

VEGETATION MANAGEMENT GUIDELINE

Round-leaved bittersweet (*Celastrus orbiculatus* Thunb.)

SPECIES CHARACTER

Description

Round-leaved bittersweet is a deciduous twining vine (older individuals become spreading, trailing shrubs) with alternate, round, toothed, glossy leaves. The small greenish flowers occur in a cluster terminating the small branches, with terminal flowers blooming first. The green, globose fruit is born in clusters of 1-3 in July and later becomes orange in color.

Similar Species

This vine is distinguished from purple winter creeper (*Euonymus fortunei*) which has opposite, elliptic leaves. It differs from climbing bittersweet (*Celastrus scandens*) which has elliptic or ovate leaves that are usually not as round as those of round-leaved bittersweet. Round-leaved bittersweet should be accurately identified before attempting any control measures. If identification of the species is in doubt, the plant's identity should be confirmed by a knowledgeable individual and/or by consulting appropriate books.

Distribution

Originally native to eastern Asia, round-leaved bittersweet occurs from New York to Virginia and southwestward in the U.S. It is a problem in Great Smoky Mountain National Park. It occurs at scattered localities near homesites in several counties in Illinois, but is a serious problem at Giant City State Park in Jackson County. It also occurs along a roadside at Cave Hill in Saline County, Illinois.

Habitat

Round-leaved bittersweet mainly is associated with old homesites where it has escaped from cultivation into surrounding natural communities. It occurs in a variety of forest types, including undisturbed mesic and dry-mesic forest. It also is found in disturbed open areas such as roadsides.

Life History

This aggressive, perennial, woody vine climbs on rocks and trees and sometimes covers the ground and vegetation. Round-leaved bittersweet spreads vegetatively by underground roots that form new stems. It spreads rapidly into openings and undisturbed woodland and reproduces prolifically by seed. It is shade tolerant, and seedlings may stay suppressed for some time before released by disturbance.

Effects Upon Natural Areas

At Fern Rocks Nature Preserve in Jackson County, Illinois, it has covered the ground and vegetation, actually eliminating native ground-cover species in mesic and dry mesic woods. In the south, it climbs up to 60 feet in trees and reaches 4 inches in diameter. This vine constricts trees and shrubs and eventually kills them by shading. It is a serious potential threat because it spreads rapidly, invades mesic woods, and replaces spring ephemerals.

CONTROL RECOMMENDATIONS

RECOMMENDED PRACTICES IN NATURAL COMMUNITIES OF HIGH QUALITY

Where practical, individual vines should be pulled up by the roots and removed from the area by hand. If hand removal is not feasible (e.g. large populations), vines should be cut by hand and cut stems spot-treated with 100% Roundup (a formulation of glyphosphate) just after the last killing frost. A squirt bottle may be used to spot-treat the cut stumps or else herbicide can be wiped on each stump with a sponge applicator. Treatment should be prior to emergence of spring ephemerals. The herbicide applicator should carefully avoid contacting nontarget plants when applying herbicide, because Roundup is nonselective. By law, herbicides only may be applied as per label instructions and by licensed herbicide applicators or operators when working on public properties.

To maintain control, round-leaved bittersweet should be totally eradicated from the surrounding area where possible. Invading individuals should be pulled immediately and removed upon discovery.

RECOMMENDED PRACTICES ON BUFFER AND SEVERELY DISTURBED SITES

Same as above in areas where hand labor is available and practical. For large populations in severely degraded sites, foliar spraying with Crossbow (a mixture of 2,4-D and triclopyr), using backpack sprayers, will reduce the population. Crossbow should be mixed according to label instructions for foliar application. As with Roundup, care should be taken to avoid contacting nontarget plants with herbicide. **Do not spray so heavily that herbicide drips off the target plant.** The herbicide should be applied while backing away from the treated area to avoid walking through the wet herbicide. Crossbow is effective when applied in mid-late October.

FAILED OR INEFFECTIVE PRACTICES

- hand control: slow and labor-intensive.
- fire: often not desirable in mesic woodland environments.
- herbicides: should not be used during growing season when spring ephemerals and other native species likely are to be affected.
- no biological controls are known that are feasible in natural areas.

REFERENCES

Fernald, M. L. 1950. Gray's manual of botany, eighth edition. American Book Co., New York. 1632 pp.

Mohlenbrock R. H. 1986. Guide to the vascular flora of Illinois. Southern Illinois University Press, Carbondale. 507 pp.

Mohlenbrock, R. H., and J. W. Voigt. 1959. A flora of southern Illinois. Southern Illinois University Press, Carbondale. 390 pp.

Petrides, G. A. 1972. A field guide to trees and shrubs. Peterson Field Guide Series. Houghton Mifflin Co., Boston, Massachusetts. 428 pp.

Schwegman, J. E. 1988. Exotic invaders. Outdoor Highlights, mid-March issue, pp. 6-11.

PERSONAL COMMUNICATION

McFall, Don. 1988. Division of Natural Heritage, Illinois Department of Conservation, Springfield, Illinois.

Olson, Steve. 1988. Division of Nature Preserves, Indiana Department of Natural Resources, Tell City, Indiana.

Schwegman, John. 1988. Division of Natural Heritage, Illinois Department of Conservation, Springfield, Illinois.

Stritch, Larry. 1988. Shawnee National Forest, United States Forest Service, Harrisburg, Illinois.

West, K. Andrew. 1988. Division of Natural Heritage, Illinois Department of Conservation, Goreville, Illinois.

Written for the Illinois Nature Preserves Commission by:

Max Hutchison
Natural Land Institute
R.R. 1
Belknap, Illinois 62908

[Previous](#)

[VMG Main Page](#)
