



Natural Heritage & Endangered Species Program

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Massachusetts Division of Fisheries & Wildlife

Rand's Goldenrod *Solidago simplex* Kunth ssp. *randii* (Porter) Ringius var. *monticola* (Porter) Ringius

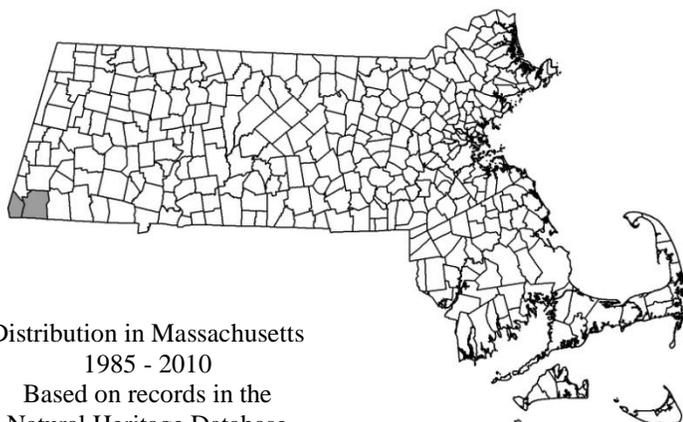
State Status: **Endangered**
Federal Status: **None**

GENERAL DESCRIPTION: Rand's Goldenrod is a 1 to 9 dm (4- 35 in.) tall herbaceous perennial plant with a smooth stem and dense yellow flower clusters on ascending terminal and axillary branches. The basal rosette and lower stem leaves are the largest leaves. The leaves are progressively reduced in size higher on the stem. This member of the composite (Asteraceae) family grows in clusters arising from a spreading, persistent woody stem (caudex) near the ground surface. In Massachusetts, plants in exposed conditions are large, upright, have a robust inflorescence, and grow in dense clusters (with as many as 30-40 stems per cluster). Plants growing in the shade of the oak/heath forest are smaller, have a more delicate, sometimes nodding inflorescence, and have fewer stems per cluster.

AIDS TO IDENTIFICATION: Rand's Goldenrod stems are smooth (glabrous) except for a slight pubescence in the inflorescence. The basal and lower stem leaves are smooth, pointed, sparsely toothed, 5 to 10 cm (2 - 4 in.) long and 0.5-1.6 cm wide, widest above the middle, and tapered to the petiole. The upper stem leaves are smaller, narrower, and entire or slightly toothed. The plant's flowers are on ascending terminal



Solidago simplex ssp. *randii* var. *monticola*
Photo credit: Arieh Tal



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

Photos and captions by and courtesy of Arieh Tal. Rand's Goldenrod can easily be confused with similar goldenrods, especially Downy Goldenrod. Top: Rand's Goldenrod in its habit showing the flowering stems reclining slightly, rather than growing straight upwards, as is the case of Downy Goldenrod. The bottom left photo shows the involucre that are fairly smooth and a bit shiny, with minute glutinous (sticky) dots that look like hairs but are not. The bottom right photo shows stem detail. The stem (lower portion) is more or less smooth, but with those minute glutinous (sticky) dots. The upper portions of the stems may be minutely pubescent.

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

Massachusetts Division of Fisheries & Wildlife

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and axillary branches. The bright yellow flowers (with 7-10 rays per head) are densely crowded on short pedicels. The 12 to 28 floral bracts or phyllaries are dark-tipped, oblong to acute, and arranged in overlapping rows. The plant's achenes are 2 to 2.6 mm in length and densely hairy.

One feature that distinguishes Rand's Goldenrod from similar goldenrod species is the sticky, resinous exudates on the inflorescence when the plant is in bloom. In New England, Rand's Goldenrod grows on exposed ledges and rock crevices in mountainous regions.

SIMILAR SPECIES: Downy Goldenrod (*Solidago puberula*) resembles Rand's Goldenrod, occupies similar habitat, and may hybridize with it. Downy Goldenrod differs from Rand's Goldenrod in having pubescent stems and leaves, 24-28 sharply acute or long-pointed floral bracts, and no resinous substance in the inflorescence. Hairy Goldenrod (*Solidago hispida*), a species extirpated in Massachusetts, superficially resembles Rand's Goldenrod, but has densely hairy stems and leaves and smooth or only sparsely hairy achenes.

HABITAT AND ASSOCIATED SPECIES: In Massachusetts, Rand's Goldenrod grows in rock crevices and on exposed ledges at high elevations (c.2000 ft) in southwestern Berkshire County. The bedrock where the plant occurs is granitic or schistose, and the soils are thin, dry, and acidic. The plants grow in full sunlight on rocky summits and also in partial shade in second-growth oak/heath forests. Plants associated with Rand's Goldenrod on exposed summits and ridgetops include Red Oak (*Quercus rubra*), Scrub Oak (*Q. ilicifolia*), Black Cherry (*Prunus pensylvanica*), Black Chokeberry (*Aronia melanocarpa*), Bearberry (*Arctostaphylos uva-ursi*), Pennsylvania Sedge (*Carex pensylvanica*), Hair-grass (*Deschampsia flexuosa*), Canada Bluegrass (*Poa compressa*), Three-toothed Cinquefoil (*Potentilla tridentata*), and Little Bluestem (*Schizachyrium scoparium*). Associated plants in oak/heath forest include White Oak (*Q. alba*), Red Oak, and Red Maple (*Acer rubrum*) in the canopy; Witch Hazel (*Hamamelis virginiana*) and Mountain Laurel (*Kalmia latifolia*) in the understory; and Black Huckleberry (*Gaylussacia baccata*) and Lowbush Blueberry (*Vaccinium angustifolium*) as low shrubs.

RANGE: The documented range of Rand's Goldenrod extends from Nova Scotia southward to the Cumberland Plateau and river gorges of Tennessee, and west to Michigan and Minnesota. In the northeastern United States, the plant grows in rocky, high-elevation habitats. In Massachusetts, Rand's Goldenrod is present only in the Taconic Range of southwestern Berkshire County, which is its southernmost station in New England.

POPULATION STATUS IN MASSACHUSETTS: Rand's Goldenrod 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.

MANAGEMENT RECOMMENDATIONS: As for many rare species, exact needs for management of Rand's Goldenrod are not known. The following comments are based on observations in Massachusetts. Rand's Goldenrod is restricted to ledges and rock crevices on a single ridge in the Taconic Range. Most of the plants are not threatened by human impacts, but part of one population is situated in rock crevices along a popular hiking trail. Trampling annually damages stems in this population. While Rand's Goldenrod here appears to require trailside conditions, the population is at risk of reduction and elimination from hiker traffic. This trailside population should be monitored and the trail at least temporarily relocated away from the plants if the population starts to decline.

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.

Flowering time in Massachusetts

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

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