



## Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

## Drooping Speargrass *Poa saltuensis* ssp. *languida* (Hitc.) A. Haines

State Status: **Endangered**  
Federal Status: **None**

**DESCRIPTION:** Drooping Speargrass (*Poa saltuensis* ssp. *languida*) is a slender, graceful perennial grass (family Poaceae), of rich, rocky woodlands and openings. Reaching 30 to 100 cm (12–39 in.) in height, the culms (flowering stems) of this grass are weak, and the flowering panicle is loose and nodding, with slender arching branches. The scientific name of Drooping Speargrass is appropriate; *Poa* is Greek for grass or fodder and *languida* is Latin for weak, in reference to the drooping flower panicles.

Drooping Speargrass grows in loose tufts from a fibrous root base. The leaves are bluish green, soft, and narrow, 2 to 5 mm wide and up to 10 cm (4 in.) long. The leaf sheaths are nearly glabrous, closed for at least one-third their length, compressed, and shorter than the internodes. At the junction of the sheath and leaf blade is a collar-like structure, the ligule. In this species it is mostly smooth, blunt, or slightly rounded toward the tip, 2.4 to 4 mm long. The drooping flower panicle is 5 to 10 cm (~2–4 in.) long. The branches of the panicle are usually arranged in pairs or groups of three at each node and bear a few spikelets toward their tips. The spikelets are somewhat flattened, two to four flowered, and 3 to 4 mm long. The tiny grain is yellowish and lance-ellipsoid, 1.5 to 2 mm long.

**AIDS TO IDENTIFICATION:** In grasses, the inflorescence (a spike or panicle) consists of numerous spikelets, the basic flowering unit. Each spikelet is subtended by two basal glumes. Individual florets comprise the lemma (lower or outer bract), the palea (upper or inner bract), and the reproductive structures (e.g., ovary, anthers). Drooping Speargrass has a first glume that is narrow, slightly wider toward the base, and pointed toward the tip, 1.7 to 2.6 mm long. The second glume is slightly broader and lance-elliptic, 2.1 to 2.9 mm. The rest of the spikelet is made up of 2 to 4 florets



Drooping Speargrass. Photo: Jennifer Garrett, NHESP.

arranged in tight alternating rows. The lemmas of Drooping Speargrass are 2 to 3 mm long, firm, distinctly nerved, and smooth except for a tuft of webbing at the base. The lemmas have rounded to broadly acute tips that form angles, generally greater than 45°. The anthers are 0.4 to 0.9 mm long. Drooping Speargrass flowers in late spring to early summer; mature florets are present into July. Plants begin to senesce by midsummer.

**SIMILAR SPECIES:** Drooping Speargrass is similar in appearance to Woodland Speargrass (*Poa saltuensis* ssp. *saltuensis*) and may be differentiated by the shape of the lemma apex and the length of the flower anthers. As described above, the lemma of Drooping Speargrass has a broad apical angle. A scarious tip is usually absent, or if present it does not exceed 0.25 mm in length. Whereas the lemma of Woodland Speargrass is acute at the apex, the keel and lateral margins of the lemma form an apical angle generally less than 45°. The apex has a prominent scarious tip, 0.25 to 0.5 mm long. Woodland Speargrass also has longer anthers, 0.9 to 1.5 mm long.

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

## Massachusetts Division of Fisheries & Wildlife

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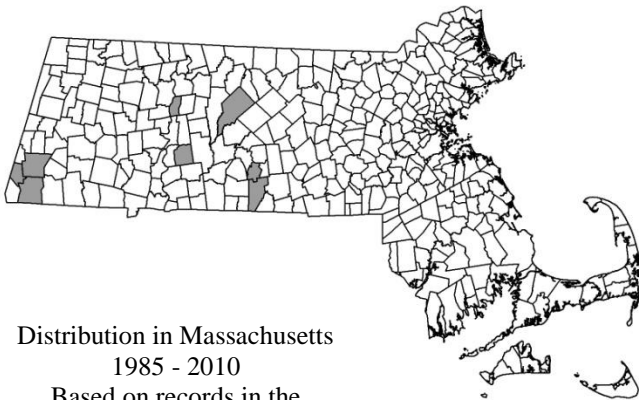
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**HABITAT:** Drooping Speargrass inhabits dry, rocky fertile soils derived from base-rich bedrock such as basalt, marble, or limestone. It typically occurs on slopes and ridge crests, within deciduous forests and woodlands characterized by various Oaks (*Quercus* spp.), Hickories (*Carya* spp.), Hop Hornbeam (*Ostrya virginiana*), White Ash (*Fraxinus americana*), Sugar Maple (*Acer saccharum*), and Basswood (*Tilia americana*). Flowering dogwood (*Cornus florida*), beaked hazelnut (*Corylus cornuta*), and Mapleleaf Viburnum (*Viburnum acerifolium*) may be scattered in the understory. Herbaceous associates include Thread-leaved Sedge (*Carex eburnea*), Bashful Club-sedge (*Scirpus verecundus*), Woodland-oatgrass (*Danthonia compressa*), and Bluestem Goldenrod (*Solidago caesia*). Rare associates include Yellow Oak (*Quercus muhlenbergii*; Threatened), Shining Wedgegrass (*Sphenopholis nitida*; Threatened), Handsome Sedge (*Carex formosa*; Threatened) and Devil’s-bit (*Chamaelireum luteum*; Endangered).

Speargrass to compete with other species. Habitats are susceptible to invasions of exotic plant species, which can out-compete native plants for nutrients and light, excluding them over time. Exotic species that can invade rich rocky sites include Japanese Barberry (*Berberis thunbergii*), Asiatic Bittersweet (*Celastrus orbiculatus*), Morrow Honeysuckle (*Lonicera morrowii*), swallowworts (*Cynanchum* spp.), and Canada Bluegrass (*Poa compressa*).

**MANAGEMENT RECOMMENDATIONS:** As with many rare species, the management needs of Drooping Speargrass are not fully known. Research and monitoring aimed at understanding the biology and population dynamics of Drooping Speargrass are warranted. Investigations of natural community characteristics, land use history, and soil fertility gradients are needed to determine the limiting factors at each site and active management needs. Drooping Speargrass habitat should be monitored for exotic invasive species. If exotic plants are invading Drooping Speargrass habitat, a plan for control should be constructed. All active management within the habitat of a rare plant population (including invasive species removal) is subject to review under MESA, and should be planned in close consultation with the Massachusetts Natural Heritage & Endangered Species Program.



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

**Mature florets present in Massachusetts**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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**RANGE:** Drooping Speargrass is found from Massachusetts and Vermont west to Minnesota, and south to Iowa, Illinois, Kentucky and North Carolina. It is rare throughout much of its range.

**THREATS:** Habitats on relatively flat terrain are vulnerable to development and intensive land uses. Activities such as off-road vehicle use or over-grazing may compact or disrupt the shallow rocky soils required for germination and growth of Drooping Speargrass. At certain sites, lack of small scale disturbance such as wind-throw or fire may limit the ability of Drooping

Updated 2015

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