Especially invasive in shaded forests without a dense middle story. Monotypic stands exclude most other vegetation. Seeds remain viable in soil at least three years.

Hand Pulling – For small patches, repeated pulling of entire plant and root systems is effective. The plants can self-fertilize. If seeds are developing the plant must be bagged and removed from site. Repeated pulling may be required until seed bank is depleted. Mow multiple times in late summer when plants begin to flower to avoid seed production.

Best removal time – April–August

SEASON: FALL / ANYTIME

Norway maple

Acer platanoides

Deciduous Tree

Invades forests, fields, and other natural habitats to form monotypic stands that create dense shade and displace native trees, shrubs and herbs. Tree grows 40–90 feet in height and has a broadly rounded crown. Bark is smooth at first but becomes black and furrowed with age.

Leaves are dark green with very pointed teeth and generally broader than long and opposite along stem. Wings of fruit spread to almost 1800 feet.

Identified by a milky white sap that oozes out of leaf veins and stalks when broken. Leaves turn a bright yellow late in the season (above photo) after native maples have dropped their leaves. Sold as "Crimson King", its seeds are invasive Norways.

Hand pulling – Hand pull seedlings, control saplings through mowing or cutting. Remove mature trees and treat stump with 25% or higher glyphosate or triclopyr.

Best removal time – Fall, year-round

Japanese Honeysuckle

Lonicera japonica

Woody trailing or climbing vine

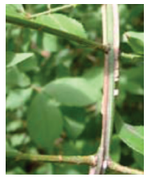
Introduced 200 years ago for erosion control and wildlife food and cover. Spreads vegetatively and through seeds. Grows in sun to medium shade. Smothers shrubs and small trees. Like ivy, it can grow higher and larger in diameter every year.

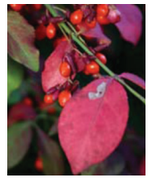
Identified by having leaves near the tips of vine that are opposite and not united. Leaves can be an oval or sometimes lobed and semi-evergreen. Flowers are white, fragrant, and age to yellow. Round black berries develop late summer.

Hand pulling – Remove vines and roots by hand. Be sure to pull out entire root system (photo near left of a large base sprouting in many directions).

Where it is too large an infestation to pull by hand, spray with a glyphosate–based herbicide in mid-November when honeysuckle still has green leaves and other plants are dormant. Stump-treat roots of cut plants.

Best removal time – November, year-sround





Burning Bush/ Winged Wahoo

Eunonymus alata

Deciduous perennial shrub

Sold widely for its deep red fall foliage, this invasive shrub is widely dispersed by birds who eat the berries, and, in many areas of our woods, it is taking over the understory layer.

Identified by distinctive corky wings growing on most twigs and branches. Note that the native Eunonymus species never have corky wings. Greenish-white flowers have four petals and bloom late April–June. Fruit is reddish/purplish ripening September to October, one-half inch long.

Hand pulling – Can be effective for small infestations. Stump-treat cut plants.

Multiflora rose

Rosa palustrus

Deciduous prickly perennial shrub

Spreads aggressively by seeds and roots. Smothers native vegetation and can grow up to 13 feet tall, found in fields, forests, meadows and stream-side, in shade and sun. Produces numerous fragrant clusters of white flowers in June that create countless red berries in fall. Seeds from these berries are dispersed by birds and can be viable in soil for many years. Twigs are reddish in winter.

Hand pulling – Dig entire root. Stump-treat cut stems.

Oriental Bittersweet

Celastrus orbiculatus

Deciduous woody vine

Vine can smother vegetation and vigorously climbs to 60 feet. Heavy vines up to several inches in diameter can topple trees.

Leaves are alternate, nearly as wide as long with finely toothed margins. Clusters of small greenish flowers split open to reveal three red-orange, fleshy arils with seeds which birds disperse far and wide.

Hand pulling – Effective for young seedlings. Note distinctive orange root. Cut vines at the base and immediately stump-treat mid-summer through December. For extensive infestations, foliar sprays may be the best way to avoid soil disturbance. Stump-treat cut stems.

Mention of any product does not imply endorsement. More information on chemical controls can be found at reference sites.

