



## Natural Heritage & Endangered Species Program

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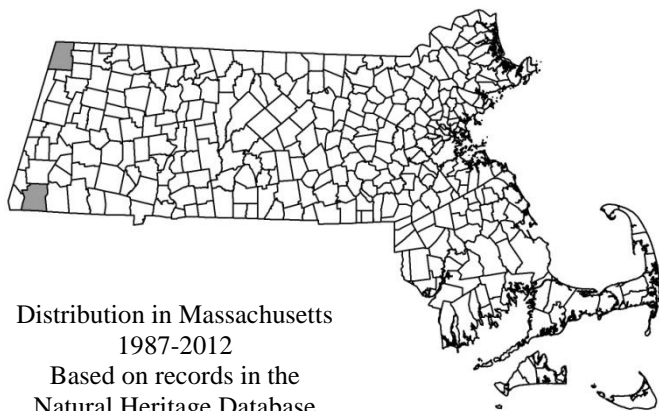
Massachusetts Division of Fisheries & Wildlife

## Sweet Coltsfoot *Petasites frigidus* (L.) Fr. var. *palmatum* (Aiton) Cronquist

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

**DESCRIPTION:** Sweet Coltsfoot is a perennial herb with flowering stems 20 to 35 cm (8-14 in) in height. In Massachusetts, where it rarely flowers, *Petasites* is most easily identified by its strongly palmate, vegetative basal leaves which bear distinctive, fine, paired purple lines on the stem. Basal leaves may be 50 to 100 cm (20-39 in) wide, with a petiole up to 100 cm, and the leaf undersides are hairy. Flowering stems are distinctively hairy, with an inflorescence consisting of up to 20 flowering heads.

**SIMILAR SPECIES:** The basal leaves of *Petasites frigidus* may be confused with buttercups (*Ranunculus*) or geraniums (*Geranium* spp.), which may have a similar palmate arrangement. Both groups typically lack the rounded lobes of *P. frigidus* and the paired purple lines on the basal leaf petiole. Butterbur (*Petasites hybridus*), one of three living species in the genus, is a European species that has been documented in eastern Massachusetts and Hampden County (Magee and Ahles 1999). Its cordate leaves more closely resemble those of Coltsfoot (*Tussilago farfara*), an invasive species from Europe that is closely allied to the *Petasites* clade and occurs with *P. frigidus*.



Distribution in Massachusetts  
1987-2012  
Based on records in the  
Natural Heritage Database



Top - Flowering stem, Québec. Bottom - Flowering stem past seed, Québec.  
Photos: Mike Jones, NHESP

**ASSOCIATED SPECIES:** *P. frigidus* occurs with a mix of temperate and boreal canopy species dominate these sites, including White Pine (*Pinus strobus*), Hemlock (*Tsuga canadensis*), Yellow Birch (*Betula alleghaniensis*), and Balsam Poplar (*Populus*

**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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*balsamifera*). Co-occurring herbaceous species include Christmas Fern (*Polystichum acrostichoides*), Maidenhair (*Adiantum pedatum*), Chinese Hemlock-parsley (*Conioselinum chinense*), and Grass-of-Parnassus (*Parnassia glauca*).

**HABITAT:** *P. frigidus* historically occurred in forested swamps and calcareous fens at a dozen sites throughout the mainland portion of the state. Several historic locations in the Connecticut River Valley occurred in nondescript, forested wetlands dominated by Red Maple (*Acer rubrum*) and other temperate canopy species. In eastern Massachusetts, historic data are vaguer and it is difficult to determine the former habitat associations of *P. frigidus* in those areas. Where the species persists in Berkshire County, it occurs on seepages in sloping, calcareous forested habitats, sometimes occurring over a continuous area greater than one acre.

**THREATS:** Potential threats to Sweet Coltsfoot in Massachusetts include direct loss of adult plants during forestry activities and trail maintenance or development. Several invasive species, such as Coltsfoot, have colonized the remaining populations and may compete with it for space on forested hillsides. As a subarctic species at the southern extent of its range, *P. frigidus* may respond poorly to shifts in forest community structure caused by regional climate change.

**RANGE:** *P. frigidus* is widely distributed in forested, tundra, and alpine habitats across subarctic North America, from Labrador to Alaska south to Connecticut, Michigan, Wisconsin, and the mountains of California. The species is uncommon in the high arctic of North America but occurs on some Canadian arctic islands. *P. frigidus* occurs throughout boreal Eurasia, including Svalbard, and on some Siberian Arctic islands, including Wrangel Island (e.g., Porsild 1957; Magee and Ahles 1999; Aiken et al. 1999). The European variety is var. *frigidus*, which differs from our var. *palmatus* in having pinkish-white flowers and less strongly dissected leaves.

**MANAGEMENT RECOMMENDATIONS:** The exact management needs of Sweet Coltsfoot are not known. Known locations should be avoided during forestry activities and monitored for population changes in response to successional changes. Management plans for this species may be developed in consultation with NHESP.



Top: Leaf, Williamstown, MA. Bottom: Basal petiole, showing distinctive, paired, purple lines, Williamstown, MA. Photos: Mike Jones, NHESP.

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