



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

New England Boneset *Eupatorium novae-angliae* (Fern.) V. Sullivan ex A. Haines & Sorrie

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

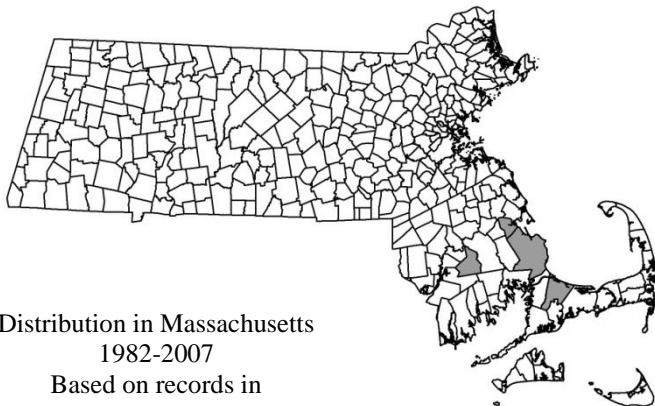
DESCRIPTION: New England Boneset (*Eupatorium novae-angliae*) is a globally rare, New England endemic of the composite family (Asteraceae). A perennial herb of coastal plain pondshores, it has opposite leaves and heads of small, white flowers.

AIDS TO IDENTIFICATION: New England Boneset is a tall plant, up to about 3.3 feet (1 m) in height. The leaves are opposite, sessile, tapered to the base, sharply toothed, and hairy (pubescent); they are 1.1 to 3.1 inches (3–8 cm) long and 0.3 to 0.8 inches (0.8–2.3 cm) wide. The inflorescence is a corymb of discoid heads, each made up of five to seven (nine) white flowers, which bloom in late summer, from August to September. The leafy bracts subtending the heads (phyllaries) are long-tapered (acuminate) and prominently whitish at the tip.

SIMILAR SPECIES: New England Boneset can be confused with other bonesets that have sessile or nearly sessile leaves in Massachusetts, and a technical key should be consulted to confirm identification. Similar



Photo by Jennifer Garrett, NHESP



Distribution in Massachusetts
1982-2007

Based on records in
Natural Heritage Database

species include Rough Boneset (*E. pilosum*), Tall Boneset (*E. altissimum*), and Upland Boneset (*E. sessilifolium*), none of which have long-acuminate phyllaries. Another species, Boneset (*E. perfoliatum*), has perfoliate leaves, opposite leaves that are fused and perforated by the stem.

HABITAT IN MASSACHUSETTS: In Massachusetts, New England Boneset inhabits sandy to peaty, nutrient-poor soils of the upper, dryer margins of coastal plain pondshores, in full or partial sun. Associated species

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

Massachusetts Division of Fisheries & Wildlife

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include Golden Hedge-hyssop (*Gratiola aurea*), Pond-shore Rush (*Juncus pelocarpus*), Grass-leaf Goldenrod (*Euthamia graminifolia*), Toothed Flatsedge (*Cyperus dentatus*), and Rose Coreopsis (*Coreopsis rosea*). Several rare species can be associated with New England Boneset, including Plymouth Gentian (*Sabatia kennedyana*, Special Concern), Terete Arrowhead (*Sagittaria teres*, Special Concern), Torrey’s Beak-sedge (*Rhynchospora torreyana*, Endangered), and Wright’s Panic-grass (*Dichanthelium wrightianum*, Special Concern).

THREATS: New England Boneset is threatened by any activity that changes the hydrologic regime, water, quality, or soil integrity of the coastal plain pond they inhabit. Region-wide, coastal plain ponds are imperiled due to shoreline development, water table drawdown (from wells), eutrophication (resulting from fertilizers and septic systems), and soil disturbance from heavy recreational use (ORV, horse, and foot traffic; camping; boat-launching; raking and digging).

RANGE: New England Boneset is endemic to the coastal plain of southern New England, known from only two counties in Massachusetts and two in Rhode Island.

POPULATION STATUS IN MASSACHUSETTS: New England Boneset is listed under the Massachusetts Endangered Species Act as Endangered. 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. New England Boneset is known from Plymouth and Barnstable Counties.

MANAGEMENT RECOMMENDATIONS: Management of New England Boneset requires protection of the hydrology, water quality, and soil integrity of its habitat. Like many other coastal plain pondshore plant species, New England Boneset requires pronounced water-level fluctuations, acidic, nutrient-poor water and substrate, and an open, exposed shoreline, free from major soil disturbance. The hydrologic regime is particularly important; coastal plain pondshore species often require low water years for reproduction, but their persistence at a site depends on high water years to keep dense woody vegetation from taking over the shoreline.

Protection of New England Boneset habitat may require exclusion of new wells and septic systems, prohibitions on fertilizer use, and restrictions on recreational use of the coastal plain pondshore. Recreational activities such as swimming, hiking, and horseback riding should be diverted from the plant population location by re-routing trails, installing fences, and providing alternative locations for the activities.

Sites that appear to have encroaching woody vegetation could be carefully thinned after the growing season (November–April). The nature of coastal plain ponds makes them generally inhospitable for many exotic invasive plants, but invasives could become established at sites that have received heavy soil disturbance or nutrient inputs.

Populations should be monitored to identify threats such as over-shading, invasive plant establishment, and soil disturbance. New England Boneset is most likely to be observed in late summer during low water years. To avoid inadvertent harm to rare plants, all active management of rare plant populations should be planned in consultation with the Massachusetts Natural Heritage & Endangered Species Program.

Flowering time in Massachusetts

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

Updated 2015

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