



Natural Heritage & Endangered Species Program

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Spiked False Oats

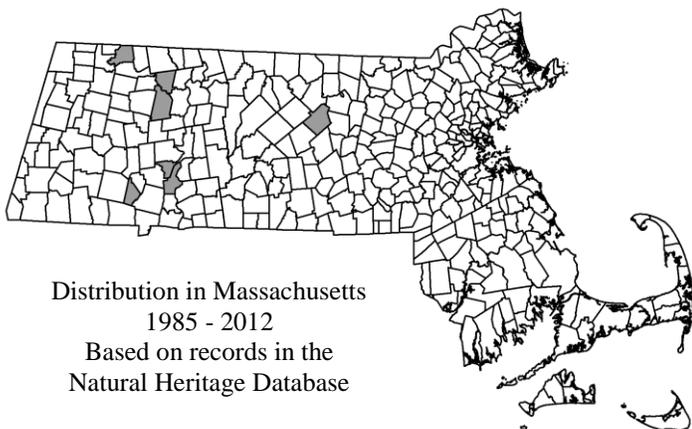
Trisetum spicatum (L.) Richter
State Status: Endangered
Federal Status: None

Description: Spiked False Oats is a caespitose (tufted), perennial species in the Grass family (Poaceae), found in a variety of open habitats from rocky summits to alluvial boulders. It has one to multiple culms, with dense spikes that are often pinkish-brown to purplish, and silvery or shiny. “*Trisetum*” means three (*tri*) bristles (*seta*), referring to the two setae and one awn at the apex of the lemma, a characteristic of this genus. The species name “*spicatum*” refers to the narrow, spike-like inflorescence.

Aids to Identification: A technical manual and hand lens or microscope should be used to identify this and other grass species. The culms of Spiked False Oats are 9 to 60 cm tall with a spiciform (spike-like), densely-flowered panicle that is 2.5 to 7 cm long. The panicle can appear somewhat interrupted at the base, with more distance between the lowest spikelets than the upper ones. Each culm has one to two nodes with flat, narrow leaves. The sheaths are usually glabrous but the stem below the panicle, the rachis, and the rachilla (axis of the spikelet) are densely hairy. The spikelets are 1 to 2 flowered. Each floret has a 3-nerved lemma, with the mid-nerve often scabrous. The setae originate above halfway up the back of the lemma. The awn is 3.5 to 5 mm long; it is curved, geniculate, or sometimes twisted, originating in the upper 1/3 of the lemma.



Spiked False Oats has narrow, spike-like inflorescences (top), with two setae and one awn at the apex of the lemma. This species can grow on bedrock outcrops with little soil (bottom). Photos by Jennifer Garrett.



Similar species: A similar, introduced species, Yellow False Oats (*T. flavescens*) can be differentiated by its looser panicles and somewhat wider leaves (2–6 mm) than those of Spiked False Oats. Yellow False Oats is also usually found in disturbed habitats such as fields and roadsides.

Flowering and Fruiting in Massachusetts

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

Population Status in Massachusetts: Spiked False Oats is listed under the Massachusetts Endangered Species Act as Endangered. All listed species are protected from killing, collecting, possessing, or sale, and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. Spiked False Oats is currently known in Franklin, Hampshire, Hampden, and Worcester Counties, and it occurred historically in Essex, Middlesex and Norfolk Counties. A population reported from Berkshire County could not be found during later surveys. This species is also listed as Endangered in New Hampshire, Pennsylvania, and North Carolina, Threatened in Wisconsin, and Special Concern in Connecticut.

Range: Spike False Oats has a circumboreal distribution; in North America, it occurs from the low arctic (boreal) to temperate zones. It is found from Greenland west across Canada and the northern United States, south along both the east and west coasts. It is not found in the southern and midwestern plains states.

Habitat: In Massachusetts, Spiked False Oats occurs in a variety of open, sunny locations on rocky summits, ledges, alluvial terraces and riverside boulders. It competes in dense herbaceous vegetation and also colonizes bare areas. Associated species in woodland edges and openings on rocky summits are Red Maple (*Acer rubrum*), Hickory (*Carya* spp.), Black Cherry (*Prunus serotina*), Black Chokeberry (*Aronia melanocarpa*), Deerberry (*Vaccinium stamineum*), Bush-honeysuckle (*Diervilla lonicera*), Poverty-grass (*Danthonia spicata*), Common Hairgrass (*Deschampsia flexuosa*), Downy Goldenrod (*Solidago puberula*) and White Wood Aster (*Eurybia divaricata*). On alluvial outcrops, it occurs with Witch-hazel (*Hamamelis virginiana*), Royal Fern (*Osmunda regalis* var. *spectabilis*), Interrupted Fern (*O. claytoniana*), Harebell (*Campanula rotundifolia*), and Wild Columbine (*Aquilegia canadensis*). Rare species growing with or near Spiked False Oats include Green Rock-cress (*Boechera missouriensis*) and New England Blazing Star (*Liatris scariosa* var. *novae-angliae*).

Threats and Management Recommendations:

Several populations of Spiked False Oats occur on open, rocky, exposed summits that have apparently been maintained in an early stage of succession by historical fires. In the absence of fire or other disturbances, increased shading by woody species may threaten these populations. Populations located in popular recreational areas may be damaged by heavy trail use, mowing, or other maintenance activities. Populations on outcrops and high cobble banks and ledges of rivers may be lost as a result of ice and flood scouring during high water, and by human alteration of water levels and flood regimes. Invasive species such as Swallowwort (*Cynanchum* spp.), Oriental Bittersweet (*Celastrus orbiculatus*) and Morrow's Honeysuckle (*Lonicera morrowii*) have been found growing in proximity to several populations of Spiked False Oats. Monitoring is needed to determine the extent to which populations of Spike False Oats are threatened by invasive species, and to develop management plans to reduce such threats. All active management of state-listed 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.

References and Additional Information:

- Finot, V. L., P. Peterson, R. J. Soreng, and O. Zuloaga. 2004. A Revision of *Trisetum* and *Grapphepaphorum* (Poaceae: Pooideae Aveninae) in North America North of Mexico. SIDA, Contributions to Botany.
- Randal, J. L., and K. W. Hilu. 1986. Biosystematic Studies of North American *Trisetum spicatum* (Poaceae). Systematic Botany 11: 567-578.
- Penskar, M.R., and S.R. Crispin. 2009. Special species abstract for downy oat-grass (*Trisetum spicatum*). Michigan Natural Features Inventory, Lansing, MI.

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