



**Natural Heritage
& Endangered Species
Program**

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

**Small-flowered Agrimony
Agrimonia parviflora
Ait.**

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

DESCRIPTION: Small-flowered Agrimony is a tall, herbaceous wildflower of the Rose family (Rosaceae) that inhabits wet meadows, moist thickets, and edges in nutrient-rich soils associated with small rivers and streams. Its five-lobed yellow flowers, which are small relative to other agrimonies, are borne on a terminal raceme (an unbranched flowering stalk with individual floral stalks, or pedicels); the distinctive leaves are alternate, pinnately compound, and sharply toothed. The fruits have hooked bristles, enabling them to adhere to passing animals contributing to seed dispersal (ectozoochory).



(Above, Left) Small-flowered Agrimony. Photo: Larry Allain @ USGS, National Wetlands Research Center downloaded from USDA-NRCS PLANTS Database.

(Above, Right) Compound leaf and inflorescence, downloaded from USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. An illustrated flora of the northern United States, Canada and the British Possessions. Vol. 2: 268.



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

AIDS TO IDENTIFICATION: Small-flowered Agrimony can grow quite tall, 0.5 to 2 m (~1.5–6 ft.). The pinnately compound leaves are made up of 9 to 23 larger, lanceolate serrate leaflets, with three or four pairs of smaller leaflets interspersed. The leaflets, upper stem, flowering stalk, and hypanthium glisten with sessile glandular hairs. There are also long soft and short stiff non-glandular (eglandular) hairs. The yellow flowers, up to 120 in number, are small, and sub-oppositely arranged from the middle to upper raceme. Each flower has five yellow petals 1.5 to 2.9 mm long that alternate with the five sepals. The achenes (one-seed fruit) form within the hypanthium (a structure that surrounds the ovary, then

the fruit), which is widely bell-shaped (campanulate) with hooked bristles in rows around the upper rim. The persistent sepals at the top converge but are not fused. Fruits including the hypanthium are 1.3 to 3 mm wide and 1.7 to 3.8 mm long, and are reflexed at maturity. This species flowers in late summer and fruits in late summer to early autumn.

FLOWERING TIME IN MASSACHUSETTS:

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

FRUITING TIME IN MASSACHUSETTS:

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

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.

www.mass.gov/nhesp

SIMILAR SPECIES: The morphological characters key to differentiating among agrimony species in Massachusetts are plant height, leaflet shape and number, type of pubescence, and presence/absence of glandular dots or hairs, especially on the flower stalk, leaves, and hypanthium.

Three other native agrimories occur in Massachusetts; these are Common Agrimony (*A. gryposepala*), Coarse Agrimony (*A. striata*), and Hairy Agrimony (*A. pubescens*; Threatened). All of these species are generally shorter, with smaller leaves, and wider (e.g., lance-ovate, obovate, or elliptic) major leaflets, that are typically fewer in number. They also have fewer pairs of the smaller interspersed leaflets than Small-flowered Agrimony. Common Agrimony and Coarse Agrimony differ further in having a notably larger mature hypanthium, and the hypanthium of Coarse Agrimony is deeply grooved. Downy Agrimony notably lacks glandular hairs and dots throughout, and also has a deeply grooved hypanthium.

HABITAT IN MASSACHUSETTS: In Massachusetts, Small-flowered Agrimony inhabits open, flat moist meadows and shallow marshy sites associated with streams and small rivers; the soils are rich, alluvial, calcareous soils. Known population locations have been used in the past for grazing and have been mown periodically. Species associated with Small-flowered Agrimony include Andrew's Bottle Gentian (*Gentiana andrewsii*; Endangered), Bottle Gentian (*Gentiana clausa*), wetland sedges (several common and rare caliphilic *Carex* spp.), Sweet Flag (*Acorus calamus*), Boneset (*Eupatorium perfoliatum*), Wild Bergamot (*Monarda fistulosa*), Sensitive Fern (*Onoclea sensibilis*), Marsh Fern (*Thelypteris palustris*), asters and goldenrods. Exotic pasture species including hay grasses and old-field growth shrubs, such as alders (*Alnus incana* ssp. *rugosa*), dogwoods, (*Cornus* spp.), willow (*Salix* spp.), and woody exotic invasive species may be present.

RANGE: Small-flowered Agrimony is known from Ontario and much of the eastern and central United States, from Massachusetts and Connecticut west to Michigan, Iowa, and South Dakota, south to the Gulf states.

THREATS: A primary threat to Small-flowered Agrimony is succession of its open, somewhat disturbed

habitat. More specifically, the rare agrimony is threatened by competition and over-shading from aggressive native (e.g., goldenrods, several shrub species) and exotic invasive plants when there is a lack of natural or anthropogenic disturbance. Exotic invasive plants noted within Small-flowered Agrimony habitat include Reed Canary Grass (*Phalaris arundinacea*), Morrow's Honeysuckle (*Lonicera morrowii*), Common Buckthorn (*Rhamnus cathartica*), Multiflora Rose (*Rosa multiflora*), Asiatic Bittersweet (*Celastrus orbiculatus*), Japanese Barberry (*Berberis thunbergii*), and Purple Loosestrife (*Lythrum salicaria*). In addition, inappropriate application of management, for example mowing during the flowering or fruiting season, could reduce plant vigor and recruitment, especially over several years.

POPULATION STATUS IN MASSACHUSETTS: Small-flowered Agrimony 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. Small-flowered Agrimony is known only from Berkshire County.

MANAGEMENT RECOMMENDATIONS: Small-flowered Agrimony habitat locations should be monitored for over-shading and competition by aggressive native and exotic invasive species. If aggressive native or exotic plants are affecting this species, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to alleviate the threat, through dormant season mowing or targeted plant removal. Long term management may be required to ensure the habitat quality is maintained in perpetuity. 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.

Animal seed dispersal of Small-flowered Agrimony enables the possibility of establishment of dynamic populations; thus it is possible that undocumented populations may be present in Massachusetts. Searches in appropriate habitat should be conducted.

Updated 2015

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

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.