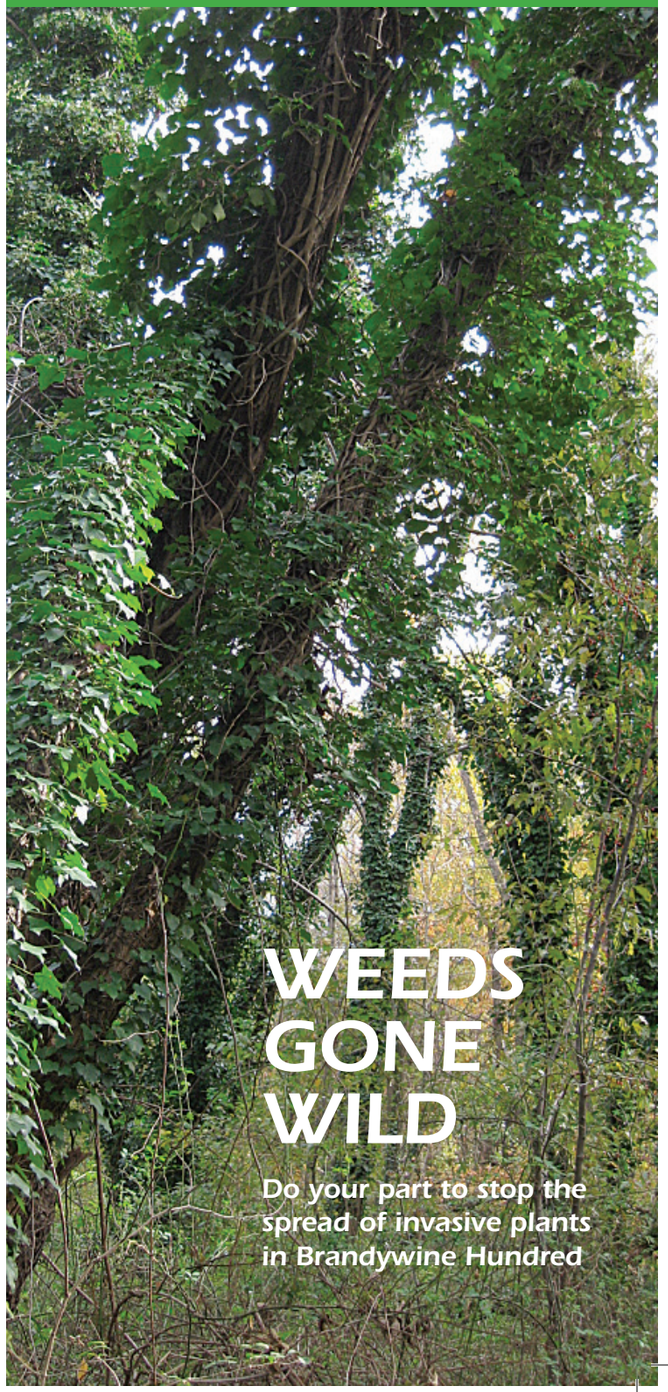
www.nps.gov/plants/alien/

www.invasive.org http://www.delawareinvasives.net /invasive_species/ invasive_plants.

www.dnrec.state.de.us/fw/wildrehe.htm

Printed on recycled paper

Naamans Creek Watershed Association



Naamans Creek Watershed Association

Why are we concerned about weeds gone wild?

Invasive species negatively impact our local ecosystems because they:

- Spread quickly and displace native plants
- Often smother native plants and trees
- Reduce food sources for native insects and birds
- Alter soil conditions, such as soil pH
- Replace complex ecosystems with monocultures
- Make plants and ecosystems susceptible to disease

How can you identify invasive plants?

Learn to recognize invasive plants in our community and stop their spread. This brochure highlights 10 of the 30 plant species on the Delaware Invasive Species List. Please familiarize yourself with them all at **www.delawareinvasives.net /invasive_species/invasive_plants**.

Help us to prevent our natural areas and roadsides becoming more like the photograph above taken off of Delaware Rt. 48, just north of Rt. 141.

General removal techniques

Hand pulling – Effective for small infestations or young seedlings. Be careful to remove all parts of the roots as any part may sprout.

Systemic herbicide – Trees and shrubs may resprout when cut. Treat cut-stems with systemic herbicide to kill roots. The least toxic stump-treatment: 25% glyphosate, apply late summer through early winter.

Foliar spray – Glyphosate-based herbicide like Round-up™ in early spring before natives have leafed out; or fall after natives are dormant.

Use all chemicals with care!

