# Natural Heritage & Endangered Species Program

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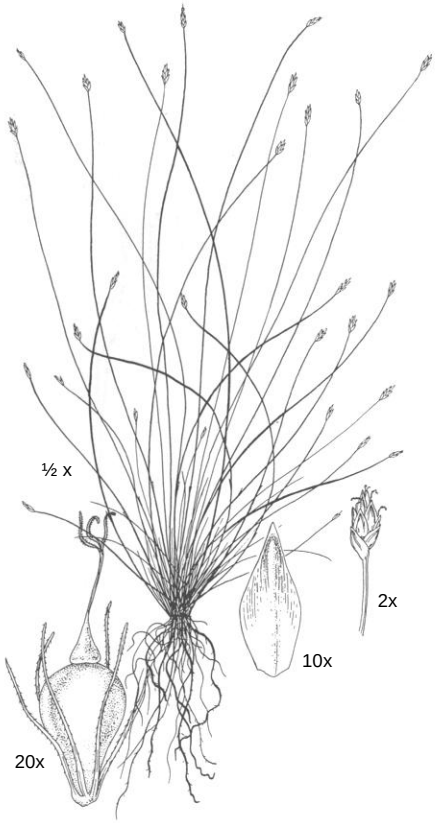
*Massachusetts Division of Fisheries & Wildlife*

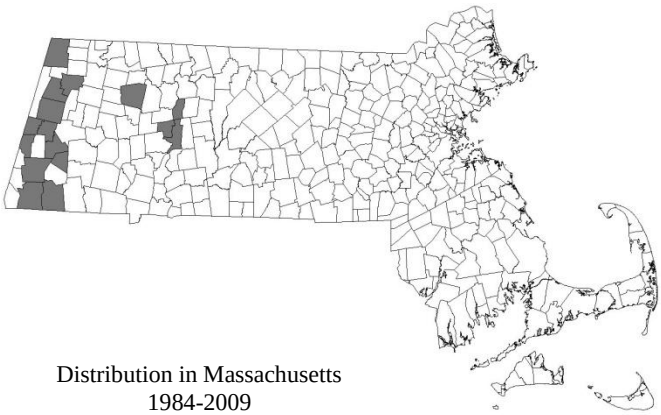
# Matted Spike-sedge
## *Eleocharis intermedia*
**Schult.**

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

**DESCRIPTION:** The Matted Spike-sedge (*Eleocharis intermedia*) is a small (from about 2 to 10 inches tall or 5-25 cm), densely tufted, annual herb with thin, wiry stems. Although the Matted Spike-sedge and the other spike-sedges (also called spike-rushes) superficially resemble the group of plants called "rushes," they do not belong to the Rush Family, and are actually members of the Sedge Family. The spike-sedges have a single, tight cluster of inconspicuous flowers (a "spike") at the apex of each stem. The stems of spike-sedges appear leafless, and in fact these plants do not have leaf blades (the expanded part of the leaf), only leaf sheaths (the part which surrounds the stem). The Matted Spike-sedge has very slender, round stems with a groove running up them. The stems are usually all clumped together in somewhat of a mat, with some stems reclining horizontally and some standing erect. The stems within a mat are typically of different lengths.




Holmgren, N.H. *The Illustrated Companion to Gleason and Cronquist's Manual*. New York Botanical Garden.



Distribution in Massachusetts
1984-2009
Based on records in
Natural Heritage Database

**AIDS TO IDENTIFICATION:** To positively identify the Matted Spike-sedge and other spike-sedges (genus *Eleocharis*), a technical manual should be consulted. It is usually necessary to look at the tiny fruits of the plant under magnification to distinguish the species of spike-sedge. Members of this genus possess a type of fruit called an "achene," which is hard and nut-like and does not split open to release its single seed. Achenes in the spike-sedges are topped by a protuberance (called a

"tubercle"), which varies in shape, size, and texture among species.

The tiny achene (only about 1 mm wide) of the Matted Spike-sedge matures in mid- to late summer, and is light brown to pale olive or yellow in color. It is three-sided, and appears smooth under a hand lens (slightly bumpy under a microscope). The tubercle is relatively narrow in this species and looks something like a small dunce's cap on top of the achene.

**SIMILAR SPECIES:** There are many common spike-sedges or spike-rushes that could be confused with the Matted Spike-sedge. A common spike-sedge with very slender stems that forms mats or carpets is the Needle Spike-rush (*Eleocharis acicularis*). It is distinguished from the Matted Spike-sedge by having a long, gray achene that is roundish in cross-section, rather than strongly triangular. The Slender Spike-rush (*Eleocharis tenuis*) is thin-stemmed, but the stems are usually 4- to 8-angled (instead of round) and are scattered or only loosely clustered. The achenes of the Slender Spike-rush are rough or pitted in appearance when observed under a hand-lens. The Soft-stemmed Spike-rush (*Eleocharis obtusa*), a common associate, is another tufted annual that differs from the Matted Spike-sedge in having lens-shaped achenes (instead of triangular) and in its more robust appearance. Its stems are usually taller and thicker than the delicate, thread-like stems of the Matted Spike-sedge.

**RANGE:** The Matted Spike-sedge can be found from Quebec to Minnesota, south to West Virginia, Tennessee, and Iowa.

**HABITAT:** The Matted Spike-sedge is typically found in marshes, fresh water mudflats, or in other wet areas with muddy substrates. In Massachusetts, this plant is found on muddy, alkaline river banks and pond shores, usually during periods of low water when mud is exposed. Plants found in association with the Matted Spike-sedge in Massachusetts include False Pimpernel (*Lindernia dubia*), Nodding Bur-marigold (*Bidens cernua*), Rice Cut-grass (*Leersia oryzoides*) and Soft-stemmed Spike-sedge (*Eleocharis obtusa*).

**POPULATION STATUS IN MASSACHUSETTS:** The Matted Spike-sedge 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. This species is reported from the western half of the State in Berkshire, Franklin, and Hampshire counties.

**MANAGEMENT RECOMMENDATIONS:** As for many rare species, exact needs for management of Matted Spike-sedge are not known. The following comments are based primarily on observations of populations in Massachusetts. Because this plant occurs in freshwater marsh mud-flats or muddy soils, proximity to a freshwater source such as a river, pond, or stream is necessary. Regular fluctuation in water level appears to benefit the species, which can be found on exposed mud during low-water years. Low-level disturbance provided by gentle wave action and/or regular flooding is important to maintain the relatively open, muddy conditions in which the Intermediate Spike-sedge thrives.

**Mature Fruit Present**

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