2021 Winter Invasive Plant Workshop – Part I: Introduction and Identification

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Where to find these slides:
https://www.charlottesvilleareatreestewards.org/learn-about-trees/take-a-tree-steward-class/
Presentation Flow

• Part I: Winter Invasive Plant Identification
  – Non-Native Invasive Plant Fundamentals
  – Common Local Invasive Plants Treatable in Winter
  – Plant Identification
    • Vines
    • Shrubs
    • Trees
    • Forbs
  – Summary
Identifying Nonnative Invasive Plants in Virginia’s Forests and Fields in Winter
What Are Nonnative Invasive Plant Species?

• To qualify, it has to:
  – Get to a new ecosystem
  – Survive a new set of growth constraints
  – Form a self-sustaining population
  – Spread
  – Cause negative effects that outweigh any positive contribution

• AKA: invasives, exotics, noxious weeds, etc.
How Do Invasives Kill Native Plants?

• Starve them
  – Compete for nutrients and water
  – Block sunlight, impeding photosynthesis
• Stress them by adding weight
  – Increase sail effect
• Poison them
  – Toxins in roots/leaves inhibit growth
• Smother new growth
  – Disrupts natural ecosystems and succession
  – Lose new native plant growth, but also . . .
  – Lose what eats the native plants
Why Are Nonnative Invasive Plants a Problem?

- **Unimpeded** by animals, insects, fungi, etc. that normally keep plants in check and create an equilibrium, these plants have no enemies, multiply out of control, and overwhelm the native plants that are held in check.

- Equally important is that most non-native invasive plants provide **little or no food of value as part of the ecosystem**, thereby disrupting the locally evolved web of life and leading to declines in all manner of wildlife.
Common Local Invasives

Vines:
- English Ivy
- Winter Creeper
- Asiatic Bittersweet*
- Japanese Honeysuckle*
- Kudzu
- Five-leaf akebia*
- Porcelain berry *

Grasses and Forbs:
- Garlic Mustard*
- Periwinkle (Vinca)
- Ground Ivy/Creeping Charlie
- Chickweed
- Bamboo

Factsheets on those with asterisks can be found at: blueridgeprism.org/factsheets
Common Local Invasives

Trees:
- Ailanthus*
- Callery Pear* (Bradford)
- Mimosa
- Paulownia

Shrubs:
- Autumn olive*
- Multiflora rose*
- Chinese privet*
- Japanese barberry*
- Wineberry
- Burning bush*
- Bush honeysuckle
- Leatherleaf mahonia

Factsheets on those with asterisks can be found at: blueridgeprism.org/factsheets
Identification
Vines
Invasive Vine Growth Habits

Girdling

Attached

Unattached
English Ivy
Growth Habit: Attached Vine
Uses adventitious roots to attach to tree
English Ivy

Started as a bedding plant for ground cover around the base of the tree and promptly used the tree as a trellis to get up into the sun where it converted from its immature stage to its mature stage making it possible to spread by seed dispersal as well as by creeping.
Immature and Mature Ivy

- Berries (only on mature plant)
- Immature leaf – usually dark green with 3-5 distinct lobes
- Mature leaf is usually lighter green with a single lobe
Bird-dispersed seeds in the Forest at Monticello
Bedded Ivy – Getting it off the trees is only a temporary fix – need to get it off the ground, too
Winter Creeper/Climbing Euonymus

Evergreen, Like English Ivy – Easy to Spot in Winter
Growth Habit: Attached
Vines firmly attach by aerial roots to trees
Thick, Waxy Leaves

Leaves are opposite, glossy, dark green, oval, slightly toothed, with light-colored veins, about 1-2.5 in.
Berries

Green capsules open revealing reddish-orange fruit in fall
Same as for English ivy – have to clear the forest floor as well as the trees or it will grow back
Asiatic Bittersweet
Growth Habit – Can Be Girdling or Unattached
Asiatic Bittersweet - Fall
Asiatic Bittersweet Vine

Medium size vine 16 years old 2.5 inch diameter
They Get Really Big!
Leaf and Fruit

In early fall, leaves and fruit are both green. In late fall, leaves turn yellow and orange cover on fruit peels back to reveal red berries.
New Growth – Easy to Hand Pull
ID: Native Bittersweet - Berries Only
Found at Tips of Vines

Asian bittersweet
*Celastrus orbiculatus*

American bittersweet
*Celastrus scandens*
Orange-Colored Roots
Japanese Honeysuckle
Japanese Honeysuckle

Growth habit: usually girdling
Easily identified by its bark: long, shreddy, peeling strips
Leaf Form

Has two different leaf forms. Form without lobes is typical. Lobed leaves usually on new growth.

