

**A Guide to
Invasive Species
in Brookline
Massachusetts**

Town of Brookline, MA
Parks and Open Space
Division

This guide will discuss the most prevalent invasive plant species in Brookline and how individuals and organizations can prevent and control these species.

What are invasive species?

Invasive species are a serious problem for the Town of Brookline and New England as a whole. Invasive species are defined as non-native species of animal, plant or microbe that has been introduced to an area and can potentially cause harm to the economy and environment by displacing native vegetation and therefore becoming the dominant species.

How did they get here?

Some non-native species were deliberately introduced as a means to control erosion, or as ornamental plants for landscaping, while others were selectively bred for their fruits or transported inadvertently by human activities. The plants that were chosen to control erosion are vigorous and fast growing plants that have become an unforeseen nuisance and have taken over slower growing native vegetation. The selectively bred plants attract birds and other wildlife that have been found to spread the seeds of the plants to other habitats. Humans have also inadvertently introduced invasive species by planting or collecting species that are invasive and discarding them in other locations. The biodiversity of an area can be changed by non-native species crowding out native species that provide food for birds and nectar for butterflies leading to not only the disappearance of the plant but the species that rely on that plant.



Management

Invasive species are difficult and costly to control. The U.S. spends an estimated \$78.5 billion annually on invasive species control. In Massachusetts alone there are at least 38 species of invasive or potentially invasive plants. The lack of predators or other natural controls allows the species to thrive, threatening native species and the stability of the entire ecosystem.

The State of Massachusetts has created several programs to monitor, educate and manage the spread of aquatic invasive plants and animals. Each species responds differently to control methods so before taking action do your research on the plant and which type of management methods are most effective for that species. Many plants can be removed by hand, mowed or cut. Herbicides can also effectively remove invasive plants, but should be used in accordance with the manufactures instructions and with discretion. Before application consult with a licensed applicator from the state Pesticide Bureau in the Massachusetts Department of Food and Agriculture or the Town's Conservation Commission. Finally, never apply herbicides prior to a rain event or near wetlands, rivers, streams or conservation areas. Refer to the following websites for more information on invasives:

[www. Invasivespecies.gov](http://www.Invasivespecies.gov)

www. Invasive.org/eastern

www.nature.org

Prevention

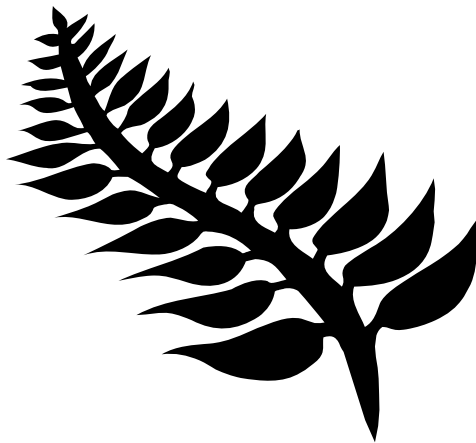
Prevent an invasive species outbreak from occurring in your backyard or neighborhood by following these tips:

Become educated on invasive species and learn how to identify them on your property. Before planting new or non-native plants in your backyard take the time to learn about the plant and how fast it will grow/spread.

Be a watch dog for invasive species and notify the managers of public lands if you see invasive species on these properties.

Be an Advocate for the planting of native species in your garden and municipal or town gardens. Encourage your local nursery to stock more native species.

For more information on invasive species in Brookline, contact the Parks and Open Space Division, 617-730-2088.



Japanese Honeysuckle



Scientific name: *Lonicera japonica*

Common names: Japanese honeysuckle, madreselva

History: Japanese honeysuckle was introduced into the U.S. 100 years ago as an ornamental vine.

Ecological Threat: Today, this climbing plant has taken over native species and dominates woodlands throughout the Eastern U.S. As the vine grows it wraps itself around the supporting tree or shrub cutting off the flow of water through the supporting plant.

Characteristics: Large white, fragrant flowers and berries.

Control Methods: Early detection is imperative. Small patches can be removed with repeated pulling of the root area. Cut and remove twinning vines to prevent the plant from girdling and killing other plants. It is also recommended that you mow twice a year, mid-July and again in early September.

Japanese Knotweed



Scientific name: *Polygonum cuspidatum*

Common names: Japanese knotweed, fleeceflower, Mexican bamboo, huzhang

History: Japanese Knotweed was introduced from Asia to the U.S. in the mid 18th century.

