

Invasive Plant Control in Maryland

HG 88
Rev. 3/2003; 9/2011

Most plants introduced to our country or region are beautiful and productive additions. Some, however, have escaped to become invasive and destructive. Known as non-native, exotic, or alien invasive plants, they spread unchecked because their natural controls--disease and predators--were left behind in their land of origin. Today they cost agriculture, industry, and government billions of dollars a year to control.

Invasive plants threaten our native plants and animals. Some native plants face extinction. Native wildlife suffers because it evolved dependent on native plants for food and shelter.

All invasive plants have one thing in common – mechanisms to colonize, out-compete, and exclude native vegetation. A few of the tactics they employ are: rampant growth rate, extra-long growing season, blocking light from other plants, monopolizing nutrients and water, prolific and multiple means of reproduction, seeds that stay viable in the soil for many years, and toxins in roots or leaves that stunt other plants.

CONTROL: The best and easiest control is early identification and quick removal. Established plants can often be eliminated, often easily, once good control methods are known. This publication highlights 12 top Maryland invasives listed by the MD Invasive Species Council. The degree of invasiveness may vary by region. Some plants appear in more than one category.

Invasives favor disturbed soils such as roadsides, new construction, and streambanks, as well as neglected spots such as abandoned fields. After invasives are removed, or whenever soil is vacant, be sure to plant quickly with desirable plants so invasives cannot move in.

When ornamental plants are discovered to be invasive, consider removing them. At the least, remove and destroy seeds and berries so the species cannot spread further. When the plant dies, replace it with a non-invasive ornamental.

Shrubs

Multiflora Rose (*Rosa multiflora*)

This Asian rose chokes out natives. Flowers are white. Native roses are usually pink. Birds spread the red rose hip seeds. Takes hold in sun or shade, especially in disturbed or neglected areas. Branches root where they touch soil. Also climbs trees like a vine. Forms impenetrable stands.

CONTROL: Dig up seedlings and moderate-size plants. For extensive infestations, spray foliage with glyphosate with spreader sticker, or treat freshly cut cane stumps with glyphosate. Follow-up with spot applications of glyphosate. Mowing prevents establishment. A disease called, rose rosette, may provide relief from this pest.



Other invasive shrubs:*

Bush honeysuckles (all *Lonicera* species except our native scarlet-flowered one), privet (*Ligustrum* species), burning bush/winged euonymus (*Euonymus alatus*), Japanese barberry (*Berberis thunbergii*)—red and green varieties, wineberry (*Rubus phoenicolasius*).

TREES

Tree of Heaven (*Ailanthus altissima*)

This fast-growing native of China will grow in the worst conditions. Leaves have a rank odor when crushed. Smooth gray bark resembles that of sumac but has prominent leaf scars. Greenish flowers on female trees make seed clusters which hang on over winter. Also colonizes by suckers. Root toxins stunt other plants. Incredibly tough, this tree can't be killed by merely cutting it down.

CONTROL: Hand pull youngest seedlings. Cut down trees; immediately treat stump with maximum strength triclopyr. Or hack hole every 1" around trunk (or girdle) and squirt in triclopyr. Treat regrowth promptly with triclopyr to prevent resprouting at higher density. Glyphosate not effective.

Norway Maple (*Acer platanoides*)

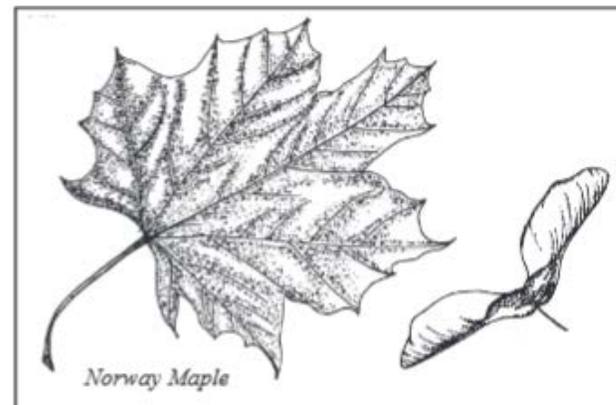
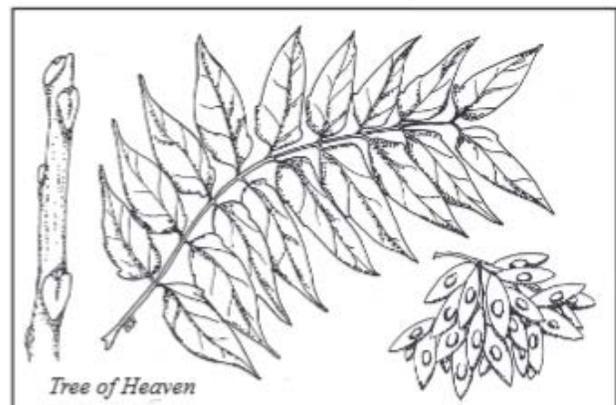
This large Eurasian tree grows into a dense, round form. Leaves turn yellow very late in fall. Its heavy shade, root toxins, and root competition suppress growth around it. Plentiful seeds can grow in forest shade and replace native trees. Milky sap distinguishes it from sugar maple.

