INVASIVE PLANTS

Wellesley's Least Wanted

What to Know Before you Pull, Clip or Mow

Wellesley Natural Resources Commission

2020

INTRODUCTION

What is an invasive species?

Often people call invasive species weeds. But the word weeds can have more than one definition. Weeds are any plant growing where we don't want it too. Scientifically it is a plant that has the ability to interfere with agriculture production or cause damage to natural ecosystems.

Invasive species are a subset of weeds. Invasive species are not native to the continent and therefore can compete with native species, and spread unchecked into undisturbed land, upsetting the balance of native species and changing the ecosystem. This is different and more damaging then aggressive native weeds.

Proper identification of plants is essential prior to beginning any removal procedures. Some invasive species have native lookalikes and removal of those, compounds the damages to the ecosystem. In an effort to prevent the accidental spread of invasive species, proper removal techniques must be followed. Before removing any vegetation from wetland areas or town property, contact the NRC for authorization and do not remove plants from others private property without permission.

INVASIVE SPECIES ABUNDANT IN WELLESLEY

- *Euonymus alatus:* Burning bush
- *Euonymus fortunei*: Winter creeper
- *Rosa multiflora:* Multiflora rose
- *Celastrus orbiculatus:* Oriental bittersweet
- *Reynoutria japonica:* Japanese knotweed
- *Frangula alnus*: Glossy buckthorn
- *Alliaria petiolate*: Garlic mustard

INVASIVE SPECIES

Euonymus alatus and *Euonymus fortunei*

COMMON NAME AND NOTES

Burning Bush – *Euonymus alatus* (Winged Euonymus) and Winter Creeper - *Euonymus fortunei* –are both plants in the Bittersweet family. Ea=deciduous shrub Ef=woody vine

Flower: April-June

Fruit: September-Winter

Native range: China, Korea, Japan

History: Winged Euonymus was introduced in the 1860's as an ornamental, Winter Creeper was introduced in 1907 as a ground cover.

Habitat: *Ea* is found in forests, streambanks, and hedgerows, near populated areas. *Ef is* found in disturbed forests, thickets, and floodplains.

Environmental impact: *Ea* fruit is eaten by birds, seeds get spread, plants tolerate shade and form dense thickets. *Af* due to ground cover nature, chokes out native plants, vines can kill trees and shrubs they grow on.

Identification features: *Ea* = Deciduous, upright shrub, stems are winged, red fruit is in a purplish capsule. *Ef* = Evergreen vine, crawling or sprawling, with aerial rootlets, not winged, capsule pale whitish, turns brown with age

Both *Ea* and *Ef* have a 4-part flower and fruit

Removal methods: Mechanical: Pull or dig up young plants when soil is moist. All parts of plants including roots and fragments should be removed from the soil and the location to avoid regrowth.

NATIVE SPECIES

Euonymus americanus

Euonymus americanis

COMMON NAME AND NOTES

Euonymus americanus is a native deciduous flowering shrub whose common names include **strawberry bush, American strawberry bush, bursting-heart, hearts-a-bustin** and **hearts-bustin'-with-love**. It grows up to 2 meters tall with oppositely arranged leaves up to 10 centimeters long with non-winged stems. Flowers are up to 2.2 centimeters long. The fruit capsule is about 1.5 centimeters wide with a red warty or spiny covering that splits into five sections to reveal 5 bright red seeds.

Flower: May -July

Fruit: August - October

Habitat: moist soil in forests, floodplains, and thickets.

Ecological benefits: Native Euonymus fruits are eaten by songbirds, and the flowers attract sweet bees, flies, moths and other native pollinators. Deer browse this shrub and overpopulation of deer, threaten this shrub.

INVASIVE SPECIES

Rosa multiflora

COMMON NAME AND NOTES

Multiflora Rose is an invasive species in the rose family. It is a deciduous shrub.

Flower: May - June

Fruit: August - winter

Native range: Japan, Korea

History: Introduced as a rootstock for rose cultivation in 1866, in the 1930's it was widely promoted for erosion control and as a living fence. Multiflora Rose has been promoted as beneficial for wildlife for decades.

