



## Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

## American Bittersweet *Celastrus scandens* L.

State Status: **Threatened**

Federal Status: **None**

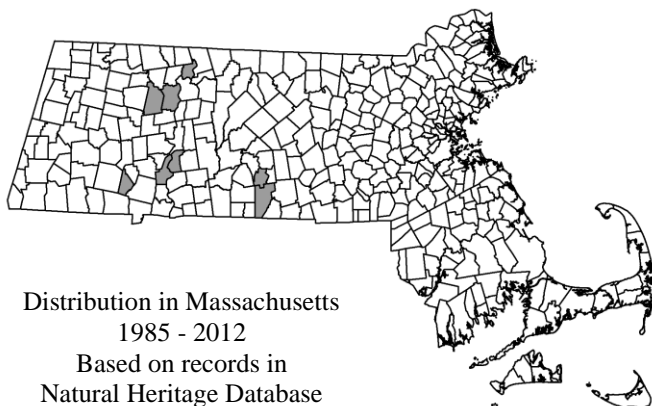
**GENERAL DESCRIPTION:** American Bittersweet is a deciduous, woody vine in the Staff-tree family (Celastraceae), known for its showy fruits in the fall and early winter. It reaches 6 to 9 meters or more in height, with stems up to 10 cm in diameter. American Bittersweet is generally dioecious, with functional male and female flowers on separate plants. Orange or red capsules open when mature to expose red arils that surround the seeds. The fruits are poisonous to humans but palatable to birds, which are the primary dispersers of the seeds.

**AIDS TO IDENTIFICATION:** The leaves of American Bittersweet are alternate, elliptical or ovate (5–8 cm long; 3–5 cm wide), yellowish-green, and pointed with serrate margins. The brown bark is initially smooth and turns corky and scaly as it matures. The inconspicuous, cup-shaped flowers are 2 to 3 mm tall, greenish-yellow, and have five sepals. They appear in terminal clusters that are 3 to 8 cm long, typically with 6 or more flowers per inflorescence. Spherical orange-yellow fruit capsules split open in the fall to reveal the waxy, red, fleshy arils that surround the seeds. The showy fruits and arils may persist through the winter.



American Bittersweet has elliptical or ovate leaves and terminal clusters of orange-yellow fruit capsules. Photo by Tom Rawinski

**SIMILAR SPECIES:** American Bittersweet is often confused with Oriental Bittersweet (*C. orbiculatus*), an invasive species originating from northeast Asia. American Bittersweet flowers are arranged in terminal clusters (panicles) and have yellow pollen, while Oriental Bittersweet flowers are found in the leaf axils and have white pollen. American Bittersweet leaves are also narrower than those of Oriental Bittersweet, which are nearly round. The color of the ovary wall may also help to distinguish these species, though this is not always consistent. Oriental Bittersweet capsules are usually yellow, and contrast sharply with the scarlet arils. American Bittersweet capsules are dark orange, and less distinct from the arils. American Bittersweet is generally more restricted to open habitats and edges, whereas Oriental Bittersweet is found in a variety of habitats and can tolerate a wider range of light conditions. These species may occur together on the same sites and intertwine. Hybrids of these species also occur in Massachusetts and are identified by a



**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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combination of characters typical of each of the parents (for example, leaves of one and fruit of the other), or by intermediate characters.

**HABITAT:** American Bittersweet prefers open to patchy light conditions and is often found in woodland edges, thickets, roadsides, and rarely in the forest understory. This woody vine is a climber that can twine into the canopy foraging for light. Although this species was collected historically from a range of habitats, several recent records have been from rocky slopes and powerlines in areas with mafic bedrock.

**RANGE:** American Bittersweet is found from Georgia north along the Atlantic coast to Quebec. It is native to most states east of the Rocky Mountains. It is listed in New York as “exploitably vulnerable”.

**POPULATION STATUS IN MASSACHUSETTS:** American Bittersweet is listed under the Massachusetts Endangered Species Act as Threatened. 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. American Bittersweet is currently known from Hampden, Hampshire, Franklin and Worcester Counties, with historical records from all counties in Massachusetts except for Suffolk and Barnstable Counties.

**THREATS AND MANAGEMENT**

**RECOMMENDATIONS:** American Bittersweet populations have declined in Massachusetts in recent decades. The fruit-laden branches are prized for use in fall and winter home decorations, and collecting for wreaths has reduced populations in some areas. The invasive Oriental Bittersweet is more aggressive than American Bittersweet and may displace the native species. Hybridization between the two species represents a significant threat to populations of American Bittersweet. Misidentification may also result in American Bittersweet removal through management intended to remove invasive species. Populations should be monitored to determine whether exotic species are out-competing American Bittersweet. Where needed, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to control competitors. 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 coordination with the Massachusetts Natural Heritage Endangered Species Program.

**FLOWERING IN MASSACHUSETTS:**

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

**FRUITING IN MASSACHUSETTS:**

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

**REFERENCES:**

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