

Species: Leafy Bog Aster (*Oclemena nemoralis*)
Global Rank: G5
State Rank: S1
Climate Change Vulnerability Index: Extremely Vulnerable
Confidence: Very High

Habitat:

Leafy bog aster is a boreal species found in northeastern North America with its western limit being the eastern Lake Superior region. The species' southern extent is northern Pennsylvania and New Jersey (NatureServe 2011). In Pennsylvania, leafy bog aster rarely occurs in sphagnum bogs and is only known from two sites in the northcentral portion of the state (Rhoads and Klein 1993; Rhoads and Block 2007).

Current threats:

Habitat loss and hydrological alteration are two major threats to this species.

Main Factors Contributing to Vulnerability Rank:

Distribution relative to natural barriers: Leafy bog aster is found in two isolated bogs in Pennsylvania that are surrounded by extensive forests that would likely serve as a barrier against movement to new locations.

Predicted micro sensitivity to changes in temperature: Leafy bog aster occurs in microsites/microhabitats towards the cooler end of the spectrum.

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

Predicted micro sensitivity to changes in precipitation, hydrology, or moisture regime: Leafy bog aster is dependent on a wetland habitat that may likely change as a result of climate change.

Interspecific interactions: Like most of the plants in the Asteraceae family, leafy bog aster probably requires mycorrhizal associations for survival (Hossler 2010).

References:

Hossler, K. 2010. Nutrient cycling and the role of arbuscular mycorrhizae in created and natural wetlands of central Ohio. Ph.D. dissertation, The Ohio State University.

NatureServe. 2011. NatureServe Central Databases. Arlington, Virginia. USA.

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

Rhoads, A. and W.M. Klein. 1993. *The vascular flora of Pennsylvania annotated checklist and atlas*. American Philosophical Society, Philadelphia, PA.