Ecological Threat: Japanese Knotweed thrives along roadsides and riparian areas. The plant invades native vegetation through reproduction when rhizome fragments break off and spread to downstream communities or through the dispersion of seeds.

Characteristics: Hollow bamboo-like stems with whitish green flowers that produce numerous, shiny, triangular, black seeds.

Control Methods: A minimum of four cuttings during the growing season are recommended to eliminate the underground reserves.

Purple Loosestrife



Scientific name: *Lythrum salicaria*

Common names: Purple loosestrife, spiked loosestrife

History: Introduced into North America in the 1800s from Europe as garden plants for the new settlers.

Ecological Threat: As seen in the above picture Purple loosestrife spreads rapidly and forms impenetrable mats, creating an atmosphere where few other plants can survive. This dominant plant disrupts the natural habitat of wetland areas.

Characteristics: Reddish– purple flowers abound from the cone shaped stalks of this wetland plant.

Control Methods: Unfortunately this plant is almost impossible to exterminate since each plant produces up to 2 million seeds each year. Biological controls using beetles is currently being explored as a means to control this species.

Garlic Mustard



Scientific name: *Alliaria petiolata*

Common names: Garlic mustard, hedge garlic, sauce-alone, jack-by-the-hedge, poor man's mustard, jack-in-the-bush, garlic root, garlicwort, mustard root

History: Garlic Mustard is native to Europe.

Ecological Threat: It will out compete any native plant in both floodplains and woodlands and is a pestiferous weed in roadsides, hedges and gardens.

Characteristics: Garlic Mustard, a biennial herb, is named for its distinctive odor of onion or garlic when crushed. It thrives in upland and floodplain forests, savannas, yards and along roadsides and prefers shade. Look for an odorous plant with small white flowers with four petals.

Control Methods: Small populations of garlic mustard can be pulled out by hand, while larger clusters would require herbicides.

Common Reed



Scientific name: *Phragmites australis*

Common name: Common reed

History: The origin of Common Reed is unclear, but it can be found in Europe, Africa, Asia, America and Australia.

Ecological Threat: This invasive species chokes out native vegetation, reducing wetland habitat.

Characteristics: Common Reed is a large grass that can grow to be 15 feet tall with a large hollow stalk and plume-like seed heads. This plant favors wetland areas such as marshes and along the edges of ponds, lakes and streams.

Control Methods: Intensive cutting and herbicide applications are recommended for control. Other methods include dredging, flooding during the growing season and burning.

Autumn Olive



Scientific name: *Elaeagnus umbel*

Common names: Autumn olive, Elaeagnus, Oleaster, Japanese Silverberry

History: Autumn Olive was introduced to the U.S. in 1830 from Asia. This plant was used in the U.S. to provide screening along highways, to prevent erosion and as cover for wildlife.

Ecological Threat: Autumn olive thrives in disturbed areas such as roadsides and pastures. It actually has the ability to change soil chemistry, making it a very difficult species to control. Currently it is not considered an invasive species in Illinois and is still sold, despite its rate of dispersion.

Characteristics: The underside of the leaves are silver colored, while the upper side is green. Produces fleshy red berries along with small fragrant white flowers.

Control Methods: The plant can be controlled by mechanical means in conjunction with herbicides (never apply herbicides near wetland or conservation areas).

Multiflora Rose



Scientific name: *Rosa multiflora*

Common names: Multiflora rose, baby rose, Japanese rose, seven-sisters rose, rambler rose, multiflowered rose

History: A member of the rose family it was introduced more than 40 years ago from Asia to act as a high quality wildlife cover, living fence and windbreaker.

Ecological Threat: Originally used as a screen or “living fence” this non-native plant soon became a threat by displacing native trees, shrubs and herbs.

Characteristics: Multiflora Rose produces delicate white flowers which produce tiny red fruits or hips.

Control Methods: This invasive species is best removed by hand-pulling small plants or for larger plants cutting or mowing during the growing season is recommended.

