

Species: Thread Rush (*Juncus filiformis*)

Global Rank: G5

State Rank: S3

Climate Change Vulnerability Index: Moderately Vulnerable

Confidence: Very High

#### Habitat:

Thread rush occupies a variety of moist or wet habitats including sandy shores of streams and lakes, bogs, and alpine meadows (Gleason 1952; Hays 2001). It prefers sandy soils but the species is also found in sphagnum bogs and shrub swamps with peaty soils (Hays 2001). In North America, thread rush has a mostly northern distribution from Alaska to Greenland and southward in New England and the Great Lakes and Rocky Mountain states (Gleason 1952; Hayes 2001). In Pennsylvania, rare populations are found in the northeastern and northwestern portions of the Allegheny Plateau (Rhodes and Block 2007).

#### Current Threats:

Loss of wetlands threatens this species (NatureServe 2010).

#### Main factors Contributing to Vulnerability Rank:

*Distribution relative to natural barriers:* Thread rush is limited to wetlands in mostly the northeastern portion of Pennsylvania (with only two additional populations known in northwestern Pennsylvania) where it represents the southern edge of its range. Movement between wetlands may be difficult given that they are often separated by upland habitat.

*Predicted micro sensitivity to changes in temperature:* This species is found in high elevation wetlands that tend to be cooler.

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

#### Additional Information:

Since Pennsylvania represents the southern edge-of-range for thread rush, depending on the species response to temperature and precipitation variation, we may see a northward migration of the species out of the state.

References:

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