



CHATTANOOGA
PARK STEWARDS

Rip Up Invasives

Invasive Plants Management Training for Volunteers



UGA230



UGA0016005



UGA9005071



CHATTANOOGA PARKSTEWARDS

Mission

To significantly improve the environmental and aesthetic quality of our parks and greenways by organizing and promoting volunteerism and stewardship



Outline

- What is an invasive plant? And why should we care?
- Top 10 Invasives
- Managing Invasives
- Hands-on practice
- Wrap-up

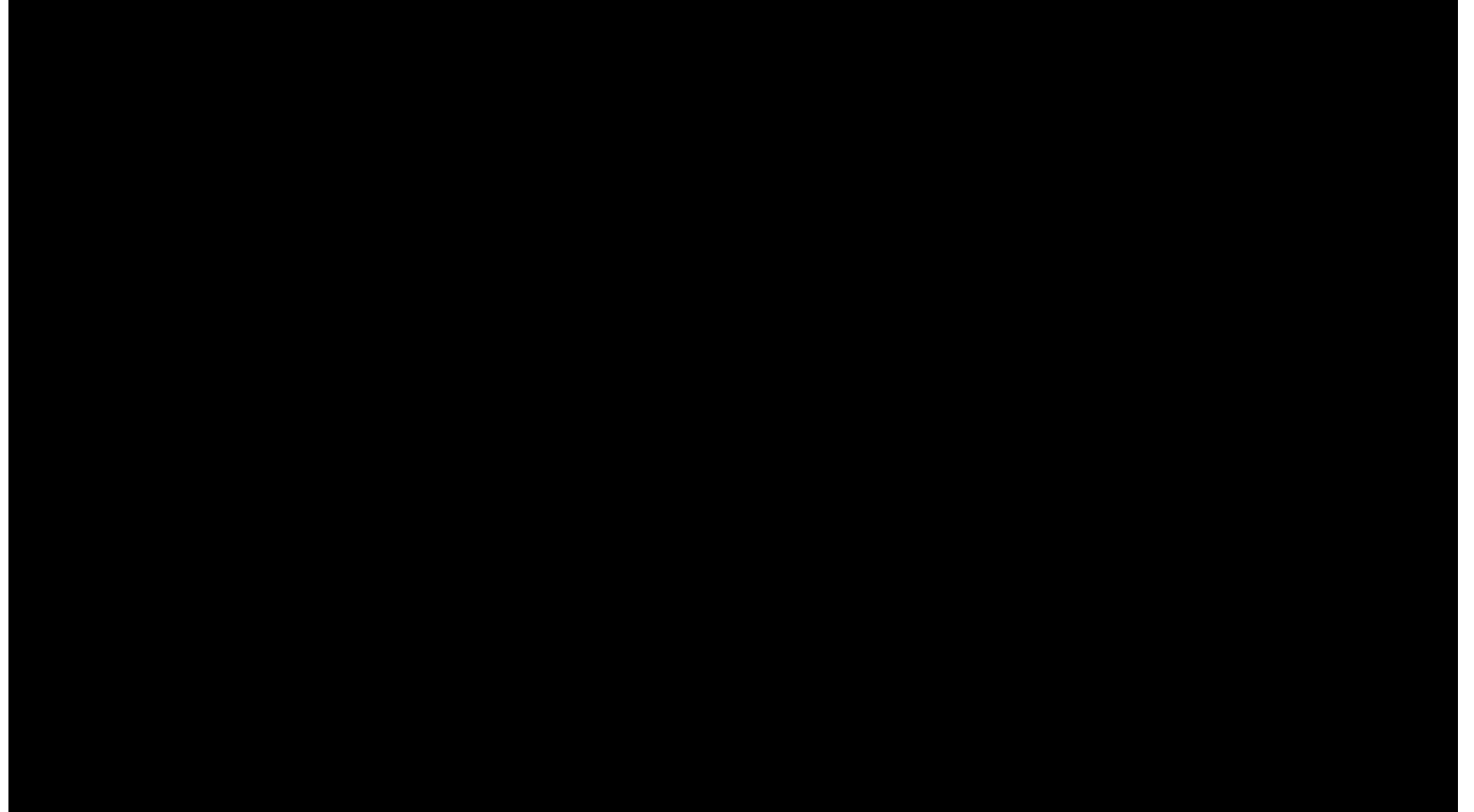


What is an invasive plant?