CONTROL: Hand pull seedlings. Treat freshly cut tree stump with glyphosate or triclopyr, or girdle the trunk, or hack holes in trunk and squirt in glyphosate or triclopyr.

Autumn Olive (*Elaeagnus umbellata*)

This shrub or small tree from East Asia has gray-green leaves with silvery undersides and spiny branches. Flowers are fragrant; prolific berries are yellow to reddish. Grows in poor soils, low light, and outcompetes natives.

CONTROL: Hand pull seedlings. Apply glyphosate or triclopyr to freshly cut stumps. Do not mow or burn down, because it will simply resprout.



Other invasive trees:*

Sawtooth oak (*Quercus acutissima*), Bradford or other ornamental pears (*Pyrus calleryana*), empress tree (*Paulownia tomentosa*), mimosa (*Albizia julibrissin*), white mulberry (*Morus alba*) spreads disease which kills native red mulberry, Siberian elm (*Ulmus pumila*).

GRASSES

Vietnamese/Japanese Stiltgrass (*Microstegium vimineum*)

Bright green grass has silver hairs down the center of its short bamboo-like blade. Invades and alters disturbed soils in sun or shade. In fall, this Asian annual elongates quickly, then produces seed banks which stay viable in the soil for years. **CONTROL:** Prevent going to seed. In lawns, apply a spring crabgrass preemergent. Hand pulls easily--very little root. Mow to help prevent seed formation. Use glyphosate on large patches. Bag plants that have gone to seed and landfill or burn.



Other invasive grasses:*

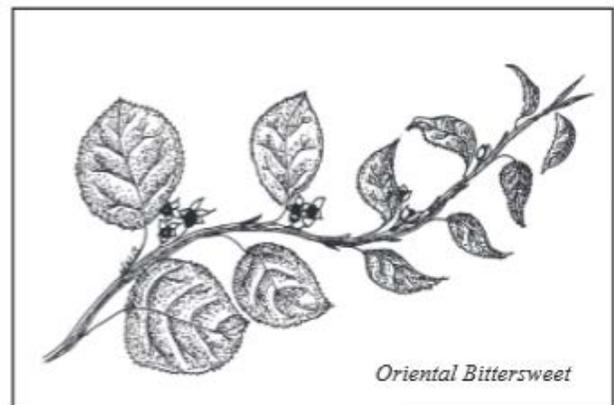
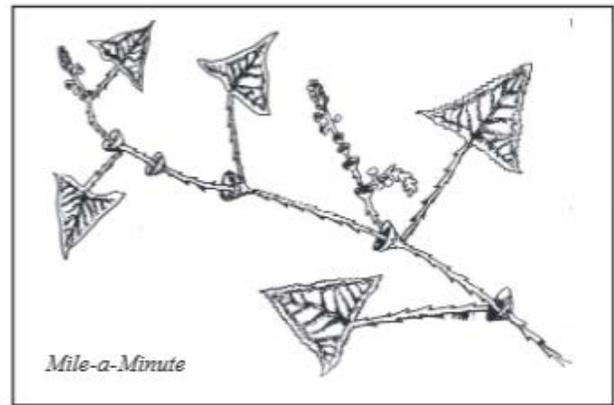
Common reed (*Phragmites australis*), giant reed (*Arundo donax*), pampas grass (*Cortaderia lloana* and *C. jubata*), weeping lovegrass (*Eragrostis curvula*), Japanese silver grass (*Miscanthus sinensis*), reed canary grass (*Phalaris arundinacea*), Chinese lespedeza (*Lespedeza cuneata*), running bamboo (*Phyllostachys* spp.) (unless controlled in container).

