

Non-native Invasive Plant Identification & Control Methods

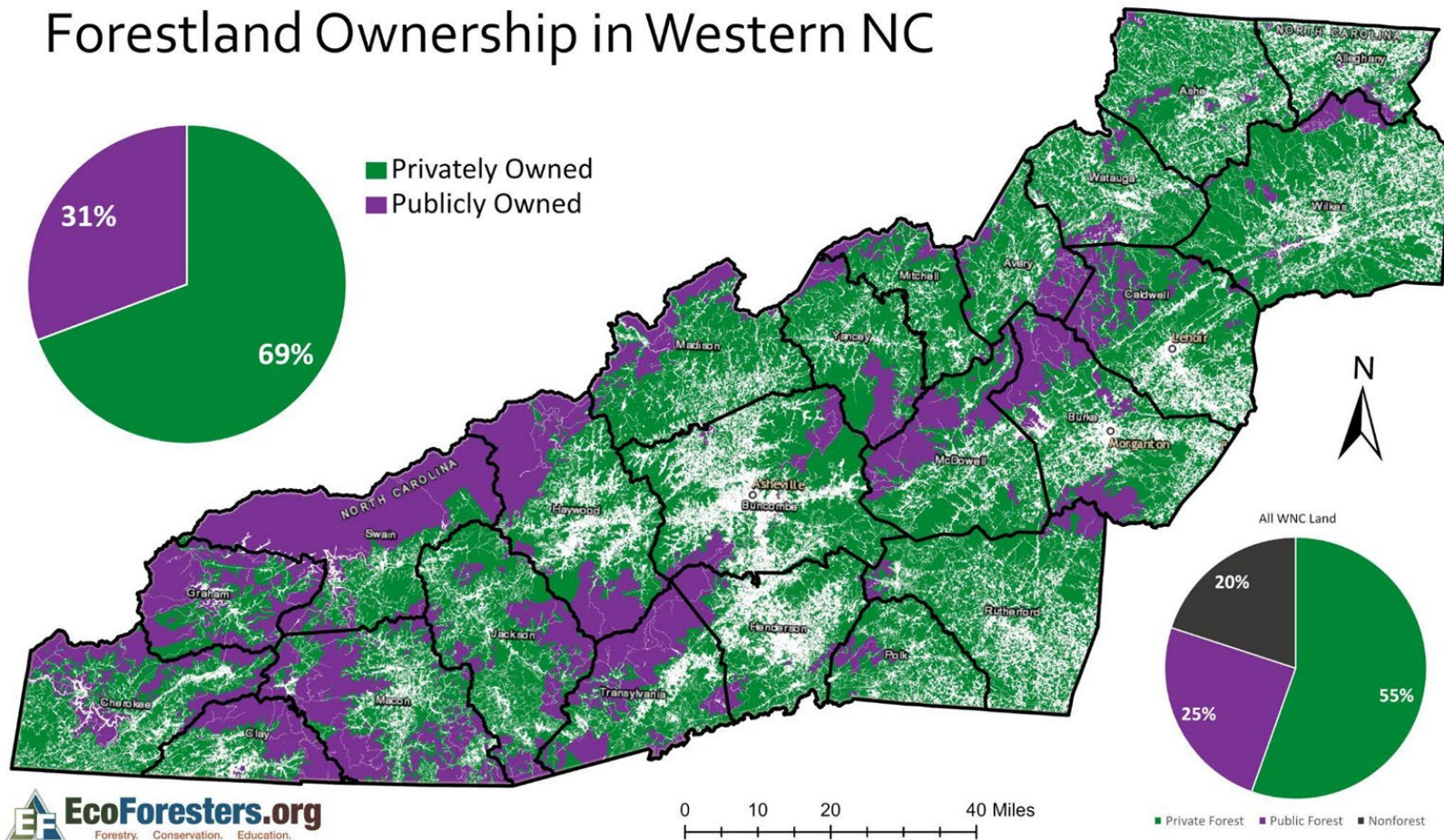
Krishun Karau

Forest Stewardship Director

EcoForesters

kkarau@ecoforesters.org

Forestland Ownership in Western NC

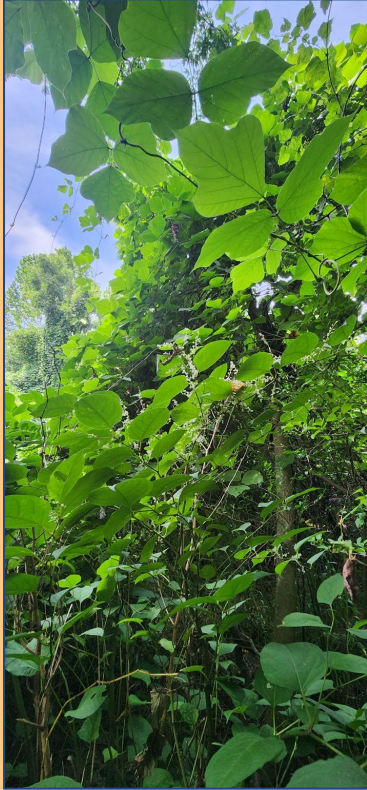


What is an “Invasive Species”?

“An invasive species is one that is non-native to the ecosystem under consideration AND whose introduction causes or is likely to cause economic or environmental harm, or harm to human health.”



Why does it matter?



- A Landscape that is rich in native biodiversity, is more resilient
- Landscapes riddled with invasive species are more susceptible to wildfire and damage from storm events
- Native plants provide healthier food and habitat resources for wildlife
- Some invasive species can change nutrient cycling and soil chemistry
- Changes in forest succession by excluding native perennials and tree seedlings
- Can limit wildlife from dispersing native seed more readily
- Can alter stream habitats by filtering less sediment and increasing organic matter input
- Contributes to habitat fragmentation

What can we do to control invasive plants?

- Get familiar with your pest (identification, life cycle, growth habits, etc.)
- Educate self about conditions that contribute to its presence, staying power and spread
- Practice prevention (clean of your hiking boots, equipment, tools, vehicles, don't purchase invasive plants for landscaping)
