



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

New England Northern Reed Grass *Calamagrostis stricta* (Timm) Koeler ssp. *inexpansa* ((A. Gray) C.W. Greene

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

DESCRIPTION: New England Northern Reed Grass is a member of the Grass family (Poaceae) that occurs in a variety of moist, open habitats. This subspecies grows to a height of 0.3 to 1.5 m, with long, narrow leaves that are flat, often stiff, and rough to the touch. The spike-like, dense flower clusters are typically 6-20 cm long. This perennial species produces rhizomes, and may be found growing as solitary stems or forming close clusters.

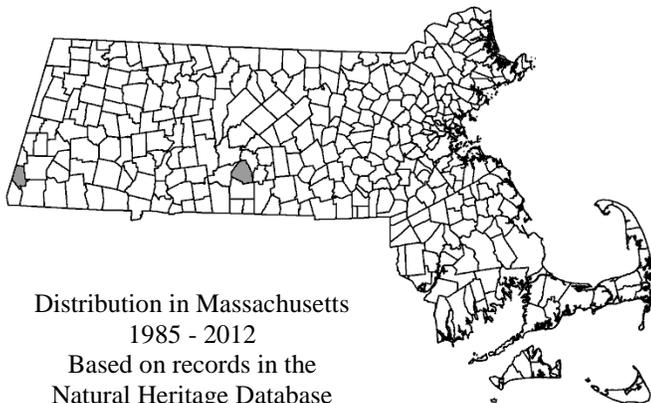
AIDS TO IDENTIFICATION: Identification of New England Northern Reed Grass requires use of a technical manual and a hand lens or microscope. In grasses, the basic flowering unit is a spikelet, which consists of one or more flowers (florets) that are typically subtended by a pair of bracts (glumes). The stamens and pistil are found between a pair of bracts called the lemma and palea. In *Calamagrostis stricta*, the glumes are longer than the lemma, and the lemma has a stiff bristle (awn) at its tip that may be twisted and bent, or straight, and is attached at or below the middle of the lemma. The rachilla, the axis of the spikelet, is 0.6 to 1 mm long, and is covered with hair throughout its length. In *C. stricta*



New England Northern Reed Grass has flat, narrow leaves, and a spike-like inflorescence that is 6-20 cm long. Photos by Don Cameron, Maine Natural Areas Program.

spp. *inexpansa*, the glumes are thick and opaque, averaging 3 to 6 mm long. The callus, a hard protuberance at the base of the lemma, is coated in white hairs that are two-thirds to fully as long as the lemma, and may appear as two lateral tufts.

SIMILAR SPECIES: *Calamagrostis stricta* spp. *stricta* has leaf blades that are in-rolled, and rough only at the margins and apex. The glumes of this subspecies are translucent near the margins and tip. In *C. pickeringii*, the awn is attached near the base of the lemma, and is always twisted and bent. The callus hairs of *C. pickeringii* are only 20 to 30% the length of the lemma. *C. cinnoides* has longer spikelets than *C. stricta* ssp. *inexpansa*, with awns attached above the middle of the lemmas, and rachillas that are hairy only at the apex. In *C. epigejos*, the rachilla is not prolonged as a bristle. In *C. canadensis*, the inflorescence is loose and open rather than compact, and the rachilla is only 0.1 to 0.3 mm long. New England Northern Reed Grass may also be confused with members of other genera, and it is important to use a technical key for proper identification.



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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POPULATION STATUS IN MASSACHUSETTS:

New England Northern Reed Grass 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. New England Northern Reed Grass is known in Massachusetts from two isolated populations in Worcester and Berkshire Counties.

RANGE: New England Northern Reed Grass occurs throughout the northern United States and in northern Canada and Alaska, south to West Virginia, and west to Arizona and California. It is moderately common along the shores of the western Great Lakes and in isolated stations in the northern Appalachians, but uncommon or rare in New England and Maritime Canada.

HABITAT: New England Northern Reed Grass colonizes moist, open habitats relatively free from interspecific competition, including wet meadows, marshes, damp woods, sandy shores, bogs, riverbanks, and sandy stream banks below the flood line. It may also be found in alpine areas, fire-disturbed summits, and cool, damp cliff faces at high altitudes. In Massachusetts, this subspecies is known from a small bald among dry, rocky, open woods, and on a rock outcrop in mesic, oak-dominated forest. Associated species may include Bear Oak (*Quercus ilicifolia*), Black Huckleberry (*Gaylussacia baccata*), blueberries (*Vaccinium* spp.), Red Columbine (*Aquilegia canadensis*), and Ebony Spleenwort (*Asplenium platyneuron*).

THREATS AND MANAGEMENT

RECOMMENDATIONS: Extant populations of New England Northern Reed Grass may be threatened by increased shading from woody vegetation in the absence of disturbance. Maintenance or restoration of natural fire regimes may help protect this species from habitat loss. Sites that support this species should be protected from heavy recreational use, and from dramatic changes in light or moisture conditions. Invasive species should be monitored at sites supporting this species; if aggressive native or non-native species are out-competing New England Northern Reed Grass, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to remove the competitors. 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.

Flowering in Massachusetts

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

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*, 2nd edition. The New York Botanical Garden, Bronx, NY.

Greene, C.W. 1980. *The Systematics of Calamagrostis (Gramineae) in eastern North America*. PhD. Dissertation, Harvard University, Cambridge, MA.

Haines, A. 2011. *Flora Novae Angliae – a Manual for the Identification of Native and Naturalized Higher Vascular Plants of New England*. New England Wildflower Society, Yale Univ. Press, New Haven, CT.

Updated 2015

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