Habitat: open woodlands, forest edges, old fields, and thickets, tolerates shade.

Environmental impact: provide winter cover and food for songbirds, an important food source for overwintering fruit eating species like Northern Mockingbird. Despite benefits, this invasive species displaces native vegetation, creating impenetrable thickets, especially in old open fields and bordering wetlands.

Removal methods: Remove smaller plants when soil is moist by pulling by hand. Larger plants need to be dug out, removing entire root system. Repeated mowing or cutting may prevent spread but will not eradicate it. Branches with berries should be bagged and disposed of responsibly to prevent spread.

NATIVE SPECIES

Rosa carolina, R palustris, R virginiana

Rosa carolina

Rosa palustris

Rosa virginiana

COMMON NAMES AND NOTES

Native roses – *Rosa Carolina (Pasture rose), R palustris (Swamp rose),* and *R virginiana (Wild rose, Prairie rose)* are native deciduous shrubs in the rose family.

Flower: May - July

Fruit: August - Winter

Habitat: Same as invasive species, but each native is specialized for the habitat where it grows. Native species provide same benefits without invasive tendencies.

Ecological benefits: Native species are the preferred browser food for deer, rodents, beaver, rabbits, and other mammals. Native blossoms are important for a variety of pollinating bees and flies.

INVASIVE SPECIES

Celastrus orbiculatus

COMMON NAME AND NOTES

Oriental bittersweet is a woody broad leaf vine with flowers and fruits found where the leaf meets the vine. The fruit is red, in a yellow capsule, and there are 2-3 flowers/fruits to a cluster.

Flowers: May - June

Fruits: September - November

Native range: China, Korea, Japan

History: Introduced in 1860's as an ornamental.

Habitat: Forests, woodlands, forest edges, wet land areas, fields.

Environmental impact: Seeds are spread by fruit eating birds. Oriental bittersweet has a competitive advantage over native bittersweet, due to lower level of seed dormancy and seedling ability to tolerate shade.

Deer browsing may limit oriental bittersweet density in forests. Oriental and American Bittersweet can hybridize.

Removal method: Mechanical removal by hand. Grasp and pull out seedlings and their roots when soil is moist, before flower buds form. If plants are pulled while in fruit, berries should be bagged and disposed of properly. Repeat treatment throughout growing season, larger vines can be repeatedly cut to ground level to exhaust root stores.

NATIVE SPECIES

Celastrus scandens

COMMON NAME AND NOTES

American bittersweet is a woody vine, its leaves are narrower then Oriental bittersweet. The fruits and flowers form in clusters at the end of the stem, an orange capsule surrounds the red fruits there are 6 or more per cluster.

Flowers: May - July

Fruits: September - November

Habitat: dry fields, thickets, and hedgerows.

Ecological benefits: provides food for 15 or more bird species and several small mammals. Fruits stay on vines all winter, providing essential food in winter. Vines provide nesting cover for songbirds and the flowers are important for bees and moth caterpillars.

INVASIVE SPECIES

Reynoutria japonica

COMMON NAME AND NOTES

Japanese knotweed is a large species of herbaceous perennial plant. It has hollow stems that resemble bamboo and can grow 3 - 4 meters tall each season. Its leaves are broad and its flowers are small white or cream colored. It is one of the world's worst invasive species.

Flowers: August - September

Fruits: September - October

Native range: China, Korea, Japan

History: Listed by the World Conservation Union as one of the world's worst invasive species, can be found in 42 of the 50 United States. The plant was introduced from Japan to the UK as an ornamental in 1825 and then from there to North America in the late nineteenth century.

Habitat: Forests, woodlands, forest edges, wet land areas, fields.

Environmental impact: The deep invasive root system and strong seasonal growth can damage roads, sidewalks, building foundations, retaining walls and other architectural sites. It decreases water carrying capacity in flood channels. It forms dense thick colonies that crowd out native herbaceous species. It can withstand a wide range of soil type, PH, salinity, and temperature and is resilient to cutting by re-sprouting from the roots.

