Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

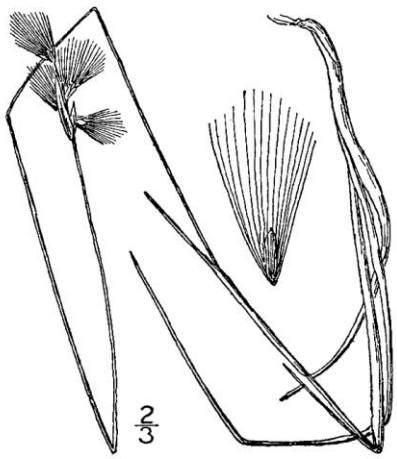
Massachusetts Division of Fisheries & Wildlife

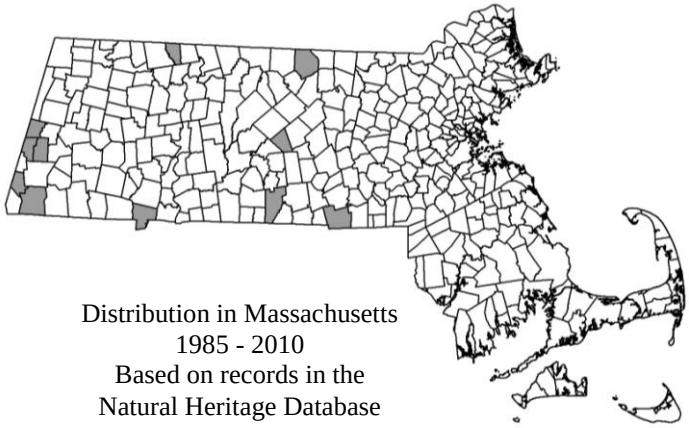
Slender Cotton-grass
Eriophorum gracile
W.D.J. Koch

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: Slender Cotton-grass, a narrow-stemmed, grass-like perennial in the Sedge family (Cyperaceae), is topped by a cluster of white, bristly inflorescences that resemble tufts of wool when seen from a distance. In fact, the genus name comes from the Greek words *erion* and *phorus*, meaning "wool" and "bearing" respectively. The weak, unbranched, 2-6 dm (8 - 24 in.) long stems are roughly circular in cross-section and rise from a creeping rhizome (underground horizontal stem).

Slender Cotton-grass' narrow blades are 1-2 mm (1/25 - 2/25 in.) wide, and the uppermost is shorter than its sheath (the lower portion of a leaf that envelops the stem). There is one erect, foliaceous bract (modified leaf associated with an inflorescence) that is shorter than the inflorescence and, usually, blackish at its base. Cotton-grass' wooly inflorescences occur as 2-5 spikelets (arrangements of reduced, stalkless flowers and bracts on an unbranched axis). Bristles are fully developed from early June to early July. The three-sided achenes (dry, one-seeded fruits) are brown and 2.5-3.5 mm (3/25 - 4/25 in.) long.





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

Photo: Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA NRCS. 1992. *Western wetland flora: Field office guide to plant* species. West Region, Sacramento.
Illustration: USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols. Charles Scribner's Sons, New York. Vol. 1: 324.

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

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.
www.mass.gov/nhesp

SIMILAR SPECIES: Plants that may be mistaken for Slender Cotton-grass include various other species of *Eriophorum*. Rough Cotton-grass (*E. tenellum*) can be distinguished by its uppermost leaf, the blade of which equals or exceeds its sheath in length. Both Tawny Cotton-grass (*E. virginicum*) and Fen Cotton-grass (*E. viridicarinatum*) have two or three foliaceous bracts, in contrast to the one of Slender Cotton-grass. Finally, Tussock Cotton-grass (*E. vaginatum*) has only one spikelet and no foliaceous bracts.

HABITATS IN MASSACHUSETTS: Slender Cotton-grass is a plant of swamps and peatlands. Habitats in Massachusetts include acidic and calcareous fens (peatlands that receive nutrients from groundwater) and portions of seepage swamps. Regularly associated species include. Regularly associated species include Leatherleaf (*Chamaedaphne calyculata*), multiple species of sedges (*Carex* spp.), and Three-way Sedge (*Dulichium arundinaceum*) growing on Sphagnum moss, often with nearby Broad-leaved Cattails (*Typha latifolia*) and other species of marshes. In calcareous sites, regular associates include Shrubby Cinquefoil (*Dasiphora floribunda)*.

RANGE: Slender Cotton-grass is a circumboreal species. In North America, the documented range of Slender Cotton-grass extends from Newfoundland to British Columbia, south to Pennsylvania, Indiana, Iowa, Colorado and California.

POPULATION STATUS: Slender Cotton-grass is listed under the Massachusetts Endangered Species Act as Threatened. 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. NHESP documents eleven current (1985-2010) occurrences and nineteen historical sites where the species is no longer found. One reason for its rarity in Massachusetts is because it is near the southern edge of its range. It is considered rare in many of the states on the southern edge of its distribution. Globally, Nature Serve ranks Slender Cotton-grass as G5, Secure.

MANAGEMENT AND THREATS: Peatland species such as Slender Cotton-grass depend on the sites receiving water of consistent quantity and quality. Degradation or interruption of water supplies could lead to habitat degradation, threatening the species. Competition from non-native invasive species can be a threat through shading and loss of space for native species. Monitoring and removal of competing vegetation should be considered as a management strategy where appropriate. 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.

REFERENCES:

NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: December 10, 2010).

USDA, NRCS. 2010. The PLANTS Database (http://plants.usda.gov, 10 December 2010). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Updated 2015

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

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.
www.mass.gov/nhesp