- **Native** - Occurs naturally in a particular region, ecosystem, or habitat without direct or indirect human intervention. They have evolved and adapted to a specific location and have remained genetically unaltered by humans.
- **Non-native** – A plant that humans have brought to a particular region, intentionally or accidentally.
- **Aggressive** – Any plant species, native or non-native, that has the potential to dominate the plant community under certain conditions.
- **Invasive** – A non-native plant species that is capable of rapid spread into relatively undisturbed natural communities and causing ecological harm.

If it's green, it's good?

- Native fauna have coevolved with native plants over millions of years and are adapted to use native plants throughout their life cycle.
- Many native fauna are unable to complete their life cycle with nonnative plants.
- Native flora have also coevolved, checking each other's growth.
- Nonnatives often have no such checks on the size of their population.



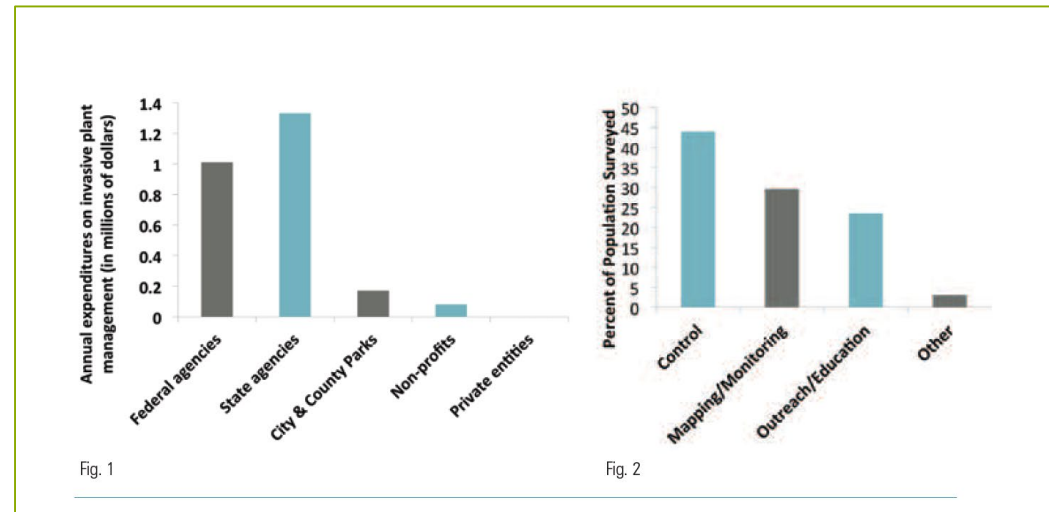
Characteristics of invasive plants

- Fast growth rate
- Prolific seed production
- Easy seed dispersal, germination, and pollination
- Adaptability to wide range of growing conditions
- Longer flowering and fruiting periods



