



Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

Long's Bulrush *Scirpus longii* Fern.

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

DESCRIPTION: Long's Bulrush (*Scirpus longii*) is a globally rare, robust sedge (family Cyperaceae) of open peaty wetlands. It has numerous slender leaves, a thick rhizome, and a graceful, arching inflorescence.

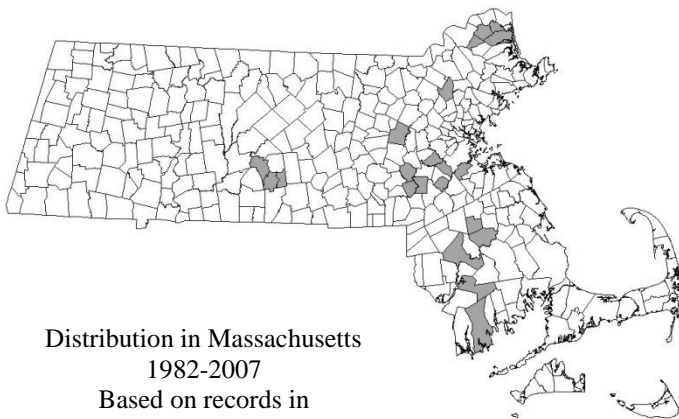
AIDS TO IDENTIFICATION: Long's Bulrush forms dense, leafy tussocks with long, linear leaves 0.25 to 0.5 inch (0.6–1.3 cm) in width, and stems up to 5 feet (1.5 m) in height. It produces thick, fibrous underground rhizomes 0.5 to 1 inch (1.3–2.5 cm) in width, and often reproduces asexually, forming colonies in a ring formation. Long's Bulrush will flower following a physical stress, such as herbivory damage, drought, fire, or flooding. The inflorescence is an arching panicle made up of as many as 1,000 spikelets (flowering heads). The base of the panicle is blackish and usually sticky to the touch. The spikelets are 0.3 inch (0.8 cm) in length, and usually composed of more than 60 flowers. The flowers produce tiny, reddish-brown achenes (one-seeded fruits) that are partially covered by blackish scales. At the base of the achenes, there are six long bristles that give the spikelets a hairy or woolly appearance at maturity.



Crow, G.E. 1982. *New England's Rare, Threatened, and Endangered Plants*. U.S. Department of the Interior, Fish and Wildlife Service, Northeast Region.

SIMILAR SPECIES: Long's Bulrush is similar in appearance to Common Bulrush (*Scirpus cyperinus*), which is very widespread and may be present with Long's Bulrush. Long's Bulrush is differentiated from Common Bulrush by its thicker rhizome, the blackish basal inflorescence, and the ring formation of its basal leaves. Common Bulrush has a rhizome that is 0.25 inch (0.6 cm) thick, a pale brown or greenish basal inflorescence, and its basal leaves have a clump (rather than ring-like) formation.

HABITAT IN MASSACHUSETTS: Long's Bulrush inhabits open, peaty wetlands with fluctuating water levels. In Massachusetts, Long's Bulrush is known to occur in acidic fen and wet meadow communities associated with rivers. Associated species include Slender Woolly-fruited Sedge (*Carex lasiocarpa* var. *americana*), Canada Bluejoint (*Calamagrostis canadensis*), Marsh-cinquefoil (*Comarum palustre*), Virginia Chain-fern (*Woodwardia virginica*), Large Cranberry (*Vaccinium macrocarpon*), Tawny Cotton-



Distribution in Massachusetts
1982-2007
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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grass (*Eriophorum virginicum*), Common Bulrush (*Scirpus cyperinus*), Button-sedge (*Carex bullata*), Twig-sedge (*Cladium mariscoides*), Canada Rush (*Juncus canadensis*), Bog-willow (*Salix pedicellaris*), Leatherleaf (*Chamaedaphne calyculata*), and Red Maple (*Acer rubrum*).

THREATS: Threats to Long’s Bulrush include changes in the water quality and the natural fluctuating hydrologic regime of its habitat, invasion by exotic invasive plants, and exclusion of fire disturbance.

RANGE: The limited range of Long’s Bulrush includes Maine, New Hampshire, Massachusetts, Rhode Island, and New Jersey. It is rare in each state where it is known to occur, and is presumed to be extirpated from Connecticut and New York.

POPULATION STATUS IN MASSACHUSETTS:

Long’s Bulrush is listed under the Massachusetts Endangered Species Act as Threatened. 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. Long’s Bulrush is currently known from Bristol, Essex, Middlesex, Plymouth, and Worcester Counties, and is historically known from Suffolk County.

MANAGEMENT RECOMMENDATIONS: As with many rare species, the exact management needs of Long’s Bulrush are not known. It is known, however, that Long’s Bulrush spreads primarily through asexual reproduction via rhizomes, and that fertile culms are only typically produced following a major environmental stress, such as unusually high or low water levels, heavy muskrat herbivory, and fire. Production of wind-dispersed seeds is a desired outcome in management because it enhances the ability of the species to colonize other suitable habitat sites. Though it has been proven that mechanical disturbance (i.e., trampling, and damaging leaves) to Long’s Bulrush can bring about flowering, seedling establishment has been low or absent at sites that have not been burned. It appears that burning prepares an optimal seed bed, with a reduction in organic substrate and an absence of woody competitors, and thus results in greater success in sexual reproduction. It is expected that the application of highly controlled experimental fires could provide the conditions necessary to elicit flowering and seedling

establishment. However, very little is known about the practical application of prescribed burning to manage Long’s Bulrush populations. All such active management should be preceded by a site evaluation, which may include examination of fire history (e.g., from sediment charcoal), and an assessment of the natural community attributes (e.g., hydrologic regime, soils, associated plant community).

Monitoring populations of Long’s Bulrush is important, especially when environmental changes, such as dramatic flooding or fire, take place. In addition, habitat sites should be monitored to catch invasions of exotic plant species in the early stages. Species of concern in Long’s Bulrush habitat include Common Reed (*Phragmites australis* ssp. *australis*), Glossy Buckthorn (*Frangula alnus*), and Purple Loosestrife (*Lythrum salicaria*).

To avoid inadvertent harm to rare plants, all active management of rare plant populations (including invasive species removal) should be planned in consultation with the Massachusetts Natural Heritage and Endangered Species Program.

Fruiting time in Massachusetts

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

Updated 2015

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