

Species: White fringed-orchid (*Platanthera blephariglottis*)

Global Rank: G4G5

State Rank: S2S3

Climate Change Vulnerability Index: Extremely Vulnerable

Confidence: Very High

#### Habitat:

White fringed-orchid grows in full sun or semi-shaded sphagnum bogs, acidic swamps, and other boggy areas. It is often found with cranberry and various sedges in a bed of sphagnum moss (PNHP 2007). The species is divided into two subspecies, one in the north (*P. blephariglottis*) and one in the south (*P. conspicua*). Pennsylvania marks the southern edge of the range for the northern subspecies which extends from Pennsylvania and New Jersey to northeastern Canada. In Pennsylvania, white fringed-orchid is limited to a few clusters of sites in the glaciated portions of the northeast and northwest and a few scattered sites at high elevations along the Allegheny Front (PNHP 2007).

#### Threats:

White fringed-orchid is somewhat threatened by land-use conversion, habitat fragmentation, and forest management practices. Other threats include alteration of hydrology, over-shading by woody growth, and collection pressures (NatureServe 2010).

#### Main Factors Contributing to Vulnerability Rank:

Predicted micro sensitivity to changes in temperature: White fringed-orchid shows a preference for 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 small precipitation variation in the past 50 years.

Predicted micro sensitivity to changes in precipitation, hydrology, or moisture regime: White fringed-orchid is completely or almost completely dependent of wetland habitat that is likely 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.

Forms part of a mutualism: Reliance on a mycorrhizal symbiont somewhat increases the vulnerability of white fringed-orchid to climate change effects.

#### Additional Information:

This species is divided into 2 subspecies: 1 northern (in PA) and 1 southern. For the northern subspecies, It is at the southern end of its range and an increase in temperature may be detrimental. However, it is possible that the southern subspecies will move into

the state. It also appears to prefer unflooded, open peatlands. An increase in precipitation may cause flooding in some peatlands and flood out the populations.

Literature Cited:

NatureServe. 2010. NatureServe Central Databases. Arlington, Virginia. USA.

Pennsylvania Natural Heritage Program. 2007. PNHP Fact Sheet – White Fringed-Orchid.