

Species: Bog sedge (*Carex paupercula*)

Global Rank: G5

State Rank: S3

Climate Change Vulnerability Index: Highly Vulnerable

Confidence: Very High

Habitat:

Bog sedge is a species of glacial bogs and peatlands. Bog sedge grows in sphagnum and hemlock dominated depressions in a mosaic of drier upland forest on the terminal moraine of the Wisconsin glaciation. In eastern North America, its range extends south to Minnesota, Michigan, Pennsylvania, and New Jersey. In Pennsylvania, it is found at scattered sites in the northeastern and northwestern portions of the state (PNHP 2010).

Threats:

The high moisture level, low nutrient status, and extreme acidity of the habitat in which bog sedge grows protect it from most types of disturbance (PNHP 2010). Anthropogenic activities such as logging and road construction that alter the hydrological regime may threaten this species. Beaver activity also alters habitat hydrology. There is no evidence of impact by invasive species. However, browsing by deer may be a problem (PNHP 2010).

Main Factors Contributing to Vulnerability Rank:

Predicted micro sensitivity to changes in temperature: Bog sedge shows a preference for microsites/microhabitats towards the cooler end of the spectrum. In Pennsylvania, Bog sedge is at the southern end of its range, suggesting that it is cold-limited. Occurrences of Bog sedge are found in the cooler portions of the state, in northeast and northwest Pennsylvania.

Predicted macro sensitivity to changes in precipitation, hydrology, or moisture regime: Within the species range in Pennsylvania, the species has experienced a less than average precipitation variation in the past 50 years.

Predicted micro sensitivity to changes in precipitation, hydrology, or moisture regime: Bog sedge is moderately dependent on wetland habitat that is highly vulnerable to loss or reduction with climate change and the expected direction of precipitation change is likely to reduce the species' distribution, abundance, or habitat quality.

Literature Cited:

Pennsylvania Natural Heritage Program. 2007. PNHP Fact Sheet – Bog Sedge.