significantly by 2050.</p> <p><b>Moderately Vulnerable:</b> Abundance and/or range extent within geographical area assessed likely to decrease by 2050.</p> <p><b>Less Vulnerable:</b> Available evidence does not suggest that abundance and/or range extent within the geographical area assessed will change (increase/decrease) substantially by 2050. Actual range boundaries may change.</p> <p><b>Insufficient Evidence:</b> Information entered about a species' vulnerability is inadequate to calculate an Index score.</p>
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**Citation:**

Oregon Biodiversity Information Center. 2020. Climate Change Vulnerability Index assessment for Pauper milk-vetch (*Astragalus misellus* var. *misellus*). Institute for Natural Resources, Portland State University, Portland, OR.