



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Chestnut-colored Sedge *Carex castanea* Wahlenb.

State Status: **Endangered**
Federal Status: **None**

GENERAL DESCRIPTION: Chestnut-colored Sedge, a member of the Sedge family (Cyperaceae), is a perennial, herbaceous, grass-like plant of calcareous seeps, fens, and wet meadows. Typically forming loose clusters of stems, the plant reaches a height of 30-90 cm (11-35 in.) tall and is purple-tinged at its base.

AIDS TO IDENTIFICATION: To identify Chestnut-colored Sedge and other members of the genus *Carex*, a technical manual should be consulted. Species in this genus have tiny, wind-pollinated flowers that are borne in spikes. Each flower is unisexual, and is closely subtended by small scales that largely conceal the flowers. The staminate (*i.e.*, pollen-bearing) flowers are subtended by a single scale. The pistillate (*i.e.*, ovule-bearing) flowers are subtended by two scales, an outer flat scale (“pistillate scale”) and an inner, sac-like scale, called a “perigynium,” that encloses the flower, and later, the achene (a small, hard seed-like fruit). If the perigynium tapers or contracts to a tip, it is described as a “beak.”

The fruiting stems of the Chestnut-colored Sedge are longer than the leaves, which are 3-6 mm (0.1-0.2 in.) wide and softly pubescent (hairy). The uppermost spike is staminate. The lateral, pistillate spikes are narrowly



Holmgren, Noel H. *The Illustrated Companion to Gleason and Cronquist's Manual*. NY Botanical Garden. 1998.

cylindric and droop from long, slender stalks (peduncles). The pistillate scales, for which the plant is named, are tinged with a chestnut-brown color. The perigynia are red-dotted, lance-shaped, and smooth with two prominent ribs and several fine veins. The perigynia taper to a short, minutely two-toothed beak that is half as long as the body. Achenes are three-sided with concave sides.

SIMILAR SPECIES: In Massachusetts, the Chestnut-colored Sedge is quite distinct in having the following combination of features: hairy leaves, drooping pistillate spikes, and entirely staminate terminal spikes. Other rare sedges of calcareous areas that may be confused with the Chestnut-colored Sedge are Davis' Sedge (*C. davisii*; Endangered) and the Handsome Sedge (*C. formosa*; Threatened), which also have drooping pistillate spikes, pubescent leaves, and red-dotted perigynia. However, in these two sedges, the terminal spike bears *both* staminate



Distribution in Massachusetts
1984-2009
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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flowers (usually evident as empty-looking scales at the base of the spike) and pistillate flowers.

HABITAT: Chestnut-colored Sedge is found in calcareous seeps within wet meadows, deciduous or mixed forests, and along river and pond shores. It is capable of tolerating disturbance and is often found in transitional habitats, such as in forest edges next to open land. The known occurrences in Massachusetts are in a seepage marsh at the edge of an artificial pond and in open, calcareous wet meadows. Typically associated with this species are other sedges, including Marsh-sedge (*C. lacustris*), Panicked Sedge (*C. diandra*), Inland Prickly Sedge (*C. interior*), Porcupine Sedge (*C. hystericina*), Awl-fruited Sedge (*C. stipata*), and Yellow Sedge (*C. flava*). Other associates include willows, such as Autumn Willow (*Salix serissima*), Hoary Willow (*S. candida*), and Long-beaked Willow (*S. bebbiana*). Other species documented to occur with Chestnut-colored Sedge in Massachusetts include Sugar Maple (*Acer saccharum*), Old Field Cinquefoil (*Potentilla simplex*), Steeple-bush (*Spiraea tomentosa*), Sensitive Fern (*Onoclea sensibilis*), and Marsh Fern (*Thelypteris palustris*).

RANGE: The documented range of Chestnut-colored Sedge extends from Newfoundland west to Manitoba, south to Connecticut, and west to Michigan and Minnesota. It is disjunct from the rest of its range in Tennessee.

POPULATION STATUS IN MASSACHUSETTS: Chestnut-colored Sedge 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. Chestnut-colored Sedge was first discovered in Massachusetts in 1984. The nine known stations are all in Berkshire County. Massachusetts is at the southern extent of Chestnut-colored Sedge's range. The sedge is believed to be rare in the state because it prefers cooler northern climates and calcareous soils that are not plentiful in the Commonwealth.

MANAGEMENT RECOMMENDATIONS: As for many rare species, exact needs for management of Chestnut-colored Sedge are not known. The following comments are based primarily on observations of the population in Massachusetts. The Massachusetts populations are found growing in full light. Hand-clearing of woody vegetation that creates shade may be necessary to maintain the populations. In particular, woody non-native species, such as shrubby honeysuckles (*Lonicera* spp.) and buckthorns (*Rhamnus* spp.), should be removed due to their aggressive growth and potential for shading.

MATURE PERIGYNIA PRESENT:

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

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