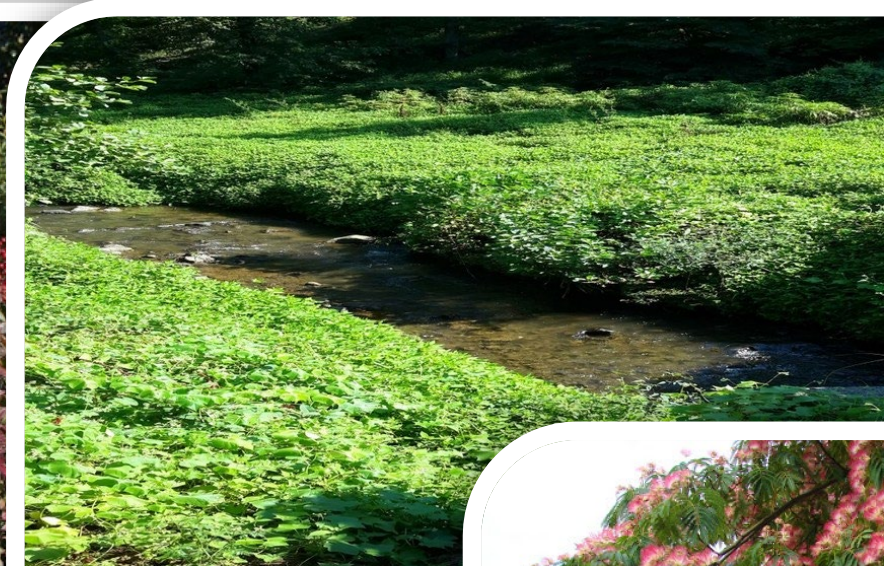
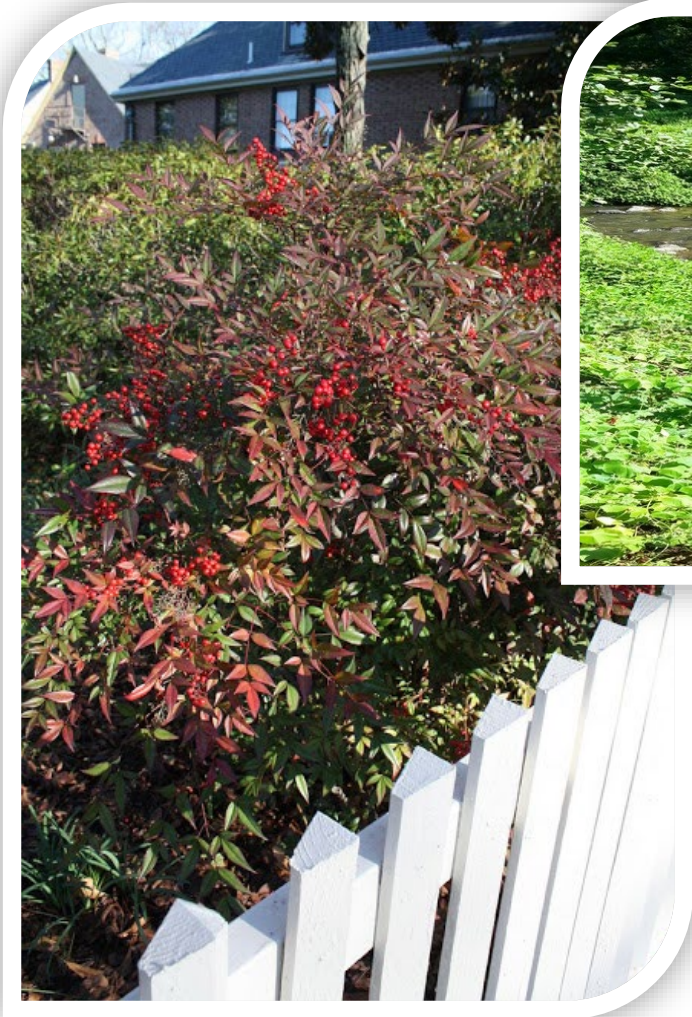
Impacts of invasive species

- Decrease diversity
- Reduce resources available to other plants
- May secrete chemicals that inhibit germination / growth of other plants
- Alter soil conditions - change the amount / rate of leaf litter & decomposition
- Alters food availability & selection and the habitat for entire community - insects, arachnids, reptiles, amphibians, birds, mammals
- Takes more resources to manage them - \$2.6 million annually in TN
- Agricultural damage
- Recreational impacts
- \$120 billion per year in economic loss in US



Direct Costs Associated with Invasive Non-native plants in Tennessee, Wildland Weeds, Summer/Fall 2012

Where do we find invasives?





