



## Natural Heritage & Endangered Species Program

[www.mass.gov/nhesp](http://www.mass.gov/nhesp)

Massachusetts Division of Fisheries & Wildlife

## Grass-leaved Ladies'-tresses *Spiranthes vernalis* Engelm. & Gray

State Status: **Threatened**

Federal Status: **None**

**DESCRIPTION:** Grass-leaved Ladies'-tresses (*Spiranthes vernalis*) is a slender, erect orchid of dry sandy habitats. It ranges from 20 to 80 cm (8–32 in.) in height, and has four or five linear grass-like leaves grouped near the base of the stem. Up to 50 small whitish flowers are arranged in a single spiral that winds around the wand-like stem.

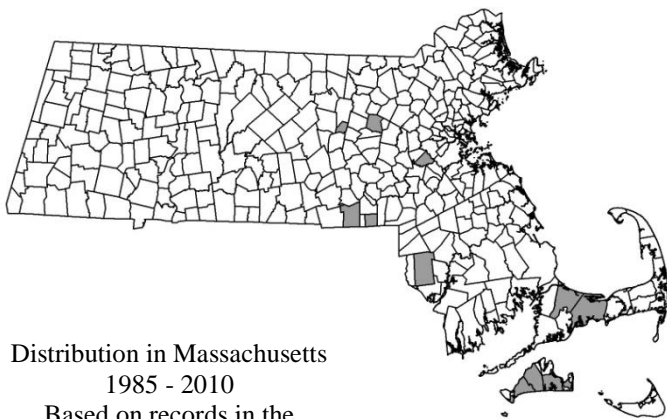
**AIDS TO IDENTIFICATION:** The single, pale green stalk (~1 cm diameter) is hairless below but has numerous short, straight white “eglandular” hairs (i.e., without glands) throughout the axis of the inflorescence; these hairs are the most consistent character that differentiates it from other ladies'-tresses (*Spiranthes* spp.). The five to seven basal leaves sheath the stem at the base, and resemble grass leaves, 5 to 25 cm (2–10 in.) long and 4 to 12 mm wide. The leaves are most visibly developed in May and June, often withering by flowering time in August. Leaves higher on the stem appear as closely appressed bracts. The small (6 mm) white or cream-colored flowers are usually arranged in a long spiral on the 3 to 15 cm (1.5–6 in.) long spike (but



Grass-leaved Ladies'-tresses: section of inflorescence showing spiral of flowers and yellow patch on the lip and plant in habitat. Photos: Bruce A. Sorrie, NHESP.

occasionally are more densely arranged). The lip (lower petal) is oval-shaped and pubescent underneath, often with a faint yellow patch in the middle. Grass-leaved Ladies'-tresses begins to bloom late July or early August, which is earlier than the three similar species noted below.

**SIMILAR SPECIES:** Little Ladies'-tresses (*S. tuberosa*), Nodding Ladies'-tresses (*S. cernua*), and Slender Ladies'-tresses (*S. lacera*) are species that are most similar to Grass-leaved Ladies'-tresses, and that are known from the same region of the state and some similar habitats. Like the rare species, Little Ladies'-tresses and Slender Ladies'-tresses have a spiral inflorescence, but differ in inflorescence axis pubescence and lower lip color; Little Ladies'-tresses has a hairless axis and a pure white flower, and Slender Ladies'-tresses has sparse glandular hairs along the axis and a green dot on the lip.



Distribution in Massachusetts  
1985 - 2010  
Based on records in the  
Natural Heritage Database

**A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan**

## Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; [www.mass.gov/dfw](http://www.mass.gov/dfw)

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

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Nodding Ladies'-tresses has larger flowers than the rare species (i.e., 1–2 cm), which are densely arranged, often in three or four ranks (not spiral) along an axis covered in glandular hairs. This species is more typically found in moister habitats than the other two species. The rachis of the inflorescence should be examined with a magnifying lens to differentiate among these species.

**HABITAT IN MASSACHUSETTS:** Grass-leaved Ladies'-tresses occurs only in the eastern part of the state, primarily within the coastal plain region. It favors dry, sandy or gravelly soils and is found in open fields, sparsely vegetated grasslands, and open areas of pond shores. Like all orchids, this species lives in association with and is dependent on a root fungus in the soil which helps to provide necessary nutrients. It is often found in Little Bluestem (*Schizachyrium scoparium*)-dominated old fields maintained by periodic disturbance such as mowing or grazing. Co-occurring species include Slender Ladies'-tresses, Greene's Rush (*Juncus greenei*), Pennsylvania Sedge (*Carex pensylvanica*), Virginia Yellow Flax (*Linum virginianum*), Yellow Wild Indigo (*Baptisia tinctoria*), Sweetfern (*Comptonia peregrina*), and Lowbush Blueberry (*Vaccinium pallidum*).

**RANGE:** Grass-leaved Ladies'-tresses is distributed from southern New England to South Dakota, south to Florida and eastern New Mexico. In Massachusetts, at the northern edge of its range, with few exceptions it is known from very small, scattered populations in the coastal plain. It is found more frequently and in larger populations in the Little Bluestem-dominated old fields of the extreme southern states.

**POPULATION STATUS IN MASSACHUSETTS:** Grass-leaved Ladies'-tresses is listed under the Massachusetts Endangered Species Act as Threatened. All listed species are protected from killing, collecting, possession, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. It is currently known from Barnstable, Bristol, Dukes, Middlesex, Norfolk, and Worcester Counties.

**MANAGEMENT RECOMMENDATIONS:** Threats include loss of habitat due to development and succession from grassland to shrub cover due to suppression of natural disturbances or lack of management such as mowing or grazing. Sites should be monitored for invasions of exotic plants and succession to shrubland; if exotic or native plants are crowding and out-competing this species, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to remove the competitors. Rare plant locations that receive heavy recreational use should be carefully monitored for plant damage or soil disturbance; trails can sometimes be re-routed to protect population. All active management of rare plant populations (including invasive species removal) is subject to review under the Massachusetts Endangered Species Act, and should be planned in close consultation with the Massachusetts Natural Heritage & Endangered Species Program.

**Flowering time in Massachusetts**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Updated 2015

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