

Information from:

**“Weeds Gone Wild:
Alien Plant Invaders of Natural Areas”**

<http://www.nps.gov/plants/alien/index.htm>

**The Nature Conservancy’s
Wildland Invasive Species Program**

<http://tncweeds.ucdavis.edu>

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Marc Imlay demonstration of
Weed Wrench

Photo by Jim MacDonald

English Ivy

Hedera helix

DESCRIPTION:

Native to Europe, western Asia, and northern Africa, English ivy is an evergreen, climbing vine.

INVASIVE CHARACTERISTICS:

English ivy threatens all vegetation levels of forested and open areas, growing along the ground as well as into the forest canopy.



Photo by Louisa Thompson



Illustration by Christina Allen



Photo by Sally Gagné

English Ivy

Hedera helix

REMOVAL STRATEGIES:

English ivy can usually be removed by hand pulling if the soil is loose or wet, although some plants may require use of a spading fork to get out the roots. They can be left on-site. Make a pile with roots aimed slightly upwards and watch for any re-growth. Hack and squirt thick vines climbing up into the tree canopy with glyphosate (e.g. round-up).



Photo by Christina Allen

NOTE:

Compounds in English ivy are somewhat toxic and include glycosides that cause vomiting, diarrhea, nervous conditions and dermatitis in sensitive individuals.

Therefore, volunteers may wish to wear gloves.



Photo by Louisa Thompson

Garlic Mustard

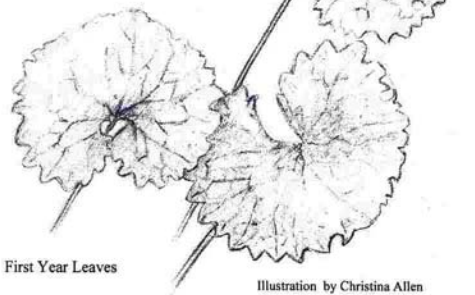
Alliaria petiolata

DESCRIPTION:

Garlic mustard is a biennial herb native to Europe in the mustard family with stalked, triangular to kidney-shaped, coarsely toothed leaves that give off an odor of garlic when crushed. Flowering plants of garlic mustard reach from 6" to 3-1/2 feet in height and produce buttonlike clusters of small white flowers, each with four petals in the shape of a cross. Certain native violets occur alongside garlic mustard and may be mistaken for it.

INVASIVE CHARACTERISTICS:

Garlic mustard poses a severe threat to native plants and animals in forest communities. Many native wildflowers that complete their life cycles in the springtime (e.g., spring beauty, wild ginger, bloodroot, Dutchman's breeches, hepatica, toothworts, and trilliums) occur in the same habitat as garlic mustard. Garlic mustard out-competes native plants by aggressively monopolizing light, moisture, nutrients, soil and space. Wildlife species that depend on these early plants for their foliage, pollen, nectar, fruits, seeds and roots, are deprived of these essential food sources.



First Year Leaves

Illustration by Christina Allen



Illustrations by
Dan Beisel

Garlic Mustard

Alliaria petiolata

REMOVAL STRATEGIES:

Hand removal of second year plants. The goal is to prevent seed production until the stored seed is exhausted, five years or more. This may be a long-term commitment. Remove the plant with its entire root system because new plants can sprout from root fragments. Pulled plants can be left onsite until mid April.

Once seedpods are present, but before the seeds have matured or scattered, the stalks can be bagged and removed from the site to help prevent continued buildup of seed stores. Once garlic mustard has seed pods that pop open when disturbed, do NOT pull it. You're likely to scatter the seed further than it would otherwise go. If it has unripe seed pods, i.e. they don't pop open, pull or cut it, bag, and remove (send to landfill).

For very heavy infestations, where the risk to desirable plant species is minimal, application of the systemic herbicide glyphosate (e.g., Roundup) is effective. Herbicide may be applied at any time of year, including winter (to kill over-wintering rosettes), as long as the temperature is above 50 degrees F. and rain is not expected for about 8 hours. Extreme care must be taken not to get glyphosate on desirable plants as the product is non-selective and will kill almost any plant it contacts.