Leaf size

In winter, leaf edges tend to curl under
Berries – Start green, then red, finally blue-black
Kudzu
Kudzu Dies Back in Late Fall/Winter
Vines are dark gray or black with obvious lenticels
Kudzu vines, crown and runners
Five Leaf Akebia
Five Leaf Akebia
Girdling vines
Akebia in Winter
Decorating Ideas with Akebia
Porcelain Berry in Winter
Porcelain Berry Leaf and Fruit

Leaf ID, alone, is difficult since wild grape and porcelain berry leaves are often similar. Fruit are very different – found in multi-colored, irregularly grouped clusters.
Porcelain Berry vs. Wild Grape Bark

Porcelain berry bark is tight and platy

Grape bark is shreddy and fibrous
Definitive ID – Pith Color

Porcelain berry pith is white

Wild grape pith is brown
Grape vines tend to be much more sprawling in form than porcelain berry
Roundleaf Greenbrier
Native Evergreen –
Watch Out!
Poison Ivy (Native)

Often Mixed in With Invasives – Beware!
Shrubs/Bushes
Autumn Olive
Autumn Olive in Winter
Among First to Leaf Out – Late Winter
Still Fully Leafed Out in Late Fall
It gets BIG
Autumn Olive Leaves
Silver on Bottom
Fall Fruit Color and Thorns - Beware
Prolific Seeder
Grows Back if Cut Without Herbicide
Autumn, Russian and Thorny Olive
All Are Invasive Plants

Autumn

Russian

Thorny

Thick, waxy, shiny

Long, thin, gray
Multiflora Rose (bush form)
Multiflora Rose (climbing form)
Multiflora rose thorns and stipule (native rose does not have stipules)
Rose Hips - small bright red fruits, referred to as rose hips, develop during the summer and remain on the plant through the winter.
Multiflora Rose - Young
Chinese Privet

Likes edges – forms dense thickets up to 15 ft tall
Twigs are hairy

Leaves are opposite with smooth margins and very short stems
Berries start out green in early fall and gradually darken to deep blue or black over winter. Berries are persistent, remaining into early spring - native wildlife will eat them, but prefer other food.
Japanese Barberry
Another evergreen – winter target
Barberry:

- Short thorns
- Small red berries in fall
- Spoon-shaped leaves with smooth edges
Roots and inner wood are bright yellow.
Native (Common) Barberry – leaves slightly glossy with toothed margins and thorns are in triplets
Wineberry
Wineberry in Winter
Young Wineberry
Wineberry: Bottom of Leaves Are Silver
Look-Alikes

Wineberry stems are red if in sun, green if in shade with dense prickers

Black raspberry stems are bluish-white with sparse prickers

Common raspberry stems are green with ridges and angles
Burning Bush in Fall
(Winged Euonymus)
Leaves are opposite and pointed with finely toothed margins.
Burning Bush Berries
Small branches have corky “wings,” giving the plant one of its common names.
Older branches lack wings, appear striped
Burning Bush – Before Fall Color
Bush Honeysuckle
Bush Honeysuckle

Striped Stems

Peeling Bark on Mature Trunks
Leaves are opposite with elongated, pointed tips and *smooth* margins (looks like burning bush, but doesn’t have teeth on margins)
Bush Honeysuckle Fall Color, Berries, Hollow Stems

Photos: Chris Evans, University of Illinois, bugwood.org
Native Honeysuckles

- Native bush honeysuckles - Diervilla lonicera or Northern Bush-honeysuckle - similar leaves to invasive honeysuckles, but have terminal flowers in clusters, dry woody capsules with seed instead of berries, yellow trumpet-shaped flowers, serrate leaves.

- American Fly-honeysuckle - Lonicera canadensis - similar, but rare in Virginia at middle - high elevations - heavily browsed by white-tailed deer contributing to its scarcity - greenish yellow flowers hanging in pairs near the branch tips.

