



# RARE PLANTS OF NEW HAMPSHIRE

## Pickering's Bluejoint

*Calamagrostis pickeringii* Gray    **Synonyms:** Pickering's reed bentgrass

**Grass family (Poaceae, formerly Gramineae)**

### What Does It Look Like?

A perennial grass, often slightly bluish-green in color and sometimes with a thin waxy coating. The flowering stem reaches 20-70 cm (7.9-27.5 in.) tall and bears a spike-like panicle that opens wide when in flower but retracts back to a narrow spike when flowering has finished. Superficially similar to several other grasses, Pickering's bluejoint is identified by its distinctive flower parts.

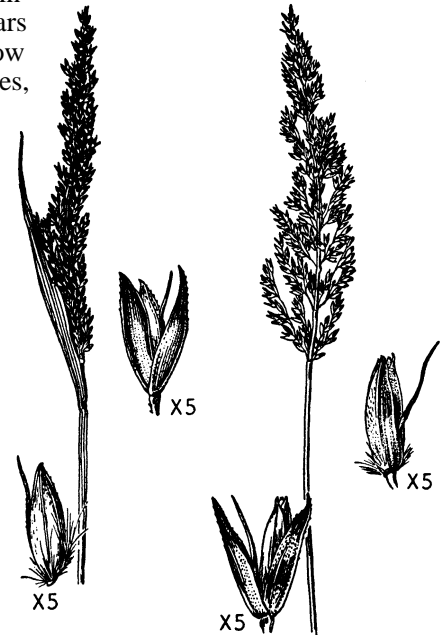
**Leaves:** The leaves are long and narrow. They are mostly basal and bear a ligule (a papery-thin upright appendage found at the juncture of the base of the leaf blade and the stem).

**Flowers:** Flowering is from early to late summer. The numerous, tiny, single-flowered spikelets are crowded into a stiff and narrow panicle, the same color as the leaves and stem but sometimes also with a reddish cast. Flower parts, like other grasses, are very specialized and necessary for identification. Each flower bears a tiny spray of hairs radiating upward from the base of the flower, called a callus, and a bristle on the lemma of the flower, called an awn. In Pickering's bluejoint, the callus hairs are very short, 0.1 mm or less, and the awn is attached near the base of the lemma of the flower.

**Fruit:** A tiny single-seeded achene is characteristic of the Grass family.

**Key features:** Flower characteristics.

**Similar species:** Other species of *Calamagrostis* and other grasses can look very similar in general appearance. Grasses are primarily distinguished from each other by fine details of specialized flower parts. Magnification is essential for proper viewing.



### Where Is It Found?

Pickering's bluejoint is found in a wide variety of open habitats from sea-level to 1550 m (5100 ft.) in elevation. In New Hampshire, its habitat includes bogs or fens, wet shores, ice- and flood-scoured channel shelves of riverbanks, floodplains, beaver meadows, acidic and exposed rocky summits, alpine meadows, and sliding alpine fens. These habitats range from acidic and nutrient-poor peat and sandy soils to more mineral alluvial soils in naturally disturbed habitats such as riverbanks and floodplains.

Although Pickering's bluejoint is found in stable wetlands such as bogs and fens and also highly dynamic habitats such as riverbanks, these natural communities do have something in common: plentiful sunlight. Habitat requirements are not fully understood for this species, however, shaded populations and those found in bogs do not appear to bloom well and tend to reproduce primarily vegetatively.

Bog populations of this species are often found on the edge of the floating peatland mat near open water, and are one of the few grass species found in this habitat. The harsh growing conditions found in peatlands may contribute to the success of this grass by suppressing the development of shrubs and tree cover. Similarly, ice and flood scour may be important factors for the persistence of riparian populations. Plants are not usually found far from the high water mark.

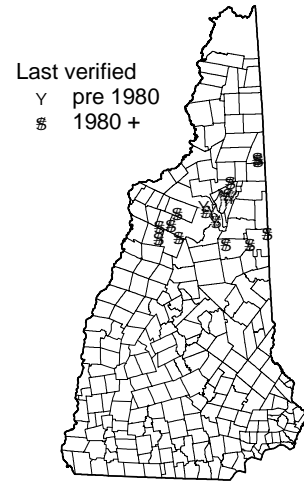


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**Conservation status:** Pickering's bluejoint is threatened in New Hampshire. Of 21 populations, only 14 have been verified since 1980. Populations range from a few plants in scattered clumps to more than 1,000 plants within an area of more than 0.4 ha (1 ac.).

**Range:** Newfoundland to Massachusetts and New York. Also in New Jersey. Some populations have been extirpated from Massachusetts and Long Island.



## Why Is It Rare?

Open, early-successional habitats have been declining in New Hampshire, e.g., due to damming of rivers. Poor seed production occurs, for unknown reasons.

## Conservation Considerations:

Peatland populations are vulnerable to changes in water and nutrient levels. The narrow range of growing conditions is easily disrupted by pollutants and sediments associated with development, road construction, and other physical disturbances within the wetland or watershed. Peat mining is also a threat.

Riparian populations face serious challenges. When riverbank dynamics are altered by bridge or rip-rap construction, or by controlling the natural flow of the river by impoundment, natural disturbance patterns are disrupted and succession to shaded conditions is more likely. Succession appears to be a threat to Pickering's bluejoint, as the best seed-producing populations tend to be found in full sun.

Alpine populations are primarily threatened by trampling from increasing recreational use.

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The information in this fact sheet is current as of December 2002. It is based on a database maintained by the NH Natural Heritage Program, a bureau in the Division of Forests & Lands in the Department of Resources and Economic Development. NH Natural Heritage is a member of NatureServe, which represents an international network of Heritage programs. Illustration by Mary Content Easton. Reprinted with permission from The New York Botanical Garden Press. Originally published in H. A. Gleason, *The New Britton and Brown Illustrated Flora of the Northeastern United States and Adjacent Canada*, Vol. I, p.163, copyright 1952, The New York Botanical Garden.

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