Naamans Creek Watershed Association
Volunteers in Brandywine Hundred
Wilmington, Delaware 19810
naamansCWA@ymail.com

NCWA January 2013

SEASON: WINTER / ANYTIME

English Ivy
Hedera helix
Groundcover, Evergreen climbing woody vine

Introduced by early European settlers, grows along ground and vigorously attaches to trees, brickwork, etc. While extremely dependable as a year round ground cover in controlled areas, it is a serious threat to all forested and open areas. It covers ground, smothering native vegetation, including trees when it grows up and covers them completely (see cover photo). Can transmit diseases harmful to trees.

Note that older English ivy vines produce seeds from heart-shaped leaves. It is very important to cut ivy before this stage and STOP THE SPREAD of seeds!

Hand Pulling – Smaller infestations may be pulled or cut by hand. Large vines will need a saw. Cut vines close to the ground (stump-treat large cut vines) and pull roots out around base of the tree. Monitor yearly.

Employing a combination of manual, mechanical and chemical control methods for large infestations is necessary to prevent soil disturbance/erosion. For details about chemical treatments see **www.nps.gov/plants/alien/fact/hehe1.htm**.

Best removal time – Winter is a great time to cut ivy when other plants are dormant, but it can be removed anytime.

SEASON: SPRING

Lesser Celandine
Rannunculus ficaria
Perennial herbaceous plant

Plants have a basal rosette of dark green, shiny, stalked leaves that are kidney-to-heart shaped. Pretty but deadly yellow flowers have eight glossy petals and open in March and April.

Prefers moist floodplains, but grows everywhere including lawns.

Only above ground in spring when it does seed, it also spreads underground as finger-like tubers all year.

Hand pulling – Smaller infestations may be pulled by hand or dug up using a hand trowel. Important to remove all bulblets and tubers (left).

Foliar Spray – Glyphosate mixed with water and a non-ionic surfactant to foliage is best applied when flowering and in March to avoid destroying natural vegetation (Rodeo™ for wetland areas). Full effect may take several weeks to several years.

Best removal time – March

Garlic Mustard
Alliaria petiolata
Evergreen biennial broadleaf herb

First-year plants: A short rosette of toothed roundish leaves. Mature second-year plants grow to three feet tall with numerous blooms. Small quarter-inch four-petaled white flowers bloom late April–June. Thin, upright seed pods up to two inches long appear shortly after, each with numerous seeds.

Occurs in moist, shaded soil of river floodplains, forests, roadsides, edges of woods, trail edges, and forest openings. Displaces native spring wildflowers.

Hand pulling – Very effective for both first year rosettes and mature plants. Rosettes can be pulled any time. If mature flowering plants are present with ANY flowers or developing seed pods, they must be bagged and removed from the site. Mature plants that have been pulled can still produce viable seeds from flowers and seed pods along the stem. Seeds can survive for seven years in the soil - to get rid of this weed you will need to continue monitoring and pulling it for several years.

Foliar spray – Effective for first-year rosettes, in the fall when native plants are dormant.

Best removal time – Year-round. Flowering plant—before flowers/ seeds are produced, springtime.

SEASON: SUMMER

Mile-A-Minute Weed
Persicara Perfoliata
Annual herbaceous trailing vine

Trailing vine that vigorously climbs. Inconspicuous white flowers bloom early July to fall. Leaves are light green and shaped like equilateral triangles. Spherical pea-sized, blue fruit containing several seeds ripen August to fall.

Colonizes open and disturbed areas along the edges of woods, wetlands, streams, roadsides, and uncultivated open fields. Grows rapidly scrambling over existing plants, limiting their photosynthesis. Seeds can remain viable in the soil for at least two years and are widely dispersed by birds

Hand pulling – Can be effective for young plants. Stems are armed with sharp recurved thorns so take care to avoid injury. Entire root system must be removed to avoid resprouting.

Best removal time – April–July

SEASON: SUMMER / EARLY FALL

Japanese Stilt Grass
Microstegium vimineum
Annual or short-lived perennial grass

Grows to three feet tall but most often in sprawling fashion. Best identified by silver streak along center of upper leaf surface and hairless nodes on stems. Flowers and seeds borne on one to six, slender, one to two-inch long heads in Sept. and Oct. Adapted to growing in full shade but can also tolerate full sun.

Invades a wide variety of habitats including stream banks, floodplains, ditches, roadsides, trail edges and yards.