

Climate Change Vulnerability Index

Plant Species Assessment

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Name: *Penstemon barrettiae*

Index Result: Not Vulnerable / Presumed Stable

Exposure to Climate Change:

- 1) Temperature – All occurrences fall within the same temperature category (3.9-4.4° F warmer).
- 2) Moisture - 95% of occurrences fall within the -0.051 - -0.073 moisture metric category; the remaining 5% fall within the -0.028 to -0.050 category.

Climate: Indirect

- 1) Exposure to sea level rise - Neutral
- 2) Distribution relative to barriers
 - a. Natural barriers - Neutral
 - b. Anthropogenic barriers - Neutral
- 3) Predicted impact of land use changes resulting from human responses to climate change - Neutral

Species-Specific Factors:

- 1) Dispersal and movements - Selected 'Somewhat increase' vulnerability on assumption that at least 5% of propagules will be dispersed between 10 and 100 meters, but rarely further than that.
- 2) Predicted sensitivity to temperature and moisture changes
 - a. Predicted sensitivity to changes in temperature
 - i. historical thermal niche - Neutral
 - ii. physiological thermal niche - Neutral
 - b. Predicted sensitivity to changes in precipitation, hydrology, or moisture regime
 - i. historical hydrological niche - Neutral
 - ii. physiological hydrological niche - Neutral
 - c. Dependence on a specific disturbance regime likely to be impacted by climate change - Neutral
 - d. Dependence on ice, ice-edge, or snow-cover habitats - Neutral
- 3) Restriction to uncommon geological features or derivatives - Neutral
- 4) Reliance on interspecific interactions
 - a. Dependence on other species to generate habitat - Neutral
 - b. Dietary versatility (animals only)
 - c. Pollinator versatility (plants only) - Neutral
 - d. Dependence on other species for propagule dispersal – Selected 'Somewhat increase.'
 - e. Forms part of an interspecific interaction not covered by 4a-d
- 5) Genetic factors
 - a. Measured genetic variation - Unknown
 - b. Occurrence of bottlenecks in recent evolutionary history (*use only if 5a is "unknown"*) - Neutral
- 6) Phenological response to changing seasonal temperature and precipitation dynamics - Unknown