	Species:	Index Result:	
Scientific Name	*Schoenoplectus subterminalis*	**Moderately Vulnerable**	
Common Name	**Water clubrush**	**Confidence**	**Very High**
Taxonomic Group	Vascular Plant	(based on entered data)	
Geographic Area	Western Oregon	Date Assessed	5/12/2020
		GRank	G5
Cave/Ground Water Obligate:	No	SRank	S2
Migratory area included in assessment:	No	Assessor	Sue Vrilakas

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	0	
	A 3.9F	12	
	A <3.9F	88	
Hamon AET:PET Moisture Metric Scope	< -0.119	0	
	-0.119	27	
	-0.096	62	
	-0.073	11	
	-0.05	0	
	>-0.028	0	
Sea level rise	B1	Inc	About 1/2 populations found in coastal areas; lakes and wetlands
Natural barriers	B2a	N	
Anthropogenic barriers	B2b	N	
Climate Change mitigation	B3	U	
Dispersal/Movement	C1	N	Wide ranging, in multiple states
Historical thermal niche	C2ai	GI	Half occurrences are coastal which has experienced very small temperature variations
Physiological thermal niche	C2aii	N	
Historical hydrological niche	C2bi	N	Highest value: 133.5106; lowest 60.2426; difference 73.268
Physiol. hydrological niche	C2bii	Inc	
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	N	
Other spp for dispersal	C4d	N	
Pathogen sensitivity	C4e	N	
Competition sensitivity	C4f	N	
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	

Additional Notes:

Range map created using ArcMap Miminum 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 Miminum 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:

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. 2020. Climate Change Vulnerability Index assessment for Water clubrush (Schoenoplectus subterminalis). Institute for Natural Resources, Portland State University, Portland, OR.