Removal method: The large underground root system of the Japanese knotweed plant can make eradication difficult. Above ground repeated cuttings of the plant throughout the grow season can weaken roots. It can take several years of vigilant removal to eradicate a given population. Additional control methods include covering the plant in black rubber, or by girdling the root system.

INVASIVE SPECIES

Frangula alnus



COMMON NAME AND NOTES

Glossy Buckthorn is a single stem or sometimes multiple stem shrub or small tree. It has glossy leaves that are dull on the underside, that grow alternately on the branch. It produces berries that ripen from green to purple, with a seed inside. The plant can grow up to twenty feet, and can reproduce sexually, by insect pollination, having both male and female reproductive parts on each flower, and asexually by vegetative reproduction. This means it takes only one plant to produce a colony of reproducing offspring and if plants are cut back and not completely removed, they will sprout, growing back bigger, with more branches, flowers, and seeds than the original or uncut stems, compounding the problem.

Flowers: April – June

Fruits: July – mid-October

Native range: Asia, North America, and parts of Europe

History: Brought over from Europe in the early 1800's as a hedging material.

Habitat: The plant is shade tolerant, but often grows in open fields, along field edges, roads, paths and other sunny areas.

Environmental impact: Leaves of this plant emerge earlier in spring then other native species and holds leaves longer through fall, allowing the plant to shade out other plants and produce more food through photosynthesis which it stores in its roots allowing for better winter survival and spring new growth.

Removal methods: Mechanical control methods such as pulling out seedlings, digging out larger trees and shrubs and repeated monthly cuttings can stunt the growth and spread of this invasive species. To weaken the plant, time cuttings for just after flowering and before fruiting. This is a very difficult plant to remove completely and often regrows necessitating continual monitoring.

INVASIVE SPECIES

Alliaria petiolate

COMMON NAME AND NOTES

Garlic mustard is a biennial flowering plant. In the first year of growth, small clumps of round wrinkled leaves appear, they smell like garlic when crushed. Mature plants produce small white flowers that develop into long upright fruit. The fruit contain small black seeds dispersed when fruit dries and splits open. Seeds disperse several meters away. Garlic mustard can self-pollinate or be pollinated by a variety of insects. It is the one of the oldest spices in Europe.

Flower: Spring of second year - summer

Fruit: Early summer – mid summer

Native range: Europe, Asia, Africa, China

History: In the 1800's early European settlers brought garlic mustard to the New World as a garlic flavored herb for cooking, and medicinally as a diuretic. It was later used for erosion control.

Habitat: plants grow along margins of hedges, in forest understory, in disturbed soil, and along trail edges, and wetland areas.

Environmental impact: Garlic mustard is toxic or unpalatable to many native herbivores, some species of butterfly and moth, and to date shows no known wildlife benefit. As the plant grows, from a deep growing, long thin taproot it releases chemicals that kill native plant species, allowing this invasive species to dominate the understory of North American forests, reducing biodiversity.

Removal methods: There are no natural enemies to garlic mustard in North America and herbivores avoid eating it, allowing it to grow into large patches. Mechanical removal by hand pulling is best performed in spring prior to seed formation.

RESOURCES

Mistaken Identity, Invasive Plants and their Look-alikes, an Identification Guide for the Mid-Atlantic, Mathew Sarver, Amanda Trecher, Lenny Wilson, Robert Naczi, Faith B. Kuehn, Delaware Department of Agriculture 2008,

Invasive.org, The University of Georgia Center for Invasive Species and Ecosystem Health, October 2018

mass.gov, *The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts*, Massachusetts Invasive Plant Advisory Group, February 28, 2005

Knotweed Removal: Vermont Invasives

Invasive Species and Their look-alikes

Visit: https://wellesleyma.gov/454/Grow-Green-Wellesley-Initative for more information and Wellesley Town guidelines.