Can You Find These Nonnative Invasive Plants?

What is a nonnative plant?

Non-native plants are plants that do not occur naturally in an area, but are introduced as the result of deliberate or accidental human activities

What does "invasive" mean?

This describes species capable of spreading rapidly over large areas causing harm to local ecosystems

☐ **- Amur (bush) honeysuckle (*Lonicera maackii*)**

A **shrub** found in the understory forests of the eastern United States. It forms **dense thickets** shading the forest floor hindering the regeneration of forests, because it outcompetes native seedlings for sunlight and other resources. Certain songbirds flock to the bright red berries of this shrub; however, these fruits provide subpar nutrition when compared to fruits of native shrubs and trees. Additionally, birds and other wildlife are dispersers of the seeds meaning that when birds fly away from the parent shrub and defecate they facilitate the colonization of new areas giving way to infestations that turn a diverse forest floor into a monoculture of bush honeysuckle. Many native invertebrates have not evolved alongside nonnative plants meaning that caterpillars and other important prey cannot derive nutrition from this invasive pest. (LOL; Wikipedia)

☐ **- Japanese honeysuckle (*Lonicera japonica*)**

Japanese honeysuckle is a twining **vine** able to climb up to 10 m (33 ft) high or more in trees. This vine was initially brought to the United States from Japan in the early 1900s as an ornamental plant. It is still deliberately planted in the United States for reasons such as erosion control or forage for deer, but has become invasive in many areas. Once it has invaded an area, the vine grows rapidly and outcompetes native plants for sunlight and nutrients. Eventually, it will form a **dense carpet** across the ground or **dense thicket** in shrubs and small trees which prevents other plant species, including trees, from germinating in the area. (LOL; Wikipedia)

☐ **- Callery pear (*Pyrus calleryana*)**

Callery pear is a **medium-sized tree** that has been used as an ornamental for several decades in the eastern and midwestern U.S. Numerous cultivars of Callery pear are offered commercially, including 'Aristocrat', 'Autumn Blaze', 'Bradford', 'Capital', 'Chanticleer' (also known as 'Cleveland Select'), 'New Bradford', 'Redspire', and 'Whitehouse'. Due to its ability to invade and outcompete native plants, the Callery Pear is a significant threat to native habitats and the wildlife they support. It forms **dense stands** and degrades grasslands, forests, and woodlands by outcompeting native trees, shrubs, and wildflowers for water, minerals, and space. This reduces plant diversity and, consequently, invertebrate diversity which are important prey for songbirds and other wildlife. Disruption of our food webs contributes to declines in wildlife populations. (LOL; The Wildlife Department)

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What is the harm of nonnative invasive species?

Nonnative invasive species alter food webs in an ecosystem by outcompeting and replacing native food sources. The invasive species provide little to no food value for wildlife. Invasive species can also alter the abundance and diversity of species that are important habitat for native wildlife.

***The Grail** and **Love Our Land** are committed to helping native wildlife by removing invasive species and replacing them with native vegetation that promotes **biodiversity regeneration**.*

☐ - Poison hemlock (*Conium maculatum*)

Poison hemlock--very different from the conifer, eastern hemlock (*Tsuga canadensis*)--is a **tall perennial wildflower** that is a member of the carrot family and, to the untrained eye, can be confused with wild carrot (*Daucus carota*). Wild carrot, or Queen Anne's Lace, blooms later in summer, is typically shorter and has a green, hairy stem that differs from poison hemlock's light green, hollow stem with purple markings. All parts of the plant are toxic, especially when ingested. Ingesting as few as six leaves can be fatal for adult humans. While hemlock toxicity primarily results from consumption, poisoning can also result from inhalation. This species colonizes and quickly infests open landscapes, including pastures, hayfields, grasslands, roadsides, and open woodlands. Areas previously free of this noxious weed can become overrun in just a few years following initial colonization.

☐ - Tree-of-heaven (*Ailanthus altissima*)

Tree-of-heaven is a problem because it grows and reproduces very quickly and aggressively inhibits (and can even kill) native plants near it. This invasive plant produces an overly abundant amount of seeds, crowds out native species with its **dense thickets and stands** and secretes a chemical into the soil that is toxic to surrounding plants. Tree-of-heaven's aggressive root system can cause damage to pavement, sewers and building foundations. The plant has also helped advance the spread of the spotted lanternfly, an invasive insect also originally from China. These insects seek out tree-of-heaven as a place to lay their eggs. The spotted lanternfly, currently spreading across the Mid-Atlantic U.S., feeds on and damages many species of native and fruit-bearing trees. (The Nature Conservancy)

☐ - Lesser Celandine (*Ficaria verna*)

Lesser celandine emerges earlier than most native plants, and may inhibit the growth and colonization of native spring ephemerals, such as spring beauties (*Claytonia* spp.), trilliums (*Trillium* spp.), and bloodroot (*Sanguinaria canadensis*). This **low growing herbaceous ground cover** outcompetes native wildflowers that are a source of nectar for bees and other insects in the early spring. The bare ground left behind in late spring after lesser celandine "dies back" for the year is often colonized by other nonnative invasive species, such as garlic mustard (*Alliaria petiolata*). Lesser celandine can be particularly difficult to manage due to its rapid growth and spread. Spraying herbicides threatens remnant native species in the area, therefore, is often not advised. Early detection of infestations and digging the tubers/roots is recommended for small patches to ensure that infestations do not become more problematic.

