



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Purple Cress *Cardamine douglassii* Britton

State Status: **Endangered**

Federal Status: **None**

DESCRIPTION: Purple Cress is a perennial herb of rich floodplains and low wet woods. A member of the mustard family (Brassicaceae), Purple Cress is a spring ephemeral that gets its name from the green to purplish-green hairy stem and pale purple flowers. The shallow rhizomes are white, but turn green if exposed. Stems are moderately pubescent, slender, and range from 10 to 30 cm (4–12 in.) tall. Basal leaves are heart-shaped or oval and bluntly dentate or undulate with long, slender petioles. The lower stem leaves are similar, but short petioled. The leaves are variable with most having shallow lobes or sinuous margins. The leaves are alternate, up to 5cm (~2 in.) long and 2.5 cm (~1 in.) across, but continue to become shorter and narrower toward the top of the stem. Upper leaves are sessile or slightly clasping. The central stem terminates in a raceme of flowers. Flowers have four regular parts, are approximately 1.25 cm (0.5 in.) across, and are pale purple or purple tinged white. Sepals are green to purple and fade to brown. The siliques (seed pods of the mustard family) are nearly erect. Siliques are approximately 2 cm (~0.75 in.) long, green to purple, and contain a narrow row of very small seeds. The siliques mature and split open to release the seeds by midsummer.



Purple Cress flowering in rich moist woods
Photo: B.A. Sorrie, NHESP

AIDS TO IDENTIFICATION: Look for Purple Cress in early spring usually near water.

SIMILAR SPECIES: Spring Cress (*C. bulbosa*) occurs in similar habitats, but has white flowers, green sepals, and blooms two to three weeks later than Purple Cress. Hybridization between *C. bulbosa* and *C. douglassii* is known.

HABITAT IN MASSACHUSETTS: Purple Cress is typically found in rich floodplains and upland edges of calcareous swamps. It prefers full to partial shade and mesic to hydric soils. Look for it in wet, deciduous woods and near springs.



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

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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FLOWERING TIME IN MASSACHUSETTS

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

Associated species include Sugar Maple (*Acer saccharum*), American Basswood (*Tilia americana*), ash species (*Fraxinus* spp.), American Hornbeam (*Carpinus caroliniana*), Yellow Birch (*Betula alleghaniensis*), Bitternut Hickory (*Carya cordiformis*), American Elm (*Ulmus americana*), Black Cherry (*Prunus serotina*), Winterberry (*Ilex verticillata*), goldenrods (*Solidago* spp.), asters (*Symphyotrichum* spp.), Garlic Mustard (*Alliaria petiolata*), Japanese Barberry (*Berberis thunbergii*), Wood Anemone (*Anemone quinquefolia*), Cinnamon Fern (*Osmunda cinnamomea*), Sensitive Fern (*Onoclea sensibilis*), arrowwoods (*Viburnum* spp.), Christmas Fern (*Polystichum acrostichoides*), Creeping Jenny (*Lysimachia nummularia*), and various sedges (*Carex* spp.).

RANGE: Purple Cress occurs north to Ontario, west to Iowa, south to Alabama, and north along the east coast to Massachusetts.

POPULATION STATUS IN MASSACHUSETTS:

Purple Cress 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. It is currently known from Berkshire County.

THREATS: Because they share a similar habitat, the non-native invasive species Garlic Mustard (*Alliaria petiolata*) may be encroaching on Purple Cress populations. Hybridization with Spring Cress may also be a possible threat to Purple Cress.

MANAGEMENT RECOMMENDATIONS: Sites should be monitored for invasions of exotic plants; if exotic plants are out-competing this species, a plan should be developed, in consultation with the Massachusetts Natural Heritage & Endangered Species Program, to remove the invaders. Known habitat locations should be protected from dramatic changes in light or moisture conditions. All active management of state-listed 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.

REFERENCES:

Britton, N.L., and A. Brown. 1970. *An Illustrated Flora of the Northern United States and Canada*. Dover Publications, New York, New York, USA.

Gleason H.A., and A. Cronquist. 1991. *Manual of Vascular Plants of Northeastern United States and Adjacent Canada*. New York Botanical Garden Press, Bronx, New York

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: January 07, 2011)

Updated 2015

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