- Twigs of all species can be hollow. However, the twigs of native species tend to be less hollow with a white lining whereas the exotic species are more obviously hollow with a brown lining.
Leatherleaf Mahonia: Evergreen – Year-Round Target
Starts flowering in February
Roots are yellow; leaves yellow where they connect to stem

Yellow roots – like barberry
Leatherleaf Mahonia: Opposite leaves with yellow center

American Holly: Alternate leaves – solid green color
Japanese Knotweed
Knotweed – Not a Viable Target in Winter
Grasses and Forbs
In Winter
Japanese Stiltgrass
Stiltgrass is an annual and dies back in fall – not a winter target
Wavyleaf Grass
Wavyleaf grass is an annual and dies back in fall – not a winter target
Bamboo
Bamboo in Winter

In Part II of this session, we will discuss a two-stage technique called “cut now, spray later” that can be used to control bamboo. Cut down the bamboo in winter and treat new shoots that come up in the spring.
Garlic Mustard
Garlic Mustard in Winter

Kidney-shaped leaves with scalloped edges - smells of garlic when crushed
Rosette Form
Dispersed Form
Periwinkle (Vinca)
Another evergreen: year-round target
Creeping Charlie
Another evergreen: year-round target
Creeping Charlie

Leaf shape similar to garlic mustard – kidney shaped – but smaller and forms continuous beds

Stem is square
Chickweed – Another evergreen: Year-round target

In Virginia, it is in leaf all year, in flower all year, and the seeds ripen all year.
Chickweed

Stems have longitudinal lines of hair
Trees
Ailanthus/Tree of Heaven
Seed clusters (females start producing seed at 7 years)
Ailanthus Trunk Sprouts
Female tree easy to ID in fall/winter by the seed clusters in the crown
Patterned bark starts green becoming gray as tree matures
Pattern Refferred to as Cantaloupe or Snakeskin Bark
ID Feature:
Big Leaf Scars
Paulownia -- Princess Tree
Paulownia vs Catalpa - Bark

Young Paulownia – flat bark with obvious lenticels

Mature Paulownia – patterned bark with shallow fissures

Catalpa – ridged and furrowed bark
Paulownia vs Catalpa Seed Containers

Paulownia Seed Capsules

Catalpa Seed Pods
Callery (Bradford) Pear
The “Perfect” Landscape Tree
Failure and “Solution”
Growback After Topping
Bradford Pear Naturalizing
Bradford pear fruit present into early winter – a little larger than a coffee bean
Bradford Pear Thorns - Beware
Mimosa (Silk Tree)
Mimosa bark, young to mature
In winter, look for dried leaves on ground and seed pods on tree and on ground.
ID: Seed Pods – mimosa pods are larger than redbud and symmetrical; redbud pods are smaller and curved on one side.

Mimosa seed pod color starts out bright yellow in fall, then beige as in this photo, then dull brown, as shown in the prior slide.
Not Sure What Plant It Is?
Use iNaturalist!

Free smartphone app for both iPhone and Android that can accurately identify plants, insects, birds, etc.

Worth checking before cutting/treating if not sure of the species

If not sure after checking, leave it. Take photos and send to: info@blueridgeprism.org
Getting Started

• Understand what you have
• Set priorities and objectives
• Create a plan
  – Species, methods, locations, time of year
  – Experiments and pilot sites
  – Restoration work
• Decide what you can do and where you need help
• Line up assistance, if needed
  – Get bids if appropriate
• Execute over and over again
The mission of the Blue Ridge PRISM is to reduce the impact of invasive species in our targeted geography.

10 counties

Almost 3 million acres

Includes the 200,000-acre Shenandoah National Park

Roughly 50,000 landowners with 5 acres or more

Email: info@blueridgeprism.org
Learning What to Do

• PRISM workshops
  – Multiple times of year - seasonally appropriate content
  – Plant ID, control methods, equipment, plant walks
  – BYOP (bring your own plants for identification)

• Quarterly meetings

• Have your DOF area forester come visit
• Have your NRCS District Conservationist visit
• Prepare a forest management plan
• Hire a professional if you have a lot to do
• Ask about financial assistance
• See the VDOF summary treatment chart
Other Useful Information

- Factsheets on 20+ invasive plants
- Contractor list
- Sources for supplies
- Various books on native and invasive plants
- VA Dept of Conservation and Recreation list of invasive plants
- Learn about assistance available from partners
Identification and Control Resources

Plant Invaders of Mid-Atlantic Natural Areas

A Management Guide for Invasive Plants in Southern Forests

Field Guide to Invasive Plants in Southern Forests

All currently out-of-print, but available as free PDF downloads
More Reference Material

Field Guide to the Piedmont
Michael A. Godfrey

Bringing Nature Home
Douglas Tallamy

Nature’s Best Hope
Douglas Tallamy

Virginia Digital Atlas