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Massachusetts Division of Fisheries & Wildlife

Northern Green Orchid
Platanthera huronensis (Nutt.) Lindl.

State Status: **None**
Federal Status: **none**

BACKGROUND: Northern Green Orchid is widespread and rare across northern New England, but only found in Berkshire and Franklin counties in Massachusetts. Much is still to be learned about this species as it is only fairly recently created by the taxonomic splitting of another species that is more widespread, and more familiar to experienced botanists and wildflower enthusiasts, the Northern Bog Orchid (*Platanthera hyperborea*). It was discovered that Northern Bog Orchid is actually three separate species. The original name, *P. hyperborea* (L.) Lindl., went to a species that is now only documented from Greenland and Iceland. The other two species became Northern Green Orchid (*P. huronensis*) and North Wind Orchid (*Platanthera aquilonis*) Sheviak. Complications have arisen as these two species can sometimes not be differentiated in herbarium specimens, making the known distribution subject to some mystery. Even in living specimens, it can be difficult, if not impossible, to distinguish between the two unless they are flowering, when the fragrance of the flowers can be checked. Northern Green Orchid is quite fragrant, sometimes described as sweet and pungent, whereas the North Wind Orchid is scentless. It is self-pollinating, so it does not need to attract pollinators with a pleasing aroma. Other differences between the two are found in the minute flower structures, which require a ten-power hand lens to see.

Northern Green Orchid is thought to have arisen as a tetraploid (4 sets of chromosomes) cross of two diploid species: Northern White Orchid (*Platanthera dilatata*) and North Wind Orchid (*P. aquilonis*).

DESCRIPTION: Northern Green Orchid varies from 25 cm (10 inches) in height to as tall as 105 cm (41 inches). There are as many as seven green leaves scattered along the upright stem. The leaves are narrowly elliptic with the longest approximately 30 cm (12 inches) long and



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about 6 cm (2 1/3 inches) in width. The stem holds as many as 60 whitish-green flowers in a raceme or spike above the leaves. Individually, the flowers are rather small, about a centimeter (half an inch) across, with a 5 to 12 mm long lip or labellum. The sepals are slightly greener than the petals. The uppermost sepal forms a bit

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of a hood over the flower. Like many of this genus, the flowers have a nectar spur that curves in an arch toward the front of the flower. The flower is attached to the stem with a rather thick stalk that is the ovary. Right at the base of the stalk is a short leafy upright bract that extends up to about the midpoint of the flower itself. The plant flowers from late June to mid-July.

AIDS TO IDENTIFICATION: Northern Green Orchid looks almost identical to North Wind Orchid (*Platanthera aquilonis*). In the field, fragrance and flower color are useful to distinguish the two, with *P. aquilonis* having no smell and a green to yellow-green cast to the labellum (lip) of the flower, and *P. huronensis* having a sweet distinct fragrance and a more white-green cast. The nectar spur tends to be longer in *P. huronensis*, from 4 to 12 mm in length, and from 2 to 5 mm in length on *P. aquilonis*.

HABITAT: Northern Green Orchid is found most often in wetlands, including ditches, shorelines, small pools, wet meadows, and marshes.

POPULATION STATUS IN MASSACHUSETTS: Northern Green Orchid is only known from two western counties: Berkshire and Franklin. Most of what was previously documented as *Platanthera hyperborea* was determined to be *P. aquilonis*, and not *P. huronensis*.

RANGE: Northern Green Orchid is found throughout the northern latitudes from Labrador south to New Jersey, west to Alaska except in the prairie states (Saskatchewan south to Texas). It is also found in Wyoming, Colorado, and New Mexico.

THREATS: This species is generally a wetland species, being a wetland obligate in most regions and more likely to be found in wetlands than in uplands in New England. Therefore, disturbances to the natural hydrological regime will threaten this species, as will climate-change-induced or natural 100-year drought cycles.

Additionally, deer will eat the plant, and invasive species at a site, such as Reed Canary Grass and Giant Reed Grass, can crowd out this plant.

MANAGEMENT RECOMMENDATIONS: Because of the recent taxonomic changes with this species and difficulties with herbarium specimens, much more field work is needed to identify locations for Northern Green Orchid. In addition, current sites should be protected from development, and habitat management should include control of invasive species and herbivores.

REFERENCES:

- Sheviak, C. J. 1999. The identities of *Platanthera hyperborea* and *P. huronensis*, with the description of a new species from North America. *Lindleyana*, 14(4), 193-203.
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