



## Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

## Engelmann's Flatsedge *Cyperus engelmannii* Steudel

State Status: **Threatened**

Federal Status: **None**

**DESCRIPTION:** Engelmann's Flatsedge is an annual member of the Sedge family (Cyperaceae) found on pond shores and disturbed muddy areas. It stands 10 to 50 cm (4–20 in.) tall, with leaves that are 2 to 10 mm wide, 5 to 30 cm long, and V- or M-shaped in cross-section. The species is named for German-American botanist George Engelmann (1809-1884).

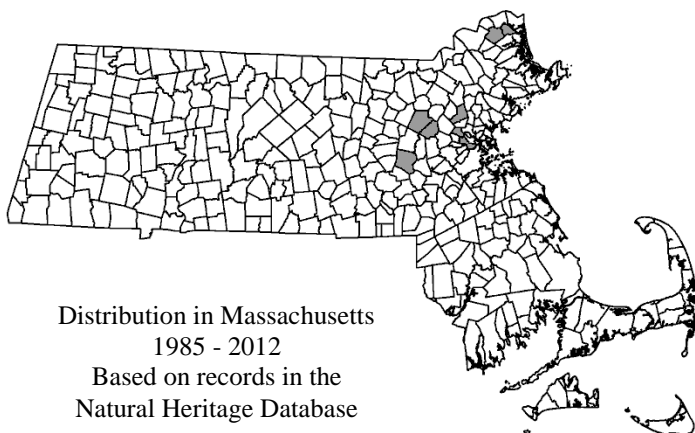
**AIDS TO IDENTIFICATION:** Identification of species in the genus *Cyperus* can be difficult, and a technical manual should be consulted. Like other *Cyperus* species, Engelmann's Flatsedge has "spikelets" comprised of elongate clusters of small, inconspicuous flowers and subtending scales. The flowers and scales are arranged in two vertical rows along the axis of the inflorescence, giving the flowering stems a flattened appearance. Engelmann's Flatsedge is one of a few annual *Cyperus* species with three-cleft styles and three-sided achenes (dry, one-seeded fruits). Annuals can be recognized by their soft stem bases and fibrous root systems, lacking the underground nutrient-storing structures (rhizomes, tubers, or corms) and firm stem bases characteristic of perennials. The floral scales of



*Engelmann's Flatsedge is an annual species found along pond shores; its spikelets have appressed scales that do not overlap.* Photo by Anton Reznicek

Engelmann's Flatsedge are appressed (not outcurved at the tips), have seven or more nerves, are generally 2 to 2.8 mm long, and do not overlap (the tip of each scale does not reach the base of the next scale on the same side of the spikelet).

**SIMILAR SPECIES:** The two species most likely to be confused with Engelmann's Flatsedge are Straw-colored Flatsedge (*Cyperus strigosus*) and Saltmarsh Flatsedge (*C. odoratus*). Straw-colored Flatsedge is a common, short-lived perennial without well-developed rhizomes; it sometimes flowers in its first year, and may be mistaken for an annual. Its stems usually have a swollen, corm-like base, and it has longer floral scales (usually 3.2–4.5 mm) than Engelmann's Flatsedge or Saltmarsh Flatsedge. In addition, mature spikelets of the latter two species disarticulate into segments, whereas those of Straw-colored Flatsedge disarticulate from the base and fall from the plant in one piece. Saltmarsh Flatsedge, which is on the Massachusetts Watch List, has floral scales that overlap and achenes that are shorter



**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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(avg. 1.2 mm) than Engelmann's Flatsedge (1.8 mm). The floral scales of Saltmarsh Flatsedge are also often papery in texture, whereas they are leathery in Engelmann's Flatsedge.

**POPULATION STATUS IN MASSACHUSETTS:**

Engelmann's Flatsedge 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. Engelmann's Flatsedge occurs in Middlesex and Essex Counties.

**RANGE:** Engelmann's Flatsedge occurs from Minnesota to Massachusetts, south to Nebraska, Tennessee, and Virginia. It is listed as Rare in Pennsylvania, Threatened in Massachusetts, and Special Concern in Tennessee.

**HABITAT:** Most occurrences of Engelmann's Flatsedge in Massachusetts are along wet pond shores, which may be muddy, sandy, or pebbly. It also is found on the muddy tidal shores of the Merrimack River, and in one case in the soft, black mud of a pond bottom. It often grows along with other, more common, *Cyperus* species, including Straw-colored Flatsedge.

**THREATS AND MANAGEMENT**

**RECOMMENDATIONS:** As for many rare species, exact needs for management of Engelmann's Flatsedge are not known. Trampling and invasive exotic plants have been noted at some sites where this species occurs in Massachusetts. Alteration of hydrological conditions may threaten existing populations. 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.

**Fruiting in Massachusetts**

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

**REFERENCES:**

Gleason, H. A., and A. Cronquist. 1991. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*, 2<sup>nd</sup> edition. The New York Botanical Garden, Bronx, NY.

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Mears, R. L., and G. W. Libby. 1995. New Records of *Cyperus* (Cyperaceae) from Kentucky. *Castanea* 60: 79–82.

*Michigan Flora Online*. A. A. Reznicek, E. G. Voss, & B. S. Walters. February 2011. University of Michigan. <http://michiganflora.net/information.aspx>

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