



## Natural Heritage & Endangered Species Program

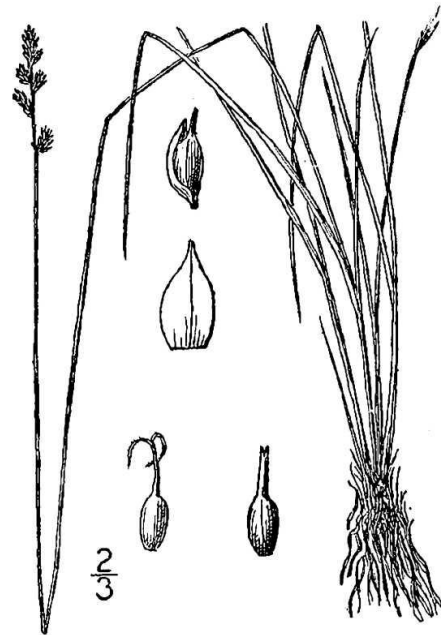
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Massachusetts Division of Fisheries & Wildlife

## Dioecious Sedge *Carex sterilis* Willd.

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

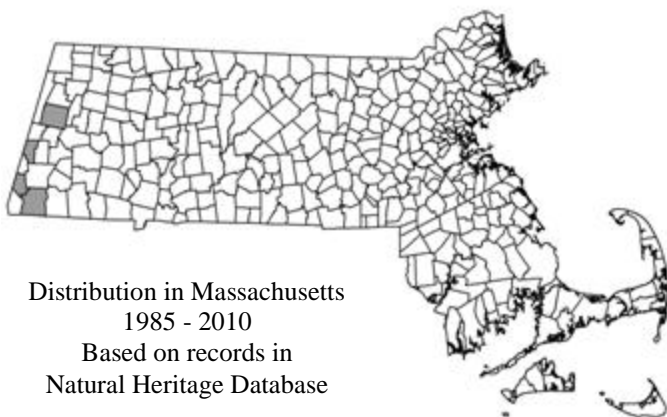
**GENERAL DESCRIPTION:** Dioecious Sedge is an erect, slender, grass-like perennial in the Sedge family (Cyperaceae). Like most members of the Cyperaceae, it lacks showy floral parts. Its stiff culms, or stems, rise in dense clumps from short, horizontal, underground stems. These culms grow to between 1 and 7 dm (1/3 - 2 1/2 ft.) in height and are aphyllopodic (with the lowermost leaves reduced to scale-like structures). Leaves are 1-2.5 mm (0.04 - 0.1 in.) wide and are rough to the touch on their upper surface. Three to five of these pleated leaves grow from each culm. Dioecious Sedge's name comes from its reproductive habits -- an individual plant generally has flowers that are only of one sex. Dioecious plants have unisexual flowers in which the male and female flowers are borne on separate plants. Some plants may have a few flowers of the opposite sex; hence, the species is described as "subdioecious"--or almost dioecious. Dioecious Sedge typically has four stalkless spikes (clusters of much-reduced, stalkless flowers arranged on an unbranched axis). However, its plump, dark reddish-brown perigynia (sac-like membranes that enclose the female reproductive structures) are 2.1-3.8 mm (0.08 - 0.15 in.) in length and bidentate (two-toothed) at the apex. In addition, the perigynia are thick and spongy at the base.



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: 377.

**SIMILAR SPECIES:** Inland Sedge (*Carex interior*) often occupies the same habitat as Dioecious Sedge (i.e., moist to wet calcareous areas) and could be mistaken for it. Nevertheless, the anthers (pollen-bearing parts of the stamens) of Dioecious Sedge can be quite long--up to 2.2 mm (0.09 in.). Those in Inland Sedge are smaller--only 0.6-1.4 mm (0.02 - 0.06 in.) long. Also, in contrast to the chestnut-colored perigynia of Dioecious Sedge, the perigynia of Inland Sedge are green to tan.

**HABITAT:** Dioecious Sedge is a plant of moist to wet calcareous areas, including fens, shores of calcareous rivers or lake, and calcareous swamps. In Massachusetts, habitats include open portions of calcareous fens (natural communities where cold, calcium-rich, nutrient-poor water seeps to the surface) and a sloping seepage area



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

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

## Massachusetts Division of Fisheries & Wildlife

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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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next to a calcareous fen. Associated plant species include Grass-of-Parnassus (*Parnassia glauca*), Shrubby Cinquefoil (*Dasiphora floribunda*), Rough-leaved Goldenrod (*Solidago patula*), Fen Goldenrod (*Solidago purshii*), Brook Lobelia (*Lobelia kalmii*), Autumn Willow (*Salix serissima*), Yellow Sedge (*Carex flava*), Bristle-stalked Sedge (*Carex leptalea*), Meadow Sedge (*Carex granularis*) and Marsh Muhly (*Muhlenbergia glomerata*).

**RANGE:** The documented range of Dioecious Sedge extends from Newfoundland to Saskatchewan and south to Pennsylvania, West Virginia, Tennessee, Illinois and Missouri.

**POPULATION STATUS IN MASSACHUSETTS:** Dioecious Sedge is currently listed as Threatened in Massachusetts. There are seven current stations (discovered or relocated since 1978) and one historical station (unverified since 1978). Dioecious Sedge is also considered rare in Connecticut, Maine, New Jersey, Pennsylvania, Ohio, Missouri, Minnesota and North Dakota. (All these states are at the edges of its range; only in the central portion of its range is Dioecious Sedge common.) It was present historically in Rhode Island. Reasons for the plant's rarity include its highly restricted habitat and the destruction and alteration of its habitat. NatureServe ranks Dioecious Sedge as Apparently Secure, G4.

## **THREATS AND MANAGEMENT**

**RECOMMENDATIONS:** Competition from non-native invasive species can be a threat to Dioecious Sedge, especially in disturbed habitats. 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.

Threats include changes in water quality and quantity and other degradation of habitat. Beaver flooding has the benefit of discouraging woody vegetation and keeping the area open, but also can flood out Dioecious Sedge. 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.

## **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 6, 2010 ).
- USDA, NRCS. 2010. The PLANTS Database (<http://plants.usda.gov>, 6 December 2010). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

*Updated 2015*

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