

Species:

Index Result:

Calochortus longebarbatus var. peckii

Extremely Vulnerable

Scientific Name
Common Name
Taxonomic Group

Peck's mariposa-lily
Vascular Plant

Confidence Very High
(based on entered data)

Geographic Area

Eastern Oregon

Date Assessed 8/14/2019

Cave/Ground Water Obligate: No

GRank G4T3

Migratory area included in assessment: No

SRank S3

Assessor Sue Vrillakas

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	94	
	A 3.9F	6	
	A <3.9F	0	
Hamon AET:PET Moisture Metric Scope	< -0.119	8	
	-0.119	39	
	-0.096	53	
	-0.073	0	
	-0.05	0	
	>-0.028	0	
Sea level rise Natural barriers Anthropogenic barriers Climate Change mitigation	B1	N	Not coastal
	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	C1	Inc	Reproduces by bulblets; dispersal assumed to be mainly by small mammals, perhaps larger mammals, deer or elk, via mud on their hooves. 12% of range falls into 47-57 deg variation; mostly in 57-77 variation (neutral) Open meadows, openings in Ponderosa pine forests Measurements: high 30.414, low 12.569 Grows in somewhat arid habitat, dependent on seasonal moisture May be affected by higher intensity and frequency of fire Little direct dependence on snow or ice Species does not produce viable seed; reproduction asexual (bulblets) Because reproduces asexually, a pathogen could be devastating to the species although none is known at this time
	C2ai	SI	
	C2aii	N	
	C2bi	SI	
	C2bii	SI	
	C2c	SI	
	C2d	N	
	C3	N	
	C4a	N	
	C4b	U	
	C4c	N	
	C4d	SI	
	C4e	Inc	
C4f	U		
C4g	U		

Measured genetic variation	C5a	Inc	No genetic variation, does not reproduce sexually
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	

Additional Notes:

Range map manually created based on 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:

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

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.

Citation:

Oregon Biodiversity Information Center. 2019. Climate Change Vulnerability Index assessment for Peck's mariposa-lily (*Calochortus longebarbatus* var. *peckii*). Institute for Natural Resources, Portland State University, Portland, OR.