VINES AND GROWDCOVERS

Mile-a-Minute Vine/ Devil's Tear Thumb (*Polygonum perfoliatum*)

This barbed annual vine, native of Asia, can grow 25' in a season, sun or shade. Turquoise berries spread widely by birds. Rapidly shades and smothers native plants.

CONTROL: Hand pulls easily with gloves. Use glyphosate on extensive growth. Prevent berries. Bag or burn berries.



Oriental Bittersweet (*Celastrus orbiculatus*)

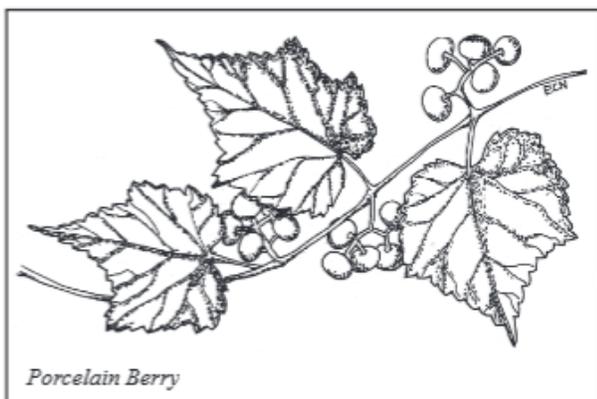
This woody Asian vine has almost replaced our native bittersweet. Leaves are glossy round on young growth, more pointed on older. Roots are red-orange. Vines strangle, smother and pull down trees. Orange berries all along branch (native has them only at the ends) are spread by birds and human admirers. Roots will sucker.

CONTROL: Pull seedlings. Bag or burn berries. Treat freshly cut stumps with triclopyr.

Porcelain Berry (*Ampelopsis brevipedunculata*)

This woody Asian grape vine climbs high, shading out shrubs and young trees and eventually killing them. Leaves may be variegated or deeply lobed like grape leaves. Yellow flowers make porcelain-hard berries in loose, flat clusters changing in color from white to yellow, lilac, green and turquoise, with several colors present simultaneously.

CONTROL: Pull seedlings before they fruit. Bag or burn fruit before it ripens. Brush glyphosate full strength on freshly cut stumps.



Porcelain Berry

Other invasive vines and groundcovers:*

Kudzu (*Pueraria lobata*), Japanese honeysuckle (*Lonicera japonica*) has gold and white flowers. Native honeysuckle flowers can be several colors. Chinese and Japanese wisteria (*Wisteria sinensis*, *W. floribunda*), sweet autumn clematis (*Clematis terniflora*), English ivy (*Hedera helix*)**, vinca/periwinkle (*Vinca minor*)**, wintercreeper (*Euonymus fortunei*). [See also: Herbaceous Plants]

**Suitable only when vigilantly controlled so they cannot escape to nearby wild or park lands and produce no berries.

WETLAND PLANTS

Purple Loosestrife (*Lythrum salicaria*, *L. virgatum*)

Also called purple plague, this European perennial's purple flower stalks grow up to 4 feet. One plant produces over a million seeds. Can regenerate from root or stem pieces. Often marketed as sterile, it is not entirely. Useless to wildlife, loosestrife takes over entire marsh habitats and has destroyed millions of wetland acres.

CONTROL: Hand-pull small plantings **before** they flower. (They can flower and set seed at the same time.) Do not dig. Root bits regenerate. Bag, burn, or landfill. Treat large plants with glyphosate formulated for wetlands. Treat again as needed for a few years until seed bank is exhausted.



Purple Loosestrife

Other invasive wetland plants:*

Common reed (*Phragmites australis*), giant reed (*Arundo donax*), Mexican bamboo/Japanese knotweed, giant knotweed (*Polygonum cuspidatum*, *sachalinense*), lesser celandine/celandine buttercup (*Ranunculus ficaria*).