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Nonnative invasive plants reduce biodiversity. What is biodiversity?

Biodiversity is the variety of life found in a particular area. Greater biodiversity is an indicator of a healthier environment. When nonnative invasive species infest areas, they outcompete and replace native species. Native species have evolved alongside native wildlife forming close relationships that nonnative species cannot fulfill. For example, many caterpillars only consume foliage from a select group of native plants. Caterpillars are a critical food source for most native songbirds, especially their chicks. Nonnative invasive plants create 'food deserts' for caterpillars and the predators, such as songbirds, they support.

Why do we need biodiversity?

Biodiversity is essential for the processes that support all life on Earth, including humans. Without a wide range of animals, plants, fungi, and microorganisms, we cannot have the healthy ecosystems that we rely on to provide us with the air we breathe, the food we eat, and the wide range of other benefits derived from nature.

☐ - Wintercreeper (*Euonymus fortunei*)

Wintercreeper is an **evergreen, flowering vine** native to east Asia, including China, Korea, the Philippines, and Japan. It is named after the Scottish botanist and plant explorer Robert Fortune. It grows as a **dense carpet of vines** along the ground where it is sterile and nonreproductive. When it encounters a tree wintercreeper begins growing up the trunk--up to 20 m (66 ft) or more--by means of small rootlets on the stems. Upon reaching high enough into the crowns of trees, wintercreeper develops into its adult, flowering phase where it can then develop its bright red fruit that attracts songbirds and other wildlife that consume it then disperse it in other areas. It is highly invasive in the eastern United States, causing the death of trees and degrading the health of forests and woodlands (Wikipedia; Love Our Land)

☐ - Oriental bittersweet (*Celastrus orbiculatus*)

When oriental bittersweet grows by itself or with shrubs, it forms thickets; when it is near a tree the **vine** twists itself around the trunk into the canopy. The encircling vines have been known to strangle the host tree to death or break branches from the excess weight. The leaves are round and glossy, 2–12 cm (0.8–4.7 in) long, have dull toothed margins and grow in alternate patterns along the vine. Small green flowers produce distinctive red seeds which are encased in yellow/orange capsules that break open during autumn. All parts of the plant are poisonous. (Love Our Land; Wikipedia)

☐ - Garlic mustard (*Alliaria petiolata*)

The seeds of this **herbaceous wildflower** spread via the wind and gain a foothold in fields and forests by emerging earlier in spring than many native plants. By the time native species are ready to grow, garlic mustard has overcrowded the area, blocking sunlight and outcompeting native plants for water and nutrients. Invasive species that crowd out forest ecosystems inhibit growth of trees, which sequester and store large amounts of carbon. Because the herb layer contains the greatest amount of biodiversity in temperate forests, the degradation caused by garlic mustard and other nonnative forest herbs disproportionately affects these habitats. Additionally, the native plants that are outcompeted by garlic mustard form the a critical part of the foundation of our food webs. When insects and other prey cannot eat, neither can other wildlife that rely on them. Such losses can disrupt ecosystems and their capacity to support biodiversity and the ecosystem services upon which we depend. (Love Our Land; The Nature Conservancy)

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How can you help?

Help remove these species AND replace them with native species. Love Our Land and The Grail would be happy to discuss these different processes and what types of volunteer opportunities are available.

You can make a HUGE impact by managing your own yards and other land to support robust biodiversity. Remove nonnative invasive species and plant only native species that have not been treated with insecticides. Reducing the amount of lawn on your property and converting it to native gardens not only helps wildlife, it also improves water quality, reduces heat island effect, and provides an opportunity for families to connect with nature. Additionally, avoid using herbicides and insecticides on your property.

☐ - Winged Burning Bush (*Euonymus alatus*)

Winged burning bush was introduced to North America in the mid-1800s for use as an ornamental shrub. The bright red fall foliage makes it an attractive landscape plant and it has been commonly planted as hedges and in foundation plantings. This invasive **shrub** is extremely shade tolerant allowing it to invade understories of forests where many plants are unable to colonize due to the limited amount of available sunlight. Infestations create dense canopies that reduce native plant diversity in the understory of forests, This shrub is a prolific seed producer; it's bright red berries are consumed by songbirds and other wildlife that then disperse the seeds to new areas allowing new infestations to occur. (Love Our Land; Minnesota State)

☐ -Multiflora Rose (*Rosa multiflora*)

In eastern North America, multiflora rose is an extremely aggressive and problematic invasive species. This nonnative **rose** was originally introduced from Asia as a soil conservation measure, a natural hedge to border pastures, and to attract wildlife. It is readily distinguished from American native roses by its large inflorescences, which bear multiple flowers and hips, often more than a dozen, while the American species bear only one or a few on a branch. Multiflora rose infests forests, meadows wetlands, and pretty much any other green space where **dense patches of this rose** can quickly outcompete native vegetation. These aggressive shrubs produce bright red hips (fruits) that are consumed by songbirds and other wildlife and dispersed to other areas where new infestations can take hold.