Photo by Sally Gagné



Photo by Louisa Thompson

Japanese Honeysuckle

Lonicera japonica

DESCRIPTION:

Evergreen perennial trailing and climbing vine that spreads by seeds, underground rhizomes, and aboveground runners. Opposite ovate leaves (young leaves often lobed), 4-8 cm long, with a short petiole and fragrant white (fading to yellow) tubular flowers. It has black berries, in contrast to the red to orange berries of native honeysuckle.

Lonicera japonica is native to east Asia, including Japan and Korea.

INVASIVE CHARACTERISTICS:

Japanese honeysuckle strangles and topples trees and shrubs and in forest openings excludes most shrubs and herbs resulting in a simplified, increasingly open understory.



Illustration by Paula Behm-Windle



Vine with Berries
Photo by Louisa Thompson



Vine with flowers
Photo by Louisa Thompson

Japanese Honeysuckle

Lonicera japonica

REMOVAL STRATEGIES:

Removing above-ground stems by pulling will not kill *Lonicera japonica* as it will resprout from subterranean buds and roots.

Pull out Japanese honeysuckle by the roots in Winter wherever we see it up in the trees, aim the roots upward and tie them in place. The absence of light energy causes the trailing vines to decline precipitously next year. Thus we control 90% of the honeysuckle with 10% of the effort and minimal soil disturbance [do not pull it out of the trees and watch for native vines (moonseed, trumpet vine, native grape etc.)] This method greatly reduces spraying requirements. Use Roundup (glyphosate) or triclopyr in winter or late fall to avoid natives.



Vine girdling an Ironwood
Photo by Louisa Thompson

Japanese Stiltgrass

Microstegium vimineum

DESCRIPTION:

This annual grass can grow to 3 feet in height, but is usually less than 12" tall. It has thin, alternate, lance-shaped leaves that have a silver stripe of reflective hairs down the middle.

Leersia virginica is a native that grows in the same habitats and has a similar general growth form as well as the whitened offset midrib. *Leersia virginica* has hairy/pubescent nodes and *Microstegium vimineum* does not.

INVASIVE CHARACTERISTICS:

Stiltgrass can quickly form a mono-culture over a large land area.



Photo by Louisa Thompson



Illustration by Christina Allen



Photo by Jane Osburn

Japanese Stiltgrass

Microstegium vimineum

REMOVAL STRATEGIES:

Stiltgrass is in peak bloom in September, and removal at this time forestalls seed production. Removal can be accomplished by hand pulling, mowing, or weed-wacking. For the worst infestations, a systemic herbicide such as glyphosate (sold as Roundup, or Rodeo for wetland areas) can be used.



Photo by Jane Osburn



Photo by Sally Gagné

Multiflora Rose

Rosa multiflora

DESCRIPTION:

This thorny, semi-evergreen shrub has leaves divided into five to eleven sharply toothed leaflets. Distinguish multiflora rose from other roses by the pair of fringed stipules at the base of each leaf stalk. Clusters of one inch diameter flowers (white to pink) appear in May or June. Thorns are hard and curved. Clusters of red fruit typically persist through much of the winter.

INVASIVE CHARACTERISTICS:

Multiflora rose is extremely prolific and can form impenetrable thickets, readily invading open woodlands, forest edges, and successional fields.



Leaf detail
Photo by Jane Osburn



Illustration by Christina Allen



Stem detail
Photo by Louisa Thompson

Multiflora Rose

Rosa multiflora

REMOVAL STRATEGIES:

Multiflora rose can often be removed with the use of a spading fork to loosen the roots. Be sure to remove the entire crown and all large roots. Do not leave in contact with soil: both tips and cut stems can form new roots. Larger, older plants may require application of a systemic herbicide (e.g., glyphosate) to freshly cut stumps in late Summer or Fall.

