

MN Status:

threatened

Federal Status:

none

CITES:

none

USFS:

none

Group:

vascular plant

Class:

Monocotyledoneae

Order:

Liliales

Family:

Liliaceae

Life Form:

forb

Longevity:

perennial

Leaf Duration:

deciduous

Water Regime:

terrestrial

Soils:

silt, loam

Light:

full shade, partial shade

Habitats:

Mesic Hardwood Forest, Cliff, Talus

Best time to see:



JAN

Basis for Listing

A small woodland herb, *Allium cernuum* appears to be absent from large areas within its broad transcontinental range. This is especially true in the southern part of its range where it is limited to mountainous habitats. Even in the cool, northern portion of its range, its populations are local and distinct. Occurrences are very limited in Michigan, Wisconsin, Ontario, Illinois, northeastern Iowa, southeastern Minnesota, and Saskatchewan, and it is apparently absent from North Dakota, most of the Great Plains, and the intermountain region. *Allium cernuum* was unknown in Minnesota until it was discovered in 1981 at **Lake Louise State Park** in Mower County. Even though recent surveys have located colonies in neighboring Fillmore, Olmsted, and Winona counties, few of the sites are managed to sustain this species. *Allium cernuum* was listed as a threatened species in Minnesota in 1984.



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Map Interpretation



Map Interpretation

Description

Allium cernuum is a perennial herb with pink to deep roseate or white flowers and a strong onion odor. It is sometimes confused with the common and closely related *A. stellatum* (prairie wild onion), but its distinguishing feature is a flowering umbel nodding

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on an arched stem. In both species the umbel is nodding in bud, but in *A. stellatum* the stem becomes erect in anthesis (flowering) while in *A. cernuum* it remains nodding. *Allium cernuum* is also distinguished by leaves that are thin and flat, not thick and round; flowers that are campanulate, not stellate; and a bulb that is elongate, not ovoid.

Habitat

Most *A. cernuum* populations in Minnesota occur on north- or northwest-facing slopes above a creek or river, although they can also be found on west- or northeast-facing slopes, on shaded **cliff** edges, and in narrow stream bottomlands below bluffs. They rarely occur on southeast-facing slopes. *Allium cernuum* is often found on talus slopes with moist, rich, often rocky, colluvial soils of silt or loam. Many populations are located in stands of *Pinus strobus* (white pine) and/or **hardwood forests** of *Quercus rubra* (red oak), *Acer saccharum* (sugar maple), and *Tilia americana* (basswood), with a rich understory of moss, ***Asarum canadense*** (wild ginger), *Cystopteris bulbifera* (bulblet fern), and ***Solidago flexicaulis*** (zigzag goldenrod). In Minnesota, *A. cernuum* prefers full or partial shade rather than open areas. Most populations contain 12-100 individual plants, although sites with up to 500 individuals have been found.

Biology / Life History



One of the first plants to appear in the early spring, *A. cernuum* emerges with a dense tuft of lime-green leaves. In June it sends up flower stalks with single inflorescences whose buds open in late June or July. Many, but not all, plants produce inflorescences in a given year. Though a typical clump produces 2-8 flowering culms, as many as 12 or more may be produced from large clumps, which can contain over 36 tightly clustered bulbs. Fruits are produced from late July through early September.



The best time to search for *A. cernuum* is when it is in flower from late June through August, and in fruit from late July through September. Without flowers or fruits it is very difficult to distinguish *A. cernuum* from its close relative *A. stellatum*.

Conservation / Management

Allium cernuum appears to be rare or uncommon throughout the region, but the factors that influence its rarity are not entirely known. At the present time, the best way to preserve this rare species is to maintain and protect the forest habitat where it occurs. Special consideration should be given in forest management, as even selective logging could potentially alter the habitat if canopy openings increased light and temperature conditions on the forest floor. This would tend to dry and warm the soil, which could disrupt competitive relationships of plants and shift species composition. Any land uses employing heavy machinery may potentially damage the soil, especially on slopes. This is of particular concern as it often results in the establishment and spread of invasive species. Livestock grazing could also degrade *A. cernuum* habitats and

directly injure plants.

Conservation Efforts in Minnesota

The DNR's **Minnesota Biological Survey** has been completed in the range of this species in the state. Several populations occur in **State Parks** where they are protected from most threats. Other populations are in **State Forests** and **Wildlife Management Areas**, where resource management plans should incorporate habitat protection needs for *A. cernuum*.

References

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