



**Natural Heritage  
& Endangered Species  
Program**

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*Massachusetts Division of Fisheries & Wildlife*

**Smooth Rock-cress  
*Boechera laevigata***  
(Muhl. ex Willd.) Al-Shehbaz

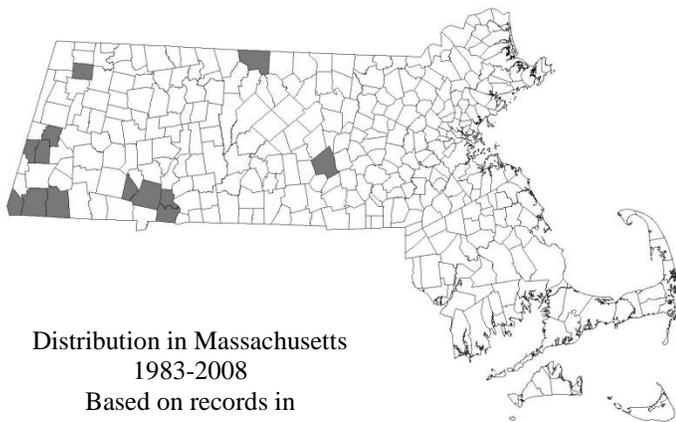
State Status: **Special Concern**  
Federal Status: **None**

**DESCRIPTION:** Smooth Rock-cress (*Boechera laevigata*) is a mustard (family Brassicaceae) of rocky woods, floodplains, and thickets. A facultative biennial, this plant persists for a year or more as a basal rosette of spoon-shaped, sparsely hairy leaves; after reaching a critical size, Smooth Rock-cress bolts and blooms, producing greenish-white flowers late May to late August.

**AIDS TO IDENTIFICATION:** It is best to observe Smooth Rock-cress both in flower and in fruit to confirm identification. It is a hairless (glabrous) plant, 0.3 to 1 m (1–3 feet) in height, and glaucous (with a white waxy cast) throughout. The stem leaves average 13 in number below the first inflorescence; they are alternate, lance-shaped, and clasping, 5 to 15 cm (2–6 inches) in length. The leaf margins are smooth or serrated. The flowers, borne on a terminal raceme, have four petals, which are equal in length to the sepals, or slightly longer. The fruits, or siliques, are slender pods characteristic of



mustards; in this species they are 5 to 10 cm (2-4 inches) in length, and grow conspicuously outward, arching downward from the stem. Nerves are absent or faint; if present, they extend only to the middle of the silique. The seeds are arranged in one row, and are narrowly winged.



Distribution in Massachusetts  
1983-2008  
Based on records in  
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](http://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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**SIMILAR SPECIES:** Smooth Rock-cress resembles several other mustards that occur in Massachusetts. Hairy Rock-cress (*Arabis pycnocarpa*), Drummond’s Rock-cress (*Boechera stricta*), and Tower Mustard (*Turritis glabra*) all have straight, erect pods that do not arch outwards. Sicklepod (*B. canadensis*) has pods that are curved, but the stem leaves are not clasping. Green Rock-cress (*B. missouriensis*; Threatened) has more numerous and densely packed stem leaves, and petals that are nearly twice as long as the sepals.

**HABITAT:** In Massachusetts Smooth Rock-cress inhabits rich, rocky deciduous woods, rich rocky hillsides, ledges, and talus slopes, and floodplain thickets and woodlands. It occupies open to shaded sites on dry to mesic soils. The associated species are numerous and diverse depending on the habitat type, but may include Basswood (*Tilia Americana*), Sugar Maple (*Acer saccharum*), White Ash (*Fraxinus americana*), and Hop Hornbeam (*Ostrya virginiana*) in the canopy, and Witch Hazel (*Hamamelis virginiana*), Spicebush (*Lindera benzoin*), Jack-in-the-Pulpit (*Arisaema triphyllum*), Ostrich Fern (*Mattueccia struthiopteris*), and Marginal Wood-fern (*Dryopteris marginalis*) in the understory.

**THREATS:** Some populations of Smooth Rock-cress are threatened by invasion of exotic plant species such as Garlic Mustard (*Alliaria petiolata*), Japanese Barberry (*Berberis thunbergii*), Morrow’s Honeysuckle (*Lonicera morrowii*), and Common Buckthorn (*Rhamnus cathartica*). These species can dominate the vegetation cover and effectively out-compete Smooth Rock-cress. Heavy recreational uses, such as hiking, ORV use, and climbing in population areas can cause physical damage to plants, and compaction or erosion of the soil.

**POPULATION IN MASSACHUSETTS:** Smooth Rock-cress is listed under the Massachusetts Endangered Species Act as a Species of Special Concern. 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. Smooth Rock-cress is currently known from Berkshire, Hampden, and Worcester counties, and is historically known from Hampshire County.

**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

**RANGE:** Smooth Rock-cress is known from much of eastern and central North America, from Quebec and Maine south to Georgia, west to Ontario, South Dakota, Iowa, Colorado, and Oklahoma.

**MANAGEMENT RECOMMENDATIONS:** As with many rare species, the exact management needs of Smooth Rock-cress are not known. Sites should be monitored for invasions of exotic plants, particularly Garlic Mustard, Japanese Barberry, Morrow’s Honeysuckle, and Common Buckthorn. If exotic plants are crowding and out-competing Smooth Rock-cress, a plan should be developed in consultation with the Massachusetts Natural Heritage & Endangered Species Program to remove the invaders. Smooth Rock-cress locations that receive heavy recreational use (e.g., hiking, ORV use, rock climbing) should be carefully monitored for plant damage or soil disturbance; trails and climbing routes can sometimes be re-routed to protect the rare plant population. 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.

Updated 2015

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