



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Schweinitz's Sedge *Carex schweinitzii*

Dewey ex Schwein.

State Status: **Endangered**

Federal Status: **None**

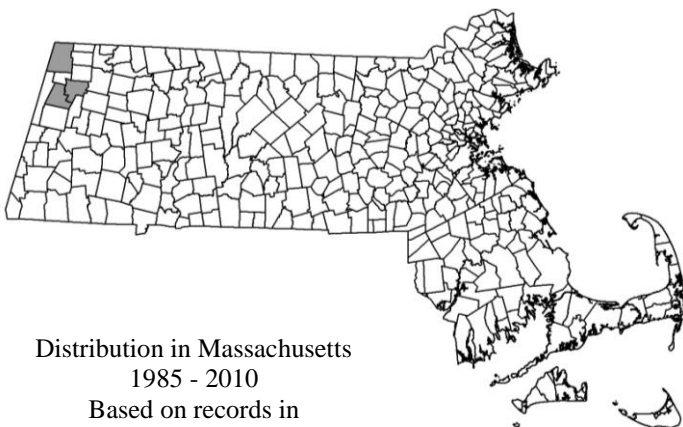
GENERAL DESCRIPTION: Schweinitz's Sedge is a globally rare perennial sedge (family Cyperaceae) of cool, open, calcareous wetlands. It is a sedge of the *Carex* group Vesicariae (blister sedges); like other members of this group, it has inflated perigynia arranged in a cylindrical spike. Schweinitz's Sedge is a colonial species, with reproductive stems arising along an elongate rhizome, rather than in tufts as in similar species. Though it can reach 65 cm (~25.5 in) in height, the plant tends to be shorter in stature at known Massachusetts populations (~30 to 45 cm). The leaves are 4 to 11 mm wide, and the leaf sheaths at the base of the plant are brownish.

AIDS TO IDENTIFICATION: Sedges of the genus *Carex* have small unisexual wind-pollinated flowers borne in spikes. The staminate (male, pollen-bearing) flowers are subtended by a single flat scale; the pistillate (female, ovule-bearing) flowers are subtended by one flat scale (the carpellate scale) and are enclosed by a second sac-like modified scale, the perigynium. Following flowering, the achene (a dry, indehiscent,



Top photo: Plant habit, female and male spikes
Lower photo: Close-up of female spike showing long-awned carpellate scales
Photos by Jennifer Garrett, NHESP

one-seeded fruit) develops within the perigynium. These characters are important in determining the species identification of *Carex* spp. The inflorescence of Schweinitz's Sedge is made up two to five densely flowered elongate pistillate spikes, and typically one staminate spike, which is terminal. The carpellate scales



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

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

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have a long rough-edged awn; the staminate scales are pointed at the tip but do not have a long awn. The perigynia have two distinct teeth and seven to nine lengthwise nerves. The bracts at the base of the inflorescence are leaf-like and long, extending beyond the terminal spike. The achene is trigonous with a persistent style.

SIMILAR SPECIES: Schweinitz's Sedge is most similar to the species in Vesicariae with long-awned carpellate scales, specifically Bailey's Sedge (*Carex baileyi*; Threatened), Sallow Sedge (*Carex lurida*), and Porcupine Sedge (*Carex hystericina*). Unlike Schweinitz's Sedge, these three species are tufted, growing in definable clumps; also, each of these species has at least some rough-awned staminate scales, and all have reddish-purple basal leaf sheaths. Porcupine Sedge, a calciphile that often co-occurs, and sometimes hybridizes with Schweinitz's Sedge, can be further differentiated from the rarer sedge by its greater number of perigynium nerves (i.e., 13 to 21).

HABITAT: Schweinitz's Sedge inhabits a variety of open calcareous seepy or marshy wetlands, such as wet meadows, fens, and marshy sites adjacent to streams and rivers. Associated species include Sallow Sedge (*Carex lurida*), Hairy-fruited Sedge (*C. trichocarpa*; Threatened), Porcupine Sedge, Lakeside Sedge (*C. lacustris*), Yellow Sedge (*C. flava*), Marsh Fern (*Thelypteris palustris*), Rough-leaved Goldenrod (*Solidago patula*), Shrubby Cinquefoil (*Dasiphora floribunda*), Speckled Alder (*Alnus incana* ssp. *rugosa*), and willows (*Salix* spp.).

RANGE: Schweinitz's Sedge is known from Connecticut, Massachusetts, Michigan, New Jersey, New York, Ontario, Pennsylvania, Vermont, Virginia, and Wisconsin, and is presumed extirpated from Missouri and Rhode Island. This sedge is of conservation concern throughout its range.

POPULATION STATUS IN MASSACHUSETTS: Schweinitz's Sedge is listed under the Massachusetts Endangered Species Act (MESA) as Endangered. All listed species are legally protected from killing, collection, possession, or sale, and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. This species has been documented in Massachusetts only from Berkshire County.

THREATS: A primary threat to Schweinitz's Sedge is degradation of habitat quality due to invasive plant incursions; exotic plants such as Common Reed (*Phragmites australis* ssp. *australis*), Purple Loosestrife (*Lythrum salicaria*), and water-cresses (*Nasturtium* spp.) are common invaders of rich, open, marshy sites in Berkshire County. These species effectively out-compete native herbaceous plants, over-topping them, casting shade, and dominating resources. Changes to the hydrologic regime are also a threat; at one location a beaver dam resulted in the inundation of Schweinitz's Sedge habitat. Lastly, off-highway vehicle access of the habitat poses a serious threat, as the soil can be severely disturbed or compacted, and the rare sedge can be physically damaged.

MANAGEMENT RECOMMENDATIONS: Monitor the habitat of Schweinitz's Sedge for competition from invasive plants and aggressive, over-shading native woody plants. If necessary, a vegetation control plan should be constructed. Also monitor and report signs of beaver activity. Access of the habitat by off-highway vehicles should be prohibited. 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.

MATURE PERIGYNIA PRESENT:

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

Updated 2015

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