



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Bristly Foxtail *Setaria parviflora* (Poir.) Kerguélen

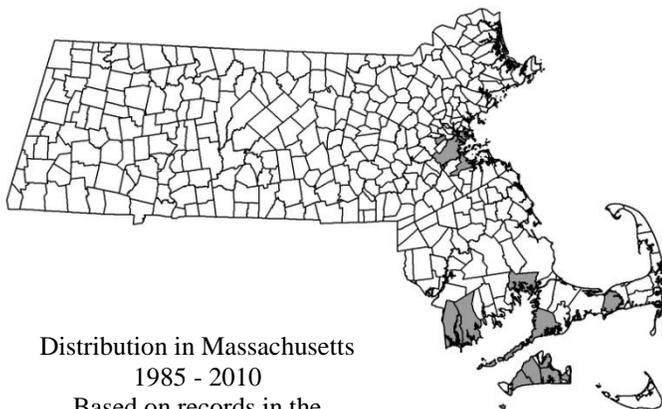
State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: Bristly Foxtail (*Setaria parviflora*) is a perennial, rhizomatous grass (family Poaceae) of coastal habitats such as salt marsh and salt pond margins. Its most recognizable feature is its spike-like panicle that is exceptionally dense with golden bristles.

AIDS TO IDENTIFICATION: Bristly Foxtail grows from short, hard, knotty rhizomes which may reach up to 4 cm (1.5 in.) in length; an alternative common name is Knotroot Foxtail. The hairless stems are 30 to 120 cm (12–47 in.) tall with narrow (2–8 mm), sand-papery leaves reaching 25 cm (10 in.). The 3 to 10 cm (1.25–4 in.) unbranched, spike-like inflorescence is lined with very small (2–2.5 mm) flower clusters, called spikelets in the grasses. The glumes are unequal and veined, the lower third of the spikelet with three veins and the upper half to two-thirds of the spikelet with five veins. The lower florets commonly have male flowers only (i.e., they are staminate). The lemmas are wrinkled horizontally (rugose), especially the upper lemma, which can also be purplish at the apex. The common name



Bristly Foxtail: the hard, knotty rhizome; the inflorescence with golden bristles in the fall; and the habitat mixed with other coastal species including bayberry. Photos: Jennifer Garrett, NHESP.



Distribution in Massachusetts
1985 - 2010
Based on records in the
Natural Heritage Database

Bristly Foxtail is derived from the four to twelve bristles at the base of each spikelet. The 2 to 12 mm straw-colored to pale yellow bristles have minute barbs along their length. This species is best observed in late summer and autumn, though it is often identifiable earlier and later in the year.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

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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SIMILAR SPECIES: The very common Yellow Foxtail or Pigeon Grass (*Setaria pumila* ssp. *pumila*) is an exotic species that most similar to Bristly Foxtail, as it is the only local species to share the trait of numerous bristles at the spikelet base; however, it is a tufted annual that has fibrous roots, and lacks a rhizome. Further, it is more of a generalist, known commonly from waste places and roadsides. All other foxtail grasses known from New England are also exotic annuals, but have fewer bristles per spikelet, and usually longer inflorescences than Bristly Foxtail and Yellow Foxtail.

HABITAT IN MASSACHUSETTS: This grass is found in scattered colonies, most often in linear patches along the upper borders of salt marshes, estuaries, and salt pond margins out of normal tidal reach. It can also be found in disturbed sandy areas such as the edges of roads and paths in or near salt marshes, and in coastal meadows and back dunes.

Associated species include *Spartina* (*Spartina patens*), Switchgrass (*Panicum virgatum*), Saltmarsh Elder (*Iva frutescens*), Slender-leaved Goldenrod (*Euthamia tenuifolia*), Sea Lavender (*Limonium carolinianum*), Bayberry (*Morella caroliniana*), and Eastern Red Cedar (*Juniperus virginiana*).

RANGE: Bristly Foxtail is distributed throughout the United States except northern New England, the upper Midwest, and northern Plains states. Its range continues south through Central America to Chile and Argentina.

POPULATION IN MASSACHUSETTS: Bristly Foxtail is listed under the Massachusetts Endangered Species Act as Special Concern. 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. It is currently known from Barnstable, Bristol, Dukes, Norfolk, Plymouth, and Suffolk Counties, and is historically known from Nantucket County.

MANAGEMENT RECOMMENDATIONS: Threats include encroachment by woody species and exotic invasive plants, and trampling by foot traffic or vehicles on actively used trails and roads. Mowing tends to favor this species, along with other grasses, and sites should be monitored to ensure ongoing management that supports grasses over shrubs. Mowing may be considered to expand favorable habitat at known locations. As this species frequently occurs just above the normal high-tide line, it may be susceptible to increased inundation due to sea level rise.

Sites should be monitored for invasions of exotic plants; if exotic or native plants are crowding and out-competing this species, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to remove the competitors. Rare plant locations that receive heavy recreational use should be carefully monitored for plant damage or soil disturbance; trails can sometimes be re-routed to protect population. 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.

Mature florets present in Massachusetts

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

Updated 2015

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