Top 10 Invasives



Kudzu (*Pueraria montana*)

Description:

Climbing perennial vine with 3 leaflets, each 3 to 7 inches long. Brown, hairy seed pods. Spreads via runners and seeds.

Habitat:

Prefers open, sunny areas. Forms dense mats over ground, shrubs, and trees.

Threat:

Shades out native plants and kills trees. Can grow 1 ft per day.



Japanese Honeysuckle (*Lonicera japonica*)

Description:

Perennial evergreen vine. White tubular flowers that bloom in summer. Leaves 1-3 inches long. Small black fruits in fall.

Habitat:

Adapts to a wide variety of habitats.

Threat:

Smothers and girdles shrubs and trees. Seed spread by birds.





Non-native: *Lonicera japonica*



Native: *Lonicera sempervirens*

English Ivy (*Hedera helix*)

Description:

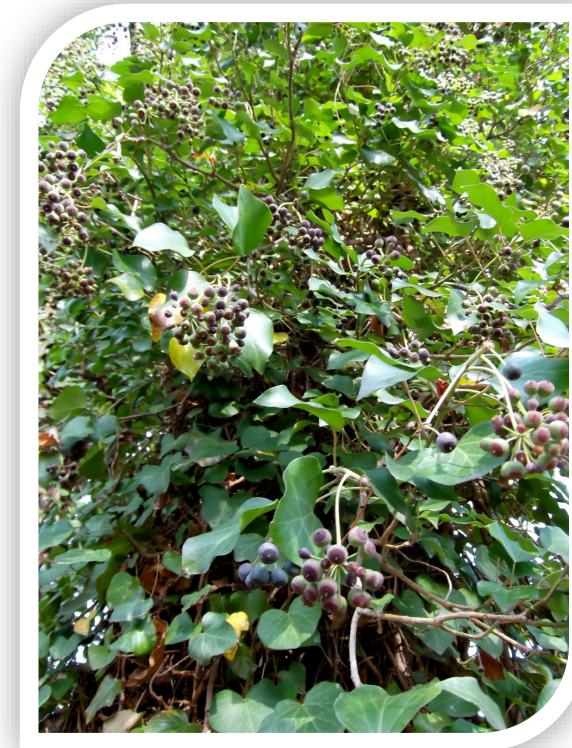
Evergreen vine that climbs by clinging roots. Waxy leaves have 2 forms. Dark purple berries. Plant matures after vine climbs vertically.

Habitat:

Invades forest openings and edges, steep slopes, and disturbed areas.