- Learn about the range of control methods available
- Make a priority plan, don't bite of more than you can chew
- Stay dedicated, persistent and vigilante!



Control Method Options - Practicing IPM

“Integrated Pest Management” is a strategy that combines different control tactics to manage pests in a way that is more environmentally sensitive and economically feasible

- Prevention
- Cultural: livestock grazing, mulching, cover crops, smother
- Mechanical: cutting (mowing, weed whacker), hand pulling, prescribed burning, tilling, digging
- Chemical: commercial herbicides, organic herbicides
- Restoration/Re-vegetating after control efforts



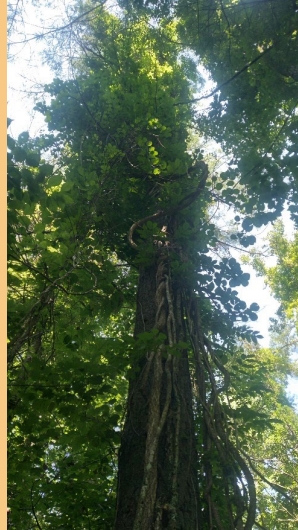
5 Common Invasive Plants to look out for in the Town of Biltmore Forest!

- Asiatic bittersweet
- Multiflora rose
- Chinese silvergrass
- Porcelain berry
- Chinese privet

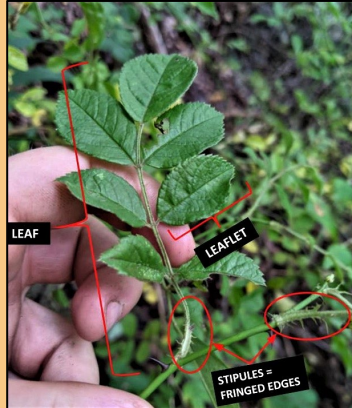


Asiatic Bittersweet

- Shade tolerant, twining vine, gets woody with age
- Leaves are round to oval with a rough edge, most come to a tear drop point at the end, 1.5-5 inches wide
- Berries in the fall are red with yellow husks
- Dangling clusters of yellow/green flowers in May/June on female plants
- Mature woody vines will have pronounced lenticels on the bark
- Roots have a bright orange coloring just below the bark surface