Tree of Heaven



Scientific name: *Ailanthus altissima*

Common names: Tree-of-heaven, China- sumac, varnish tree

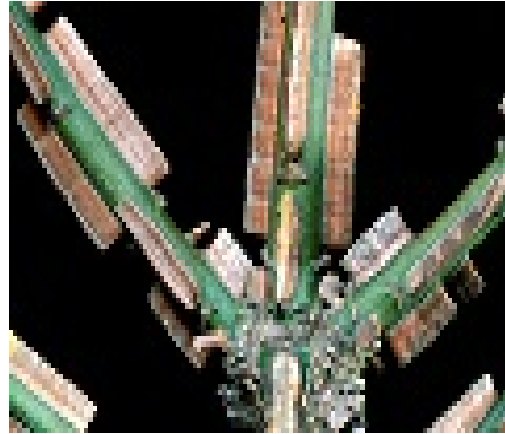
History: Tree of heaven was first introduced into the U.S. from China as a host tree for the Cynthia moth, which was used for silk production

Ecological Threat: Its ability to grow rapidly and in adverse conditions made the Tree of Heaven perfect for this job. It is most commonly seen along road sides and waste areas.

Characteristics: Persistent and aggressive weed through much of North America and Europe. It belongs to the Simaroubaceae (Quassia) family which is primarily tropical or subtropical.

Control Methods: Cuttings at ground level with power saw or manual saw is best when the tree has just begun to flower to prevent seed production. Girdling is also suggested for larger trees when herbicides can not be used. Finally, hand pulling is recommended on seedlings, which should be pulled before flowers or seeds are produced.

Winged Euonymus



Scientific Name: *Euonymus alatus*

Common Name: winged euonymus, burning bush, winged winged wahoo, winged spindle - tree, Japanese spindle - tree

History: This winged plant originated in Northeastern Asia and brought to the United States around 1860 as an ornamental shrub.

Ecological Threat: This ornamental shrub is commonly seen along interstate highways, as hedges and foundation plantings. *Euonymus alatus* is a hardy plant that can survive in most soils, can tolerate full shade and has few predators. The rapid spread of this plant is attributed to its popularity as an ornamental landscape plant. Birds have also contributed to the spread of this invasive species through the digestion and passing of the seeds.

Characteristics: The name winged euonymus derives from the prominent corky wings that are displayed on each side of the gray/brown stems of this plant. During the fall the winged euonymus displays a beautiful bright red foliage which has made it a popular ornamental planting. It produces small yellow to green color flowers.

Control Methods: Since this plant produces such a large number of seeds control is difficult. Suggested methods of control involve hand-pulling, cuttings including stump removal to prevent re-growth. The stumps of the cuttings can also be painted with glyphosate to prevent re-growth.

Norway Maple



Scientific Name: *acer platanoids*

Common Name: Norway Maple

History: Norway Maples originated in Europe (obviously Norway) and Western Asia and were brought to the United States as an ornamental plant for landscapes. They can be found in 13 states in the Eastern United States and are predominant in New England. Norway Maples were widely planted as street trees for their hardy nature and ability to survive in varied climates and urban cities. Norway Maples are harvested for wood and flooring products.

Ecological Threat: The Norway Maple became an invasive species when it started to “escape” cultivation, having successfully germinated seeds, and spread to forests where it out competes by shading sugar maples and the under story growth therefore changing the ecosystem of the forest.

Characteristics: Varies in size and color from the “Crimson King” that has nearly black foliage to the Emerald Jade that has jade, green leaves. The tree can grow to be 80 feet tall and in the early spring produces a yellow, green flower followed by leaves. The bark is grey to dark brown and a bit corky.

Control Methods: The best control method for this invasive species is to simply not plant Norway Maples.



Additional Non-Native Plants

We have chosen the most prevalent invasive species to highlight in this brochure. Invasive species are constantly changing and being redefined as to what may be an invasive species. For example what may be considered invasive in Massachusetts may not be in Georgia. A non-native species does not always have to be a foreign species. For more information on invasive species and alternative plantings please contact the Parks and Open Space Division at 617-730-2088 or the USDA Forest Service, National Park Service or the U.S. Fish and Wildlife Service. The following 21 non-native plants can also be found in Massachusetts:

Bishop's goutweed
Yellow Hornpoppy
Two-leaved water-milfoil
Dame's rocket
European water-milfoil
Yellow iris
Japanese barberry
Tall pepperweed
Carolina fanwort
Bell's honeysuckle
Curly pondweed
Oriental bittersweet
Common buckthorn
Black swallow-wort
Morrow's honeysuckle
Black locust
Creeping jenny
Glossy buckthorn
Water-chestnut
Orange day lily
Sycamore maple

