

Species: Thread rush (*Juncus filiformis*)

Global Rank: G5

State Rank: S3

Climate Change Vulnerability Index: Not Vulnerable/Presumed Stable

Confidence: Low

#### 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).

#### Threats:

Loss of wetlands threatens this species (NatureServe 2010).

#### Main factors Contributing to Vulnerability Rank:

Although this species may be sensitive to variations in temperature and precipitation, the CCVI suggests that thread rush is not vulnerable/presumed stable. Available evidence does not suggest that abundance and/or range extent within Pennsylvania will change (increase/decrease) substantially by 2050. However, actual range boundaries may change.

#### Additional Information:

Since Pennsylvania represents the southern edge of the 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.

#### Literature Cited:

Gleason, H.A. 1952. Illustrated flora of the northeastern United States and adjacent Canada, vol 2. Published for the New York Botanical Garden by Hafner Press, New York, N.Y. 665p.

Hayes, M. 2001. Conservation Assessment for thread rush (*Juncus filiformis*) for USDA Forest Service, Eastern Region.

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Rhoads, A. and T. Block. 2007. *The Plants of Pennsylvania*. 2nd Edition. Philadelphia. University of Pennsylvania Press.

Wisheu, I.C. and P.A. Keddy. 1991. Seed banks of a rare wetland plant community: distribution patterns and effects of human induced disturbance. *Journal of Vegetation Science* 2: 181-188.