HERBACEOUS PLANTS

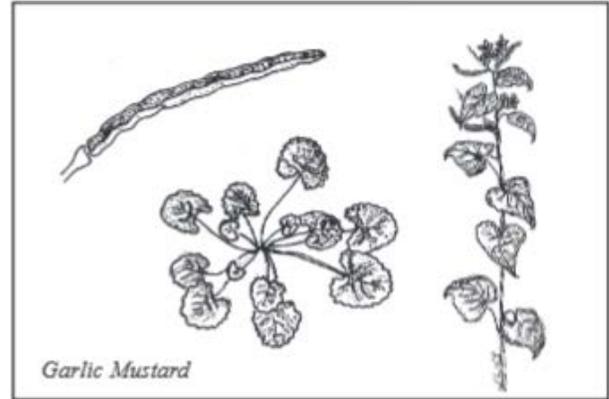
Canada Thistle, Bull Thistle (*Cirsium arvense*, *C. vulgare*)

This perennial and biennial respectively (actually from Europe) are official noxious weeds in Maryland. They prefer full sun and quickly form dense patches with purple or pink flowers. They serve as hosts for insect and disease pests.

CONTROL: Because of their extensive root system, NEVER ROTOTILL thistles. Each piece will create a new plant. Hand pulling is useless. It is possible to hand-dig seedlings in soft soil, if all root is scrupulously removed. Either do not allow flowering or remove flowers before seed forms. In lawns, spot treat with broad-leaf weed killer. Apply glyphosate to foliage or fresh-cut stems.



Garlic Mustard (*Alliaria petiolata*, *A. officinalis*)
This herb from Europe and Asia is biennial. The first year it is a ground-hugging rosette. The second year its stem shoots up to 46". The leaves and stems smell of garlic and taste of mustard. White flower clusters produce long seed capsules. In sun or shade, it invades woods, stream banks and roadsides.
CONTROL: Hand-pull before seeds ripen, removing all root. May use glyphosate on foliage. Seed-bearing plants can be pulled, or merely cut, and burnt or landfilled.



Japanese Knotweed/Mexican Bamboo (*Polygonum cuspidatum*)

The hollow shoots of this Japanese native have knotty bamboo-like joints. Flowers are greenish-white. Aggressive roots, 2-3 feet deep, enable it to form exclusive clumps, 6-8 feet tall, in sun or shade.
CONTROL: Before late-summer flowering, cut at least 3 times per season and treat freshly cut stumps and/or foliage with glyphosate. Black plastic mulch will kill.



Other invasive herbaceous plants:*

Indian strawberry (*Duchesnea indica*) yellow flowers, unlike white-flowered true strawberry, bugleweed (*Ajuga reptans*), Japanese perilla/beefsteak plant (*Perilla frutescens*), spotted knapweed (*Centaurea maculosa*), creeping Charlie/ground ivy/Gill-over-the-ground (*Glechoma hederacea*), and other mints such as spearmint (*Mentha spicata*), henbit (*Lamium amplexicaule*) and purple dead nettle (*L. purpureum*).

Websites for further information:

The Nature Conservancy <http://www.nature.org/>

Plant Conservation Alliance www.nps.gov/plants/alien

The Maryland Native Plant Society www.mdflora.org

* Some of the other invasives included are plants identified by other agencies or organizations.

Line Drawings: Joan Burleyson, Ellen Nibali

Reviewers: David Clement, Ph.D., Home & Garden Information Ctr.; Louisa Thompson, MD Master Gardener; MISC; Scott Aker, IPM Coordinator, National Arboretum, USDA.

Source: *Control of Invasive Non-Native Plants*, Louisa Thompson, Maryland Native Plant Society, 1999.

-

Do you have a plant or insect pest question?
Visit us at <http://www.extension.umd.edu/hgic>

Ellen Nibali, Horticultural Consultant, HGIC; Erin Marlatt, UMD student intern

This publication is a series of publications of the University of Maryland Extension and The Home and Garden Information Center. For more information on related publications and programs, <http://extension.umd.edu/hgic>. Please visit <http://extension.umd.edu/> to find out more about Extension programs in Maryland.

The University of Maryland, College of Agriculture and Natural Resources programs are open to all and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry, or national origin, marital status, genetic information, or political affiliation, or gender identity and expression