

<b>Species Data:</b>	<b>Index Result:</b>
Species <b><i>Penstemon perpulcher</i></b>	<b>Less Vulnerable</b>
English Name <b>Beautiful penstemon</b>	<b>Confidence Very High</b>
Taxonomic Group Vascular Plant	(based on entered data)
Geographic Area Malheur county - one occurrence	
	GRank G3?
Cave/Ground Water Obligate No	SRank S1
Migratory area included in assessment: No	Assessor Caitlin Lawrence

**Climate Change Vulnerability Index Values:** (greatest 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	100	
	A 3.9F	0	
	A <3.9F	0	
Hamon AET:PET Moisture Metric Scope	< -0.119	0	
	-0.119	0	
	-0.096	0	
	-0.073	50	
	-0.05	50	
	>-0.028	0	
Sea level rise Natural barriers Anthropogenic barriers Climate Change mitigation	B1	N	
	B2a	N	
	B2b	N	
	B3	N	
Dispersal/Movement Historical thermal niche Physiological thermal niche Historical hydrological niche Physiol. hydrological niche Disturbance dependence Ice/snow dependence Physical habitat restrictions Other spp create habitat Dietary Versatility Pollinator Versatility Other spp for dispersal Pathogen sensitivity Competition sensitivity Interspecific Relationship Measured genetic variation Bottlenecks Plant reproductive system Phenological response	C1	N	Only known from one occurrence so can't rank a range.  Changes in fire frequency or intensity could affect this species.  May be sensitive to competition from exotic species.
	C2ai	N	
	C2aii	N	
	C2bi	U	
	C2bii	U	
	C2c	SI	
	C2d	N	
	C3	N	
	C4a	N	
	C4b	U	
	C4c	N	
	C4d	N	
	C4e	N	
	C4f	SI	
	C4g	U	
	C5a	U	
C5b	U		
C5c	U		
C6	U		

Documented response	D1	U	
Modeled change	D2	U	
Modeled overlap	D3	U	
Modeled protected areas	D4	U	

**Data sources and notes:**

Climate and precipitation data from Climate Wizard using the A1B emissions scenario and ensemble average general circulation model. Historical = past 50 years; Future = mid-century (2050s). Species data from ORBIC database. Assessment performed in conjunction with the Element Rank Calculator. Other resources consulted: NREL national wind resources, 50m resolution ([http://www.nrel.gov/gis/data\\_analysis\\_background.html](http://www.nrel.gov/gis/data_analysis_background.html)); SILVIS lab Wildland Urban Interface 2010 layer ([http://silvis.forest.wisc.edu/maps/wui\\_main](http://silvis.forest.wisc.edu/maps/wui_main)); Oregon Department of Geology and Mineral Industries geologic map (<http://www.oregongeology.org/sub/publications/GMS/gms.htm>); US mining claims on federal lands (<http://mrddata.usgs.gov/mine-claim/>); Oregon Protected Areas Database (<http://gapanalysis.usgs.gov/padus/data/>).

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

**Index Scores:**

**Extremely Vulnerable:** Abundance and/or range extent within geographical area assessed extremely likely to substantially decrease or disappear by 2050.

**Highly Vulnerable:** Abundance and/or range extent within geographical area assessed likely to decrease significantly by 2050.

**Moderately Vulnerable:** Abundance and/or range extent within geographical area assessed likely to decrease by 2050.

**Less Vulnerable:** 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.

**Insufficient Evidence:** Information entered about a species' vulnerability is inadequate to calculate an Index score.