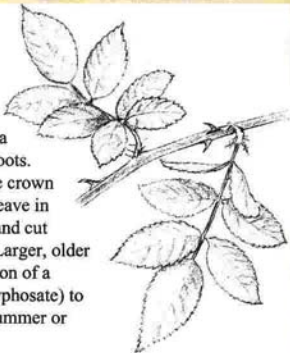


Illustration by Christina Allen

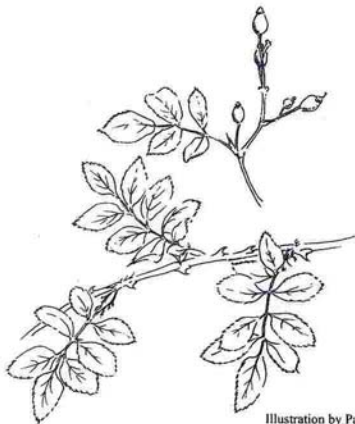


Illustration by Paula Behm-Windle



Blossoms
Photo by Louisa Thompson



Rose hip detail
Photo by Louisa Thompson



Photo by Sally Gagné

Tree of Heaven

Ailanthus altissima

DESCRIPTION:

This tree is known as a Chinese sumac, and it is often mistaken for native sumac or walnut. It has pinnate leaflets (many leaflets in pairs). Each leaflet is lance-shaped, with a single pointed tooth containing a distinguishing, visible gland at the bottom of each leaflet. The leaflets also give off an unpleasant odor when broken. The bark is very light in color and triangular leaf scars can be seen in the winter.

INVASIVE CHARACTERISTICS:

Ailanthus is highly invasive. The rapidly growing tree can reach a height of 8 feet during its first growing season. It can form a monoculture due to its tendency to form lateral roots which send up new shoots, prolific seed production and ability to outcompete natives. *Ailanthus* will release toxins that prevent the establishment of natives.



Photo by Louisa Thompson



Illustration by Alice Imlay



Photo by Sally Gagné

Tree of Heaven

Ailanthus altissima

REMOVAL STRATEGIES:

It is best to remove this tree before it seeds. Small ones can be removed by hand, especially if soil is already wet. Care has to be taken to remove all of the root, as any left in the soil will resprout. Seedlings can often be pulled, especially from sandy or moist soil, but if any resistance is felt, **DO NOT ATTEMPT TO PULL**. *Ailanthus* sends up lateral shoots — the plant you are pulling may be connected to a parent tree.

Larger trees can be cut with power or manual saws, hacked with machetes and then treated with a herbicide such as triclopyr late in the growing season to reduce the possibility of resprouting, or basal bark treatment. Generally, the successful removal of *Ailanthus* often requires the combined efforts of manual removal and the use of herbicide.

NOTE:

Correct identification of *Ailanthus* is essential. Several native shrubs, like sumacs, and trees, like ash, black walnut and pecan, can be confused with *Ailanthus*. Staghorn sumac (*Rhus typhina*), native to the eastern U.S., is distinguished from *Ailanthus* by its fuzzy, reddish-brown branches and leaf stems, erect, red, fuzzy fruits, and leaflets with toothed margins.



Photo by Louisa Thompson

Wineberry

Rubus phoenicolasius

DESCRIPTION:

This deciduous shrub has palmately-compound leaves and long reddish-brown, pencil-width stems that arch toward the ground. The red-brown color of the stems is the result of a dense covering of hairs. Wineberry is native to Japan and W. China and was introduced into England and the U.S. in the late 1800s by John Lewis Childs.

INVASIVE CHARACTERISTICS:

Wineberry forms thickets, and sometimes forms a mono-culture.



Wineberry with berries
Photo by Sally Gagné



Illustration by Cristina Allen



Photo by Sally Gagné

Wineberry

Rubus phoenicolasius



Photo by Sally Gagné

REMOVAL STRATEGIES:

Wineberry can usually be removed by hand pulling if the soil is damp, although some plants may require use of a spading fork to get out the roots.



Photo by Sally Gagné



Stem detail
Photo by Louisa Thompson



Photo by Jane Osburn

Notes:

This guide is meant to be used as a reference for parks and leaders of weed warrior projects. Please use the following guidelines for any weed removal projects:

- 1. Get approval or consent of the land owner for volunteer work prior to removing or treating any invasive species.
- 2. Use appropriate herbicides under guidance and approval of Certified Pesticide Operator designated by landowner or manager.