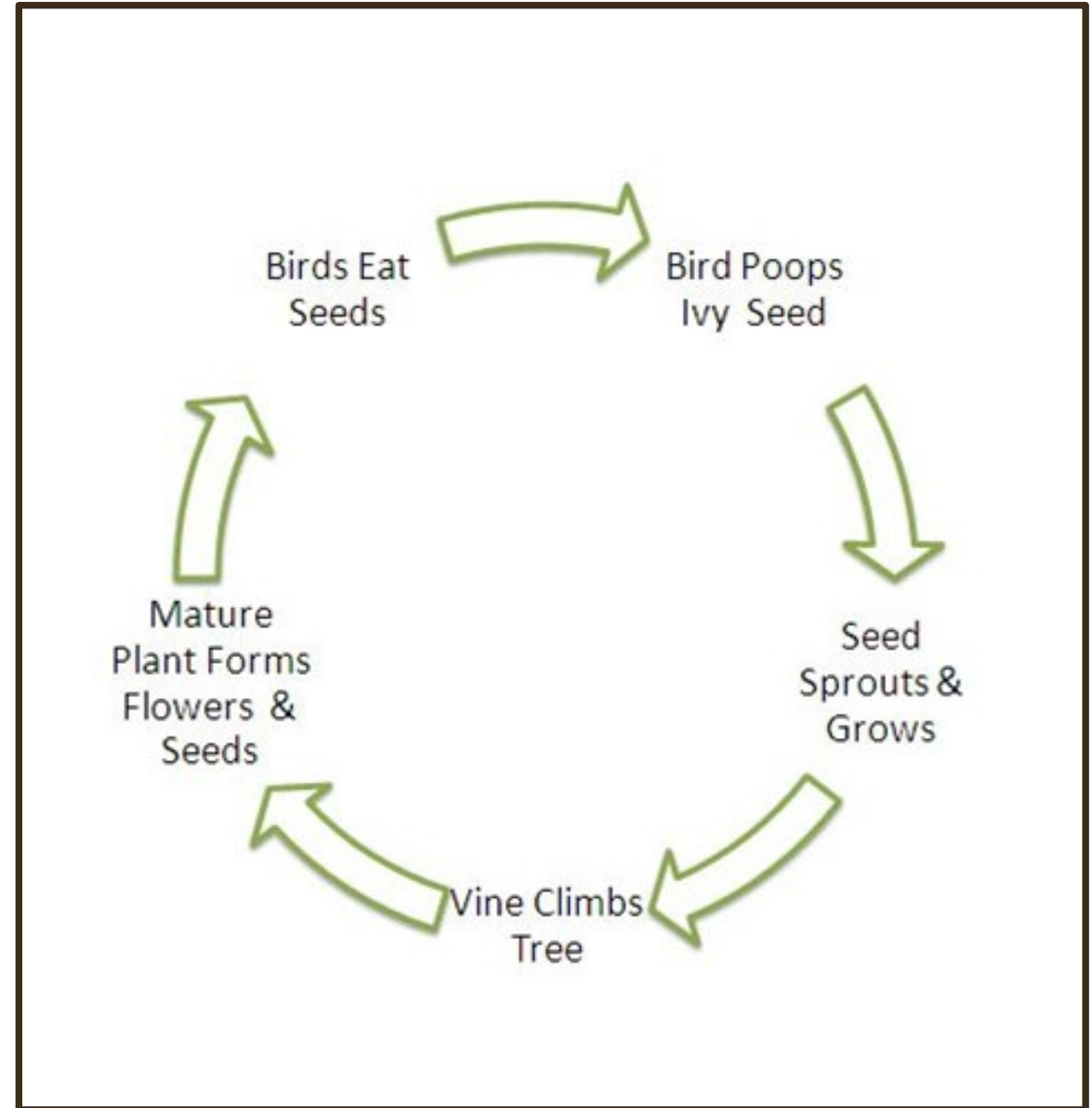
Threat:

Seed spread by birds. Blocks sunlight and kills trees. Still widely sold and planted as an ornamental.



Ivy & Trees

- Ivy uses water and nutrient resources
- Heavy infestations blocks out light.
- Extra weight and leaf surface catch the wind. Tree is more likely to fall in storms or large branches may fall.
- Snow and ice accumulation on leaves has same effect.
- Ivy will flower, fruit and seed only after growing vertically. This usually occurs on a tree.



Wintercreeper (*Euonymus fortunei*)

Description:

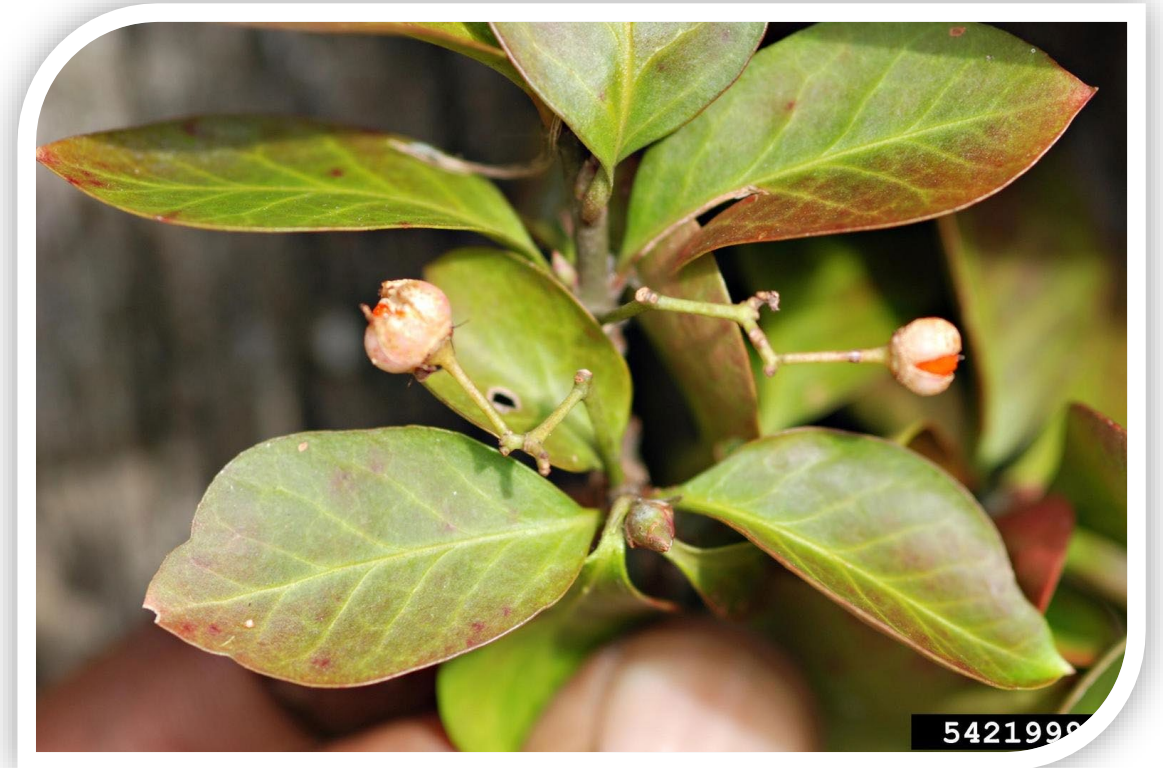
Evergreen woody vine. Leaves are opposite, glossy, and dark green. Small, greenish flowers. Small round pink-red fruits that split open.

Habitat:

Can tolerate a broad range of conditions. Forms a dense ground cover and climbs trees and rocks.

Threat:

Seed spread by birds and other wildlife. Forest openings are especially vulnerable.



Bush honeysuckle (*Lonicera varr.*)

Description:

Deciduous arching branch shrub with opposite leaves up to 4 inches long. Abundant, glossy pink to red berries.

Habitat:

Adaptable to a range of conditions and occurs in disturbed areas.

Threat:

Impedes reforestation. Leaf out earlier than natives and forms dense thickets. Seed spread by birds.



Privet (*Ligustrum varr.*)

Description:

Evergreen shrubs with opposite leaves that are 1-3 inches. Clusters of blue/purple seeds in fall. White flowers in spring.

Habitat:

Thrive in floodplains, fields, disturbed areas, and forest edges.

Threat:

Forms dense thickets that shade out native plants. Seed spread by birds and small animals. Commonly used as an ornamental shrub.



Autumn Olive (*Elaeagnus umbellata*)

Description:

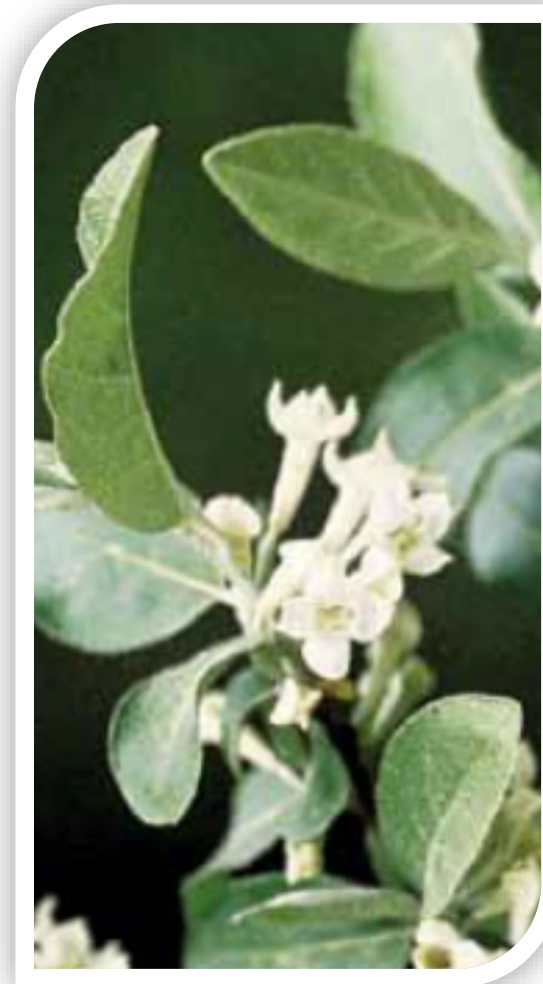
Deciduous shrub to 20ft in height. Stems, buds and leaves have a dense covering of silvery to rusty scales. Prolific small, red brown to pink fruits in August to October.

Habitat:

Drought-tolerant and thrives in poor soil.

Threat:

Casts heavy shade that inhibits growth of other plants



Multiflora rose (*Rosa multiflora*)

Description:

Multi-stemmed, thorny perennial shrub. Sharply toothed leaves. Clustered, small white to pinkish flowers. Small, bright red fruits that remain through winter.

Habitat:

Tolerates wide range of conditions.

Threat:

Forms impenetrable thickets, thus restricting movement and displacing native vegetation. Fruits are eaten and dispersed by variety of birds.



Tree of Heaven (*Ailanthus altissima*)

Description:

Deciduous tree with large toothed leaves. Showy clusters of yellowish-green flowers. Wing-shaped fruits with twisted tips.

Habitat:

Highly adaptable. Grows best in full sun. Threatens woodland edges.

Threat:

Prolific seed producer, grows rapidly, and can spread by re-sprouting. Produces toxins that prevent the establishment of other plant species.



Mimosa (*Albizia julibrissin*)

Description:

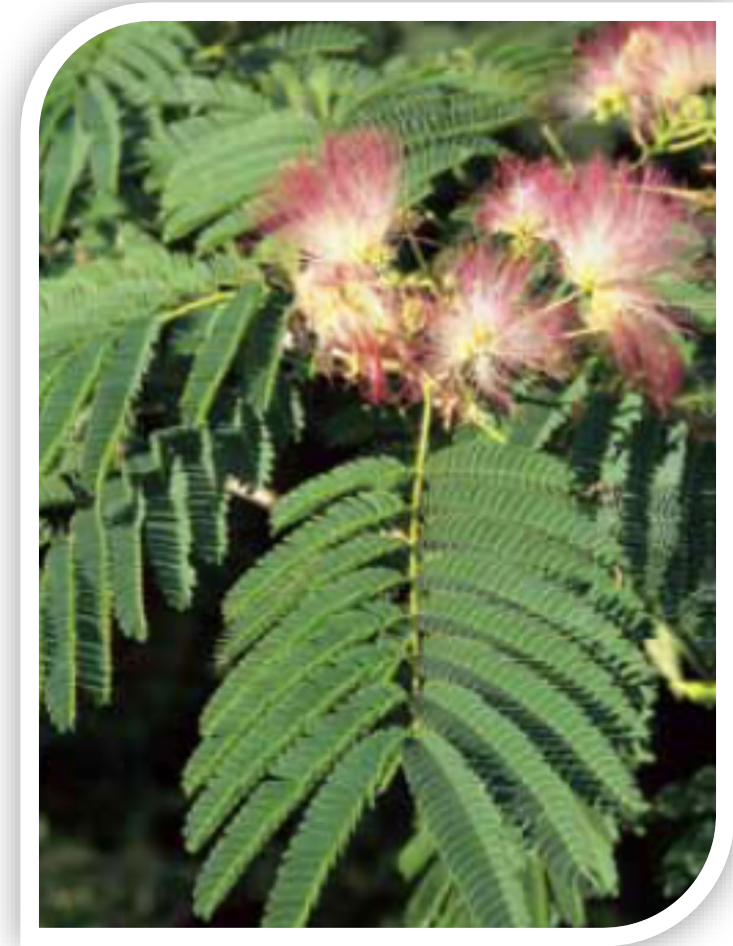
Deciduous tree, often with multiple trunks. Feathery leaves with showy, pink blossoms. Dangling, flat pods in the summer.