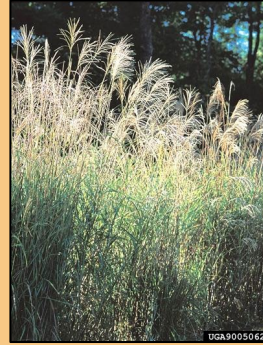
Multiflora Rose



- Thorny shrub with arching branches, can reach up to 30 feet high when climbing trees
- Leaves are pinnately compound with typically 5-9 leaflets
- Many clusters of small white flowers appear in May/June
- Red rose hips appear in the fall
- Can become woody with large stems, form dense, impenetrable thickets
- Fringed stipules at the base of each leaf
- Seeds can remain viable in the soil for 10-20 years

Chinese silvergrass

- A tall, perennial bunch grass, 5-10 feet in height
- Long slender, arching leaf blades (sharp!) with a prominent, white mid-vein
- Tassel like seed plumes that are pinkish silver, appearing late summer to early fall
- Form very dense infestations
- Popular landscaping grass
- Highly flammable and unfortunately fire makes them worse, contributing to the spread
- Seeds are wind dispersed and one plant can produce thousands of seeds per year



Porcelain Berry

Porcelain Berry

Grape



- Woody vine capable of climbing and smothering mature canopies, forming dense curtains
- Leaves roughly palm shaped but highly variable, can be deeply or shallowly lobed, always with serrated edges
- Flat clusters of nondescript yellowish flowers appear in the spring
- Multicolored (white, silver, purple, blue, green) round berry like fruit appears in the fall
- Can grow up to 15 feet in a growing season
- The bark is more flaky and rough whereas native grape has bark that peels away in strips
- White pith, whereas grape has a brown pith

Chinese Privet

- Semi-evergreen to evergreen thicket forming shrub
- Very dense wood and thin gray bark, can reach heights of 30 feet and trunk diameters of 12 inches
- Most have multiple leaning/arching stems and long leafy branches
- Leaves are oppositely arranged, oval and glossy with a prominent, crease mid vein
- Showy clusters of small white flowers in the spring
- Dark purple/black berry like fruit appear in the fall
- Still being produced, sold and planted as ornamentals
- Seeds only viable in soil 1-2 years but colonize by root sprouts



Common Herbicide Control Methods



Foliar (Back Pack) Spray



Hack & Squirt or Girdle

Know Before You Go: The Label Is The Law!

- Read the entire product label
- Wear your PPE
- Make sure the weather is appropriate
- Make sure you know how to appropriately mix your solution and not over apply



Foliar Spraying

- No strong wind or rain
- Cover atleast 90% of leaf surface area
- Certain species leaf out at different times of the year
- Pay attention to day time temperature
- Adjust nozzle size to avoid drift
- Consider using a surfactant and indicator dye



Hack & Squirt or Girdle



- Hack & Squirt best for tree of heaven due to sucker sprouting behavior
 - Leave 1 inch of uncut tissue inbetween is cut
 - 45 degree downward angle cut
 - Spray solution into the cut
 - Follow up treatment may be needed
- Girdling can be used for other mature invasive trees like princess tree, mimosa, bradford pear



Cut-Stem

- Cut with in 6 inches or lower to soil level
- Spray or dob solution onto cut surface with in 2 minutes
- Make sure you get enough solution on there
- Can be done throughout the year as long as the ground is not frozen
- If working with vines recommend cutting twice:
 - First at eye level
 - Second at the ground where the herbicide will be applied
- If working in a wet area consider dragging cut shrubs to a higher location or hanging in a tree to dry out, or treating both ends with herbicide.



Questions?

BEFORE



BEFORE



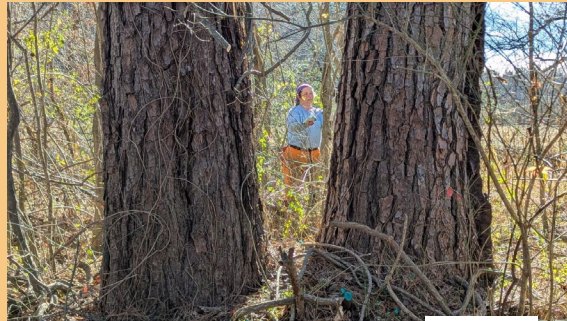
AFTER



BEFORE



AFTER



AFTER



Thank you Town of Biltmore Forest!