Natural Heritage & Endangered Species Program

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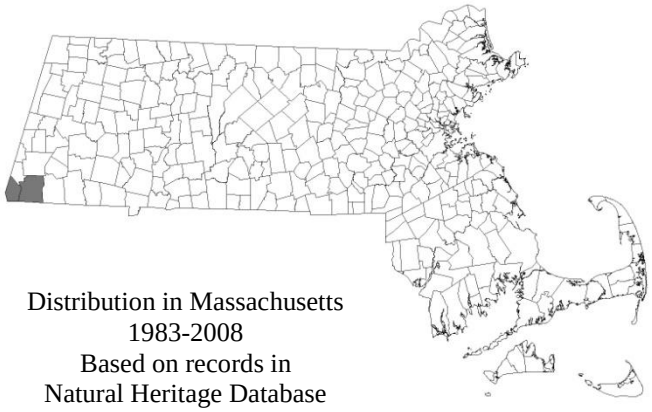
Massachusetts Division of Fisheries & Wildlife

Big-leaved Winterberry
Ilex montana
Torr. & A. Gray *ex* A. Gray

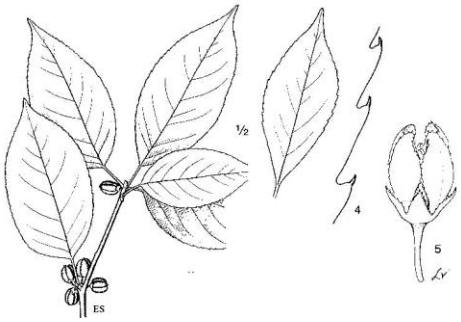
State Status: **Endangered**
Federal Status: **None**

DESCRIPTION: Big-leaved Winterberry (*Ilex montana*) is a deciduous shrub or small tree of the holly family (Aquifoliaceae) with arching branches and bright red fruit. This species is more common through the Appalachian Mountain region to the south, but in Massachusetts it is restricted to the higher elevation, acidic bedrock areas of southwestern Massachusetts.

AIDS TO IDENTIFICATION: Big-leaved Winterberry has one to few main stems, and reaches 12 m (40 ft.) in height. The leaves are alternate, hairless, 6 to 12 cm (2.4– 4.7 in.) in length, and are egg-shaped to lance-shaped. They are broadest near the middle, with a sharp tapering tip, and margins that are sharply serrate with ascending teeth. Big-leaved Winterberry is dioecious, which means that male and female flowers are on separate plants. The flowers have petals and sepals that are fringed with cilia. The fruits are round and red, 6 mm (0.24 in.), and are borne in leaf axils on pedicels that are shorter than their subtending petioles. The nutlets have numerous ridges.



Distribution in Massachusetts
1983-2008
Based on records in
Natural Heritage Database



Holmgren, N.H. 1998. *The Illustrated Companion to Gleason and Cronquist's Manual*. NY Botanical Garden.

SIMILAR SPECIES: Both Winterberry (*I. verticillata*) and Smooth Winterberry (*I. laevigata*) resemble Big-leaved Winterberry, but both are smaller in stature, and have smooth, rather than ridged nutlets. All three species can be differentiated by examining the flowers; Big-leaved Winterberry and Winterberry have ciliate sepals, whereas Smooth Winterberry has smooth-margined (entire) sepals. Further, Winterberry, unlike Big-leaved Winterberry, has petals that lack cilia; instead, they are entire or slightly wavy (erose).

HABITAT: In Massachusetts, Big-leaved Winterberry inhabits moist, acidic, rocky soils of mature hemlock and northern hardwood forests. It is restricted to metamorphic pelitic rock formations (Everett and Walloomsac) of schist and quartzite in the higher elevation areas. Big-leaved Winterberry is sometimes found in areas near ponds or streams situated near slopes or ridges. Associated species include Red Maple, (*Acer rubrum*), Red Oak (*Quercus rubra*), Yellow Birch (*Betula alleghaniensis*), and Eastern Hemlock (*Tsuga canadensis*) in the canopy, and Mountain Laurel (*Kalmia latifolia*), Witch Hazel (*Hamamelis virginiana*), Hobblebush (*Viburnum lantanoides*), Wild Sarsaparilla

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

Massachusetts Division of Fisheries & Wildlife

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(*Aralia nudicaulis*), White Wood Aster (*Eurybia divaricata*), and Interrupted Fern (*Osmunda claytoniana*) in the understory. In other areas within its range, Big-leaved Winterberry is known from well-drained slopes, ridges, streamsides, and sometimes open or burned sites.

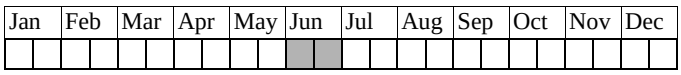
THREATS: Threats to Big-leaved Winterberry in Massachusetts include over-browsing by deer, accidental removal or damage due to trail maintenance or development, and competition for resources from Mountain Laurel.

RANGE: The range of Big-leaved Winterberry encompasses the Appalachian Mountain region, portions of New Jersey, and southwestern New England; specifically, the higher elevation areas from Massachusetts, Connecticut, and New York, south to Georgia, and west to Mississippi, Tennessee, and Kentucky.

POPULATION IN MASSACHUSETTS: Big-leaved Winterberry is listed under the Massachusetts Endangered Species Act as Endangered. 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. Big-leaved Winterberry is currently known only from Berkshire County.

MANAGEMENT RECOMMENDATIONS: As with many rare species, the exact management needs of Big-leaved Winterberry are not known. Big-leaved Winterberry locations should be monitored for reduced reproduction or vigor due to over-browsing by deer, or competition or shading by Mountain Laurel or other aggressive species. If necessary, a plan to alleviate such threats should be developed in consultation with Massachusetts Natural Heritage & Endangered Species Program (NHESP). Trail and road maintenance should be carefully planned to avoid inadvertent harm to Big-leaved Winterberry. All trail and road maintenance, development, and active management within rare plant habitat (including vegetation thinning and 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.

Flowering time in Massachusetts



Updated 2015

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