Habitat:

Grows in disturbed areas and tolerates a variety of conditions.

Threat:

Difficult to remove due to long-lived seeds and ability to resprout.





Managing Invasives



Management Strategy #1: Early Detection Rapid Response

- Monitor natural areas for new growth of invasive plants
- Learn what young plants look like and nip them in the bud
- Pulling by hand is usually all that is needed, especially if done when the soil is moist



Management Strategy #2: Limit seed production and spread

- Keep English ivy off of trees
- Know the life cycle of the plant: when it will bloom, when it fruits, how seed is spread
- Cut down flowering shrubs even if they cannot be completely removed at that time
- Remove annuals before they go to seed and revisit the site before they seed again each year to remove new plants
- When removing plants with seed or fruit, bag carefully so that the seed does not spread



Management Strategy #3: Target specific areas and/or specific plants

- Choose your project
- Focus on that area or that plant



Management Strategy #4: Manage from the edge



Do NOT start by diving into the middle of the patch

Start at the edge and push back the newer growth at the border of the patch

Management Strategy #5: Persistence & Follow-up



- Visit and monitor the site
- Remove seedlings or new sprouts as needed
- Continue for several years
- Return to Management Strategy #1: Early Detection Rapid Response

Management Strategy #6: *Don't Create More Problems*

- Use the least disruptive method possible when removing invasives
- Use methods that disturb soil as little as possible to reduce sprouting of new seed
- Where slopes are cleared, replace leaf litter or use wood chips or mulch to reduce erosion
- Carefully bag plants with seeds or berries, especially when working near streams
- And...save the native species whenever possible

Guidelines for Shrubs

Removal

- Small plants can be pulled by hand
- Larger plants will require digging or removal with a Weed Wrench or other tool
- Removal is best done when the soil is moist
- Any roots remaining may sprout; follow up is required for effective management

Cut and paint

- Cut the stem and paint immediately with an herbicide.
- Get 'em while they're young

Guidelines for Vines

Climbing Vines

- First cut the vines near the ground to kill upper portions then remove the roots. Make sure to get all the way around the tree.
- Pull vines away from the tree at the ground.
- Leave cut vines to die.



Ground infestations

- Remove by hand.
- Smothering with newspaper or cardboard topped with mulch or frequent mowing may be effective for some plants.
- Disposal: If fruits or seeds are present, the vines should be bagged for disposal or removed from the site using a vehicle for that specific purpose.

A note about chemical control

- At this time volunteers do not have permission to use herbicides in city parks.
- References for the use of herbicides are for your information only.
- We will not make recommendations about specific chemicals here but will provide you with reputable sources.

Rip Up Invasives Toolkit

- ✓ ID book or App
- ✓ Your typical garden tools – shovels and rakes
- ✓ Pruners and saws
- ✓ Uprooter
- ✓ Old screw driver or putty knife
- ✓ Tarps
- ✓ Garbage bags
- ✓ Gloves
- ✓ First aid kit





Let's practice!

